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Implementation of the Flipped Classroom Model to Improve Student's Learning Outcomes

Jolanda Tomasouw[1], Juliaans E. R. Marantika*[2], Stella R. Que[3], June C. Noya Van Delzen[4]

[1,2,3,4] Pattimura University

Corresponding author:
E-mail:
julians.marantika@yahoo.com

Abstract

This study investigates how implementing the Flipped Classroom model can improve high school students' German language learning outcomes at Lab Unpatti High School. The Flipped Classroom is a blended learning approach combining face-to-face interaction with online activities, integrating synchronous (real-time) learning with asynchronous (self-paced) study. This model moves the initial information delivery outside the classroom, allowing class time to be used for deeper knowledge assimilation. The study involved 24 tenth-grade students from Lab Unpatti High School. An experimental method with a one-group pre-test and post-test design was employed. Data collection instruments included tests and questionnaires. Data analysis using a t-test showed that the calculated t-value (5.055) significantly exceeded the t-table value (1.710). This significant difference indicates a substantial improvement in learning outcomes, with students' average German scores increasing by over 89%. Therefore, it can be concluded that the Flipped Classroom model effectively enhances students' learning outcomes.

Keywords: *Flipped Classroom Model, Learning Outcomes*

Introduction

Relying solely on textbooks and the teacher as the primary source of knowledge can hinder the creation of creative and innovative learning experiences in the digital era. Utilizing big data as a learning resource is essential in the society 5.0 era. Consequently, the learning paradigm in schools needs restructuring. This implies that both teachers and students should adopt a mindset geared towards fostering creative and innovative learning, leveraging digital technology rather than sticking to conventional methods (Jalinus, 2021). Technology-based learning offers a significant opportunity to enhance education. According to Kheryadi (2024), the advent of advanced technology allows learning to transition to a digital format, which can take place both inside and outside the classroom, supported by the internet and gadgets. Numerous free learning materials are available on various websites, uploaded by educators for use as learning resources.

The Flipped Classroom is particularly well-suited for the society 5.0 era. This model employs a modern approach by providing learning materials online for students to study outside the classroom, followed by in-class activities to reinforce the content. Students

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receive materials, such as videos or presentations, online, which they can access from anywhere. According to Fadli (2022:1417), the Flipped Classroom model incorporates Information Technology into the learning process, which can enhance students' critical thinking skills (Wells, 2017). Howel (2021) notes that this model engages students in active self-directed learning through websites and video media before class sessions. Classroom time is then devoted to interactive problem-solving, fostering critical thinking skills. This approach allows students to utilize class time for discussions and seek help from teachers with challenging tasks.

From the points discussed above, it is evident that the Flipped Classroom model requires students to be actively involved in their learning process, shifting the focus from teacher-centered to student-centered learning. This enables students to manage their own learning strategies effectively. According to Reidsema (2017), the Flipped Classroom method includes seven key elements: Context, Drivers, Flip, Outcomes, Components, Resources, and Evaluation.

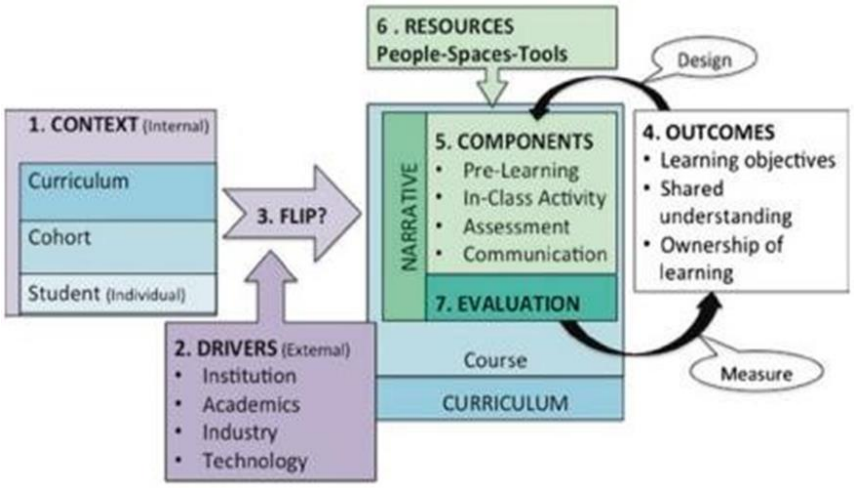


Figure 1. Elements of Flipped Classroom Design

When implementing the flipped classroom model, it is essential to consider the following needs: a) assisting students in mastering complex concepts or knowledge that they have not adequately grasped through current teaching methods; b) engaging students with material that might have been considered 'boring' or 'uninteresting' by previous cohorts; and/or, c) facilitating the development of skills that utilize new knowledge or concepts. Independent learning is a crucial component of the flipped classroom model, as online learning inherently involves self-directed study. According to Wedemeyer, cited in Chaeruman (2007), independent learning transforms behavior resulting from activities conducted by learners in different places and times, and in environments different from traditional schools. Students who learn independently have the freedom to study without the necessity of attending classes taught by their instructors. These students possess significant autonomy in their learning process.

In line with this view, Bergman and Sams (2012) state that the fundamental concept of the flipped classroom is that everything typically done in a conventional classroom is done at home, and everything that used to be homework is now completed in the classroom. Online videos serve as a primary learning medium in the flipped classroom method, with teachers posting videos to online portals for students to use as learning resources. The flipped classroom essentially reverses the traditional class structure: in a conventional

classroom, students first watch videos during class and then complete assignments at home. The figure below illustrates student activities within a flipped classroom model.

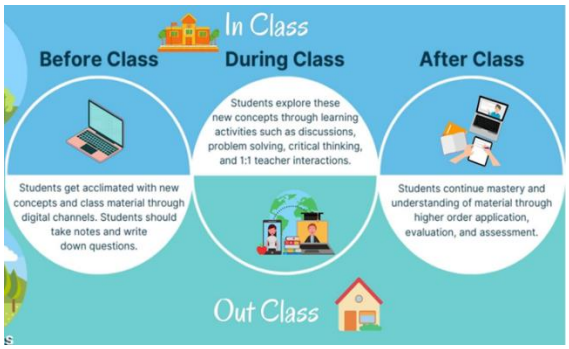


Figure 2. Elements of Flipped Classroom Design

The figure above illustrates that the flipped classroom method is divided into three activities: pre-class, in-class, and after-class. Before class begins, students study the material that will be discussed. During this phase, students are expected to remember and understand the content. In the in-class phase, students apply and analyze the material they have studied through various interactive classroom activities. The third phase involves evaluating and working on specific project-based tasks as after-class activities.

Patandean and Indrajit (2021:87) add that the flipped classroom is optimally implemented when supported by a flexible learning environment, a strong learning culture among students, available video content, and professional teachers. This model maximizes classroom teaching time as a real learning action moment. The availability of information technology resources makes it easier for teachers to disseminate theoretical explanations. Kheryadi (2024:408) also emphasizes the importance of recording video lessons, screencasts, or podcasts that include teaching concepts to make face-to-face learning activities more engaging and collaborative. This process makes learning more student-centered, as students are directly involved. The flipped classroom strategy saves time because in-class time is used mainly for discussions, making the classroom more active.

Using the flipped classroom model activates the classroom environment, making it more dynamic and engaging (Veira, 2018; Yunitami, 2020). Consequently, the flipped classroom model requires students to learn independently. This learning model encourages active participation in class and enhances students' creative thinking skills. Educators can provide learning materials in video format, which students can review repeatedly until they fully understand the content. The flipped classroom is flexible, allowing for both face-to-face and online (remote) learning. It can be accessed anytime and anywhere, either online or offline, as it is centered around the students. One advantage of this model is that students have more time to study the material at home, becoming more independent and receiving focused attention from educators when facing difficult concepts.

This study is highly urgent because it allows students to express their learning experiences digitally through the flipped classroom method. Students are trained to think creatively by presenting the material effectively through online resources. Agpu (2020) states that critical and creative thinking skills must be taught in schools in this revolutionary era. Critical thinking involves a mental process where individuals act deliberately, breaking away from usual patterns and stereotypes, and testing, evaluating, and discussing various aspects and outcomes of the information presented. Students are trained for independent learning, as

Balcikanli in Tomasouw (2019) suggests that learner autonomy involves encouraging or motivating students to set their own goals, determine the content and progression of their learning, and choose the methods and techniques to be used. Autonomous learners have the opportunity to develop the idea that if they are involved in decision-making regarding their language competencies, they will be more enthusiastic about the entire learning process, leading to further educational development.

Benson in (Tomasouw and Marantika, 2019) and Yurdakul (2017) describe autonomy as the capacity to control one's learning when creating a space where different emphases can coexist. They believe three crucial factors need attention: learning management, cognitive processes, and learning content. To become more independent, students must develop their capacity to plan their learning, monitor their progress, and evaluate their learning outcomes.

Research Method

The research method used was an experimental method, employing a pre-post test design. The sample consisted of 24 eleventh-grade students from the Unpatti Laboratory High School for the academic year 2023/2024, selected randomly. This study included two variables: the independent variable being the Flipped Classroom model and the dependent variable being the students' German text comprehension ability. Data were analyzed using the dependent t-test formula to measure the difference in mean scores between the pre-test and post-test. The treatment, involving the Flipped Classroom model in the learning process, was conducted over eight sessions. A pre-test was administered before the treatment, followed by a post-test after the treatment.

Results and Analysis

The research was conducted from May to August 2023. The treatment was carried out over eight sessions. The research data were then analyzed using Simple Regression Analysis with SPSS.

Table 1. Results of Simple Regression Analysis

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	-66.934	37.416		-1.789	.087
	German learning outcomes	2.202	.436	.733	5.055	.000

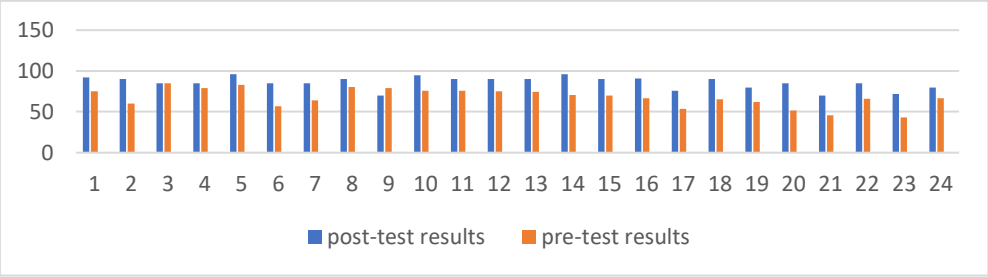
Source: Research Data: Hypothesis Testing Using a Significance Value with a Probability of 0.05

Based on the output, it can be concluded that "There is a significant effect of using the Flipped Classroom model on German learning outcomes," as the significance value (Sig.) of 0.000 is less than the probability of 0.05. This indicates that the use of the Flipped Classroom model significantly affects the German learning outcomes of eleventh-grade students at Unpatti Laboratory High School.

Hypothesis Testing by Comparing thit and t^{tab} Values

The critical value of t^{tab} for a total sample size of 24 is 1.710882, and based on the output, the thit value is 5.055. Therefore, it can be concluded that "There is a significant effect of using the Flipped Classroom model on German learning outcomes," as the thit value is greater than the t^{tab} value.

Table 2. Learning Outcomes



Based on the table above, it can be explained that the pre-test results of the students were lower compared to the post-test results. This indicates a very significant influence of creative thinking ability on German learning outcomes. As we know, one of the blended learning models is the Flipped Classroom. The Flipped Classroom is a model where traditional teaching methods are reversed. In traditional learning, students are taught subject matter by teachers in class (through lectures or direct explanations from teachers, group discussions, or reading and observation), and then they do reinforcement tasks at home (homework). In the Flipped Classroom, however, students learn subject matter at home (by watching instructional videos, summarizing, noting key points, asking questions, discussing with peers online, or reading necessary sources). This is in line with the results of Wijayati et all research which shows that students prefer online assessment in German Language learning in multiplechoice and true-false questions (Wijayati et al., 2022). Generally, this method has advantages that can motivate students to have confidence in communicating new ideas and being responsible for assigned tasks.

Conclusion

This research highlights the significant benefits of the Flipped Classroom method for students, schools, and researchers. Implementing this method in schools has yielded positive outcomes, including increased student motivation, creativity, responsibility, classroom engagement, and academic performance. Teachers also benefit from having more time for meaningful interactions with students.

The Flipped Classroom effectively equips students with critical thinking, collaboration, communication, and creative skills. It enhances teacher-student interactions, making them more enjoyable and reducing teacher dominance in the classroom. This method empowers students to take greater responsibility for their learning, allowing them to manage their study time and environment more comfortably and review materials as needed. The Flipped Classroom is truly student-centered.

Teachers can use class time for engaging and interactive activities or projects that emphasize practical application. They act as facilitators or coaches, fostering a supportive learning environment.

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