

**Review Article****Developing RAFT Strategy for Learning to Read Non-Literary Texts Based on Adobe Flash in Vocational High Schools\***Dewi Putri PERTIWI<sup>1</sup>  Zamzani ZAMZANI<sup>2</sup> **Abstract**

This study aimed to develop the RAFT strategy for learning to read non-literary texts based on Adobe Flash in Vocational High Schools and determine the feasibility of the RAFT strategy for learning to read non-literary texts based on Adobe Flash in Vocational Schools in terms of validation results by lecturers, teachers, and the results of student responses. This research used research and development methods. Sampling used purposive sampling technique. The research phase consisted of (1) needs analysis, (2) product planning, (3) initial product development, (4) expert and teacher validation, (5) initial product revision, (6) student response test, (7) second product revision, and (8) the final product. The needs analysis was conducted in three schools in Kulon Progo Regency, namely SMK Negeri 1 Pengasih, SMK Negeri 2 Pengasih, and SMK Negeri 1 Kokap. This study used data collection instruments in the form of validation sheets for experts and teachers and student response sheets. The result of the research is the RAFT strategy for learning to read non-literary texts based on Adobe Flash in SMK developed consists of three parts. (1) The introductory section, contains the opening title, the instructions for using the buttons, the instructions for the use of RAFT Strategy Development for Learning to Read Non-literary Texts Based on Adobe Flash in Vocational High Schools. (2) The content section consists of non-literary text learning materials for SMK students. (3) The exercise section is in the form of non-literary texts with the RAFT strategy, and answer keys. The development of the RAFT Strategy for Learning to Read Non-literary Texts Based on Adobe Flash in Vocational Schools was assessed for feasibility based on material expert validation, media expert validation, and the results of student responses. The results of the validation by lecturers, teachers, and student responses indicated that the product developed was included in the appropriate category for use. The results of the material expert validation obtained a very good category, with an overall percentage of 94.83%. The results of the media expert's validation obtained a very good category, with an overall percentage of 94.75%. The results of student responses obtained the very good category, with an overall percentage of 80.60%.

**Keywords:** RAFT strategy, reading, non-literary text, adobe flash**1. INTRODUCTION**

In the 2013, curriculum mentioned that the scope of subject study materials Indonesian secondary education (vocational high schools) is aspects of language skills. Aspects of language skills include listening, speaking, writing, and reading skills. Reading learning as part of Indonesian subjects should be implemented in an integrated manner and get the same attention as other language skills. Reading learning is a complex activity by exerting a large number of separate actions, including the use of understanding and delusion, observation, and memory.

Reading learning is also a link between physical and mental. Physically, reading requires a sense of sight and mentally reading requires understanding and memory. One can read well if one is able to see the letters clearly, remember the symbols of language appropriately, and have sufficient reasoning to understand the reading. Reading skills are one of the keys to student progress. In fact,

**Received Date:** 22/01/2022**Accepted Date:** 14/03/2022**Publication Language:** English

**To cite this article:** Pertiwi, D.P. & Zamzani, Z. (2022). Developing RAFT strategy for learning to read non-literary texts based on adobe flash in vocational high schools. *International e-Journal of Educational Studies*, 6 (11), 25-33. <https://doi.org/10.31458/iej.1061462>

<sup>1</sup> Graduate Student, Yogyakarta State University, Indonesia, [dewiputri.2019@student.uny.ac.id](mailto:dewiputri.2019@student.uny.ac.id)

<sup>2</sup> Prof.Dr., M.Pd., Yogyakarta State University, Indonesia, [zamzani@uny.ac.id](mailto:zamzani@uny.ac.id)

\* Corresponding Author e-mail adress: [dewiputri.2019@student.uny.ac.id](mailto:dewiputri.2019@student.uny.ac.id)

there are still many students who do not understand what they read (Soedarso, 2005: 4). Reading is a complex activity that involves visual, thinking, psycholinguistic, and metacognitive activities (Rahim, 2008: 2). Reading is also a process carried out and used by readers to get the message conveyed by the author (Somadyo, 2011:1). To strive for the ability to read the understanding of students, there are several media that can be applied in learning. One medium that can be used in reading comprehension learning is *Adobe Flash* media (Arsyad, 2009: 9).

Previously, it was first known the extent of the level of ability of students in reading non-literary texts. Therefore, survai research was conducted to find out the ability to read non-literary texts of vocational school students in Kulon Progo. Based on the results of surveys with learners and teachers at SMK Kulon Progo obtained information that the level of ability of students in reading non-literary texts is still low. This is due to the availability of learning media that are still lacking so that they cannot be used effectively. *Adobe Flash* media that contains non-literary text is still not done and is difficult to obtain. *Adobe Flash* media-based reading learning development must also be in accordance with the material and characteristics of learners in order for learning goals to be achieved. In addition to learning goals can be achieved, the learning process will also be interesting with the help of the right *Adobe Flash* media so that learners more easily understand and receive material. There are other things, the causes of low reading skills of non-literary text understanding in students and teachers, among others: (1) limitations of knowledge and teacher skills in the utilization of learning media, (2) limitations of facilities and infrastructure so that the use of existing learning media has not been maximal, (3) students are easily bored in the learning process because the learning media used is still conventional, (4) the system of teaching and learning activities is less attractive.

The role of the media in the learning process as a tool to clarify teaching materials at the time the teacher delivers the lesson (Çınar & Kurt, 2019; Sudjana, 2011: 60). The use of learning media in the teaching and learning process can generate new desires and interests, generate motivation and stimulation of learning activities, and bring psychological influences on students (Hamalik via Arsyad, 2009: 15). The use of media in the development of computer device technology and applications in all fields requires many parties to pay special attention. Mastery of technology is one thing that the younger generation needs to have now (Atadil-Kuzucu & Kartal, 2020; Setiani, 2014: 20).

The demands of the globalization era with the development of information technology can be utilized for the development of learning. One way of using technology in learning is the use of technological resources as a medium in the learning process (Akhmadan, 2017: 25). Good media is a medium that is able to involve many senses of students because the more sensory tools involved the more likely students to be able to understand and understand learning materials (Arsyad, 2009: 9). Currently, various computer programs (*software*) have been developed that can be used as an effective and interactive learning medium as a very important role to support the ability of learning goals. The creation of computer-based interactive learning media can be done with a variety of *software* such as Microsoft Power Point, *Adobe Flash*, *Adobe Premier*, *Java Script* and PHP. Based on this software, *Adobe Flash* is more effective software for creating interactive computer-based learning. The reason for the selection of *Adobe Flash software* is because this *software* is able to produce learning in the form of video, text, images, design, audio, interactive evaluation, and animation (Sumarsih, 2009: 2). *Adobe Flash* is an authoring tool that makes it easy for users to manage and process assets (Aji, 2018: 3). *Adobe Flash* is widely used to create interesting applications and software because it contains video, sound, graphics, and animation (Chun, 2010: 1). The use of *Adobe Flash* as an interactive learning media will help realize a good learning process because it becomes easier for students to receive subject matter (Ampera, 2017: 2).

The ability of teachers in using learning media will certainly affect students' learning outcomes. The right media will be the key to successful learning. *Adobe Flash-based* learning development will be more effective when combined with strategy as learning steps. An appropriate

strategy in the development of Adobe Flash-based non-literary text reading learning is the RAFT strategy. RAFT stands for R—*Role of the writer* (Who are you); A—*Audience for the writer* (To whom are you writing?); F—*Format of the writing* (What form will you writing take?); T—*Topic of the writing* (What are you writing about?) (Ruddell, 2005: 288). *Role of the writing* can be interpreted as a point of view (role). *Audience for the writer* can be interpreted as the target object. *Format of the writing* means format (the structure of the text read). *Topic of the writing* means the topic in writing (Ruddell, 2005: 288). RAFT strategy that uses reading text as learning material in obtaining information, this strategy is allowed to be applied to reading learning. By applying raft strategies in reading learning, students can deepen understanding and expand information in reading (Buehl, 2007:114). Based on the description that has been presented, this research intends to develop raft strategy of learning to read non-literary text based on Adobe *Flash* at SMK Kulon Progo.

Based on background, it can be known that this research was conducted to (1) analyze the needs of teachers towards raft strategy development learning non-literary text based on Adobe *Flash* in vocational high schools, (2) developing the raft strategy learning non-literary based on Adobe *Flash* in vocational high schools,(3) know the feasibility of raft learning strategy learning non-literary text based on Adobe *Flash* in vocational high schools,(4) know the results of the student response test develop the RAFT strategy for learning to read non-literary texts based on Adobe Flash in Vocational High Schools.

## 2. METHOD

### 2.1 Research Design

This research uses research and development methods or commonly called *Research and Development* (R&D). This research aims to develop a product that can be used in learning. Research and development methods are research methods used to produce a particular product and test the effectiveness of that product (Sugiyono, 2011: 297). The resulting research in develop the RAFT strategy for learning to read non-literary texts based on Adobe Flash in Vocational High Schools.

This study refers to the development research procedure of R & D. Borg, WR & Gall, MD (via Sukmadinata, 2013: 169) which consists of 10 steps, namely: (1) information gathering, (2) planning, (3) development product, (4) preliminary product test, (5) main product revision, (6) main product test, (7) product operational revision, (8) product operational test, (9) final product revision, and (10) utilization and dissemination. Based on the steps described above, the flow of the research procedure was modified into 8 steps, including: (1) research and information gathering, (2) planning for media creation, (3) initial product development, (4) product validation testing, (5) first product revision, (6) product trial, (7) second product revision, (8) final product. Modifications were made on the grounds that of the 10 steps proposed by Borg and Gall, there are several things that can be used as one step. For example, preliminary product trials and product validation tests. Preliminary product trials and product validation tests both contain product assessments, the steps can be shortened due to time and cost constraints.

### 2.2. Sampling

Sampling used purposive sampling technique. Data collection methods and instruments used are non-tests. The technique of collection, namely by using interviews and questionnaires.

### 2.3. Data Collection Methods and Instruments

Data collection instruments using student response questionnaire sheets to develop the RAFT strategy for learning to read non-literary texts based on Adobe Flash in Vocational High Schools. This study used data collection instruments in the form of validation sheets for experts and teachers and student response sheets.

## 2.4. Data Analysis

Data analysis techniques are carried out using quantitative descriptive analysis techniques. This technique is used for decryption using raft strategy development learning to read non-literary text based on *Adobe Flash*. Data analysis techniques by analyzing teacher interview data, expert validation sheets, and reviewing questionnaires. In analyzing validation sheets and questionnaires, the steps are to change the score of each question item with the score criteria in the assessment scale as follows:

- Score 1= Not Good
- Score 2 = Enough
- Score 3= Good
- Score 4 = Very Good

The conversion of average scores into scores and categories used is the conversion of scores according to Sukardjo and Lis Permana (via Mubasiroh, 2013: 46) which is then adjusted for research needs. The formula in analyzing product validation by expert lecturers, teachers Indonesian, and the assessment of learners as follows.

$$x = \frac{\sum x}{n}$$

Information:

X = Average Score

$\Sigma x$  = Number of Scores per Aspect

n = Number of Research Subjects

**Table 1. Quantitative data conversion guidelines to qualitative data**

No.	Score Range	Value	Percentage	Category
1.	$x > 3.4$	A	76% - 100%	Excellent
2.	$2.6 < x < 3.4$	B	52% - 75%	Good
3.	$1.8 < x < 2.6$	C	36% - 51%	Enough
4.	$x < 1.8$	D	0% - 35%	Bad

Information:

$$\text{Persentase keidealan tiap aspek} = \frac{\sum \text{skor rata-rata}}{\sum \text{skor maksimal tiap aspek}} \times 100\%$$

$$\text{Persentase keidealan keseluruhan} = \frac{\sum \text{skor rata-rata keseluruhan}}{\sum \text{skor maksimal keseluruhan}} \times 100\%$$

In this study, the eligibility value was determined by the value "B" which is the category "Good" and the value "A" which is the category "Very Good". So, if the results of assessments by experts, teachers, and the average student response provide a final grade of "B" or "Good", then this developing RAFT strategy for learning to read non-literary texts based on Adobe Flash in Vocational High Schools is considered worth using. In addition, if the results of assessments by experts, teachers, and the average student response provide a final grade of "A" or "Excellent", then this developing RAFT strategy for learning to read non-literary texts based on Adobe Flash in Vocational High Schools is considered very feasible to use.uracy of the data information through the researcher's reflections, member check, and debriefing.

### 3. FINDINGS

Based on the results of the interview, it is known that the Teacher has also never used or even found a special media that contains reading learning based on a strategy. Therefore, in this study will be developing RAFT strategy for learning to read non-literary texts based on Adobe Flash in Vocational High Schools. All the teachers interviewed did not yet know raft strategy.

The validation stage is carried out to find out the quality and feasibility of developing RAFT strategy for learning to read non-literary texts based on Adobe Flash in Vocational High Schools so that developing RAFT strategy for learning to read non-literary texts based on Adobe Flash in Vocational High Schools can be used. Validation is carried out by two material experts consisting of lecturers and a teacher Indonesian at the relevant vocational school, as well as one media expert. In the validation process, the maximum score for the assessment of the developed product is "4". Here is a table of material and media expert validation data.

**Table 2. Overall results of validation by expert lecturers**

Sources	Aspects Assessed	Percentage	Eligibility Level
Lecturer of Materials Expert	Learning	92,75 %	Excellent
	Material	91,75 %	Excellent
	Benefit	100 %	Excellent
<b>Overall Percentage</b>		<b>94,83 %</b>	<b>Excellent</b>

**Table 3. Overall results validation by Indonesian teacher**

Sources	Aspects Assessed	Percentage		
		Teacher 1	Teacher 2	Teacher 3
Indonesian Teacher	Learning	79,25 %	91,75 %	95,75 %
	Material	75 %	100 %	100 %
	Benefit	75 %	100 %	100 %
<b>Overall Percentage</b>		<b>76,41 %</b>	<b>97,25 %</b>	<b>98,58 %</b>
<b>Eligibility Level</b>		<b>Excellent</b>	<b>Excellent</b>	<b>Excellent</b>

**Table 4. Overall results of validation by expert lecturers of Media**

Sources	Aspects Assessed	Percentage	Eligibility Level
Lecturer in Media Experts	Visual	92,5 %	Excellent
	Media	91,75 %	Excellent
	Benefit	100 %	Excellent
<b>Overall Percentage</b>		<b>94,75 %</b>	<b>Excellent</b>

The material expert who is the source of validation in the research product developing RAFT strategy for learning to read non-literary texts based on Adobe Flash in Vocational High Schools is Prof.Dr.Burhan Nurgiyantoro, M.Pd. is a lecturer in the Department of Indonesian Language and Literature Education, Yogyakarta State University.

The teacher Indonesian as validation of the material is the teacher Indonesian in SMK Negeri 1 Pengasih, namely Mrs. Suprapti, S.Pd., SMK Negeri 2 Pengasih, namely Mr. Ndarumaya, S.Pd., M.Pd., SMK Negeri 1 Kokap, Mrs. Distratika Aisa Rakhmi, S.Pd. Media expert who became the source of validation in the develop the RAFT strategy for learning to read non-literary texts based on Adobe Flash in Vocational High Schools is Dr. Phil's mother. Nurhening Yuniarti, M.T. Media validation is done starting from the visual aspect, media aspect, and benefit aspect in media. Product revision in this study was carried out by expert lecturers. At the validation stage, expert lecturers provide the following suggestions and inputs: (a) The readability of the text in the exercise section needs to be considered. This is because the problem is presented in the form of an image with a less large resolution so that it looks a bit blurry. (b) *Back sound* should use instrumental music only so that

users feel more comfortable. (c) In the instructions section, the explanation to return to the previous page does not yet exist, please add. (d) Part of the guide, should the title be replaced with "Guide to The Use of Raft Learning Strategy Development Based on Adobe *Flash* Text in SMK". In addition, the guide also does not specifically explain users for access to materials and problem exercises.

Furthermore, test the product to learners who act as respondents. Learners or respondents who assess develop the RAFT strategy for learning to read non-literary texts based on Adobe Flash in Vocational High Schools in Kulon Progo, namely SMK Negeri 1 Pengasih, SMK Negeri 2 Pengasih, and SMK Negeri 1 Kokap. The maximum score used to assess the media that has been developed is the same as the assessment score for expert lecturers and teachers, which is "4". The following presented a description of the data assessment of learners developing RAFT strategy for learning to read non-literary texts based on Adobe Flash in Vocational High Schools.

**Table 5. Student response results data**

Aspects	No.	Assessment Indicator	Number of Rating Scores (N = 81)	Average Rating Score	
Media	1.	Operating to develop the RAFT strategy for learning to read non-literary texts based on Adobe Flash is very easy.	249	3,07	
	2.	The choice of writing type is easy to read.	260	3,21	
	3.	The selection of buttons in the media corresponds to the material.	272	3,35	
Material	4.	Color selection is not boring.	262	3,23	
	5.	Clarity of the material presented.	261	3,22	
	6.	Material is easy to understand.	257	3,17	
	7.	Practice the problem according to the material.	264	3,25	
Benefit	8.	Learning media facilitates learning.	262	3,23	
	9.	Interesting learning media.	263	3,24	
	10.	The material presented in the media can help the learning process.	262	3,23	
			<b>Number =</b>	<b>2612</b>	<b>32,24</b>
			<b>Percentage =</b>	<b>80,6 %</b>	<b>80,6 %</b>
			<b>Category =</b>	<b>Excellent</b>	<b>Excellent</b>

The results of the trial conducted on students with a total number of 81 students consisting of 30 students in SMK Negeri 1 Pengasih, 30 students in SMK Negeri 2 Pengasih, and 21 students in SMK Negeri 1 Kokap showed that develop the RAFT strategy for learning to read non-literary texts based on Adobe Flash in Vocational High Schools is suitable for use in learning to read non-literary text and falls into the category "Excellent".

Product revisions in this study contain suggestions and inputs that develop the RAFT strategy for learning to read non-literary texts based on Adobe Flash in Vocational High Schools can help the learning process. Students are very active and enthusiastic about develop the RAFT strategy for learning to read non-literary texts based on Adobe Flash in Vocational High Schools.

#### 4. DISCUSSION

The results of validation of material experts, media experts, teachers, and student responses show that all aspects in develop the RAFT strategy for learning to read non-literary texts based on Adobe Flash in Vocational High Schools fall into the category "Excellent" or "Very Feasible" for use in learning in school. Based on the results of validation by expert lecturers of materials, the average

results of expert validation of learning aspect materials by expert lecturers reached a value of 3.71 (92.75%), the average results of expert validation of material aspects by expert lecturers reached a value of 3.67 (91.75%), the average results of expert validation of benefit aspect materials by expert lecturers reached a value of 4 (100%).

Based on the results of validation by media expert lecturers, the average results of validation of visual aspect media experts by expert lecturers reached a value of 3.7 (92.5%), the average validation results of media aspect media experts by expert lecturers reached a value of 3.67 (91.75%), the average validation results of expert aspect material benefits by expert lecturers reached a value of 4 (100%).

Based on the results of teacher validation, the average aspect of learning in tables 16.1 to 16.4, the average teacher validation result 1 in the learning aspect reached a score of 3.17 (79.25%), the average teacher validation result 2 in the learning aspect reached a score of 3.67 (91.75%), the average teacher validation result 3 in the learning aspect reached a score of 3.83 (95.75%). The average teacher validation result 1 on the material aspect and the benefit aspect reached a value of 3 (75%), the average teacher validation result 2 on the material aspect and the benefit aspect reached a value of 4 (100%), the average teacher validation result 3 on the material aspect and the benefit aspect reached a value of 4 (100%).

In the final stage of the product trial in students of grades X, XI, and XII which amounted to 81 students from 3 schools, namely SMK Negeri 1 Pengasih, SMK Negeri 2 Pengasih, and SMK Negeri 1 Kokap. Indicators assessed by students consist of 10 questions that contain questions that represent 3 aspects, namely media aspects, material aspects, and benefit aspects. The media aspect consists of 4 indicators. After the assessment, the percentage score from media aspects, material aspects, and benefit aspects was 80.6% with the category "Excellent".

The feasibility of the media developed in this study was determined by a minimum value of "B" or category "Good". As outlined in the previous chapter, the value "B" is in the score range of  $2.6 < X < 3.4$  with a percentage of 52 - 75%. In this study, the score obtained based on the assessment of expert lecturers, teachers, and student responses was  $X > 3.4$  or category "Excellent" with an "A" grade. Thus, developing the RAFT strategy for learning to read non-literary texts based on Adobe Flash in Vocational High Schools is considered very feasible for use in the learning process.

## 5. CONCLUSIONS

Based on the results of research that has been conducted to developing the RAFT strategy for learning to read non-literary texts based on Adobe Flash in Vocational High Schools can be concluded as follows.

Teacher needs analysis of develop the RAFT strategy for learning to read non-literary texts based on Adobe Flash in Vocational High Schools that teachers have never used or found *Adobe Flash* media that contains reading learning based on RAFT strategy.

Developing the RAFT strategy for learning to read non-literary texts based on Adobe Flash in Vocational High Schools has not been widely found. In addition, *Adobe Flash* has never been used in the classroom by being integrated based on a raft strategy. RAFT strategy designs students to understand the writing read about whom, for whom, in what format, and what specific topics as material for reading comprehension.

The feasibility level of developing the RAFT strategy for learning to read non-literary texts based on Adobe Flash in Vocational High Schools judging from the assessment of expert validation results of learning aspect materials by expert lecturers reached a value of 3.71 (92.75%), the average results of expert validation of material aspects by expert lecturers reached a value of 3.67 (91.75%), the average results of expert validation of benefit aspect materials by expert lecturers reached a value of 4 (100%). The results of validation of visual aspect media experts by expert lecturers reached a

value of 3.7 (92.5%), the average validation results of media aspect media experts by expert lecturers reached a value of 3.67 (91.75%), the average results of expert validation of benefit material by expert lecturers reached a value of 4 (100%). Based on the aspect of learning, material aspects, and benefit aspects of the overall results of validation by teachers 1 obtained a percentage of 76.41% so that the eligibility rate is "Very Good", validation by teacher 2 obtained percentage 97.25% so that the eligibility rate is "Very Good", validation by teacher 3 obtained percentage 98.58% so that the eligibility rate is "Very Good". Based on the analysis it can be concluded that developing the RAFT strategy for learning to read non-literary texts based on Adobe Flash in Vocational High Schools can be used in the learning process because it meets the eligibility criteria.

The results of the student response to developing the RAFT strategy for learning to read non-literary texts based on Adobe Flash in Vocational High Schools that scores results from media aspects, material aspects, and benefit aspects obtained a percentage of 80.6% with the category "Excellent".

Developing the RAFT strategy for learning to read non-literary texts based on Adobe Flash in Vocational High Schools is expected to be used as an alternative to interactive media in learning activities reading non-abstract text in schools. In addition, it is expected that developing the RAFT strategy for learning to read non-literary texts based on Adobe Flash in Vocational High Schools is able to trigger the interest of learners in the learning process of reading non-literary text.

#### *Dissemination and Further Product Development*

The dissemination stage in the research developing the RAFT strategy for learning to read non-literary texts based on Adobe Flash in Vocational High Schools there are 2 stages, namely: (a) *Validating testing*, this stage is the implementation of the application of media that is feasible and valid to be tested to students in vocational school. (b) *Packaging*, this stage is the packaging of "Raft Learning Strategy Development Reading Adobe Flash-Based Non-literary Text in SMK" with the doubling of the *softfile folder* through CD by labeling and packaging.

Further research and development of developing the RAFT strategy for learning to read non-literary texts based on Adobe Flash in Vocational High Schools, is expected to be absorbed or understood by learners and can be used in classroom learning. In addition, further product development can be done with literary texts so that they are not limited to non-literary texts. Product development can also be done by adding the completeness of components that are not yet available such as the addition of narrative audio to guide learners.

## 5. REFERENCES

- Aji, S. D., Hudha, M. N., Huda, C., & Gufran, G. (2018). Computer animation with adobe flash professional cs6 in newton's law. In IOP Conf. Series: *Materials Science and Engineering* 288 (pp. 1-4). <https://dx.doi.org/10.1088/1757-899X/288/1/012131>
- Akhmadan, W. (2017). Development of materials teaching line and angle materials using macromedia flash and moodle grade vii junior high school. *Journal of Bushels*, 2(1), 27-40.
- Ampera, D. (2017). Adobe flash cs6-based interactive multimedia development for clothing pattern making. In 1st International Conference on Technology and Vocational Teachers (ICTVT 2017). *Atlantis Press*. 102, 314-318. <https://dx.doi.org/10.2991/ictvt-17.2017.54>
- Arsyad, A. (2009). *Learning media*. Jakarta: Rajawali Press.
- Atadil-Kuzucu, E. & Kartal, G. (2020). Technology and content integration for english language learners in a vocational high school. *Journal of Computer and Education Research*, 8 (15), 114-135. <https://dx.doi.org/10.18009/jcer.656133>
- Buehl, D. (2007). *Classroom strategies for interactive learning*. Delaware: International Reading Association Publishing.



- Chun, R. (2010). *Adobe flash professional cs5: classroom in a book*. USA: Adobe Systems Incor.
- Çınar, D. & Kurt, H. (2019). Development of animation attitude scale (AAS): Validity and reliability study. *Journal of Computer and Education Research*, 7(14), 558-574. <https://dx.doi.org/10.18009/jcer.617943>
- Mubasiroh, S. L. (2013). Development of a process approach-based writing skills learning book for high school and ma students in class x1. *Thesis*, unpublished. Yogyakarta: Indonesian Language and Literature Education FBS UNY.
- Rahim, F. (2008). *Teaching reading in elementary school (second edition)*. Jakarta: Bumi Aksara.
- Ruddell, M. R. (2005). *Teaching content reading and writing*. (Fourth Edition). USA.
- Setiani, C. K. (2014). Effectiveness of the implementation of learning model teams games tournaments assisted macromedia flash to improve the results of learning entrepreneurship basic competencies make decision class x smk widya praja ungaran. *Economic Education Analysis Journal*, 3 (1), 17-23.
- Somadyo, S. (2011). *Reading learning strategies and techniques*. Yogyakarta: Graha Ilmu.
- Sudjana. (2011). *Teaching media*. Bandung: Sinar Baru Algensindo.
- Sugiyono. (2011). *Development research methods*. Bandung: Alfabeta.
- Sukmadinata, N. S. (2013). *Educational research methods*. Bandung: Teenager Rosdakarya.
- Sumarsih. (2009). *The role of multimedia learning in improving student understanding of production management materials*. *Research report*. Yogyakarta: Yogyakarta State University.