International Conference on Education, Language, Literacies, and Literary Studies (ICONELS)

Volume 02 Nomor 01

http://dx.doi.org/10.63011/iconels.v2i1.75

Students' Comprehension of the Video "Was mach ich hier eigentlich? Die erste schriftliche Arbeit bestehen!"

Meriyani Purwanti^{1*}; Amanda mayangsari²; Danang Raif Abdunafi³

- ¹ Universitas Negeri Malang, Indonesia, meriyani.purwanti.2202416@students.um.ac.id
- ² Universitas Negeri Malang, Indonesia, <u>amanda.mayangsari.2202416@students.um.ac.id</u>
- ³ Universitas Negeri Malang, Indonesia, danang.raif.2202416@students.um.ac.id

*Corresponding author: E-mail:

meriyani.purwanti.2202416@stude nts.um.ac.id

Abstract

This study aims to compare students' comprehension of the video titled "Was mach ich hier eigentlich? Die erste schriftliche Arbeit bestehen!". The research focuses on students' ability to understand video content through two primary skills: listening to audio and reading subtitles. A quantitative descriptive method with an experimental approach was employed. Primary data were collected through questionnaires and comprehension tests administered to 22 students enrolled in the "Wissenschaftliches Schreiben" class. The questionnaire measured students' perceptions of comprehension, cognitive load, and the influence of audiovisual elements, while the comprehension test assessed their factual understanding of the video content and main message. Secondary data were obtained from books, scholarly journals, and relevant expert opinions. The findings discuss the comparison between listening and reading skills in comprehending video content, based on questionnaire analysis. The results contribute to the academic understanding of learning methods and provide recommendations for educators regarding students' preferences and the effectiveness of instructional strategies in the context of video-based learning.

Keywords: listening comprehension, reading comprehension, subtitles, video comprehension, teaching methods.

Introduction

German language learning within the framework of the Merdeka Curriculum emphasizes flexibility and strengthening foreign language literacy, particularly the ability to listen independently without relying on subtitles (Kemdikbud, 2024). This aligns with the understanding that language acquisition requires mastery of various complementary skills, including listening and reading (Billa Titania et al., 2021). Both skills are crucial components in an effective language acquisition process(Nurwahidah et al., 2021). In language learning, listening plays a major role in understanding the meaning contained in everyday conversations (Selviana et al., 2020), while reading deepens comprehension of written texts (Tahir et al., 2021). These two skills not only support linguistic mastery but also holistically enhance communicative competence (Mana, 2021). The curriculum also promotes project-based learning that develops student independence, including in processing audiovisual information, by utilizing videos as learning media that integrate audio and visual stimuli (Kemdikbud, 2024.).

Video media offers a rich combination of visual and audio elements, which is considered effective in helping students more easily grasp the material being taught (Mana, 2021). Through video, students can observe the social and cultural contexts underlying language

.

use in a deeply visual form, such as body movements, facial expressions, and situations that enrich their understanding of language use in real life (Nurwahidah et al., 2021). However, the effectiveness of videos depends on how students process the information whether they rely more on listening skills, reading subtitles, or a combination of both.

The process of receiving information through video learning media is explained by the Theory of Multimedia Learning (Mayer, 2002) which states that humans process information through two main channels: the visual/pictorial channel and the auditory/verbal channel. The integration of these two channels is reinforced by Dual Coding Theory (Clark & Paivio, 1991), which explains that information is processed through either the verbal channel, such as text and sound, or the visual channel, such as diagrams, pictures, and animations. These channels can function independently, in parallel, or in an integrated manner (Clark & Paivio, 1991). Both channels can enhance memory retention if designed according to the Cognitive Load principle (Sweller, 1994), which aims to reduce cognitive burden. Overdominance of subtitles can trigger cognitive overload by forcing students to split their attention between text and audio (Mayer, 2002), but overreliance on audio alone may hinder comprehension if listening skills are inadequate. According to the VARK Learning Style Model (Fleming, 2001), students with a visual-verbal learning style tend to benefit from the presence of subtitles, whereas students with an auditory learning style may be more focused on the audio.

In practice, many students still face difficulties understanding German videos without subtitle assistance (Mana, 2021). Subtitles serve as an aid that facilitates students in capturing the meaning of conversations because they are accustomed to processing information visually through text (Khotimah et al., 2021). Dependency on subtitles in video-based learning is quite common, but this may reduce independent listening training (Wirawati et al., 2023). When students focus too much on reading subtitles, their ability to listen to intonation, speech patterns, and the direct meaning of utterances actually decreases (Humam et al., 2024). This illustrates a dilemma between short-term ease of comprehension and long-term development of listening skills.

Problem Statement

- 1. How do students understand about the content of the video "Was mach ich hier eigentlich? Die erste schriftliche Arbeit bestehen!" by using audio (listening comprehension)?
- 2. How do students understand about the content of the video "Was mach ich hier eigentlich? Die erste schriftliche Arbeit bestehen!" by using subtitles (reading comprehension)?
- 3. Is there a significant difference in students' comprehension of video content with subtitles compared to without subtitles?

Research Objective

- 1. To find out the extent of students' understanding of the content of the video "Was mach ich hier eigentlich? Die erste schriftliche Arbeit bestehen!" by using audio listening skills.
- 2. To find out the extent of students' understanding of the content of the *video "Was mach ich hier eigentlich? Die erste schriftliche Arbeit bestehen!"* by using subtitles.
- 3. To compare the effectiveness of listening to audio and reading subtitles in helping students' understanding of German learning video material.

Method

This study uses a comparative and quantitative descriptive approach to collect and analyze data. The score data obtained are expressed numerically using a comparative approach, while the Likert scale results are described narratively in a descriptive form (Sudirman, 2023.). The sample in this study consists of students enrolled in the "Wissenschaftliche Schreiben" class and a video about academic writing titled "Was mach ich hier eigentlich? Die erste schriftliche Arbeit bestehen!". This method is used to measure students' listening and reading skills in understanding the content of the German-language video. Students from the 2022 cohort in the "Wissenschaftliche Schreiben" class serve as the research sample. The sample was selected using purposive sampling technique because the researcher required the following criteria: 1) students who are enrolled in the "Wissenschaftliche Schreiben" class, 2) students who have previously received academic writing material, and 3) students with a minimum German language proficiency level of A2.

The instruments used include a Likert scale questionnaire and an objective comprehension test. The Likert scale questionnaire is designed to measure understanding of the video content according to Mayer's theory, cognitive load according to Sweller, and the influence of audio and subtitle use based on Paivio's dual coding theory. The objective comprehension questionnaire contains statements and questions directly referring to the content of the video and is designed to measure comprehension of the video's content.

Results

1. Quantitative Comparative

This study employed a non-parametric quantitative comparative method (Mann-Whitney) due to the data not following a normal distribution, as indicated by the results of the Shapiro-Wilk normality test.

Mann-Whitney Test

Ranks									
Kelompok N Mean Rank Sum of Ran									
Hasil	subtitle	11	12.91	142.00					
	unsubtitle	11	10.09	111.00					
	Total	22							

Test Statistics

	Hasil
Mann-Whitney U	45.000
Wilcoxon W	111.000
Z	-1.044
Asymp. Sig. (2-tailed)	.296
Exact Sig. [2*(1-tailed Sig.)]	.332 ^b

a. Grouping Variable: Kelompok

b. Not corrected for ties.

Figure 1. Comparison of Comprehension Scores Between Groups With and Without Subtitles

In the first figure, it is shown that the Asymptotic Significance value exceeds 0.05. The group that viewed the video with subtitles obtained a mean rank of 12.91, while the group that viewed the video without subtitles obtained a mean rank of 10.09. The total rank sum for the subtitle group was 142.00, whereas the non-subtitle group obtained a total rank sum of 111.00. The rank difference of 2.82 indicates a tendency for higher comprehension scores in the subtitle group compared to the non-subtitle

group. However, the results of the Mann-Whitney U test revealed an Asymptotic Significance (Asymp. Sig.) value of 0.296. As this value is greater than the conventional significance threshold of 0.05, it can be concluded that there is no statistically significant difference in students' comprehension between those who watched the video with subtitles and those who watched it without subtitles.

1. Quantitative Descriptive

This study also employed a quantitative descriptive method to present numerical data derived from Likert scale responses in the form of written descriptions.

a. Video Content Comprehension

Table 1. Video Content Comprehension with Subtitles

		Likert Scale (%)						
	Aspect	Strongly				Strongly		
		Disagree	Disagree	Neutral	Agree	Agree		
A.	Comprehension of Video C	ontent						
1	Understands common challenges in writing academic papers.	9.10%	54.50%	18.20%	18%	-		
2	Understands the importance of time management in academic writing.	18.20%	45.50%	18.20%	9.10%	9%		
3	Able to follow the explanation of the academic writing process easily.	-	36.40%	45.50%	-	18.20%		
4	Understands the importance of citation and academic integrity.	27.30%	27.30%	27.30%	9.10%	9.10%		

Table 2. Video Content Comprehension Without Subtitles

)			
	Aspect	Strongly				Strongly
		Disagree	Disagree	Neutral	Agree	Agree
Α.	Comprehension of Video	Content				
	Understands common					
1	challenges in writing					
	academic papers.	36.40%	27.30%	36.40%	0%	0%
	Understands the					
2	importance of time					
	management in					
	academic writing.	36.40%	27.30%	27.30%	9.10%	0%
2	Easily follows					
	explanations about the	9.10%	27.30%	45.50%	18.20%	

	academic writing					
	process.					
	Understands the					
	importance of citation					
	and academic					
4	integrity.	36.40%	27.30%	27.30%	9.10%	

Regarding comprehension of the video content, students who watched the video without subtitles demonstrated higher understanding in several general aspects. The majority of students in both the subtitle and non-subtitle groups were able to grasp the common challenges in academic writing overall. Understanding of the importance of time management in scientific writing was more prominent in the non-subtitle group, with the highest percentage at 36.4%. In contrast, the subtitle group showed a wider distribution, with only 18.2% of students reaching the highest level of understanding and 9% unable to comprehend this aspect. Meanwhile, most students in both groups could easily follow the explanation of the academic writing process, with only 18.2% of students struggling in this regard. In terms of understanding the importance of citation and academic integrity, both groups showed a relatively even distribution of comprehension, with the non-subtitle group having a higher percentage of "full understanding" at 36.4%, compared to 27.3% in the subtitle group, while 9.10% of the subtitle group did not understand the importance of citation and academic integrity.

b. The Influence of Subtitle and Audio Comprehension

Table 3. The Effect of Subtitles and Audio on the Subtitle Group

	Aspost	Likert Scale (%)						
	Aspect	5	4	3	2	1		
В.	Influence of Subtitles and Audio							
1	Reading subtitles aids in understanding the video content.	45.50%	27.30%	27.30%	_	_		
	Subtitles facilitate comprehension more effectively than relying on	10000,0						
2	audio alone.	45.50%	18.20%	27.30%	9.10%	-		
	The combination of audio and subtitles enhances understanding							
3	of the video content.	63.60%	9.10%	27.30%	-	-		
	Subtitles that appear too quickly can hinder comprehension of the							
4	video content.	27.30%	27.30%	18.20%	27.30%	-		

Table 4. The Effect of Subtitles and Audio on the Non-Subtitle Group

Aspect -		Likert Scale (%)					
		5	4	3	2	1	
B. I	Pengaruh Subtitle dan Audio						
	Reading subtitles aids in					_	
1	understanding the video content.	81.80%	18.20%	-	-	-	

		Subtitles facilitate comprehension more effectively					
	2	than relying on audio alone.	72.70%	18.20%	9.10%	-	-
		The combination of audio and subtitles enhances understanding					
	3	of the video content.	63.60%	27.30%	9.10%	-	-
_		Subtitles that appear too quickly can hinder comprehension of the					
	4	video content.	45.50%	36.40%	9.10%	9.10%	-

The analysis results indicate a difference in perception between the group that watched the video without subtitles and the group that watched it with subtitles. In the non-subtitle group, 81.80% of students reported understanding the video content by reading subtitles, whereas in the subtitle group, only 45.50% of students indicated the same. Regarding the statement that watching videos with subtitles is easier to understand than relying solely on audio, 72.70% of students in the non-subtitle group agreed, while 45.50% of students in the subtitle group agreed and 9.10% disagreed. For the perception that the combination of audio and subtitles improves comprehension of the video content, 63.60% of students in both groups agreed. Concerning the effect of fast-moving subtitles, most students in both groups reported difficulty in understanding the video when subtitles appeared too quickly; however, 9.10% of the non-subtitle group and 27.30% of the subtitle group reported that they could still comprehend the video content under these conditions.

c. Cognitive Load

Table 1. Cognitive Load in the Subtitle Group

	Aspost	Likert Scale (%)					
	Aspect	5	4	3	2		1
C.	Cognitive Load						
	Excessive information hinders						
1	comprehension	9.10%	27.30%	45.50%	18.20%	-	
	Topic shifts too quickly and						
2	cause confusion	-	9.10%	81.80%	9.10%	-	
	Subtitle or animation speed						
3	disrupts focus	9.10%	27.30%	36.40%	27.30%	-	
	Video feels complex due to						
4	many new difficult terms	9.10%	36.40%	45.50%	9.10%	-	
	Requires extra effort to connect						
_5	various pieces of information	27.30%	9.10%	36.40%	27.30%	-	
	Topics covered are naturally						
6	complicated	9.10%	36.40%	18.20%	36.40%	-	
	The video content can be						
	followed without excessive						
7	cognitive load	-	9.10%	36.40%	45.50%		9.10%
	The video encourages deep						
8	thinking about academic writing	18.20%	54.50%	27.30%	-	-	
	The video helps relate prior						
9	knowledge to new information	36.40%	36.40%	27.30%	-	-	

Table 2. Cognitive Load in the Non-Subtitle Group

	Aspost	Likert Scale (%)						
	Aspect	5	4	3	2	1		
C.	Cognitive Load							
	Excessive information							
1	hinders comprehension	-	54.50%	18.20%	18.20%	9.10%		
	Topic shifts too quickly							
2	and cause confusion	9.10%	27.30%	45.50%	18.20%	-		
	Subtitle or animation							
3	speed disrupts focus	18.20%	18.20%	45.50%	9.10%	9.10%		
	Video feels complex due							
	to many new difficult							
4	terms	-	63.60%	36.40%	-			
	Requires extra effort to							
	connect various pieces							
_5	of information	-	36.40%	63.60%	-			
	Topics covered are							
_6	naturally complicated	9.10%	63.60%	9.10%	18.20%	-		
	The video content can							
	be followed without							
_7	excessive cognitive load	-	45.50%	27.30%	27.30%			
	The video encourages							
	deep thinking about							
8	academic writing	27.30%	36.40%	36.40%	-	-		
	The video helps relate							
	prior knowledge to new							
9	information	45.50%	18.20%	27.30%	9.10%	-		

Students in both groups experienced cognitive load while watching the video, but with varying intensity. The non-subtitle group reported slightly less difficulty overall, with 54.5% experiencing comprehension challenges, compared to a majority in the subtitle group. Rapid topic transitions, fast subtitles or animations, and complex terminology were identified as major contributors to cognitive strain in both groups. Only 9.1% of students with subtitles could follow the content without cognitive overload, indicating higher cognitive demands when subtitles were present. However, most students across both groups agreed that the video encouraged deeper thinking and helped them connect prior knowledge with new information.

d. Personal Preferences

Table 3. Preferences in the Subtitle Group

Aspost	Likert Scale (%)					
Aspect	5	4	3	2	1	
D. Personal Preferences						
Prefer learning using videos with					_	
1 subtitles	54.50%	27.30%	18.20%	-	-	

Understand material better when listening without reading 2 subtitles

18.20% 63.60% 18.20%

Table 4. Preferences in the NOn-Subtitle Group

	Aspect		Likert Scale (%)						
			4	3	2	1			
D.	Personal Preferences								
	Prefer learning using videos								
_1	with subtitles	81.80%	18.20%	-	-	-			
	Understand material better								
	when listening without								
2	reading subtitles	9.10%	18.20%	9.10%	36.40%	27.30%			

Regarding personal preferences, the results are quite clear. In the subtitle group, 54.5% of students preferred learning videos accompanied by subtitles, while in the non-subtitle group, this preference was higher at 81.8%. When the instructional video had to be understood through audio alone, the majority of students in the subtitle group (63.6%) reported reduced comprehension without reading subtitles. In contrast, the non-subtitle group showed a wider distribution of responses, although 36.4% indicated that listening alone was not sufficiently optimal for understanding.

Discussion

This study reveals a noticeable difference in students' preferences regarding the use of subtitles in instructional videos. The data show that 54.5% of students in the subtitle group preferred videos with subtitles. Interestingly, in the non subtitle group, the preference for subtitles was even higher, reaching 81.8%. This suggests that even though the non subtitle group was not given access to subtitles, they still recognized the importance of subtitles as a learning aid. These findings support the notion that subtitles play a crucial role in enhancing content comprehension, particularly in educational videos involving foreign languages or complex academic terminology.

When examining students' perceptions of their understanding of the material, 63.6% of the subtitle group reported that their comprehension declined when watching videos without subtitles. Meanwhile, in the non subtitle group, 36.4% of students stated that listening to the audio alone was not sufficient for understanding the content. This indicates that subtitles serve as a supportive tool for comprehension, although their effectiveness may be limited especially if the subtitles appear too quickly or are poorly synchronized with the audio. This phenomenon aligns with Multimedia Learning Theory (Mayer, 2002), which posits that learning is more effective when information is delivered through both visual and verbal channels. In this context, subtitles serve as a visual-verbal element, while the audio functions as an auditory-verbal channel.

The data also suggest the presence of the redundancy effect, as described by Mayer, in which presenting the same information through different channels may result in cognitive overload. In this study, 36.4% of students in the subtitle group expressed frustration with the

subtitle speed, indicating that subtitles are not inherently beneficial unless they are well designed. This aligns with Cognitive Load Theory (Sweller, 1994), which explains that excessive cognitive load—especially extraneous load caused by technical factors like subtitle speed can hinder understanding. Additionally, intrinsic load stems from the complexity of the academic material, while germane load is reflected when students feel the video helps them engage in deeper thinking, a sentiment shared by 54.5% of participants.

From the perspective Dual Coding Theory (Clark & Paivio, 1991), subtitles offer a dual representation of verbal information. While subtitles support visual-verbal processing, audio supports auditory-verbal understanding. The data affirm this theory: a majority of students particularly from the non-subtitle group (72.7%) believed that the presence of subtitles would make understanding easier. This highlights the role of dual coding in strengthening information retention and enhancing comprehension of new concepts. The dual representation is especially useful for grasping technical or foreign terms that are often difficult to follow through audio alone.

Individual learning styles also appear to influence students' understanding of instructional videos, with or without subtitles. According VARK Learning Style Model (Fleming, 2001) students with a visual-verbal learning style tend to benefit more from subtitles, whereas auditory learners may focus more on listening. This is supported by data from the non-subtitle group, where 81.8% preferred videos with subtitles suggesting that multimodal learning (audio + subtitles) better accommodates diverse learning preferences.

From the standpoint of modern learning strategies, using videos with subtitles aligns with the principles of student centered learning (Salsabila, 2024). Students are encouraged to actively construct meaning from the material presented, rather than passively receiving it. The finding that 54.5% of students felt that the videos helped them connect prior knowledge with new information supports constructivist learning approaches, which emphasize building understanding independently. Videos with subtitles also support blended learning models, allowing students to study at their own pace outside the classroom.

However, this study also highlights technical obstacles, particularly related to subtitle speed. In the subtitle group, 36.4% of students felt that subtitles were too fast, making them hard to follow. While subtitles aid comprehension, design elements such as speed, font size, and audio synchronization must be carefully managed to avoid creating extraneous cognitive load that may impede understanding. Effective learning depends not only on the availability of content but also on how well that content is delivered.

In the context of foreign language learning, subtitles serve a dual function: aiding comprehension and reinforcing vocabulary and language structure. While students in the subtitle group showed improved understanding of academic terms, those in the non subtitle group demonstrated stronger grasp of general context. This suggests a difference in focus subtitles enhance reading comprehension, while the absence of subtitles promotes listening comprehension.

Regarding content understanding, both groups subtitle and non subtitle were relatively successful in grasping common challenges related to academic writing. However, awareness of time management was higher in the non-subtitle group (36.4% strongly agreed), compared to just 18.2% in the subtitle group. This may be due to the non-subtitle group focusing more on the overall context, while the subtitle group was more attentive to textual details. In terms of understanding the academic writing process and academic integrity, comprehension

levels were relatively balanced between the two groups, though the non-subtitle group showed a slightly higher percentage of full understanding (36.4% vs. 27.3%).

Statistically, the Mann-Whitney test revealed that although the subtitle group had a higher mean rank (12.91 vs. 10.09), the difference was not significant (Asymp. Sig = 0.296 > 0.05). This implies that the variation could be due to chance and is not strong enough to confirm a significant effect of subtitles on comprehension. While subtitles are helpful for some students, they are not the sole determinant of video comprehension. Other factor such as motivation, learning styles, reading speed, and prior experience also play a significant role.

These findings are valuable for reflecting on instructional practices. A practical recommendation is that instructional videos should still include subtitles to support various learning styles and increase accessibility. However, attention must be paid to the technical design of subtitles such as speed and readability to avoid creating additional cognitive load. In addition, educators should provide students with strategies for simultaneous listening and reading, enabling them to process dual-channel information without cognitive overload.

This study also illustrates that not all students benefit from subtitles in the same way. While some find them helpful, others are hindered by technical issues. Individual factors such as reading speed, subtitle experience, learning preferences, and foreign language proficiency significantly influence the effectiveness of subtitles. Therefore, video-based instructional design should consider not only the inclusion of subtitles but also their quality and alignment with students' needs.

Conclusion

Based on the research findings, it can be concluded that students who watched videos with subtitles had an average rank of 12.91 in terms of content comprehension, while those without subtitles had an average rank of 10.09. However, with an Asymp. Sig value of 0.296, this difference was not statistically significant. From a content understanding perspective, students in the non subtitle group tended to grasp certain aspects more effectively such as the importance of time management in academic writing, with 36.4% strongly agreeing compared to just 18.2% in the subtitle group. Regarding the perceived impact of subtitles and audio, students in the non subtitle group actually showed a higher level of awareness about the usefulness of subtitles, with 81.8% stating that reading subtitles helps them understand the video content. This is notably higher than the 45.5% from the subtitle group. Cognitive load was relatively similar in both groups, with many students reporting difficulties in processing large amounts of information and unfamiliar terminology. In the subtitle group, 45.5% of students found the information hard to understand, while in the non subtitle group, this figure rose slightly to 54.5%. Therefore, although subtitles are generally expected to support comprehension, the findings indicate that students who watched without subtitles performed better in certain areas. At the same time, the presence of subtitles also introduced challenges, particularly in the form of cognitive overload due to fast-paced text and rapid topic shifts.

References

- Billa Titania, R., Bahtiar, R. S., & Jarmani, J. (2021). Peningkatan Kemampuan Membaca dan Menyimak dengan Menggunakan Metode Speed Reading pada Pembelajaran Bahasa Indonesia. Trapsila: Jurnal Pendidikan Dasar, 3(2), 11. https://doi.org/10.30742/tpd.v3i2.923 BukuDigital-MetodologiPenelitianbab12. (2003).
- Clark, J. M., & Paivio, A. (1991). Dual coding theory and education. *Educational Psychology Review*, 3(3), 149-210. https://doi.org/10.1007/BF01320076
- Fleming, N. D. (1995). I'm different; not dumb Modes of presentation (V.A.R.K.) in the tertiary classroom.
- Humam, R., Suherman, S., & Sutanti, N. (2024). Pengaruh Video Subtitle Bahasa Inggris Terhadap Pemahaman Mendengarkan Siswa EFL di SMAN 1 Blitar. *ALFABETA: Jurnal Bahasa, Sastra, dan Pembelajarannya, 7*(1), 60-69. https://doi.org/10.33503/alfabeta.v7i1.3760
- Kemdikbud, 2024. (n.d.). Retrieved May 7, 2025, from https://ditpsd.kemdikbud.go.id/
- Khotimah, S., Kustiono, K., & Ahmadi, F. (2021). Pengaruh Storytelling Berbantu Media Audio Terhadap Kemampuan Menyimak dan Berbicara pada Anak Usia Dini. *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini*, 6(3), 2020-2029. https://doi.org/10.31004/obsesi.v6i3.1813
- Mana, L. H. A. (2021). Analisis Kompetensi Dasar Pembelajaran Keterampilan Menyimak pada Kurikulum 2013 Revisi di Tingkat SMP dan SMA. *JIRA*: *Jurnal Inovasi dan Riset Akademik*, 2(7), 1078-1086. https://doi.org/10.47387/jira.v2i7.191
- Mayer, R. E. (2002). Multimedia learning. In *Psychology of Learning and Motivation* (Vol. 41, pp. 85-139). Elsevier. https://doi.org/10.1016/S0079-7421(02)80005-6
- Nurwahidah, C. D., Zaharah, Z., & Sina, I. (2021). Media Video Pembelajaran dalam Meningkatkan Motivasi dan Prestasi Mahasiswa. *Rausyan Fikr: Jurnal Pemikiran dan Pencerahan*, 17(1). https://doi.org/10.31000/rf.v17i1.4168
- Salsabila, A. (2024). Implementasi Student Centered Learning (SCL) dalam Meningkatkan Prestasi Siswa. 13(3).
- Selviana, Y., Mannahali, M., & Dalle, A. (2020). Hubungan antara Penguasaan Kosakata dengan Kemampuan Menyimak Bahasa Jerman Siswa Kelas XI Bahasa. *Interference: Journal of Language, Literature, and Linguistics,* 1(2), 148. https://doi.org/10.26858/interference.v1i2.14859
- Sweller, J. (1994). Cognitive load theory, learning difficulty, and instructional design. *Learning and Instruction*, 4(4), 295-312. https://doi.org/10.1016/0959-4752(94)90003-5
- Tahir, I., Jufri, J., & Achmad, A. K. (2021). Murder Dalam Pembelajaran Membaca Memahami Bahasa Jerman. *Interference: Journal of Language, Literature, and Linguistics*, 2(2), 127. https://doi.org/10.26858/interference.v2i2.20483
- Wirawati, D., Rahman, H., & Indriani, F. (2023). Persepsi Mahasiswa Terhadap Pengaruh Media Sosial Sebagai Sumber Belajar Keterampilan Membaca dan Menyimak. *Kode: Jurnal Bahasa*, 12(1). https://doi.org/10.24114/kjb.v12i1.44355