FRANCONESIA
Journal of French Teaching, Linguistics, Literature and Culture

Vol. 3, No. 2, December 2024, 1–7

The Effect of Conjugation Wheel Interactive PowerPoint for Learning French Verbs in Grade XI 85 Senior High School in West Jakarta

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Received: 12 Dec 2024
Revised: 14 Dec 2024
Accepted: 15 Dec 2024
Online: 30 Dec 2024
Published: 30 Dec 2024

Franconesia: Journal of French Teaching, Linguistics, Literature and Culture
E-ISSN: 3021-8233

Abstract
This article aims to elaborate the effect of a newly developed learning media as a group of French language teachers in Jakarta affirmed the need of a learning media in the form of interactive powerpoint that can shape students' understanding of French conjugation verbs. The researchers then decided to develop conjugation wheel interactive powerpoint (CWIPPT) using ADDIE model and eventually test its effectiveness for grade XI students. A quasi-experimental research method was used, specifically the non-equivalent control group design and two grade XI classes in senior high school 85 in West Jakarta were willing to participate as control and experiment groups. A validated pre and post tests were used to measure the increase of students understanding of French conjugation verbs. The results show that the control group had an N-Gain of 0.26, while the experimental group had 0.81, indicating a much bigger improvement in the experimental group. It is recommended French teachers use CWIPPT and an apps of it to be developed so that more students can use and get the benefits of it.

Keywords
French language learning, interactive powerpoint, grade XI senior highschool students

Available online at
http://journal.unj.ac.id/unj/index.php/franconesia

Introduction

Learning a new language for some students is both very interesting and challenging, but for those who are not enjoying this situation could be very uncomfortable. According to Wilson in Marzuki (2012), language acquisition is an unconscious process where individuals naturally develop a sense of correctness in the language without being explicitly aware of its grammatical rules. To

have acquisition, learning engagement is believed to be important. It is a concept that resonates with educators because it is widely recognized as a key element for effective learning and quality teaching. In everyday language, engagement generally refers to being occupied or involved in an activity. However, in the context of teaching and learning, engagement goes beyond this, encompassing both the quantity and quality of a learner's active participation in a language learning task (Hiver, Al-Hoorie, Vitta, & Wu, 2024). An engaged learner is fully involved and dedicated to their own learning process, and without this level of engagement, meaningful learning is unlikely to occur.

According to 2020 data from the Ministry of Education and Culture's Dapodikdasmen, Indonesia has 356 Senior High Schools and 135 Vocational High Schools offering French language courses. With Kurikulum Merdeka, grade XI and XII students are expected to French language instruction that aligns with the A1-A2 levels of the Common European Framework of Reference for Languages (CEFR). By the time they finish the program in level A.2 of CEFR, they should be capable of engaging in simple communication and interpreting short texts of around 80-120 words, a key requirement of the DELF A2 exam for these proficiency levels. Learning a foreign language such as French serves multiple educational objectives for students, as highlighted by Aryanto, Purnama, Adiprima, and Ramadhana (2022). These benefits extend beyond mere language acquisition to nurturing a profound curiosity and appreciation for cultural diversity, empowering students to excel not only linguistically but also academically and professionally in their chosen fields of study. FLE, or *Français Langue Étrangère* refers to the concept of learning French as a foreign language. Learning French as a foreign language focuses on methodologies or approaches to teaching that develop four language skills: reading, speaking, writing, and listening. In schools, students are expected to master these four skills in an integrated manner (Abah, 2016).

Learning French at the high school (SMA) level encourages students to develop a deep understanding and proficiency in the language, encompassing speaking, writing, reading, and listening skills. In the process of learning French, learners encounter several difficulties. Among these difficulties is the challenge of understanding and remembering the conjugation forms of the French language. The conjugation forms of French are considered the most fundamental aspect in mastering language skills for students. In linguistic contexts, several important aspects need to be considered, namely phonemes, morphemes, words, sentences, and semantics. (Chaer, 2012). In linguistic studies, morphology involves examining forms and the processes of word formation.

In its learning process, French verb conjugation is divided into three categories (Rahayu, 2003): (1) Verbs ending in *-ER*, these verbs form the largest category in French conjugation. Examples include verbs like "*parler*" (to speak), "*manger*" (to eat), and "aimer" (to love). Following are the examples of this form. (2) Verbs ending in *-IR*, this category includes verbs such as "*finir*" (to finish), and "*choissir*" (to choose). Here are illustrations of this format. (3) Verbs ending in other suffixes apart from *-ER* and *-IR*, this category covers all other verbs in French that do not end in -ER or -IR. Examples include irregular verbs such as "*être*" (to be), "*avoir*" (to have), "*aller*" (to go), and others. These verbs often have unique conjugation patterns that need to be memorized due to their irregularity so grade XI students can easily face difficulties.

The researchers then developed a Conjugation Wheel Interactive PowerPoint (CWIPPT) which has been validated and tested twice in November 2024. Previously, the researcher conducted Research and Development (R&D) in five high schools, including both private and state institutions, around Jakarta. This research aimed to explore the needs and challenges in teaching French verb conjugations across diverse educational settings. The findings from these schools provided valuable insights into students' difficulties and the limitations of traditional teaching methods, which informed the development of the Conjugation Wheel Interactive PowerPoint (CWIPPT) as an innovative solution to address these challenges. The researchers then needed to see its effect in grade XI when it is compared to a regular French language class. The article will

elaborate on CWIPPT effect in grade XI students.

Previous studies have demonstrated the effectiveness of interactive PowerPoint media for various language learning contexts, but key differences exist in their focus and implementation. Kevin Alkhairi's (2023) research emphasized developing media for French listening skills but did not progress to classroom implementation. Ahmad Baidlowi (2023) and Ita Musta (2023) focused on improving Arabic and Japanese grammar comprehension and critical thinking, respectively, showcasing subject-specific applications. Meanwhile, Yuratin Dewi and Sarah Zahra Monica (2023) demonstrated the effectiveness of such media for English, targeting reading skills and vocabulary acquisition. Unlike these studies, this research uniquely addresses French verb conjugations, combining development and classroom testing to evaluate its impact.

The purpose of this research is to evaluate the effectiveness of the Conjugation Wheel Interactive PowerPoint (CWIPPT) in improving Grade XI students' understanding of French verb conjugations in 85 Senior high School. By comparing the outcomes of students taught using traditional methods versus those using the interactive media. This research not only develops an innovative learning tool but also measures its impact through classroom implementation and student performance analysis.

Method

The researcher got permit and then conducted experimental research from Monday, September 30, 2024, to Thursday–Friday, October 3–4, 2024, at SMA Negeri 85 Jakarta. During this period, the French teacher provided the researcher with two French classes, XI.1 and XI.5. Both classes had similar results on a previous quiz, indicating they had comparable comprehension levels and were at the same stage in their French lessons. Class XI.1 served as the control group, while Class XI.5 was the experimental group, with a total of 60 students participating in the study. To evaluate the students' understanding of verb conjugations, a pre-test was administered to both classes.

Sukmadinata (2005) explains that in experimental research, only the most significant variables are controlled. In this study, a quasi-experimental research method will be used, specifically the Non-equivalent Control Group Design. In this design, neither the experimental group nor the control group is selected randomly. Both groups will undergo a pre-test. The experimental group will use the CWIPPT product, while the control group will use a traditional teaching model. The study will conclude with a post-test for each group.

Table 1. Experimental Research Design

	Pre-test	**Treatment**	**Post test**
Experiment	O	O	O
Control	O	X	O

The data collection are the pre-test and the post-test from the students. From those data, researcher analyzed to evaluate the effectiveness of the Conjugation Wheel Interactive PowerPoint (CWIPPT) in improving students' understanding of French verb conjugation. The analysis included:

1. Validity Test: To ensure the test items accurately measured the intended learning outcomes, Pearson's Product-Moment Correlation Coefficient was used. A high correlation coefficient (r) indicates that the test items are valid.
2. Reliability Test: Cronbach's alpha was used to assess the consistency of the test results, ensuring the measurements were stable and reliable across different administrations.
3. Normalization Test: The Kolmogorov-Smirnov test was used to check if the data followed a normal distribution, an essential assumption for parametric tests. This test compares the

sample's distribution to the normal distribution's cumulative function.

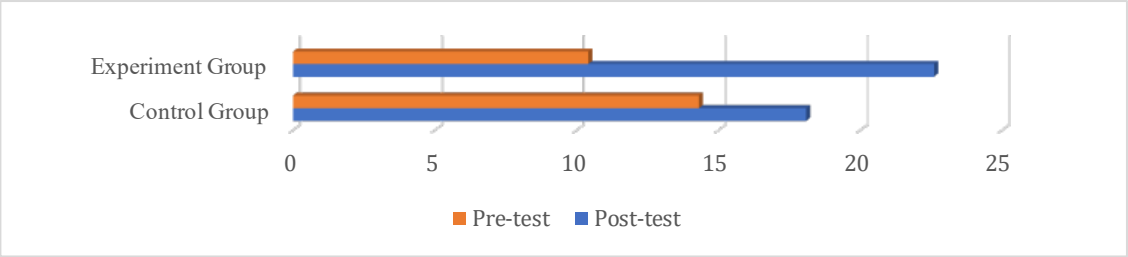
4. N-Gain Analysis, was used to measure the improvement in students' scores from the pre-test to the post-test, helping evaluate the effectiveness of the CWIPPT in enhancing students' understanding. This method, introduced by Hake, assesses learning progress.
5. *F*-Test, was conducted to compare the variances of N-Gain scores between the experimental and control groups, ensuring there were no significant differences in variance that could impact subsequent analyses. This method, developed by Fisher, is used to assess variance equality.
6. *t*-Test, was used to compare the mean N-Gain scores of the experimental and control groups. This analysis determined whether there was a statistically significant difference in students' performance, highlighting the impact of the CWIPPT compared to traditional teaching methods. The *t*-test formula, introduced by Student, is commonly used for comparing means.

Results and Discussion

This chapter presents the findings of the research and their interpretation in relation to the study's objectives. The data collected from the pre-test and post-test are analyzed to evaluate the effectiveness of the Conjugation Wheel Interactive PowerPoint (CWIPPT) in enhancing students' understanding of French verb conjugation.

Results

The control group, Class XI.1, is taught using traditional methods, with a presentation on "*se présenter*" and "*présenter quelqu'un*." Meanwhile, the experimental group, Class XI.5, uses the Conjugation Wheel Interactive PowerPoint (CWIPPT) for self-directed learning, with the researcher acting as a facilitator. Both groups will have the same learning time and duration, as well as the same pre-test and post-test, each containing 25 questions to assess their understanding. The results show that in the pre-test, the control group scored an average of 14.3, while the experimental group scored an average of 10.4. In the post-test, the control group scored an average of 18.1, while the experimental group scored an average of 22.6.



Graph 1. Pre-test and Post-test Result

After administering the pre-test and post-test, which contained different questions, the researcher conducted validity and reliability analyses on the assessment items using Pearson's correlation coefficient and Cronbach's Alpha. The validity analysis showed that all questions in both tests were valid (See Appendix P), confirming they accurately measured students' understanding of French verb conjugation. The reliability analysis using Cronbach's Alpha indicated high internal consistency (See Appendix Q), ensuring the tests reliably reflected the students' knowledge and skills.

Next, the researcher applied the Kolmogorov-Smirnov test to check if the data followed a normal distribution, which is important for using parametric tests. The results showed that both the pre-test and post-test scores from the control and experimental groups followed a normal distribution. This confirmed that parametric methods could be used for further analysis, strengthening the reliability of the findings.

Table 2. Kolmogorov-Smirnov Test Result

Data	Control Group	Experiment Group	Distribution Category
Pre-test	Normal	Normal	Normal Distribution (Parametric)
Post-test	Normal	Normal	

When the results show that the data is normally distributed, the researcher can proceed with parametric analysis for effective data evaluation. Before proceeding, the researcher will calculate the normalized gain (N-gain) for both groups to assess the effectiveness of the Conjugation Wheel Interactive PowerPoint (CWIPPT). This N-gain will also be used in the *F*-test and *t*-test to evaluate the research hypotheses and provide insights into the differences in learning outcomes between the control and experimental groups. The results are as follows:

Table 3. Mean of the N-Gain Test Result

	Control Group	Experiment Group
Mean N-Gain	0.262	0.810
Interpretation	-	High Effectiveness

Based on the data, the N-Gain for the Experimental Class, which used the Conjugation Wheel Interactive PowerPoint (CWIPPT), is 0.810, placing it in the high effectiveness range. This indicates that CWIPPT led to a significant improvement in students' understanding of the learning material. After evaluating the N-Gain scores, the next step in the research is to examine the following hypotheses regarding the effectiveness of the Conjugation Wheel Interactive PowerPoint (CWIPPT):

H0: There is no significant difference in the effectiveness of using the Conjugation Wheel Interactive PowerPoint (CWIPPT) compared to traditional teaching methods for enhancing students' understanding of French verb conjugations.

H1: There is a significant difference in the effectiveness of using the Conjugation Wheel Interactive PowerPoint (CWIPPT) compared to traditional teaching methods for enhancing students' understanding of French verb conjugations.

To test this hypothesis, first the researcher used the F-test to examine the variance of the variables by analysing the N-Gain scores of each component. The results are as follows:

Table 4. *F*-Test Two-Sample for Variances

	Control	Experiment
Mean	0,26	0,81
Variance	0,18	0,03
Observations	30	30
df	29	29
F	6,26	
P(F<=f) one-tail	0,00	
F Critical one-tail	1,86	

The F-test showed a p-value of 0.00, which is less than the significance level of 0.05. This means the variability in the control group is significantly higher than in the experimental group, so the

assumption of equal variances is not met. As a result, the researcher used Welch's *t*-test, which is more suitable when variances are unequal. This test provides a more accurate comparison of the groups' means. The results of the *t*-test, comparing the effectiveness of CWIPPT and the traditional teaching method, are presented below.

Table 5. *t*-Test: Two-Sample Assuming Unequal Variances

	Variable 1	**Variable 2**
Mean	0,26	0,81
Variance	0,18	0,03
Observations	30	30
Hypothesized Mean Difference	1	
df	38	
t Stat	-18,55	
P(T<=t) one-tail	0,00	
t Critical one-tail	1,69	
P(T<=t) two-tail	0,00	
t Critical two-tail	2,02	

The results show that the control group had an N-Gain of 0.26, while the experimental group had 0.81, indicating a much bigger improvement in the experimental group. The control group had more spread-out scores (variance of 0.18) compared to the experimental group (variance of 0.03). The t-statistic is -18.55, which shows a large difference between the groups. The degrees of freedom are 38, based on Welch's approximation. The t-statistic (18.55) is much higher than the critical values (1.69 and 2.02), so we reject the null hypothesis. In conclusion, the results show that CWIPPT was much more effective than traditional teaching methods. The low p-values indicate this difference is unlikely to be due to chance.

Discussion

The study found that the use of the Conjugation Wheel Interactive PowerPoint (CWIPPT) led to significant improvements in students' understanding of French verb conjugation compared to traditional teaching methods. The experimental group, which used CWIPPT, had a much higher mean N-Gain score of 0.81, indicating a large improvement in learning. In contrast, the control group, using traditional methods, had a lower N-Gain of 0.26, reflecting minimal improvement.
The statistical analyses further supported these findings. The *F*-test revealed significant differences in the variability of the two groups, and the *t*-test (Welch's t-test) showed a large and statistically significant difference between the groups' mean improvements. The p-values for both one-tailed and two-tailed tests were 0.00, well below the standard significance level of 0.05, indicating that the difference in performance was not due to chance.

These findings suggest that CWIPPT is a more effective teaching tool for improving students' understanding of French verb conjugation than traditional teaching methods. There are some strengths of CWIPPT as follows

1) Enhanced Engagement, the interactive features of the CWIPPT promote active participation, making learning more enjoyable and effective. Students are more likely to stay focused and motivated.
2) Improved Understanding, the combination of visual aids, detailed explanations, and interactive exercises helps clarify complex topics like verb conjugation, leading to better comprehension and retention.

3) Self-Directed Learning, CWIPPT encourages students to explore and learn independently, fostering a sense of ownership over their learning process.
4) Versatility, the media can be adapted for different teaching styles and student needs, making it suitable for various educational contexts.

The researchers also considered these following weaknesses of CWIPPT
1) Learning Curve, some students may struggle initially with navigating the interactive features, which could hinder their engagement and understanding until they become familiar with the tool.
2) Technical Issues, the effectiveness of CWIPPT may depend on the availability of technology and internet access, which can vary among schools.
3) Content Clarity, some feedback indicated that certain sections of the CWIPPT could benefit from clearer explanations or reduced content repetition to avoid confusion.
4) Dependence on Technology, reliance on interactive media may overshadow traditional teaching methods, which can be effective for different learning styles or contexts.

Conclusion

In conclusion, the implementation of the Conjugation Wheel Interactive PowerPoint (CWIPPT) significantly improved students' understanding of French conjugation verbs, as demonstrated by the results of the pre-test and post-test. The experimental group, which used CWIPPT, showed a substantial improvement, with a high N-Gain score of 0.810, compared to the control group, which had a modest improvement with a low N-Gain score of 0.262. The post-test scores further emphasized the effectiveness of CWIPPT, as the experimental group outperformed the control group. These findings highlight the value of CWIPPT as a tool for enhancing students' understanding of French conjugation, fostering greater engagement, and promoting self-directed learning. This study supports the integration of interactive media in language education to improve learning outcomes. Future research can develop CWIPPT to become an apps so more students can use and gain its benefits.

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