DEVELOPING AUDIOVISUAL MEDIA TO FACILITATE THE INTEGRATION OF CLIMATE LITERACY IN EFL TEACHING

A THESIS

by

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certify that data thesis entitled "Developing Audiovisual Media to Facilitate the Integration of Climate Literacy in EFL Teaching" is my own work and I did not do any plagiarism or inappropriate quotation against the ethic and rules commended by the Ministry of Education Republic Indonesia Number 17, 2010 regarding plagiarism in higher education.

Therefore, I deserve to face the court if I am found to have plagiarized this work.

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MOTTO:



"Educate your children according to their times because they were created for their times not yours" -Ali Bin Abi Talib-



DEDICATION

I dedicate this thesis to:

My beloved parents Ayah (Albaihaki) Ibu (Nabiha), brother (bibim), and sisters (Ima, Intan, Bila). Thank you for your sustainable paryer on me.

ACKNOWLEDGEMENTS

With the blessings of Allah SWT, the author successfully completed the composition of this thesis titled "Developing Audiovisual Media to Facilitate the Integration of Climate Literacy in EFL Teaching" This endeavor was undertaken to meet the criteria for obtaining a Magister's degree in English Language Education within the Magisster's Program of Language Education, Faculty of Teacher Training and Education, Sriwijaya University. Throughout the process of developing this thesis, various individuals provided valuable assistance to the author.

Hence, the author extends her heartfelt gratitude to her advisors, Prof. Soni Mirizon M.A., Ed.D., and Sary Silvhiany, M.Pd., M.A., Ph.D. who also serves as the Head of the Magister Program in Language Education. Their invaluable advice, suggestions, support, guidance, encouragement, and unwavering patience have been instrumental in directing and refining this thesis.

I would also like to convey my gratitude to all the lecturers within the Magister Program at the Faculty of Teacher Training and Education, Sriwijaya University, as well as the Head of the Language and Arts Department and the Dean of the Faculty of Teacher Training and Education, Sriwijaya University, for their valuable support and counsel. Furthermore, I extend my thanks to the MTs N 2 Palembang, the English teacher, the students, the experts who validated the developed product, and the examiners who offered suggestions for enhancing this thesis. The author also expresses appreciation to her extensive family and friends Ma'am Ridha Ilma, M.Pd., Dr. Annisa Astrid, and Ayuk Fenisya Anggraini, M.Pd. My extraordinary support systems, Erma, merah jambu, and Kak Amin. And my friends in the English Language Education 2022 cohort.

Finally, I expect that this thesis will be useful and beneficial to students studying English as well as advanced science, technology, and arts.

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Developing Audiovisual Media to Facilitatethe Integeation of Climate Literacy in EFL Teaching

ABSTRACT

This study aimed to develop an audiovisual media to facilitate the integration of climate literacy in EFL teaching. The developed product would be used as supplementary materials to fulfill the students' needs. This research was undertaken utilizing the ADDIE (Analysis, Design, Development, Implementation, and Evaluation) model for development research design. Formative evaluation was conducted through one-to-one evaluation, small-group evaluation, and a practical trial in a real classroom setting. The participants in this research were seventh-grade students from an Islamic junior high school in Indonesia. The one-to-one evaluation involved three students, while the small group evaluation included nine students. The field trial took place in an actual classroom setting. The validation process included reviews from content experts, instructional design experts, and experts in developing audiovisual media. The result showed the developed product reached a very high validity category with the average score of all aspects evaluated was 3.4. The practicality was evaluated in one to one and small group evaluations. The result showed the developed product was categorized as very high practicality since the average score of both evaluations were 3.37 and 3.44. After trying out in the field test, the developed product was considered having a high potential effect since 81.1% of the students achieved the required passing grade of 70. Therefore, it could be concluded that it enabled to use the developed product as supplementary materials to facilitate the integration of climate literacy in EFL teaching.

Keywords: audiovisual media, climate change, EFL teaching.

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TABLE OF CONTENTS

DECLARATION	1
DEDICATION	3
ACKNOWLEDGEMENTS	4
ABSTRACT	5
TABLE OF CONTENTS	6
LIST OF TABLES	9
LIST OF FIGURES	10
LIST OF APPENDECES	11
CHAPTER I	1
INTRODUCTION	1
1.1 Background of the Study	1
1.2 The Problems of the Study	4
1.3 The Objectives of the Study	4
1.4 The Significance of the Study	4
CHAPTER II	6
LITERATURE REVIEW	6
2.1 Climate Literacy	6
2.2 Digital literacy	8
2.2.1 Digital Climate Literacy	8
2.3 Learning Media	9
2.4 Material Development	10
2.4.1 Descriptive Text	11
2.4.2 Procedure Text	11

2.5 Audiovisual Media	12
2.6 Flipbook PDF	13
2.6.1 Program used in Flipbook PDF	14
2.7 Readability of the Text	14
2.8 Needs Analysis	16
2.9 Policy Regarding to Climate Change	17
2.10 Previous related studies	17
CHAPTER III	20
METHODOLOGY	20
3.1 Method of the Study	20
3.2 The Subject of the Study	21
3.3 The Procedure of the Study	22
3.4 The Technique of Collecting the Data	24
3.4.1 Questionnaires	24
3.4.2 Interview	24
3.5 The Technique of Analyzing the Data	25
3.5.1 Validity	25
3.5.2 Practicality	26
3.5.3 Potential Effect	26
CHAPTER IV	29
FINDINGS AND DISCUSSION	29
4.1 Findings	29
4.1.1 Analysis Phase	29
4.1.1.1 Instructional Analysis	29
4.1.1.2 Students' need analysis	30
4.1.2 Design and Development Phase	45

4.1.3 Implementation Phase	48
4.1.3.1 Expert Validation	49
4.1.3.2 Level of Validation	51
4.1.3.3 One to one Evaluation	51
4.1.3.4 Small Group Evaluation	52
4.1.3.5 Field Test Evaluation	54
4.2 Discussion	55
CHAPTER V	58
CONCLUSIONS AND SUGGESTIONS	58
5.1 Conclusions	58
5.2 Suggestions	58
REFERENCES	60
APPENDIX	67

LIST OF TABLES

Table 1 The Ease of Readability	16
Table 2 Validity Categorization	25
Table 3 Practicality Categorization	26
Table 4 Potential Effect Categorization	28
Table 5 Students' viewpoints on TSA	31
Table 6 The students' view on current wants and needs	34
Table 7 The existing materials learned and the level of skill of the students	36
Table 8 expert validation	49

LIST OF FIGURES

Figure 1 ADDIE model	24
Figure 2 The benefits of learning English for junior high school students	33
Figure 3 The areas of English learning that should be emphasized in junior high school	33
Figure 4 Types of activities commonly engaged in learning English reading (literacy)	35
Figure 5 Students' perceived difficulties in dealing with English texts	35
Figure 6 . The incorporation of climate change topics in English reading texts	36
Figure 7 The existing materials learned and the level of skill of the students	38
Figure 8 Sources students used to understand the climate change	39
Figure 9 Knowledge and understanding about elements connected with climate change	39
Figure 10 Students' perception about the influential aspect to mitigate climate change	40
Figure 11 Design Phase	46
Figure 12 Development Phase	47
Figure 13 Implementation Phase	48
Figure 14 Result of Field Test Evaluation	54

LIST OF APPENDECES

Appendix A Survey items	67
Appendix B Students' Need Analysis Questionnaire	81
Appendix C Summary of Content Validity In Expert Review	92
Appendix D Summary of Instructional Design Validity in Expert Review	94
Appendix E Summary of Media Validity in Expert Review	96
Appendix F Summary of Application/ Product Design Validity in Expert Review	98
Appendix G Interview Items of Studnets' Comment	99
Appendix H The Interview Result of Students' Comment	100
Appendix I Summary of Practicality	103
Appendix J The Result of Field Test	109
Appendix K SK Pembimbing	110
Appendix L SK Validator	112
Appendix M LoA Publikasi	113
Appendix N Thesis Consultation Card	114

CHAPTER I INTRODUCTION

This chapter presents (1) background, (2) problems of the study, (3) the objectives of the study, and (4) the significance of the study.

1.1 Background of the Study

Education has been evolving for many decades, with technology support playing an important role. Therefore, students must be able to use various online learning materials to learn throughout the virus outbreak. UNESCO (2021) said that by 2025, environmental education must be a critical curricular component for all educational levels. Moreover, Tenridinanti et al., (2021) mentioned to encourage climate action, education is essential to equipping individuals with the information, know-how, values, and attitudes necessary to be change agents. It assists people in comprehending and addressing the effects of the climate issue.

Climate has been changing unpredictably in recent years, and changes in the climate system, both current and predicted in the future, will have a growing negative influence on human and ecological systems. Moreover, it was reported by IPCC (2014) that the rise in CO2, methane, and nitrous oxide in the atmosphere throughout the industrial period is the product of human activity and that human impact is the primary cause of many changes observed across the atmosphere, ocean, cryosphere, and biosphere. In particular, education can help society benefit from climate change science by disseminating scientific knowledge across societal sectors. Furthermore, education also plays a crucial part in numerous processes that can accelerate social transformation and mitigate climate change, increasing the number of informed and engaged citizens, creating social pressure to influence policy, and developing a workforce for a low-carbon economy Ledley et al., (2017). Therefore, climate change has had many impacts on the Earth.

Climate change is a major global issue that affects all countries, including Indonesia. In recent years, Indonesia has experienced floods and other natural catastrophes that are becoming increasingly often and severe.

Landslides have been linked to climate change. Kirkwood and Price, (2016) showed that climate science experts are more concerned about addressing climate change than the general public. As a result, it is critical to educate Indonesians, including students, about the causes and climate change implications and how to minimize and adapt to them.

Moreover, Demant-Poort and Berger, (2021) stated that climate resilience is so critical, and climate change education is required to stimulate innovation and adaptation, as well as to train young citizens to be active participants in policy debates regarding mitigation. So, addressing the issue of climate change education in curriculum is needed.

Climate change education is being integrated into the national curriculum in Indonesia. Furthermore, the current curriculum which is independent curriculum that emphasizes the student profile Pancasila. Finding ways to connect the issues while pushing for work to be done on each of them is part of everyone's intellectual task (Brennan, 2019). Climate change, for example, has been included as a topic in the science curriculum for primary and secondary schools by the Ministry of Education and Culture. Furthermore, several universities in Indonesia have established climate change courses and research programs. In addition, the issue of climate change has not really touched in language education Indonesian context. Thus, clarifying the understanding of climate change to language teachers is needed.

Based on National Council of Teachers of English, (2019) English language arts (ELA) classrooms has been becoming more interested in discussing climate change. A resolution recognizing the need for climate change education in ELA classrooms was adopted by the National Council of Teachers of English in 2019. Therefore, the opportunity as English teachers to excite, motivate, and empower students to realize the messages and stories that surround them, as well as learning how to take action also may create alternative discourse that might transform the present and influence the future.

Based on Preliminary study conducted to students of junior high school in Palembang through google form. It was found that their school has not been familiar with the issue of climate change. Furthermore, the English book also does not mention about climate change clearly. Therefore, it needs to provide appropriate source material for the teacher and students related to this issue.

However, integrating climate literacy in EFL teaching is difficult if there was no appropriate materials for helping the teachers address climate change so that the teachers must be educated well about the impacts of climate change in education so that the teachers' knowledge of climate change should be updated. Therefore, exploring the knowledge of EFL teachers in climate literacy and having the appropriate material is important. For instance, in the form of audiovisual media. Thus, the researcher will design audiovisual to facilitate the integration of climate literacy in EFL teaching. The research is entitled "Developing Audiovisual Media to Facilitate the Integration of Climate Literacy in EFL Teaching".

Some similar studies had been conducted by the scholars related to climate change and audiovisual media. The first previous study was conducted by Silvhiany et al., (2021) found that the online critical literacy assessment met the standards, which included assessment clarity, task relevance according to the critical literacy concept and the new media ecology, and assessment appropriateness based on the level and goal of learning at the tertiary level. The study's implications include modifying the online critical literacy evaluation and developing an extra instrument to investigate the techniques students use to evaluate online sources, their perceived competence to utilize online technologies, and their communication behaviors. The second related study had been done by Karpudewan et al., (2015) found that students who participated in the 5E learning cycle-based climate change curriculum had a more favorable environmental attitude than those who took the same course using a teacher-centered, lectureoriented approach. Despite the fact that the climate change curriculum improved comprehension, the effect size appeared to be small. The third previous study was done by Tenridinanti et al., (2021). This earlier linked study also created instructional material focused on climate change, which is included in the report text. The project concentrated on creating report text for Palembang's SMA

Srijaya State's eleventh grade pupils. The last previous study conducted by Noto et al., (2022) entitled "Developing Exposition Texts on Climate Change for SMA Srijaya Negara Palembang Eleventh Graders." It found that the product had potential effect to that school.

1.2 The Problems of the Study

Based on the background of the study, the following questions were developed to represent the problems of the study:

- 1. Were the designed Audiovisual media to facilitate the integration of climate literacy in EFL teaching at MTsN 2 Palembang valid?
- 2. Were the designed Audiovisual media to facilitate the integration of climate literacy in EFL teaching at MTsN 2 Palembang practical?
- 3. Did the design Audiovisual media to facilitate the integration of climate literacy in EFL teaching at MTsN 2 Palembang have potential effect?

1.3 The Objectives of the Study

The goals of this study were as follows in relation to the above research problems:

- 1. To find out the validity of designing Audiovisual media to facilitate the integration of climate literacy in EFL teaching at MTsN 2 Palembang.
- 2. To find out the practicality of designing Audiovisual media to facilitate the integration of climate literacy in EFL teaching at MTsN 2 Palembang.
- 3. To find out the potential effect of designing Audiovisual media to facilitate the integration of climate literacy in EFL teaching at MTsN 2 Palembang.

1.4 The Significance of the Study

The results of the studies were intended to provide a contribution to education, particularly to the following parties:

For English Teachers, Audiovisual media of climate literacy in EFL teaching was used as additional resources in English classes to motivate pupils to read. The

study's findings should also serve as a guide for them when they create their own instructional materials.

For the Students, the findings of the study were expected to improve students' awareness of Climate Literacy in EFL classrooms. It is also envisaged that the reading materials generated in this study would increase students' motivation and competency in reading and English learning.

For schools, the findings of the study were expected to be prominent as a form of evaluation that schools should give media that are appropriate for the climate literacy in EFL teaching.

For future researchers, it was expected that this study was used as a reference for undertaking future design research, particularly in designing audiovisual media of climate literacy in EFL teaching.

REFERENCES

- Ahmad, & Zhang, D. (2021). Using the internet of things in smart energy systems and networks. In *Sustainable Cities and Society* (Vol. 68). https://doi.org/10.1016/j.scs.2021.102783
- Akker, J. Van. (1999). Principles and methods of development research. In *Design Approaches and Tools in Education and Training*. https://doi.org/10.1007/978-94-011-4255-7_1
- Anderson, T., & Shattuck, J. (2012). Design-based research: A decade of progress in education research? *Educational Researcher*, 41(1). https://doi.org/10.3102/0013189X11428813
- Apendi, T. L., & Mulyani, E. R. (2020). The analysis of transitivity process of students' descriptive texts. *PROJECT (Professional Journal of English Education)*, 3(3). https://doi.org/10.22460/project.v3i3.p359-366
- Assadourian, E. (2017). EarthEd: Rethinking Education on a Changing Planet. In *EarthEd*. https://doi.org/10.5822/978-1-61091-843-5_1
- Başer, D., & Arslan-Ari, I. (2023). Assistive technology education: experiences of preservice special education teachers within an instructional material development project. *Journal of Special Education Technology*, 38(3). https://doi.org/10.1177/01626434221120417
- Beach, R., Boggs, G., Castek, J., Damico, J., Panos, A., Spellman, R., & Wilson, N. (2020). Fostering preservice and in-service ELA teachers' digital practices for addressing climate change. *Contemporary Issues in Technology and Teacher Education (CITE Journal)*, 20(1).
- Bogaerds-Hazenberg, S. T. M., Evers-Vermeul, J., & van den Bergh, H. (2021). A Meta-Analysis on the Effects of Text Structure Instruction on Reading Comprehension in the Upper Elementary Grades. *Reading Research Quarterly*, 56(3), 435–462. https://doi.org/10.1002/rrq.311
- Branson, R. K., Rayner, G. T., Cox, L. J., Furman, J. P., King, F. J., & Hannum, W. H. (1975). Interservice procedures for instructional systems development. executive summary and model. *TRADOC Pam 350-30*, *Ft. Monroe*, *VA: U.S. Army Training and Doctrine Command.*, *1*–5.
- Brennan, M. (2019). Changing teaching and teacher education in the 'anthropocene.' *On Education. Journal for Research and Debate*, 2(4). https://doi.org/10.17899/on_ed.2019.4.6

- Bruce M, C., James, H., Janie, R., Clare M, S., Stephen, T., & Eva, (Lini) Wollenberg. (2018). Urgent action to combat climate change and its impacts (SDG 13): transforming agriculture and food systems. In *Current Opinion in Environmental Sustainability* (Vol. 34). https://doi.org/10.1016/j.cosust.2018 .06.005
- Burbules, N. C. (2001). Paradoxes of the web: the ethical dimensions of credibility. In *Library Trends* (Vol. 49, Issue 3).
- Bybee, R. W., & Starkweather, K. N. (2006). The twenty-first century workforce: A contemporary challenge for technology education. *Technology and Engineering Teacher*, 65(8), 27.
- Demant-Poort, L., & Berger, P. (2021). "It is not something that has been discussed": Climate change in teacher education in Greenland and Canada. *Journal of Geoscience Education*, 69(2), 207–219.
- Desi Rizma Yanti, A. H. (2019). The importance of needs analysis in materials development. *Jurnal Ilmiah Profesi Pendidikan*, 4(2). https://doi.org/10.2930 3/jipp.v4i2.88
- Fauville, G., Strang, C., Cannady, M. A., & Chen, Y. F. (2019). Development of the International Ocean Literacy Survey: measuring knowledge across the world. *Environmental Education Research*, 25(2). https://doi.org/10.1080/13 504622.2018.1440381
- Forest, E. (2017). ADDIE model: instructional design. Frameworks & Theories.
- Genc, M. (2015). The project-based learning approach in environmental education. *International Research in Geographical and Environmental Education*, 24(2). https://doi.org/10.1080/10382046.2014.993169
- Goodwin, T. (2016). Educating for Ecological Literacy. *American Biology Teacher*, 78(4). https://doi.org/10.1525/abt.2016.78.4.287
- Hannum, W. (2005). Instructional systems development: a 30 year retrospective. *Educational Technology, July-August*.
- Hans, A., & Hans, E. (2015). Different-Comprehension-Strategies-to-Improve-Student's-Reading-Comprehension. *International Journal of English Language Teaching*, Vol.3.

- Hasan, N.-, Gunawan, Y. I., & Firdaus, M. I. (2020). An analysis of translation difficulties on barrack obama's speech text at sixth semester students of Muhammadiyah university of Tangerang. *Globish: An English-Indonesian Journal for English, Education, and Culture*, 9(2). https://doi.org/10.31000/g lobish.v9i2.2779
- Hedefalk, M., Almqvist, J., & Östman, L. (2015). Education for sustainable development in early childhood education: a review of the research literature. *Environmental Education Research*, *21*(7). https://doi.org/10.1080/13504622 .2014.971716
- Howard, J., & Major, J. (2004). Guidelines for designing effective English language teaching materials. 9th Conference of Pan Pacific Association
- Hutchinson, T., & Waters, A. (1987). *English for specific purposes: A learning-centred approach*. Cambridge University Press.
- IPCC. (2014). Climate change Impacts, adaptation, and vulnerability. Part B: Regional aspects. Contribution fro Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. ((Ed.). (2014a) (U. K. Cambridge (ed.)). Cambridge University Press.
- Irawati, D., Najili, H., Supiana, S., & Zaqiah, Q. Y. (2022). Merdeka Belajar Curriculum Innovation and Its Application in Education Units. *Edumaspul: Jurnal Pendidikan*, 6(2), 2506–2514.
- Jonassen, D. H., & Hung, W. (2008). All Problems are Not Equal: Implications for Problem-Based Learning. *Interdisciplinary Journal of Problem-Based Learning*, 2(2). https://doi.org/10.7771/1541-5015.1080
- Kahne, J., & Bowyer, B. (2017). Educating for democracy in a partisan age: confronting the challenges of motivated reasoning and misinformation. *American Educational Research Journal*, 54(1). https://doi.org/10.3102/0002 831216679817
- Karpudewan, M., Roth, W. M., & Abdullah, M. N. S. Bin. (2015). Enhancing Primary School Students' Knowledge about Global Warming and Environmental Attitude Using Climate Change Activities. *International Journal of Science Education*, 37(1). https://doi.org/10.1080/09500693.2014. 958600
- Kemendikbud. (2023). *Merdeka kurikulum*. https://kurikulum.kemdikbud.go.id/kurikulum-merdeka/

- Kingdon, G., & Teal, F. (2010). Teacher unions, teacher pay and student performance in India: A pupil fixed effects approach. *Journal of Development Economics*, 91(2). https://doi.org/10.1016/j.jdeveco.2009.09.001
- Kirkwood A, & Price L. (2016). Adaptation for a changing environment: Developing learning and teaching with information and communication technologies. *Int. Rev. Res. Open Distance Learn.*, 7(2).
- Levy, M., & Stockwell, G. (2013). Call dimensions: Options and issues in computer-assisted language learning. In *Call Dimensions: Options and Issues in Computer Assisted Language Learning*. https://doi.org/10.4324/97802037 08200
- Liu, L. B., & Li, Q. (2019). Culturally and Ecologically Sustaining Pedagogies: Cultivating Glocally Generous Classrooms and Societies. *American Behavioral Scientist*, 63(14). https://doi.org/10.1177/0002764219850865
- Lombardi, D., Sinatra, G. M., & Nussbaum, E. M. (2013). Plausibility reappraisals and shifts in middle school students' climate change conceptions. *Learning and Instruction*, 27. https://doi.org/10.1016/j.learninstruc.2013.03.001
- Mitra, N. K. (2009). The levels of difficulty and discrimination indices in type a multiple choice questions of pre-clinical semester 1 multidisciplinary summative tests. *International E-Journal of Science, Medicine & Education*, 3(1). https://doi.org/10.56026/imu.3.1.2
- National Council of Teachers of English. (2019). Resolution on literacy teaching on climate change.
- Nazeri. (2013). Penggunaan e-FlipBook dalam Topik Elektrik dan Elektronik: Inovasi dalam Pengajaran Reka Bentuk dan Teknologi PISMP RBT". *Prosiding Seminar Penyelidikan IPG Zon Timur Vol 1, No 1 (2013).*
- Noto, G. M., Sofendi, S., Wati, R. I., Hartono, H., & Putri, R. I. I. (2022). Climate Change Exposition Reading Materials for Senior High School Textbook: Students' Needs Analysis. *AL-ISHLAH: Jurnal Pendidikan*, *14*(2). https://doi.org/10.35445/alishlah.v14i2.1030
- Nur, S., Anas, I., & Pilu, R. (2022). The call for environmentally-based language teaching and green pedagogy: climate actions in language education. *Elsya: Journal of English Language Studies*, *4*(1). https://doi.org/10.31849/elsya.v4i 1.9526
- Nussbaum, M. E., Cordova, J. R., & Rehmat, A. P. (2017). Refutation texts for effective climate change education. *Journal of Geoscience Education*, 65(1). https://doi.org/10.5408/15-109.1

- O'Sullivan, L., Sukumar, P., Crowley, R., McAuliffe, E., & Doran, P. (2020). Readability and understandability of clinical research patient information leaflets and consent forms in Ireland and the UK: A retrospective quantitative analysis. *BMJ Open*, *10*(9). https://doi.org/10.1136/bmjopen-2020-037994
- Pacific Policy Research Center. (2010). 21 st Century Skills for Students and Teachers. *Research & Evaluation*, *August*.
- Pikulski, J. J., & Chard, D. J. (2005). Fluency: bridge between decoding and reading comprehension. *The Reading Teacher*, 58(6). https://doi.org/10.1598/rt.58.6.2
- Pratiwi, M., & Silvhiany, S. (2023). Exploring English education students' awareness of climate change education through multimodal creative writing. Universitas Sriwijaya.
- Ramdania, D. R. (2013). Penggunaan media flash flip book dalam pembelajaran teknologi informasi dan komunikasi untuk meningkatkan hasil belajar siswa". artikel ilmiah tugas akhir. Bandung. UPI.
- Reddy, P., Sharma, B., & Chaudhary, K. (2020). Digital literacy: A review of literature. In *International Journal of Technoethics* (Vol. 11, Issue 2). https://doi.org/10.4018/IJT.20200701.oa1
- Richards, J. C. (2010). Curriculum development in second language teaching. In *The Language Teaching Matrix*. https://doi.org/10.1017/cbo9780511667152. 003
- Richards, J. C. (2017). Curriculum development in language teaching. In *Curriculum Development in Language Teaching*. https://doi.org/10.1017/978 1009024556
- Rosborough, A. (2014). Gesture, meaning-making, and embodiment: Second language learning in an elementary classroom. In *Journal of Pedagogy* (Vol. 5, Issue 2). https://doi.org/10.2478/jped-2014-0011
- Sabon, Y. O. S., Istiyono, E., & Widihastuti, W. (2022). Developing "Pancasila Student Profile" instrument for self-assessment. *Jurnal Penelitian Dan Evaluasi Pendidikan*, 26(1), 37–46. https://doi.org/10.21831/pep.v26i1.45144
- Saputra, D. G., & Azizah, F. N. (2013). A metadata approach for building web application user interface. *Procedia Technology*, 11. https://doi.org/10.1016/j.protcy.2013.12.274
- Selby, D., & Kagawa, F. (2010). Runaway climate change as challenge to the 'closing circle' of education for sustainable development. *Journal of Education for Sustainable Development*, 4(1). https://doi.org/10.1177/09734

- Shapiro Ledley, T., Rooney-Varga, J., & Niepold, F. (2017). Addressing Climate Change Through Education. In *Oxford Research Encyclopedia of Environmental Science*. Oxford University Press. https://doi.org/10.1093/acrefore/9780199389414.013.56
- Silvhiany, S. (2022). Indonesian Teachers' Professional Development Practices and Needs in Post Pandemic Education. *VELES Voices of English Language Education Society*, 6(1), 215–232. https://doi.org/10.29408/veles.v6i1.5265
- Silvhiany, S., Huzaifah, S., & Ismet. (2021, January). *Developing online critical literacy assessment for EFL learners*. https://doi.org/10.2991/assehr.k.201230.134
- Silvhiany, S., Kurniawan, D., & Safrina, S. (2023). Climate change awareness in ELT: Ethnography in connected learning and ecojustice pedagogy. *Journal of English Language Teaching Innovations and Materials*, 5(2), 91–109.
- Sugianto, D., Abdullah, A. G., Elvyanti, S., & Muladi, Y. (2013). Multimedia flipbook dasar teknik digital. In *INVOTEC: Vol. IX* (Issue 2).
- Sugianto, D., Abdullah, A. G., Elvyanti, S., & Muladi, Y. (2017). Modul virtual: multimedia flipbook dasar teknik digital. *Innovation of Vocational Technology Education*, 9(2). https://doi.org/10.17509/invotec.v9i2.4860
- Tenridinanti, T. B., Inderawati, R., & Mirizon, S. (2021). Climate change-based report texts for senior high school: A Mix method study. *Jurnal Pendidikan Progresif (JPP)*, 11(3).
- Tenridinanti, B. T., Inderawati, R., & Mirizon, S. (2021). Climate Change-Based Report Texts For Senior High School: A Mix Method Study. *Jurnal Pendidikan Progresif*, 11(3), 610–625. https://doi.org/10.23960/jpp.v11.i3.202112
- Tessmer, M. (1994). Formative evaluation alternatives. *Performance Improvement Quarterly*, 7(1). https://doi.org/10.1111/j.1937-8327.1994.tb00613.x
- Tomlinson, B. (2012). Materials development for language learning and teaching. In *Language Teaching* (Vol. 45, Issue 2). https://doi.org/10.1017/S0261444811000528
- UNESCO. (2021). Education for sustainable development. UNESCO.
- United Nations Educational Scientific and Cultural Organization. (2020). *Education for sustainable development: a roadmap.* UNESCO.

- Wahyuni, D. S., Rozimela, Y., Ardi, H., Mukhaiyar, M., & Darmansyah, D. (2022). PROSPER (Project, Sustainability, and Perseverance) learning model in English for Computer Science. *Sustainability (Switzerland)*, *14*(24). https://doi.org/10.3390/su142416749
- Webb, S., Massey, D., Goggans, M., & Flajole, K. (2019). Thirty-Five Years of the Gradual Release of Responsibility: Scaffolding Toward Complex and Responsive Teaching. *The Reading Teacher*, 73(1), 75–83. https://doi.org/10.1002/trtr.1799
- Wheeler, S. M. (2022). The sustainable urban development reader. In *The Sustainable Urban Development Reader*. https://doi.org/10.4324/9781003288718
- Widayanti, T., Rustyana, N., & Haryudin, A. (2019). Students' perception in writing procedure text. *Professional Journal of English Education*, 2(5).
- Winarno, I., & Ishida, Y. (2015). Simulating resilient server using XEN virtualization. *Procedia Computer Science*, 60(1). https://doi.org/10.1016/j.procs.2015.08.284
- Woottipong, K. (2014). Effect of using video materials in the teaching of listening skills for university students. *International Journal of Linguistics*, 6(4). https://doi.org/10.5296/ijl.v6i4.5870
- Yulizar, Y. (2018). Picture word inductive model effective research as the media for increasing students' writing aility in descriptive text. *Jurnal As-Salam*, 2(3), 142–150. https://doi.org/10.37249/as-salam.v2i3.110