

THE EFFECTIVENESS OF INTERACTIVE-MULTIMEDIA-AIDED SOCIAL COGNITIVE MODEL FOR EARLY READING LEARNING IN ELEMENTARY SCHOOL

Indah Nurmahanani, Yeti Mulyati, dan Andoyo Sastrumiharjo

Post-Graduate School, Indonesia University Of Education

Jalan Dr. Setiabudhi No.229 Bandung, Indonesia

Corresponding Author: nurmahanani@upi.edu

RETORIKA
JURNAL BAHASA, SAstra, DAN PENGAJARANNYA

Article History:

Submitted: 10 February 2021; **Revised:** 2 June 2021; **Accepted:** 30 July 2021

DOI: 10.26858/retorika.v14i2.18885



RETORIKA: Jurnal Bahasa, Sastra dan Pengajarannya under
Creative Commons Attribution-Non Commercial 4.0 International License.

ISSN: 2614-2716 (print), ISSN: 2301-4768 (online)

<http://ojs.unm.ac.id/retorika>

Abstract: This study aimed to measure the effectiveness of interactive multimedia aided social cognitive model in early reading learning, implemented to improve students' early reading skills. The model was implemented to 195 first- and second-graders in an elementary school in Bandung. Descriptive statistics analysis was conducted to measure the difference in students' ability before and after the treatment, based on the result of pre- and post-test using EGRA instrument. Results of this study indicated that social cognitive learning could be combined with interactive multimedia to effectively improve students' early reading ability. However, further study is required to understand why the model contributed lower significance towards improvement of word-reading skill than towards improvement of other aspects of early reading skills.

Keywords: early reading, learning model, social cognitive model, interactive multimedia

Literacy is often considered a vital competence that students need to master because students with good literacy skills are generally able to absorb information more easily and effectively, which allows them to construct new information into new knowledge through meaningful learning activities (Mayer, 2002; Novak, 2011). Reading ability also opens door for students to obtain other knowledge (García & Cain, 2014). However, it takes a long process for students to have a good reading skill (Alberta, 2009).

The process to develop reading skills generally begins in formal schools through early reading learning. Early reading learning will support and improve students' performance in the future and will be the foundation for students to achieve better quality of life (Grabe & Stoller, 2013; Leahy & Fitzpatrick, 2017; Lonigan et al., 2000).

Indeks Alibaca (Kementrian Pendidikan dan Kebudayaan, 2019) indicated that Indonesian people had good literacy skills. Most Indonesian possessed the required literacy (reading) skills to

access various reading materials. However, literacy activities among Indonesians were deemed relatively low. It was because in many provinces of the nation, access for quality reading materials was scarce, alternative reading materials were rarely available, and culture of reading was not soundly developed. To improve reading skill and to build reading culture, efforts had to be made from the lowest level of education, i.e. early childhood.

In Indonesia, early reading learning still had a lot to be improved. USAID PRIORITAS program found that there were discrepancies in reading abilities between students in Java Island and those outside Java Island (RTI International, 2017). The discrepancies were due to different qualities of educational process and learning resources available for students (RTI International, 2014b). Consequently, it was found that students' early reading ability in Indonesia was low.

Limited resources for reading learning affected students' early reading skills. Several studies on early reading in Indonesia (Kahraman, 2016; Oktadiana, 2019; C. P. Pratiwi, 2020; I. M. Pratiwi & Ariawan, 2017; Rizkiana, 2016) indicated that early grade students in Indonesia faced several difficulties in early reading learning. Particularly, students had difficulties in memorizing letters, combining sounds into syllables, combining syllables into words, and reading sentences fluently.

The main problem that the researchers observed in the implementation of early reading learning in Indonesia so far is that the existing early reading learning models should be improved in terms of their effectiveness in solving students' difficulties in reading letters, syllables, words, and sentences, as indicated by the results of PISA (2018) and PIRLS (2016) assessments. PISA ranked Indonesian students' reading ability in 72nd place of 77 countries, while PIRLS put Indonesian students' reading ability in 41st place of 45 countries. This indicated that early reading learning methods being implemented were not as efficient as they should be. The present study aimed to measure the effectiveness of Interactive-Multimedia-Aided Social Cognitive (IMAS) model, developed in this study, in improving Indonesian students' early reading skills.

IMAS model was developed by combining social cognitive learning with interactive multimedia to deliver early reading learning in early

grade classes in Indonesia. Social cognitive theory might be used to improve early reading learning. Social cognitive learning focused on the role of individuals' cognitive aspects and their ability to regulate their learning. The theory was based on relationships between cognitive aspect, behavioral aspect, and environmental aspect of individuals (Bandura, 1986, 2012; Schunk, 2012). The key concept in social cognitive learning was observational learning, in which an individual learned by systematically observing reward and punishment another individual had received for their behavior. This showed that environment played great roles in students' behavior. In social cognitive perspective, learning was influenced by the relationship between behavior, environment, and personal perception (Bandura, 2012; Nabavi, 2012; Zimmerman, 2000). Social cognitive learning process occurred in four stages, i.e. attention, retention, reproduction, and motivation (Bandura, 1986, 2002; Horsburgh & Ippolito, 2018; Kay & Kibble, 2016; Zhou & Brown, 2015). The process involved a model, i.e. a person or behavior being observed and imitated (Nabavi, 2012, 2016). The model might be interpersonal model (other people) or media (Zhou & Brown, 2015).

Some studies had shown the benefits of social cognitive learning of improving students' academic skills and achievement, including reading skills. Zafiropoulou and Karmba-Schina (2001) found that cognitive-behavioral approach, developed from social cognitive learning theory, was able to improve students' literacy skills in Greece. Meanwhile, Niklas and Schneider (2013) stated that literacy environment around a student determined his/her literacy skills, even before the student was enrolled in school. This was because students learned through observation and imitation. In addition, several studies by Zimmerman (Schunk & Zimmerman, 2007; Zimmerman, 2000, 2010, 2013) outlined how self-efficacy, which was the core of social cognitive learning, positively affected students' learning ability, including their literacy skills.

Meanwhile, Mayer's researches (2014b, 2014a, 2014c) showed how interactive multimedia could be used to implement social cognitive learning. According to Mayer, the process of modeling, attention, and imitation could be delivered via multimedia. Mayer found that learning using multimedia that was designed based on self-efficacy, motivation, and imitation principles

could improve students' achievement, including in literacy.

Other studies also shown the benefits of using multimedia for improving early reading skills (Doman, 2010; Kurniawan, 2016; Lysenko & Abrami, 2014; Maesaroh & Malkiah, 2015; Sabri et al., 2018; Sukartiningsih, 2013; Tjoe, 2013). These studies concluded that the use of multimedia could significantly improve early grade students' early reading skills. Interactive multimedia had also been proven to develop students' motivation and interest and to make learning more fun (Hakim & Windayana, 2016; Kurniawati & Nita, 2018; Sugiarto, 2018; Susila & Ganis, 2012). In other words, interactive multimedia implemented for early reading learning could provide alternative reading sources that students could easily access, which would affect their motivation and interest in reading. This would develop a reading habit in students.

Regarding the implementation of social cognitive learning and the use of interactive multimedia to improve students' early reading skills in Indonesia, the researchers recognized a gap that needed to be filled. There had been many researches that implemented social cognitive approach in early reading learning. There had also been many studies that used multimedia to deliver early reading learning. However, there were only few studies that integrated social cognitive theory into interactive multimedia that was designed specifically for early reading learning in Indonesia. Another gap that the researchers noticed was that most multimedia used in early reading learning was not interactive, i.e. they did not involve active interaction between the students and the multimedia.

This study developed an interactive-multimedia-assisted social cognitive model (IMAS Model) for early reading learning. The model was developed and designed to implement social cognitive learning by integrating it into interactive multimedia for early reading learning in Indonesia. This paper discusses the effectiveness of IMAS Model implementation in improving students' early reading skills.

METHOD

The population of this study was 300 students who were learning early reading in the research site, i.e. an elementary school in Bandung. The subjects were selected through purposive sampling, resulting in 195 first and second graders as respondents. Descriptive qualitative approach was used in this study to describe the model's effectiveness based on descriptive statistics measurement. Data for this study was collected using test instrument designed based on EGRA (Early Grade Reading Assessment) test (Gove & Wetterberg, 2011; RTI International, 2014a), an instrument designed specifically to measure students' early reading skills. The instrument was used for measuring students' early reading skills, comprised of reading letters, reading syllables, reading words, reading sentences, and reading comprehension skills, before and after model implementation. Students' scores were grouped into Very Good (81-100), Good (61-80), Sufficient (41-60), Low (21-40), and Very Low (0-20).

The model was then implemented in two cycles of learning, each consisted of four meetings. In each meeting, teachers implemented IMAS model in learning activities by providing examples (modeling), guiding students to observe the model, guiding students to imitate the model, and motivating students to do reading exercises. The focus of each meeting was, in order, reading letters, reading syllables, reading words, and reading sentences and comprehension. After model implementation, students' early reading skills were tested again. To measure the effectiveness of IMAS model in improving students' early reading skills, paired-sample t-test was conducted to discover the model's significance and correlation. The statistical measurement was conducted using GNU PSPP Statistical Analysis Software by comparing students' pretest and posttest scores for each aspect of early reading skills.

FINDINGS AND DISCUSSION

Findings

The result of descriptive statistic measurement of pretest and posttest data is displayed in table 1.

Tabel 1. Descriptive Statistics of Pre-Test and Post-Test Scores

Paired Sample Statistics		<i>Mean</i>	<i>N.</i>	<i>Std. Deviation</i>	<i>S.E. Mean</i>
Pair 1	Reading Letters Pretest	78.29	195	8.68	.62
	Reading Letters Posttest	92.71	195	8.04	.58
Pair 2	Reading Syllables Pretest	67.34	195	9.51	.68
	Reading Syllables Posttest	92.45	195	7.87	.56
Pair 3	Reading Words Pretest	61.03	195	10.89	.78
	Reading Words Posttest	88.58	195	6.33	.45
Pair 4	Reading Sentences Pretest	55.29	195	9.51	.68
	Reading Sentences Posttest	74.56	195	9.59	.69
Pair 5	Reading Comprehension Pretest	45.23	195	15.58	1.12
	Reading Comprehension Posttest	87.08	195	9.59	.69

Tabel 1 shows an increase in students' average scores in all aspects of early reading skills after IMAS model implementation in early reading learning. The average score of reading letters skill increased from 78.29 to 92.71. The average score of reading syllables skill increased from 67,34 to 92.45. Meanwhile, the average scores of reading words, reading sentences, and reading

comprehension increased from 61.03, 55.29, and 45.23 to 88.58, 74.56, and 87.08, respectively.

The increase in average test scores was only one indicator of the effectiveness of IMAS model implementation in improving students' early reading skills. To further investigate model's effectiveness, correlation and significance test were conducted. Table 2 shows the result of paired-samples correlation test.

Tabel 2. Correlation Test Result

Paired Sample Correlations		<i>N</i>	<i>Correlation</i>	<i>Sig.</i>
Pair 1	Reading Letters Pretest & Posttest	195	.84	.000
Pair 2	Reading Syllables Pretest & Posttest	195	.74	.000
Pair 3	Reading Words Pretest & Posttest	195	.39	.000
Pair 4	Reading Sentences Pretest & Posttest	195	1.00	.000
Pair 5	Reading Comprehension Pretest & Posttest	195	.86	.000

Table 2 shows that each pair of pretest and posttest score had different correlation coefficient. To calculate the effect of IMAS model implementation in improving each aspect of early reading skills, the correlation coefficient for that aspect was squared. Significance level (*sig.*) indicated whether or not the correlation was significant. $\text{Sig.} > 0.05$ indicated that IMAS model implementation had no significant effect on the increase of test scores (reading skills). $\text{Sig.} < 0.05$ meant that IMAS model implementation had significant effect on the increase of test scores (reading skills).

Table 2 shows that the significance level for each pair of early reading skill scores was 0.000. It means that $\text{sig.} < 0.05$, indicating that the implementation of IMAS model in early reading

learning affected the increase in students' early reading skills. In other words, students' skills in reading letters, reading syllables, reading words, reading sentences, and reading comprehension increased due to the implementation of IMAS model.

The correlation coefficient for reading letters skill was 0.84. It means that the effect of IMAS model implementation on students' reading letter skill improvement was $(0.84)^2 = 0.71$. In other words, IMAS model implementation in early reading learning had 71% effect on students' reading letter skill improvement. The other 29% of improvement was affected by factors outside the scope of this study. Further study is needed to explore those factors.

In terms of reading syllable skills, the correlation coefficient was 0.74. The effect of IMAS model implementation on the improvement of students' reading syllable skill was $(0.74)^2 = 0.55$. In other words, IMAS model implementation affected 55% of students' reading syllable skill improvement. The remaining 45% was affected by other factors outside the scope of this study. Meanwhile, correlation coefficient for students' reading words skills was 0.39. IMAS model implementation had $(0.39)^2 = 0.15$ (15%) effect on the increase in students' reading words skill. Further studies are needed to explore the remaining 85% factors that affected students' reading words skill improvement.

Correlation coefficient for reading sentences skill was 1.00, indicating that IMAS model implementation had an effect of $(1.00)^2 = 1$. It means that IMAS model implementation in early reading learning had 100% effect on students' improvement in reading sentences skill. The last aspect of early reading skills to be measured was

reading comprehension. The correlation coefficient for this aspect was 0.86. This indicates that the effect of IMAS model implementation on students' reading comprehension skill was $(0.86)^2 = 0.74$ or 74%.

Based on this analysis, it was concluded that the implementation of interactive multimedia-assisted social cognitive (IMAS) model for early reading learning affected the improvement in students' early reading skills. The lowest effect (15%) was on reading words skill, followed by the effects on reading syllable skill (55%) and reading word skill (71%). The effect of model implementation on the improvement of students' reading comprehension was 74%. The biggest effect of the model implementation was on the improvement of students' reading sentences skill (100%).

Significance test was conducted to see the effectiveness of IMAS model in improving students' early reading skills. 2-tailed paired-sample t-test was implemented to measure the significance, the result of which is displayed in table 3.

Tabel 3. 2-Tailed Paired Samples T-Test Result

Paired Samples Test		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	S.E. Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Reading Letters Pretest - Posttest	-.42	.55	.04	-.50	-.34	-10.60	194	.000
Pair 2	Reading Syllables Pretest - Posttest	-1.16	.49	.03	-1.23	-1.09	-33.21	194	.000
Pair 3	Reading Words Pretest - Posttest	-1.35	.55	.04	-1.43	-1.27	-34.36	194	.000
Pair 4	Reading Sentences Pretest - Posttest	-1.00	.00	.00	-1.00	-1.00	Infinit	194	.000
Pair 5	Reading Comprehension Pretest - Posttest	-2.09	.44	.03	-2.16	-2.03	-65.72	194	.000

Data in table 3 was interpreted using the following hypotheses:

- H_0 = there was no significant difference between the pretest and posttest scores
- H_1 = there was significant difference between the pretest and posttest scores.

If $\text{sig.} > \alpha = 0.050$, *null hypothesis* (H_0) was accepted. It meant that there was no significant difference between students' pretest and posttest scores of early reading learning. If $\text{sig.} < \alpha = 0.050$, *null hypothesis* (H_0) was rejected and the alternative (H_1) was accepted. It meant that there

was significant difference between students' pretest and posttest scores after the implementation of IMAS model for early reading learning. Table 3 shows that sig. value for all aspects of early reading skills being measured in this study was 0.000. In other words, $\text{sig.} < \alpha$ ($0.000 < 0.05$), indicating that *null hypothesis* (H_0) was rejected and the alternative hypothesis (H_1) was accepted. In other words, the significance test showed that there was significant difference between the pretest and the posttest scores of students' early reading skills.

This statistical analysis brought a conclusion that the implementation of interactive-multimedia-assisted social cognitive (IMAS) model in early reading learning had significant correlation with improvements in students' early reading skills. The effect of IMAS model implementation on improvement of students' reading letters, reading syllables, reading words, reading sentences, and reading comprehension skills were 71%, 55%, 15%, 100%, and 74%, respectively. In other words, interactive-multimedia-assisted social cognitive (IMAS) model implementation in early reading learning was effective for improving students' early reading skills.

Discussion

The statistical analysis result showed that IMAS model could improve students' average score in early reading test. In addition, data analysis also indicated that the model had positive and significant effect on the improvement of students' early reading skills. In other words, the result of this study showed that IMAS model could improve students' early reading skills. This finding was congruent with the findings of Korat and Segal-Drori (2016), Mayer (2014b), and Silverman et al. (2017) which stated that interactive multimedia was effective for implementing social cognitive learning and for improving early reading skills. In addition, this finding also supported the findings that social cognitive and observational learning could improve early reading skills (Zafiropoulou & Karmba-Schina, 2001; Schunk & Zimmerman, 2007; Zimmerman, 2000, 2010, 2013; Niklas & Schneider 2013).

However, IMAS model contributed different effects on each aspect of students' early reading skills, with the lowest effect on reading word skills (15%). As observed by previous studies (Kahraman, 2016; Oktadiana, 2019; C. P. Pratiwi, 2020; I. M. Pratiwi & Ariawan, 2017; Rizkiana, 2016), one of difficulties students' faced in reading learning was the difficulty of combining syllables into words. Considering that IMAS model had very significant effects on other aspects of early reading skills, its effect on reading words skill indicated a discrepancy between students ability in previous levels (reading letters and syllables) as well as in next levels (reading sentences and reading comprehension) and students ability in reading words.

The researchers argued that this discrepancy might be caused by different cognitive functions required and implemented in reading process. In reading letters, students implemented cognitive processes such as recognizing forms and shapes and remembering sounds. In reading syllables, same processes were involved, plus the process of combining letter sounds. Meanwhile, in reading sentences and reading comprehension, students used totally different cognitive processes, i.e. recognizing and combining meaning of words that made the sentence. The cognitive function that students implemented in reading words were the process of combining sounds as well as the process of recognizing meaning (Grabe & Stoller, 2013). In other words, reading words involved a transition in cognitive functions that students implemented, from recognizing and combining sounds to recognizing and combining meaning. The researchers argued that students in this study still had difficulties in the cognitive function transition and that IMAS model was not sufficiently effective to solve these difficulties. Further studies are required to confirm this argument.

Apart from the low effect of IMAS model on students' improvement in reading words skill, the results of this study indicated that the model was effective in improving students' overall early reading skills. The results of this study supported the findings that the use of multimedia significantly improved early grade students' reading skills (Doman, 2010; Kurniawan, 2016; Lysenko & Abrami, 2014; Maesaroh & Malkiah, 2015; Sabri et al., 2018; Sukartiningsih, 2013; Tjoe, 2013).

The theoretical implication of these findings was that social cognitive model could be combined with interactive multimedia to deliver early reading learning and to improve students' early reading skills. The practical implication of these findings was that teachers could utilize the interactive multimedia, specifically designed for early reading learning, to make the learning process more fun for students, to make students more engaged in observing and learning from the models, and to motivate students in reading learning.

CONCLUSION

Based on the findings and discussion, this study concluded that interactive-multimedia-assisted social cognitive model (IMAS model) was

effective for improving students' early reading skills, including reading letters, reading syllables, reading words, reading sentences, and reading comprehension skills. IMAS model implementation had significant correlation with the improvement of each aspect of students' early reading skills. However, the effect of IMAS model on improvement in reading words skill was only 15%, much lower than its effects on other aspects (55%,

71%, 73%, and 100%). This study had not explored the cause of such discrepancy in IMAS model's effects. Therefore, it recommended that further studies should focus on discovering why IMAS model had low effect on reading words skill. Furthermore, it also recommended that IMAS model should be further developed to facilitate its implementation in more advanced levels of reading learning.

REFERENCES

- Alberta. (2009). Living Literacy: A Literacy Framework for Alberta's Next Generation Economy. *Alberta Advanced Education And Technology Cataloguing In Publication Data*, 1–2.
- Bandura, A. (1986). Social Foundations of Thought and Action : a Social Cognitive Theory/ Albert Bandura. *New Jersey: Prentice-Hall, 1986*.
- Bandura, A. (2002). Social Cognitive Theory in Cultural Context. In *Applied Psychology*. <https://doi.org/10.1111/1464-0597.00092>
- Bandura, A. (2012). On the Functional Properties of Perceived Self-efficacy Revisited. *Journal of Management*, 38 (1), 9–44. <https://doi.org/10.1177/0149206311410606>
- Doman, G. A. P. (2010). Meningkatkan Minat Membaca Siswa Sekolah. *Penelitian Pendidikan*.
- García, J. R., & Cain, K. (2014). Decoding and Reading Comprehension: A Meta-Analysis to Identify Which Reader and Assessment Characteristics Influence the Strength of the Relationship in English. In *Review of Educational Research* 84 (1). <https://doi.org/10.3102/0034654313499616>
- Gove, A., & Wetterberg, A. (2011). The Early Grade Reading Assessment: Applications and Interventions to Improve Basic Literacy. In *The Early Grade Reading Assessment: Applications and Interventions*.
- Grabe, W., & Stoller, F. L. (2013). *Teaching and Researching Reading, second edition*. Routledge. <https://doi.org/10.4324/9781315833743>
- Hakim, A. R., & Windayana, H. (2016). Pengaruh Penggunaan Multimedia Interaktif dalam Pembelajaran Matematika untuk Meningkatkan Hasil Belajar Siswa SD. *EduHumaniora Jurnal Pendidikan Dasar Kampus Cibiru*. <https://doi.org/10.17509/eh.v4i2.2827>
- Horsburgh, J., & Ippolito, K. (2018). A Skill to be Worked at: Using Social Learning Theory to Explore the Process of Learning from Role Models in Clinical Settings. *BMC Medical Education*. <https://doi.org/10.1186/s12909-018-1251-x>
- Kahraman, B. (2016). Analisis Kesulitan Membaca Permulaan Siswa Kelas 1 SD Negeri Bangunrejo 2 Kricak Tegalrejo Yogyakarta. *Journal Pendidikan*.
- Kay, D., & Kibble, J. (2016). Learning Theories 101: Application to Everyday Teaching and Scholarship. *Advances in Physiology Education*, 40 (1), 17–25. <https://doi.org/10.1152/advan.00132.2015>
- Kementerian Pendidikan dan Kebudayaan Indonesia. (2019). *Indeks Aktivitas Literasi Membaca 34*. Kementerian Pendidikan dan Kebudayaan.
- Korat, O., & Segal-Drori, O. (2016). E-Book and Printed Book Reading in Different Contexts as Emergent Literacy Facilitator. *Early Education and Development*. <https://doi.org/10.1080/10409289.2016.1095613>
- Kurniawan, E. T. (2016). Penggunaan Multimedia Interaktif Terhadap Membaca Permulaan pada Anak Kesulitan Belajar di Kelas Rendah. *Jurnal Pendidikan Khusus*.
- Kurniawati, I. D., & Nita, S. (2018). Media Belajar Berbasis Multimedia Interaktif untuk Meningkatkan Pemahaman Konsep Mahasiswa. *DoubleClick: Journal of Computer and Information Technology*. <https://doi.org/10.25273/doubleclick.v1i2.1540>
- Leahy, M. A., & Fitzpatrick, N. M. (2017). Early Readers and Academic Success. *Journal of Educational and Developmental Psychology*. <https://doi.org/10.5539/jedp.v7n2p87>
- Lonigan, C. J., Burgess, S. R., & Anthony, J. L. (2000). Development of Emergent Literacy and Early Reading Skills in Preschool Children: Evidence from a Latent-variable Longitudinal Study. *Developmental psychology*. <https://doi.org/10.1037/0012-1649.36.5.596>
- Lysenko, L. V., & Abrami, P. C. (2014). Promoting Reading Comprehension With the Use of

- Technology. *Computers and Education*. <https://doi.org/10.1016/j.compedu.2014.01.010>
- Maesaroh, S., & Malkiah, N. (2015). Media Pembelajaran Interaktif Bahasa Inggris Pengenalan Huruf & Membaca Berbasis Multimedia untuk Sekolah Dasar. *Jurnal Sisfotek Global*.
- Mayer, R. E. (2002). Rote Versus Meaningful Learning. *Theory into Practice*. https://doi.org/10.1207/s15430421tip4104_4
- Mayer, R. E. (2014a). Cognitive Theory of Multimedia Learning. In *The Cambridge Handbook of Multimedia Learning, Second Edition*. <https://doi.org/10.1017/CBO9781139547369.005>
- Mayer, R. E. (2014b). Incorporating Motivation into Multimedia Learning. *Learning and Instruction*. <https://doi.org/10.1016/j.learninstruc.2013.04.003>
- Mayer, R. E. (2014c). The Cambridge Handbook of Multimedia Learning, Second Edition. In *The Cambridge Handbook of Multimedia Learning, Second Edition* (second). Cambridge University Press. <https://doi.org/10.1017/CBO9781139547369>
- Nabavi, R. T. (2012). Bandura's Social Learning Theory & Social Cognitive Learning Theory. *Research Gate*.
- Nabavi, R. T. (2016). Theories of Developmental Psychology: Bandura's Social Learning Theory & Social Cognitive Learning Theory. *Research Gate, January 2012*, 1–24.
- Niklas, F., & Schneider, W. (2013). Home Literacy Environment and the Beginning of Reading and Spelling. *Contemporary Educational Psychology*. <https://doi.org/10.1016/j.cedpsych.2012.10.001>
- Novak, J. D. (2011). a Theory of Education: Meaningful Learning Underlies the Constructive Integration of Thinking, Feeling, and Acting Leading To Empowerment for Commitment and Responsibility. *Meaningful Learning Review*.
- OECD. (2018). Indonesia; Country Note-Results from PISA 2018.
- Oktadiana, B. (2019). Analisis Kesulitan Belajar Membaca Permulaan Siswa Kelas II pada Mata Pelajaran Bahasa Indonesia di Madrasah Ibtidaiyah Munawariyah Palembang. *JIP: Jurnal Ilmiah PGMI*.
- PIRLS. (2016). *PIRLS Result 2016*.
- Pratiwi, C. P. (2020). Analisis Keterampilan Membaca Permulaan Siswa Sekolah Dasar: Studi Kasus pada Siswa Kelas 2 Sekolah Dasar. *Jurnal Pendidikan Edutama*. <https://doi.org/10.30734/jpe.v7i1.558>
- Pratiwi, I. M., & Ariawan, V. A. N. (2017). Analisis Kesulitan Siswa dalam Membaca Permulaan di Kelas Satu Sekolah Dasar. *Sekolah Dasar: Kajian Teori dan Praktik Pendidikan*, 26 (1), 69–76. <https://doi.org/10.17977/um009v26i12017p069>
- Rizkiana. (2016). Analisis Kesulitan Membaca Permulaan Siswa Kelas I SDN Bangunrejo 2 Yogyakarta. *Jurnal Pendidikan Guru Sekolah Dasar*.
- RTI International, U. (2014a). Indonesia 2014: The National Early Grade Reading Assessment (EGRA) and Snapshot of School Management Effectiveness (SSME) Survey Report of Findings Indonesia 2014: The National Early Grade Reading Assessment (EGRA) and Snapshot of School Management. In *USAID Indonesia*.
- RTI International, U. (2014b). *Prioritizing Reform, Innovation, and Opportunities for Reaching Indonesia's Teachers, Administrators, and Students (USAID PRIORITAS)*. 1–1100.
- RTI International, U. (2017). *Final Project Report Volume 2 : Annexes* (Vol. 2, Nomor May 2012).
- Sabri, A., Zulmiyetri, Z., & Damri, D. (2018). Meningkatkan Kemampuan Membaca Permulaan Melalui Multimedia Interaktif bagi Anak Disleksia. *Jurnal Pendidikan Kebutuhan Khusus*. <https://doi.org/10.24036/jpkk.v2i2.142>
- Schunk, D. H. (2012). Learning Theories: An Educational Perspective. In *Reading* (Vol. 5).
- Schunk, D. H., & Zimmerman, B. J. (2007). Influencing Children's Self-Efficacy and Self-regulation of Reading and Writing Through Modeling. *Reading and Writing Quarterly*. <https://doi.org/10.1080/10573560600837578>
- Silverman, R., Kim, Y. S., Hartranft, A., Nunn, S., & McNeish, D. (2017). Effects of a Multimedia Enhanced Reading Buddies Program on Kindergarten and Grade 4 Vocabulary and Comprehension. *Journal of Educational Research*. <https://doi.org/10.1080/00220671.2015.1103690>
- Sugiarto, H. (2018). Penerapan Multimedia Development Life Cycle pada Aplikasi Pengenalan Abjad dan Angka. *IJCIT (Indonesian Journal on Computer and Information Technology)*.
- Sukartiningsih, W. (2013). Pengembangan Media CD Interaktif untuk Pembelajaran Membaca di Kelas 1 Sekolah Dasar. *Jurnal Sekolah Dasar*.
- Susila, C. B., & Ganis, E. I. (2012). Media Pembelajaran Interaktif Pengenalan Huruf Hijaiyah pada Taman Kanak-Kanak (TK). *Seruni FTI UNSA*.
- Tjoe, J. L. (2013). Peningkatan Kemampuan Membaca Permulaan Melalui Pemanfaatan Multimedia. *Jurnal Pendidikan Usia Dini*, 7 (1), 17–48.
- Zafiropoulou, M., & Karmba-Schina, C. (2001). Applying Cognitive-Behavioral Interventions in Greek Mainstream School Settings: The Case of Learning Difficulties. In *Learning*

- Disabilities: A Contemporary Journal*.
- Zhou, M., & Brown, D. (2015). Educational Learning Theories: 2nd Edition. In *Education Open Textbooks*.
- Zimmerman, B. J. (2000). Self-Efficacy: An Essential Motive to Learn. *Contemporary Educational Psychology*. <https://doi.org/10.1006/ceps.1999.1016>
- Zimmerman, B. J. (2010). Self-efficacy and Educational Development. In *Self-Efficacy in Changing Societies*. <https://doi.org/10.1017/cbo9780511527692.009>
- Zimmerman, B. J. (2013). From Cognitive Modeling to Self-Regulation : A Social Cognitive Career Path 2012 THORNDIKE AWARD ADDRESS From Cognitive Modeling to Self-Regulation : A Social Cognitive Career Path. *Educational Psychologist*.