Vol. 14, No. 01, pp. 679-691, 2024 DOI: 10.23960/jpp.v14.i1.202449

Jurnal Pendidikan Progresif

e-ISSN: 2550-1313 | p-ISSN: 2087-9849

http://jurnal.fkip.unila.ac.id/index.php/jpp/

Animation Videos as a Pre-writing Stimulus: A Quasi-Experimental Study on Secondary School Students in Medan-Indonesia

Callista Buena Sinamo, Utari Praba Astuti & Francisca Maria Ivone

Department of English Literature, Universitas Negeri Malang, Indonesia

*Corresponding email: callista.buena.2202218@students.um.ac.id

Received: 05 May 2024 *Accepted: 07 June 2024* *Published: 11 July 2024*

Abstract: Animation Videos as a Pre-writing Stimulus: A Quasi-Experimental Study on Secondary School Students in Medan-Indonesia. Objectives: This study aims to reassess the effectiveness of animation videos as a stimulus during pre-writing phase on tenth graders' writing skills. **Methods:** Employing a quasi-experimental research design, the study applied t-test and effect size analysis within a quantitative approach. Through non-random sampling, two intact classess of 30 tenth graders each were assigned to the control and experimental groups. Pre- and post-tests, focusing on the ability to write a procedure text in the tips genre, were conducted to collect data. **Findings:** The research findings indicated a significant difference in the writing scores of tenth graders who underwent process writing with animation videos during pre-writing, compared to those without such intervention. Particularly noteworthy were substantial differences observed in the organization aspect, while the least difference was noted in language aspect. **Conclusion:** This study suggests the essential role of animation videos as a brainstorming stimulus in retrieving linguistic and topic knowledge for the students to effectively organize and communicate their ideas. Implications of these results for the involvement of animation videos during pre-writing in EFL settings are discussed.

Keywords: EFL writing; secondary Indonesian students; writing skills

To cite this article:

Sinamo, C. B., Astuti, U. P., & Ivone, F. M. (2024). Animation Videos as a Pre-writing Stimulus: A Quasi-Experimental Study on Secondary School Students in Medan-Indonesia. *Jurnal Pendidikan Progresif*, *14*(1), 679-691. doi: 10.23960/jpp.v14.i1.202449.

INTRODUCTION

Pre-writing activities can be acting as a catalyst for subsequent phases in the process writing. Because pre-writing stimulates students' topic and linguistic knowledge, paragraphing becomes easier, resulting in a more logical and coherent content (Rofiqoh et al., 2022). However, in a thematic review by Geng et al. (2021), teachers in English as a Foreign Language (EFL) countries, including Indonesia, evaluate their students' writing performance regarded most to writing accuracy. As instruction on language form directs students to the writing phase, it can be considered that pre-writing becomes a secondary priority, or that pre-writing is incorporated into the writing phase. Meanwhile, employing writing strategies all at once has been found to cause burden in the working memory (Li & Wang, 2024). Instead, by understanding pre-writing strategies, the EFL students can be more self-regulated in planning, monitoring, and evaluating their own composition (Guo et al., 2021). If pre-writing activities are well designed, the EFL students will be benefited.

In the setting of secondary school students in Indonesia, despite being involved in collaborative brainstorming as one of pre-writing activities, the students seem to keep struggling to start writing. In collaborative brainstorming, which L1 interference can certainly occur, they would

face processing load while translating ideas from Indonesian to English. For its unstructured nature, collaborative brainstorming in English is regarded more impactful for advance students in college level (McDonough et al., 2019). Given its varied benefits on accuracy and fluency, collaborative pre-writing may not be suited for all students; can also be dependent to rhetorical mode and task complexity. However, poor linguistic knowledge become limitation to EFL secondary school students in Indonesia to brainstorm collaboratively in English, and thus leaving idea generation to their teacher. To overcome this barrier, English input has been discussed to be practical, for which encouraging the generation in the target language.

Input in preferred modalities can be exploited to promote language acquisition and learning in consideration of limited naturalistic language input in the EFL settings. When given suited input modality preference, researchers have noted that EFL students show higher scores and less cognitive load during learning. In regards to two separate channels of information processing (Paivio, 1990, p. 53), input modality refers to verbal and non-verbal presentation mode. While, information processing in regards to Mayer (1997) is associated to sensory channels, modality can be aural and visual. Instead of referring input modality to its presentation mode, this study discusses its sensory mode to facilitate brainstorming during pre-writing. Given that brainstorming occurs in working memory, where information is temporarily stored (Li, 2023), searching for a potential input modality that gives optimal information retention is crucial. However, the question remains whether provision to input modality has been suited to Indonesian secondary school students' preferences for brainstorming in the target language.

To secondary school students in Indonesia, reading visual text input can be inefficient as a brainstorming stimulus. Instead of drawing ideas from it, they may prefer to model the text for its constituent components are the same as writing (Schoonen, 2019). It seems unlikely to bring students aware of pre-writing strategies, but rather text forms and components. Moreover, Godfroid (2020, p. 38) addressed that visual searching is very instantaneous, making eyes to quick infer during reading. However, it can raise the risk of misinterpretation for them whose linguistic knowledge is likely poor. For reading needs linguistic analysis, it is assumed against Krashen's (1982, p. 21) emphasis on meaning over form in language acquisition and learning. Instead of visual text, Nikolov and Djigunoviæ (2019) discussed that implicit meaning acquired in young EFL students better through auditory activities. As it turns out, auditive text can be one choice for a more engaging way for EFL secondary students to acquire meaning.

Though noticeable in early childhood of English native, auditive text may engage phonological awareness in building orthographic representation for EFL writing. Phonemes makes orthographic decoding less arduous and last twice as long in echoic memory than visual information (Frost et al., 2015). In regard to Mayer's (2009, p. 200) modality principle, text is easily understood when presented in auditory rather than visual format. Although an easier target language text is possible in auditory mode, EFL secondary school students in Indonesia may find it frustrating. Their unfamiliarity with English sound pattern makes phonological processing difficult (Setyawan et al., 2022), and its temporal nature makes word repetition harder than visual text. To clear up this limitation of verbal channel capacity, Mayer's (2009, p. 223), in his multimedia principle, suggested that learning is better in words and images rather than words alone. By means, the use of multimedia stimulus can give clear interpretation of the target language for EFL students.

Concurrent with information and communication technology (ICT), numerous

studies have studied how multimedia with video stimulus influences brainstorming better than with image stimulus. In a systematic review by Zhang and Zou (2022), drawing targeted word knowledge is found easier in both visual and aural modes than merely in visual mode. By so, video mode facilitates perceptual processing better. In light of contextualization, Cai and Huang (2023) found that word recognition is easier in videos than images, allowing students to construct more content. In regards to visualization, an eye-movement study (Pei et al., 2022) found that videos have higher visual search and emotional experience than images. Moreover, Lee and Mayer (2018) confirmed that verbatim captions in videos can improve learning for EFL students, helping them with phonological processing of the English narration. Animation video, one sort of video modality that supported these features, has been considered beneficial in numerous recent studies.

Though accessible in *YouTube* website, utilizing animation videos as a brainstorming stimulus is infrequent among EFL secondary school teachers in Indonesia. While animation videos were given (Akib & Syatriana, 2019; Sundari et al., 2021), these were in form of storyboards for students to write following the framework and series. Meanwhile, direct practice to writing phase would be ineffective for EFL secondary students whose topic and linguistic knowledge is typically limited to effectively paragraphing. Thus, this study aims to reassess the effectiveness of animation videos as a brainstorming stimulus during pre-writing by answering these two research questions:

1. Are tenth graders taught with process writing involving animation videos during pre-writing scored significantly different than those taught only with process writing?
2. Which aspect of the writing skills is benefited after involving animation videos during pre-writing?

METHOD

Participants

To avoid classroom learning distraction, the students in this study were intact and not randomly assigned into control and experimental groups. Each group consisted of 30 EFL tenth grade students aged 15-16 from a state secondary school in Medan, Indonesia (17 females, 13 males in experimental; 16 females, 14 males in control). Regarding initial writing proficiency, students in both groups were generally within the Common European Framework of Reference for Languages (CEFR) scoring descriptor of A2 and considered homogenous. By agreeing to be involved voluntarily, they were asked to fill a written informed consent form before participation, and thus no compensation was given.

Research Design and Procedures

In order to answer the two research questions on the score difference across the two groups and on the difference in four aspects of the writing skills, the quasi-experimental design with a pre- and post-test approach was employed in this study. The quasi-experimental design was adopted from Creswell (2012, p. 294) as practical with concepts within the process and interrelated stages.

As shown in Figure 1, the adopted research procedures from Creswell (2012, p. 322) were systematically executed in eigth steps. The first procedure was formulating the research question into two, as stated previously. Subsequently, setting up the hypotheses into two: (1) there was significant difference in the writing scores between the two groups and (2) the organization aspect was highly benefited after involving animation videos during pre-writing.

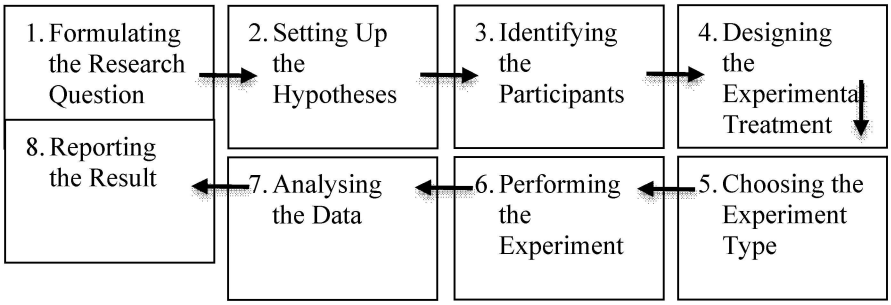

Figure 1. The adopted quasi-experimental research procedures from creswell (2012, p.322)

When identifying tenth grade students as participants in this study, two considerations were made. The first consideration was whether process writing would be a suitable approach for tenth grade students to write. In regards to Baker (2005, p. 64), self-regulated learning to plan, monitor, and evaluate one composition is greatly developed during adolescence, which fit the ages of participants in this study. As process writing promotes self-regulated learning, this approach is suitable for secondary school students in this study. The second was whether animation videos could be used to stimulate brainstorming of the tips genre topics that the students were learning. For its multimodality (Mayer, 2009, p. 63), using animation videos during the pre-writing phase is suitable to assist the students in recalling prior knowledge and actively integrating it with their current knowledge. Following that, designing experimental treatment into eight meetings (in 90 minutes each) was based on the syllabus timeline that comprising two topics of procedure texts: tips to maintain physical health and tips for healthy eating. Subsequently, choosing quasi-experimental was a concern to address between-group comparisons of intact students.

In performing the experiment, the control group was offered different stimulus to brainstorm as experimental group during pre-writing. Although receiving different stimulus, both groups were given identical guided questions and mind map to facilitate the brainstorming process. The adaptation of the process writing phases from Flower and Hayes' (1981) model during the eight-week treatment is illustrated in Figure 2.

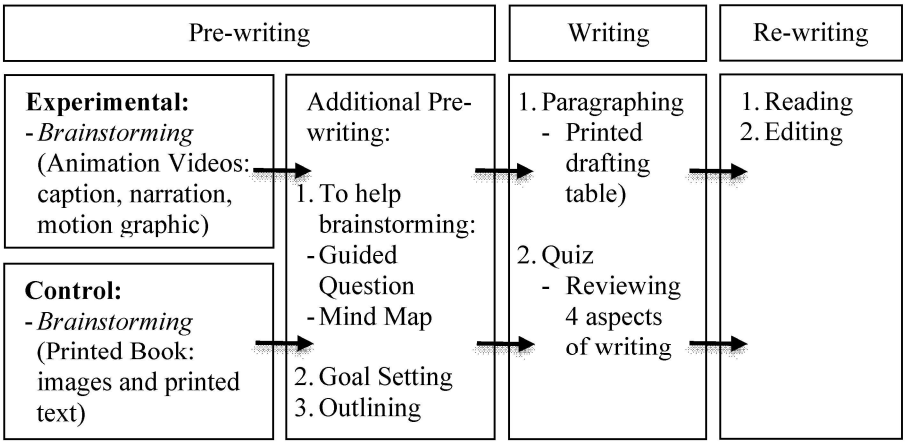

Figure 2. The adopted process writing phases from flower and hayes (1981, p.370)

As shown in Figure 2, apart from pre-writing, treatment for both groups were identical including outlining, paragraphing, translating, and revising. Both groups were also given identical quizzes and extended time for take-home outlining and paragraphing exercises to be returned in following session. Moreover, interventions were given more frequently in the first topic to introduce process writing phases and strategies, as opposed to the second, in which the students were encouraged to lead the process autonomously. Even so, feedback was never neglected in both assigned topics.

The experimental group received *YouTube* animation videos to brainstorm and take notes on. Certain students were instructed to read loud their notes for classroom discussion after brainstorming. Six *YouTube* animation videos from the channels of *Aetna, Dr SMART team, ClickView, Learn Bright, Doctablet,* and *Peekaboo Kidz* were used. Considerations in choosing these *YouTube* channels were made to reduce cognitive burden in multimedia learning (Mayer & Moreno, 2003), as well as to adopt comprehensible input in Krashen (1982, p. 20), which corresponded to natural language input in Ellis (2005). Moreover, this study used the animation type of motion graphic, featuring dynamic and artificial graphics with voiceover. A previous study (Silvani, 2020) found that motion graphic animation assissted EFL secondary school students in Indonesia enhance their grammar and vocabulary during writing practice. This study will use a CEFR-like writing test to support that finding.

Besides, the control group was taught brainstorming with printed pictures material from the instructional book. They were directed to choose images of activities that promote physical health and healthy eating tips for classroom discussion. A discussion on various reasons of choosing those images was led by the teacher to help them recall prior knowledge about the tips. Moreover, there was sample of text provided in the instructional book that students can read to learn new words and find references for the topic.

Data Collection's Instruments

The data collection instrument used in this study included writing tests.. In creating the writing prompts, Banerjee and Bandyopadhyay's (2012) advice-associated question class was adopted. They have proposed seven question classes for procedure text in their study, which one of them suited the tips genre used in this study. Moreover, MUET-CEFR aligned test specification by Malaysian Examinations Council (2019, p. 37) was adopted in designing the writing test in this study as it includes skill descriptions, instruction and prompt with stimulus material, and scoring guide. Adopting a CEFR-like test as in Joannes and AlSaqqaf (2022), this study reduced word length in longer duration and simplified rhetorical mode. Taking the CEFR standard for the writing tests in this study was in accordance with the English learning objective outlined in the Merdeka curriculum for tenth grade students to be able to write at the B1 CEFR level.

Before administering the writing tests, a validation checklist by an expert was done for evaluation on several indicators including prompts, time allocation, assessment aspect, content, and ambiguity. Prior to data collection, the writing tests were pilot tested in two different tenth-grade classes at the same school. In collecting data on students' writing test scores, the students' writing scripts were assessed by two raters to avoid subjectivity in the scoring procedure. The scoring rubric used in this study was adopted from the Cambridge English Assessment in B1 Preliminary for Schools (n.d) that included the aspects of content, communicative achievement, organization, and language. To evaluate the consistency of both raters in giving scores, the interrater reliability analysis was performed and interpreted using

Kappa coefficient. In this study, the computation of two raters' agreement revealed a substantial degree of agreement (0.707 in the control group; 0.735 in the experimental group).

Data Analysis

After the students writing scores have been agreed upon both raters, descriptive and inferential statistics were conducted using SPSS Statistics 26 software. Descriptive statistics in this study was performed to calculate the central value of students' writing score distribution. In addition, inferential statistics were executed to compare mean score difference across the two groups and mean score difference in four aspects of the writing skills. Underwent the effect size analysis, this study measured the magnitude of difference in four aspects of the writing skills after involving animation videos during pre-writing. In accordance with Creswell (2012, p. 188), this study conducted the T test analysis on normal and homogeneous data.

■ RESULT AND DISCUSSION

The Significant Difference in Students' Writing Scores

In the findings of this study, the group of students who receives process writing with animation videos during pre-writing achieves post-test mean score at the B1 level, which is higher than those without such intervention. The summary of the descriptive findings in the two groups can be seen in the Table 1.

Table 1. Descriptive results in the control and experimental groups

	Group	N	Mean	SD	Median	Mode	Max	Min	Range	Variance
Pre-test	Control	30	**16.5333**	**4.47779**	15	20	24	8	16	20.051
	Exp	30	**18.2667**	**3.51287**	18	16	28	12	16	12.34
Post-test	Control	30	**21.8000**	**4.02064**	20	18	28	10	18	16.166
	Exp	30	**26.1333**	**3.52071**	26	26	34	18	16	12.395

From the pre-test mean scores results, the initial writing proficiency of the students in both groups is indicated at the A2 level (Control = 16.53, Experimental = 18.26). In the post-test mean scores, the experimental group achieves the B1 level (M = 26.13, SD = 3.52), one level higher than the control group, who is still at the A2 level (M = 21.80, SD = 4.02), considering a total band score of 24 or higher is regarded as B1 level.

In the subsequent findings, the measurement on any significant difference in post-test data across the two different groups is based on the independent t-test analysis. Before executing the T test analysis, this study made sure that the post-test data are normal using *Shapiro-Wilk* statistic (W = 0.940, p = 0.093 in the experimental group and W = 0.956, p = 0.243 in the control group) and homogenous across the two groups using *Levene* statistic (f = 0.589, p = 0.446). Further, the summary of the hypothesis findings using the T test analysis is shown in the Table 2.

Table 2. Independent T test results across the control and experimental groups

		Levene's Test for Equality of Variances		T-test for Equality of Means						
		F	Sig	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Post-Test	Equal variances assumed	1.112	.296	**-5.466**	**58**	**.000**	-5.33333	.97572	-7.28645	-3.38022

Equal variances not assumed	-5.466	57	.000	-5.33333	.97572	-7.28718	-3.37949

As shown in the Table 2, the null hypothesis (H_0) is rejected, indicating that there is a significant difference in the students' writing scores across the two unrelated groups (t = -5.466, p = .000) after being intervened. Tenth grade students who are taught with process writing involving animation videos during pre-writing outperform those who are taught with only process writing. This study's findings support the benefit of using animation videos during pre-writing in the EFL context. Consistent with previous studies (Andina et al., 2020; Siswanjaya et al., 2017), involving animation videos into process writing results in a higher analytical score among EFL secondary students in Indonesia. This findings confirm Ivone and Renandya's (2019) study to expose EFL students to the communicative use of vocabulary in a language-rich environment through listening and viewing. By supplying naturalistic language input, the students comprehend vocabulary through meaning, rather than relying on translation.

This study confirms the effectiveness of animation videos as a brainstorming stimulus for its aural and visual combination and its animation features. Supporting Mayer's (2009, p. 200) modality principle, the combination of aural and visual modes in this study allows for two independent ways to remember. In contrast to images and printed text, which are perceived solely through visual channels, visual and aural representations aid students to remember information better. In support to Teng and Zhang (2023), narration in videos promotes stable phonological representations in cortical memory, allowing students to maintain and retain word forms and meaning. Agreeing with the Image Principle (Mayer, 2009, p. 258), not all types of videos can help students brainstorm. Although multiple studies reveal that script delivery videos are useful for brainstorming, those are best suited for advanced EFL college students. For EFL secondary school students, this study's findings support the animation videos features are more suited to brainstorm in English.

Aspects of the Writing Skills that are Benefited after Involving Animation Videos during Pre-writing

The second finding of this study shows that involving animation videos during pre-writing benefits four aspects of the writing skills based on the inferential analysis of paired t-test. The summary for its results is subsequently presented in the Table 3.

Table 3. Paired T test results in the four aspects of the writing skills

		Content	**Communicative Achievement**	**Organization**	**Language**
Paired Differences	N	60	60	60	60
	Mean	-1.93333	-2.33333	-2.667	-0.933
	SD	1.70057	1.58296	1.845	1.552
	SE Mean	.31048	.28901	.337	.283
	T Value	-6.227	-8.074	-7.919	-3.294
	df	29	29	29	29
	P Value <.05	**.000**	**.000**	**.000**	**.003**
	H^0 rejected?	**yes**	**yes**	**yes**	**yes**

As shown in Table 3, the p-values in four aspects of the writing skills are less than 0.05, suggesting that the null hypothesis (H_0) is rejected inall four aspects. The data analysis of four aspects of the writing skills prior to and following the intervention revealed a statistically significant difference.

In terms of its magnitude of difference, this study finds that involving animation videos during pre-writing benefits the organization aspect the most. This is followed by the communicative achievement aspect, then the content aspect, and lastly, the language aspect, which receives the smallest impact. The summary of the effect size analysis is further shown in the Table 4.

As shown in Table 4, the effect sizes for content, communicative achievement, and organization aspects of the writing skills are all

Table 4. Effect size results in four aspects of the writing skills

		Content		Communicative Achievement		Organization		Language	
		Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test
Effect Size	N	30	30	30	30	30	30	30	30
	Mean	4.4000	6.3333	4.4000	6.7333	3.80	6.47	5.67	6.60
	SD	1.61031	1.29544	1.22051	1.43679	1.324	1.358	.922	1.404
	SE Mean	.29400	.23651	.22283	.26232	.242	.248	.168	.256
	Effect size	**1.322928**		**1.750355**		**1.991**		**0.783**	

greater than 0.8. In regard to Cohen's coefficient, the effect sizes values for these three aspects of writing skills are classified as 'very strong'. Besides, the effect size value in language aspect of the writing skills is found less than 0.8, indicating that the coefficient is classified as 'strong'. Moreover, the most substantial difference is found in the organizational aspect, with the highest effect size coefficient of all (d = 1.991). It can be concluded that using animation videos during pre-writing impacts students the most to organize ideas, especially paragraphing, in a way readers can follow the structure chornologically. . Detailed findings on the benefits of involving animation videos during pre-writing in four aspects of the writing skills are further discussed in relation to the earlier findings and theories. The discussion begins from the aspect which gets the highest impact to the smallest.

This study's findings indicate that animation videos are advantageous the most for EFL secondary students to organize ideas. It compares to their prior knowledge in sequencing imperative sentences with numbers on procedure text of recipe. However, this current study contradicts previous studies (Akib & Syatriana, 2019; Andina et al., 2020; Silvani, 2020; Sundari et al., 2021) that found animation videos facilitate EFL secondary students to collect ideas, learn new words, and familiarize grammar during writing practice. Besides, this study's findings are consistent with (Hekmati et al., 2018) which concluded that animated movies are helpful in enabling EFL students to structure their compositions well. As shown in previous findings, EFL students' ability to create schemas (ideas organization) is a result of their familiarity with the topic. Supporting the previous findings, stimulating the topic of healthy eating or physical health tips in this study corresponds to the students' preexisting knowledge.

Further, this study's findings show that the use of animation videos as a brainstorming stimulus allows the students to paragraph in the target language. In regards to dual channel theory (Clark & Paivio, 1991, p. 149), the use of

animation videos in this study provides the students conscious imagery to process concreteness representation of the target language faster. This associative process of the visual and verbal input supports the students to build mental representation or structure for one topic during composing. Reflecting on the active processing assumption in cognitive theory of multimedia learning (Mayer, 2009, p. 67), the use of animation videos stimulus (narration + motion graphic + caption) in this study encourages the students to actively make sense of the presented brainstorming input and integrate it with their prior knowledge. Concurrent with Rofiqoh et al. (2022), this study's findings support that a knowledge for writing topic can serve as a predictor of success on organization aspect. By stimulating them with systematic content in the animation videos, they can manage the interrelated pre-writing and writing phase, to organize and to paragraph in the target language.

This study's findings indicate that involving animation videos during pre-writing gives students logical connection in giving examples and reasons to communicate their tips to the readers. Considering Foster and Skehan's (1996) concept of limited attentional capacity, fluency is given the highest priority when students' attentional resources are overloaded by a novel task, such as reasoning in tips genre. By stimulating them with animation videos, students were provided with convincing and logical connection for expressing reasons coherently. In regards to verbal and visual working memory involvement during planning (Li, 2023), the animation videos stimulate concrete schema or concepts for idea generation, idea organization, and goal setting. Along with paragraphing abilities, the students' knowledge of outlining in a procedure text style and goal-setting improves. Despite this, eight students continue to use pronouns without considering their intended audience. However, the quantity of the students with poor audience awareness has reduced from that of in the pre-test findings.

Although animation videos benefit content aspect in third, provision to a familiar writing topic in this study drives the students to work on with organization aspect. In line with previous study (Yuli & Halimi, 2020), providing EFL secondary school students to a familiar topic serves as a catalyst for them to practice various writing strategies. Following Piaget's (1926, p. 142) cognitive development, students' prior knowledge or schema can be utilized to construct an active learning process. Rather than memorizing English pattern and its translation, as debated in Ivone (2005), students in this study can construct and reconstruct their knowledge of a familiar topic. Further, this study supports the claim made by Flower and Hayes (1981) regarding the importance of stimulating prior knowledge during pre-writing phase in order to effectively integrate new information relative to the writing topic. By stimulating the students' long-term memory on giving tips to maintain physical health and healthy eating in animation videos, they can build relevant structure and connection to their prior knowledge on the given topic.

Involving animation videos during the pre-writing phase in this study gives the least significant effect on EFL secondary students' language use in writing. In accordance with Mayer (2009, p. 62), EFL students in this study can only hold vocabularies from the input consciously in limited and temporal memory. To interpret the input, the students are likely to integrate available vocabularies in their repertoire with the supplied information. Further, this study supports Mayer's (2009, p. 16) information-acquisition view in multimedia learning that EFL secondary students cannot tape-record the provided vocabulary in the animation videos one by one but rather absorb its meaning. As of it, this study provides more evidence to support earlier research that enabling EFL secondary students to use their vocabulary

creatively and critically in writing requires a complex process with repetitive practices.

CONCLUSION

The current study highlights the effectiveness of involving animation videos during pre-writing. The first s in this study reveals a significant difference in the analytical writing scores between tenth graders who are taught with process writing involving animation videos during pre-writing compared to those who are taught only with process writing. By involving animation videos into pre-writing, the students in this study are engaged in an active learning process in which they can retrieve their own prior knowledge about one writing topic and integrate it with the presented brainstorming input. For the multimodality of the animation videos used in this study that includes English narration + captions + motion graphics, the students are able to presume meaning easily when compared to the visual mode of printed pictures and text in the instructional book. As a result, students can organize their knowledge on one writing topic in the target language better than their initial understanding about procedure text.

In the second finding of this study, the involvement of animation videos into pre-writing benefits the students in four aspects of the writing skills, including organization, communicative achievement, content, and language aspects. It is seen that involving animation videos into pre-writing give students improvement in the four aspects of the writing skills. In regards to the magnitude of difference, involving animation videos into pre-writing impact the development of paragraphing the most for the students in this study. Being developed in paragraphing, the students are seen able to give reasoning and examples in giving tips to targeted readers coherently. Because the students in this study are actually storing vocabularies for a familiar topic, a stimulation is deemed crucial for them to retrieve their linguistic and topic knowledge to be integrated with the new input. In this study, it can be considered that additional stimulus assists the students in generating and elaborating ideas, expressing reasons, getting examples, and logical connection to communicate their tips to the readers.

Despite the success of using animation videos during pre-writing, there are significant limits to this research. Given to time restrictions, the data for this research were gathered from just one secondary school. Increasing the sample size may provide broader implications and comparable findings. Second, the data were thoroughly evaluated using statistical measures. Using qualitative data, such as interviews with the EFL students and teacher in future study may provide a broader understanding of potential reactions to the involvement of animation videos into pre-writing. Because the finding in this study shows that the students' metalinguistic knowledge is poor, as shown by their use of pronouns, future researchers are also encouraged to do research on reader-writer interactions in process writing involvinganimation videos.

ACKNOWLEDGEMENT

The researchers would like to thank to the Indonesia Endowment Fund for Education/ Lembaga Pengelola Dana Pendidikan Indonesia (LPDP) for the support in this research funding process.

REFERENCES

Akib, E., & Syatriana, E. (2019). Engaging EFL learner in explainer video for creative writing. *4th Progressive and Fun Education International Conference*, 119–123. https://doi.org/10.2991/pfeic-19.2019.24

Andina, P. S., Ivone, F. M., & Yaniafari, R. P. (2020). Improving tenth graders' ability and motivation in writing narrative texts

using short 3d-animations movies. *NEELLS Proceedings: National English Education, Language, and Literature Seminar*, 204–215.

Baker, L. (2005). Developmental differences in metacognition: implications for metacognitively oriented reading instruction. In *Metacognition in Literacy Learning: Theory, Assessment, Instruction, and Professional Development*. Lawrence Erlbaum Associates.

Banerjee, S., & Bandyopadhyay, S. (2012). Question classification and answering from procedural text in english. *Proceedings of the Workshop on Question Answering for Complex Domains*, 11–26. https://aclanthology.org/W12-6002

Cai, D., & Huang, L. (2023). Effects of input modality on alignment in continuation writing. *Journal of Second Language Writing*, *62*, 1–15. https://doi.org/10.1016/j.jslw.2023.101060

Clark, J. M., & Paivio, A. (1991). Dual Coding Theory and Education. *Educational Psychology Review*, *3*(3), 149–210. https://doi.org/10.1007/BF01320076

Creswell, J. W. (2012). Planning, conducting, and evaluating quantitative and qualitative research (Fourth). Pearson Education.

Ellis, R. (2005). Principles of instructed language learning. *System*, *33*(2), 209–224. https://doi.org/10.1016/j.system.2004.12.006

Flower, L., & Hayes, J. R. (1981). A cognitive process theory of writing. *College Composition and Communication*, *32*(4), 365–387. http://www.jstor.org/stable/356600

Foster, P., & Skehan, P. (1996). The influence of planning and task type on second language performance. *Studies in Second Language Acquisition*, *18*(3), 299–323. https://doi.org/10.1017/S0272263100015047

Frost, R., Armstrong, B. C., Siegelman, N., & Christiansen, M. H. (2015). Domain generality versus modality specificity: the paradox of statistical learning. *Trends in Cognitive Sciences*, *19*(3), 117–125. https://doi.org/10.1016/j.tics.2014.12.010

Geng, F., Yu, S., Liu, C., & Liu, Z. (2021). Teaching and learning writing in english as a foreign language (EFL) School Education Contexts: A Thematic Review. *Scandinavian Journal of Educational Research*, 1–14. https://doi.org/10.1080/00313831.2021.1897872

Godfroid, A. (2020). Eye tracking in second language acquisition and bilingualism (First). Taylor and Francis. www.routledge.com/

Guo, W., Bai, B., & Song, H. (2021). Influences of process-based instruction on students' use of self-regulated learning strategies in EFL Writing. *System*, *101*, 1–11. https://doi.org/10.1016/j.system.2021.102578

Hekmati, N., Ghajar, S. G., & Navidinia, H. (2018). Movie-generated EFL writing: discovering the act of writing through visual literacy practices. *International Journal of Language Studies*, *12*(2), 51–64.

Ivone, F. M. (2005). Teaching english as a foreign language in indonesia: the urge to improve classroom vocabulary instruction. *TEFLIN Journal*, *16*(2), 195–208. https://doi.org/10.15639/teflinjournal.v16i2/195-208

Ivone, F. M., & Renandya, W. A. (2019). Extensive Listening and Viewing in ELT. *Teflin Journal*, *30*(2), 237–256. https://doi.org/10.15639/teflinjournal.v30i2/237-256

Joannes, R., & AlSaqqaf, A. (2022). The effect of analytic text-based writing strategies on esl argumentative writing among malaysian form-six students in Sabah, Malaysia: A Proposal. *Proceedings International Conference on Teaching and Education (ICoTE)*, *3*, 23–30. https://doi.org/

10.26418/icote.v3i1.55855

Krashen, S. D. (1982). Principles and practice in second language acquisition (First). Pergamon Press.

Lee, H., & Mayer, R. E. (2018). Fostering learning from instructional video in a second language. *Applied Cognitive Psychology*, *32*(5), 648–654. https://doi.org/10.1002/acp.3436

Li, J., & Wang, J. (2024). A measure of efl argumentative writing cognitive load: scale development and validation. *Journal of Second Language Writing*, *63*, 1–15. https://doi.org/10.1016/j.jslw.2024.101095

Li, S. (2023). Working memory and second language writing: a systematic review. *Studies in Second Language Acquisition*, *45*(3), 647–679. https://doi.org/10.1017/S0272263123000189

Malaysian Examinations Council. (2019). Malaysian university english test (muet) regulations and test specifications. www.mpm.edu.my

Mayer, R. E. (1997). Multimedia learning: are we asking the right questions? *Educational Psychologist*, *32*(1), 1–19. https://doi.org/10.1207/s15326985ep3201_1

Mayer, R. E. (2009). Multimedia learning (Second). Cambridge University Press.

Mayer, R. E., & Moreno, R. (2003). Nine ways to reduce cognitive load in multimedia learning. *Educational Psychologist*, *38*(1), 43–52. https://doi.org/10.1207/S15326985EP3801_6

McDonough, K., De Vleeschauwer, J., & Crawford, W. J. (2019). Exploring the benefits of collaborative prewriting in a thai EFL Context. *Language Teaching Research*, *23*(6), 685–701. https://doi.org/10.1177/1362168818773525

Nikolov, M., & Djigunoviæ, J. M. (2019). Teaching young language learners. In X. Gao (Ed.), *Second Handbook of English Language Teaching* (pp. 1–23). Springer International Handbooks of Education. https://doi.org/10.1007/978-3-319-58542-0_31-1

Paivio, A. (1990). Mental representations: a dual coding approach (First). Oxford University Press. https://doi.org/10.1093/acprof:oso/9780195066661.001.0001

Pei, H., Huang, X., & Ding, M. (2022). Image visualization: dynamic and static images generate users' visual cognitive experience using eye-tracking technology. *Displays*, *73*, 1–14. https://doi.org/10.1016/j.displa.2022.102175

Piaget, J. (1926). The language and thought of the child. The Edinburgh Press.

Rofiqoh, Basthomi, Y., Widiati, U., Puspitasari, Y., Marhaban, S., & Sulistyo, T. (2022). Aspects of Writing Knowledge and EFL Students' Writing Quality. *Studies in English Language and Education*, *9*(1), 14–29. https://doi.org/10.24815/siele.v9i1.20433

Schoonen, R. (2019). Are reading and writing building on the same skills? the relationship between reading and writing in L1 and EFL. *Reading and Writing*, *32*(3), 511–535. https://doi.org/10.1007/s11145-018-9874-1

Setyawan, D., Ivone, F. M., & Suryati, N. (2022). Learners' preferences of multimedia resources in an extensive listening program. *LLT Journal: Journal on Language and Language Teaching*, *25*(1), 23–37. https://doi.org/10.24071/llt.v25i1.3690

Silvani, D. (2020). Learning through watching: using animation movie to improve students' writing ability. *Journal of English Language Teaching and Linguistics*, *5*(2), 233–247. http://dx.doi.org/

10.21462/jeltl.v5i2.418

Siswanjaya, Saukah, A., & Ivone, F. M. (2017). Implementing guiding questions combined with animation film to improve ninth graders' narrative writing skill. *Jurnal Pendidikan Humaniora*, *5*(1), 33–39. http://journal.um.ac.id/index.php/jphpISSN:2338-8110/eISSN:2442-3890

Sundari, A., Rini, T. A., & Khotimah, K. (2021). The effectiveness of series image assistant video animations on narrative writing ability of elementary school students. *Proceedings of the International Conference on Information Technology and Education*, 85–90. https://doi.org/10.2991/assehr.k.211210.014

Teng, M. F., & Zhang, D. (2023). The associations between working memory and the effects of multimedia input on l2 vocabulary learning. *IRAL - International Review of Applied Linguistics in Language Teaching*, *61*(3), 1021–1049. https://doi.org/10.1515/iral-2021-0130

Yuli, E. M., & Halimi, S. S. (2020). The effects of topic familiarity on eleventh graders' writing performance. *Twelfth Conference on Applied Linguistics (CONAPLIN 2019)*, 57–62. https://doi.org/10.2991/assehr.k.200406.012

Zhang, R., & Zou, D. (2022). A state-of-the-art review of the modes and effectiveness of multimedia input for second and foreign language learning. *Computer Assisted Language Learning*, *35*(9), 2790–2816. https://doi.org/10.1080/09588221.2021.1896555