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# Improving Critical-Creative Reading Ability of Z Generation Students through Technologically Responsive Reflective Learning

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***Abstract:***
*This Classroom Action Research (CAR) aims to describe the improvement of critically-creative reading ability of Z generation students by applying Technologically Responsive Reflective Learning. The subjects of the study were undergraduate students of Indonesian Department, Faculty of letters, Universitas Negeri Malang (UM) who took Informative Reading Text course in the even semester of 2016-2017 academic year. This CAR was conducted into three cycles in which each cycle contained four steps, namely planning, action, observation, and reflection. The research instrument were the task of reading-writing reviews and writing reflection journals. The research data was a score of student's reviews and reflective note. The data were analyzed quantitatively and qualitatively. The results showed that at the end of the cycle (third cycle), the average score of pretest reached 75 and postest was 88, with an increase of 13 points. Students who achieved a score of 70 (mastery) for postest were 84%. This means that Technologically Responsive Reflective Learning significanly can improve the critical creative reading skills of Z-generation students. Student reviews have shown the level of criticality and creativity seen from the reviews title, the reviews opening, synopsis, evaluation of book quality, and reviews closing.*

***Keywords:*** *critical-creative reading, reflective learning, informative text, and responsive technology*

## 1. Introduction

Z Generation is a generation born after 1995 as they were born and raised with internet which has become a part of a lifestyle. They are technology literate, mobile technology users as they can find information anytime and anywhere easily from laptops and smartphones, and they can easily adopt and adapt (Jati, 2016). The ease of adoption and adaptation leads to learning tasks with questions of what, when, and how they are no longer appropriate for Z-generation learners. Teachers are no longer the sole source of learning activities, so learning must be technologically responsive.

What skills are needed by Z generation? The skills needed by Z generation are critical-creative reading skills. Critical-creative reading skills are needed to validate, synthesize, communicate, collaborate information, solve problems with information they easily obtain from various digital means, and create information. The skill of creating information in the digital age is done in the form of blogs, animations, recordings, applications, or programs. Media communications also use multimoda based technology, namely through blogs, email, twiter, and others. Thus, the technologically responsive critical-creative reading skills is required by Z-generation learners.

Critical-creative reading skills are a blend of critical reading skills and creative reading skills. Critical reading is a reading activity involving high-level thinking skills, ranging from analysis, synthesis, and evaluation to reading (Hudson, 2007). Cognitive processes in critical reading involving the analysis and evaluation process are also proposed by Priyatni (2014) who stated that critical reading is a reading activity that involves the process of analysis and evaluation and requires the learner to give consideration to the quality of the content and style of text that is read based on the criteria that can be accounted for.

The ability to read should not only stop at critical reading but should be continued by reading creatively which is done by expressing the results of analysis and judgment in the form of new work, for example in the form of reviews, or reflective articles, or reflective poems in response to read readings. Critical reading and creative reading are two things that cannot be separated because the two skills are the fruit of thinking skills (Paul & Elder, 2008). Critical reading involves the ability to analyze, synthesize, and evaluate, while creative reading involves the ability to create. In order to produce quality creations, the written materials must be obtained from a critical appraisal of the written object. Critical-creative reading are two interrelated skills.

How is the critically-creative reading ability of Undergraduate students of Indonesian Department, faculty of letters, Universitas

Negeri Malang of 20016-2017 academic year in reading informative texts? The result of pretest in the form of reading text and making a review shows that the ability to read critically-creative student of Undergraduate students of Indonesian Department, faculty of letters, UM of 20016-2017 academic year is still in a low category, that is 78% of students get score of less than 70. Students have difficulty in giving an evaluation on the strength and the weaknesses of the book, comparing the quality of books read with other books, providing detailed information about the book read, and students are also still weak in using a distinctive style of disclosure and emotive/intriguing word choice, and 22% of their works plagiarized the work of other review on the internet. Therefore, this still low critical-creative ability needs to be improved.

Factors contributing to the lack of students' critical-creative abilities are the reader's interest in informative texts is very low, the initial reflection result of the students reflected in the reflection journal shows that 100% of students do not like to read informative texts as most of them are only interested in reading literature texts. The second factor is that they are not used to having critical-creative reading and analyzing and evaluating reading. Even, they cannot create or transform what they have read into other forms of reading text. This happens because they are used to have reading as entertainment only. The pretest results answered the multiple-choice objectives and the essays were also low, 70% of the students scored less than 70. The reason for this was that they were inadequate in capturing detailed information on the text they read.

One way that can be used to improve the critical-creative reading ability of Indonesia Department, faculty of letters, UM of 20016-2017 academic year is by applying technologically responsive reflective learning. The hypothesis of this action research is: "The application of technologically responsive reflective learning Informative Text Reading course can improve students' critical reading skill (Z generation) of Indonesian Department.

The results of a case study conducted by Barton et al. (2013) showed that by applying reflective learning to multimodal creative lectures, namely fashion, music art, and dance, it proves that multimodal reflective learning can lead students to gain a deep understanding and enabling them to actively participate in reflecting their work, improving it by certain reasons, and produce creative work (Barton, et al., 2013). The creative works are analyzed can actually be the trigger, the source of inspiration to produce similar creative works. The multimodal reflective learning is done by utilizing digital technology.

## 2 Literature Review

### *2.1. The Nature of Reflective Learning*

Reflective learning is not new in the world of education. The concept of reflective learning is derived from the concept of reflective thinking proposed by Dewey (1933). Reflective thinking is interpreted as giving active, persistent, and cautious consideration to the beliefs or forms of knowledge and supporting the consequences arising or arising from the giving of those considerations (Dewey, 1933). Mentoring activities, coworker involvement, and critical reflection on experience are examples of current reflective thinking practices (Larrivee, 2000). The results of reflective thinking can be suggestions for finding solutions, solving difficulties experienced, utilizing one suggestion for generating new ideas or hypotheses and the beginning of finding observation or operating instructions in the collection of factual material, extrapolating ideas, or assumptions, or verifying the truth of the hypothesis.

The concept of reflective thinking is utilized in reflective learning. Many experts develop learning and evaluation in a variety of lectures: business, creative industry, education, health, and law. In Indonesia, reflective learning is used to improve the professionalism of prospective teachers and teachers. In learning, reflection refers to the process of involvement of a person in a learning and/or professional practice and provides an opportunity to analyze and critically evaluate such learning or practice (Black & Plowright, 2010). The aim is to develop professional knowledge, understanding, and practice that incorporate a deeper transformational, empowering, emerging and ultimately emancipatory form of learning (Black and Plowright, 2010). In the learning activities, each teacher is required to reflect his own performance continuously and utilize the results of reflection to improve the professionalism.

This concept of Dewey reflective thinking has long been adopted in education which is used to improve learning practices for prospective teachers or novice teachers in on-in service training activities. Reflective thinking is done by making prospective teachers carry out teaching practice in the form of teaching practice simulation (peer-teaching) or actual teaching practice in school (real-teaching), They will be carefully observed and after completing learning activities, prospective teachers first reflect what has been done, evaluate it to communicate what has and has not been done. It is then followed by giving reflective thoughts in the form of comments or suggestions from the observer team for the improvement of the combustion activity that has been implemented.

Boud, et al. (1985) stated that reflective learning is an activity to recapture their experience, to think about it, and to evaluate it. Reflective learning involves the following three activities: (1) returning to experience, ie activities to recall or detailing important events, (2) presenting feelings, that is, using feelings to help or remove obstacles, and (3) evaluating experiences which involves the activity of reexamining experiences based on existing intentions and knowledge and this knowledge also involves the process of integrating new knowledge into a person's conceptual framework.

### *2.2. The Syntax of Reflective Learning*

Barton and Ryan (2013) found four steps (4R) in reflective learning for mulimoda-based on creative skills for college courses, (1) reporting and responding, (2) linking, (3) giving reasons, and (4) reconstructing. In the first step, report and respond, the activities are students explaining the creative work they want to create, what techniques are used. In the second step, relate to previous experience. The third step is developing his work, experimenting, then doing what critical thinking should be fixed and why it should be fixed.

The fourth step is to reconstruct his work based on the results of discussions and inputs. The Barton and Ryan in reflective learning syntax was adapted in this study to develop technologically responsive reflective learning syntax, as shown in Table 1 below.

| No. | Syntax | Learning Activities |
|---|---|---|
| 1. | Detecting the credibility of the selected text | Students select one of the 10 informative texts (in the form of books) that have been read, then detect the credibility of the selected book by utilizing digital technology using the following guidance questions.<br>• Is the author an expert in his field?<br>• Is the publisher reliable, if it is a book, is the book ISBN? If taken from the internet, are the using sites that are clear, such as sites belonging to a particular agency.<br>• Is there a referral list included in the reference?<br>• Is the list credible /reliable?<br>• Is it clear when the reference was published or uploaded |
| 2. | Reading and responding to the text content | Students read a book that have been selected.<br>Students respond to the contents of the book: determine the classification of books, popularity and quality of books from various sources by utilizing digital technology. |
| 3. | Making the synopsis of the book content | Students prepare a synopsis of the book's contents by adding important book information details by utilizing digital technology. |
| 4. | Evaluating strengths and weaknessess of books | Students evaluate the advantages and disadvantages of books from various aspects. |
| 5. | Arranging a review with a distinctive style /unique | Students compile a book review with an unique style |
| 6. | Reflecting on the written works | Students reflect the work of reviews that have been prepared using the reflection guides (appendix 1). Reflection of two aspects, namely criticality and creativity. |
| 7. | Uploading the work of students' review on the blog / website provided | Students uploaded a review written on a blog/website that has been provided (membacaref.com) |
| 8. | Reconstructing his work based on reader input | Students reconstruct their resume works based on lecturers '/ readers' feedback on the blog. |

*Table 1: The Syntax of Reflective Learning Which is Technologically Responsive*

*2.3. Critical-Creative Reading*

Critical-creative reading involves two high-level thinking skills, critical and creative thinking. People often view critical thinking and creative thinking are two opposites because critical thinking relies on rationality and critical awareness, whereas creative thinking relies on imagination and an irrational process. The erroneous assumption was dismissed by Paul & Elder (2008) who argued that critical and creative thinking are two interrelated things can not be separated from one another (Paul & Elder, 2008).

Both terms imply that critical and creative is the product of thinking and imagining activities. Critical is the result of judging and creative activities are the fruits of producing or creating activities. The substance of critical thinking skills in this study is adapted from the critical thinking taxonomy of Facione (2015) who has a targeted and tiered taxonomy and is determined through expert judgment in the field of critical thinking. The critical thinking skills developed consist of six levels, namely (1) interpreting skill, (2) analyzing skills, (3) the inference skills, (4) evaluating skills , (5) exploring skills, and (6) self-regulating skills. Each major skill has several sub-skills and each sub-skill is spelled out in a number of indicators.

Creative thinking is a thinking skill that begins with sensitivity to the 'challenging' problem at hand. Furthermore, there is an element of originality of ideas that arise in the mind of a person related to what is identified. The outcome of creative thinking is actually new to the person and is something different from what he usually does. Creative thinking also appears in the form of the ability to discover new relationships, and to look at things from a different point of view than they normally are.

Creative thinking is detected in four forms: sensitivity, fluency, flexibiliy, and originality. Relating to the sensitivity, authenticity, flexibility and fluidity in the thinking process that gives rise to the (creative) idea, it is deemed necessary. A further action to fix and organize well or regularly and in detail what has been produced. This needs to be done so that the individual does not lose momentum in the learning environment, especially before he has time to forget the good ideas that come up. This regular, detailed stubbing provides an opportunity for him to be able to repeat or read and re-examine what he produces.

*2.4. Technology based Problem Solving*

Technology plays an important role in helping the learner solve the problem provided that the problem solved by the learner is a 'challenging' elected problem (Jonassen, et al., 2003). How are technology-based learning features being developed to support reflective learning process? Technologically based learning features can be seen in Table 2.

| Fiture | Definitions | Skills |
|---|---|---|
| There is interaction between users | Allow users and observers to interact with technology, upload, download, give comment, critique, suggest or answer questions. | • Critical thinking<br>• Collaboration<br>• problem-solving<br>• Creativity<br>• Communication |
| Response is multimodal | Technology can accept uploads or user responses in verbal form (words, sentences, discourses) or images/ photos, or audio-visuals. | • Creativity<br>• Communication |
| Users can explore and or create their work | User has the right to upload works, edit, or delete comments which he/she finds unimportant. | • Critical thinking<br>• Collaboration<br>• problem-solving<br>• Creativity |
| Allows the user to keep writing for a long time | The technology used can keep the user's work along with its records in a long time (minimum 1 year). | • Critical thinking<br>• Collaboration<br>• problem-solving<br>• Creativity |
| Allow others to provide feedback | The technology used allows others who read it to provide feedback. | • Critical thinking<br>• Collaboration |
| Available interactive test with immediate response | There is a test for interactive-creative reading ability and allows the system to automatically/quickly assess through online media such as email. | • Critical thinking<br>• Collaboration<br>• problem-solving<br>• Creativity<br>• Communication |

*Table 2: Technology Features to Support Reflective Learning Process*

**3 Methodology**

*3.1. Research Design*

This study uses a classroom action research design described as a cycle consisting of planning, implementation of action, observation, and reflection (Kemmis & McTaggart, 1988). This cycle will repeat itself to form a self-reflective spiral as shown in Figure 1.

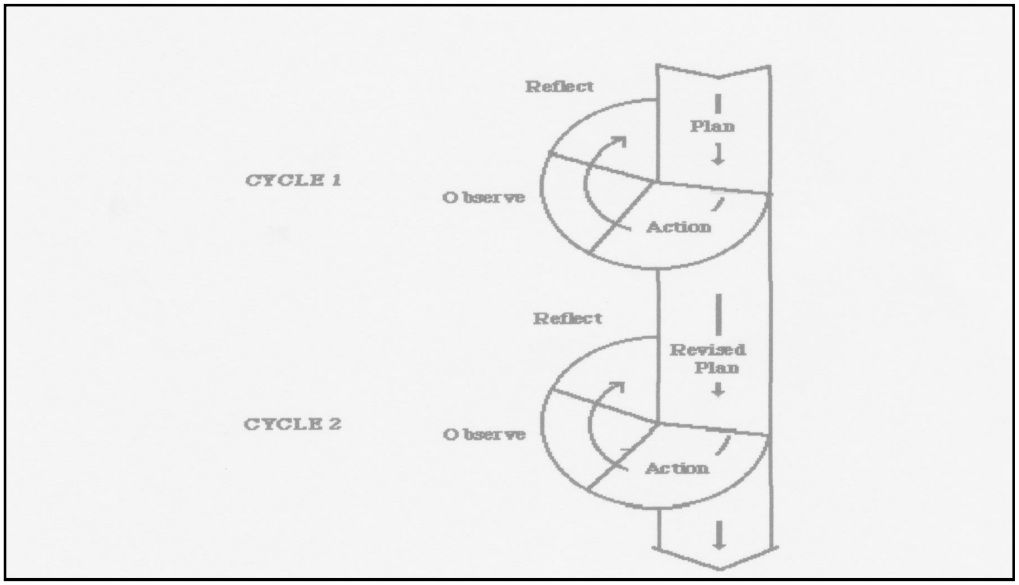


*Figure 1: Spiral Self-Reflective (Kemmis & McTaggart, 1988)*

This study applies three cycles conducted during January to May 2017. Each cycle was done using reflective learning strategy. Here are the steps taken in this research. First, Planning stage, there are some activities undertaken in the planning stages: (1) creating lesson plans with reflective learning models, making pretest & posttest instruments in the form of reading and writing tasks to measure students' critical reading skills and (2) preparing observation sheets and reflection journals to capture responses on student reflection on the reflective learning model that is implemented.

Second, action stage, in the action stage, the activities undertaken include applying the tehnologically responsive reflective learning based on the following steps : (1) reading and detecting the credibility of the book read, (2) reading and responding to the content of the book, (3) making synopsis the content of the book, (4) ) evaluating the strengths and weakneassess of the book, (5) composing a review with a unique style, (6) reflecting on the written works that have been written using the reflection guide (see appendix 1), (7) uploading the review on the blog/website provided (membacaref.com), and (8) reconstructing students' work based on readers' input.
Third, Observation stage, in the observation stage, the activities carried out are (1) filling out the observation sheet of the learning process and making notes in the journal if special things happen during the learning process (2) collecting individual pretest data at the beginning of the cycle, giving the learning achievement test (posttest) at the end of each CAR cycle.
Fourth, Reflection stage, the data obtained at the next observation stage were organized, analyzed, and summarized as the result of the research. Reflection was done after reviewing the results of the research for subsequent use as a consideration in making the revision plan (in cycle 2). The stages of planning, action, observation and reflection of the research were repeated again in the 2nd and 3rd cycles.

*3.2. Subjects and Research Context*

The subjects of the study were the first year students of the second semester of the Indonesian Department and the area covered was Informative Reading course, for 38 students and the research location was in the Indonesian Department, UM. Students got face-to-face lectures conducted for 1 meeting per week, 150 minutes per meeting.

*3.3. Instruments, Data, and Analysis of Research Data*

Instrument of research was in the form of task of reading-writing review and writing reflection journal. The research data were in the form of pretest and postes score of critical-creative reading ability of student's review and reflective note. The data were analyzed quantitatively and qualitatively. Quantitative analysis was performed to determine the improvement of students' creative-critical reading ability in terms of the average pretest and posttest scores in each cycle calculated by reducing the postest average score with the average pretest score = (average postest score - average Pretest score). The average difference in postest and pretest scores was named *gained score*. The students' mastery on the material presented can be seen from what percentage of students who had achieved 70 score or score that belongs to B category (UM Academic Guideline, 2016).

| Range | Criteria |
|---|---|
| 90%-100% had achieved 70 score | Very significant |
| 70%-89% had achieved 70 score | Significant |
| 57%-69% had achieved 70 score | Significant enough |
| 34%–56% had achieved 70 score | Not significant |

*Table 3: Category Percentage of Students Who Had Achieved 70 Score in Reading-Writing Review*

**4. Findings**

In reading informative text course, each student is required to read ten non-scientific books, each week at least 1 book. They were required to complete and understand them well. In each Cycle (Cycles I, II, and III), each student selects a book, then detects the credibility of the selected book by utilizing digital technology to evaluate the clarity, truthfulness of the information and the validity of the book read from the publishing aspect. After that, each student read a book that had been selected to complete, then responded to the contents of the book, which determined the classification of books, popularity and quality of books from various sources by utilizing digital technology. It was then followed by activities to make a synopsis on the contents of books read, evaluating the strength and weaknesses of books from various aspects. A series of activities above is a scattering critical activity (scaffolding) to compose a review with a unique style of disclosure. The review work that had been formulated and then reflected individually using reflection guidance. After which it is revised based on the results of reflection, then the revised review works were uploaded on the blog/website provided to get input from friends and lecturers, and the last activity was reconstruct the work of the review based on the reader's input. The activity in each cycle was held 3 times face to face.
The data of students 'creative-critical reading ability can be seen in Table 4 and data of the improvement of students' creative-critical reading ability can be seen in Figure 2 below.

| | CYCLE 1 | CYCLE 2 | CYCLE 3 |
|---|---|---|---|
| The average score of pretest | 60 | 65 | 75 |
| The average score of postest | 65 | 75 | 88 |
| Gained score | 5 | 10 | 13 |
| Σ mastery 70 % | Pretest 5 persons<br>Postest 8 persons | Pretest 10 persons<br>Postest 15 persons | Pretest 13 persons<br>Postest 32 persons |
| Mastery percentage 70% | Pretest 14%<br>Postest 21% | Pretest 26%<br>Postest 39% | Pretest 34%<br>Postest 84% |

*Table 4: Students 'Creative-Critical Reading Ability in Cycle 1, 2, 3*

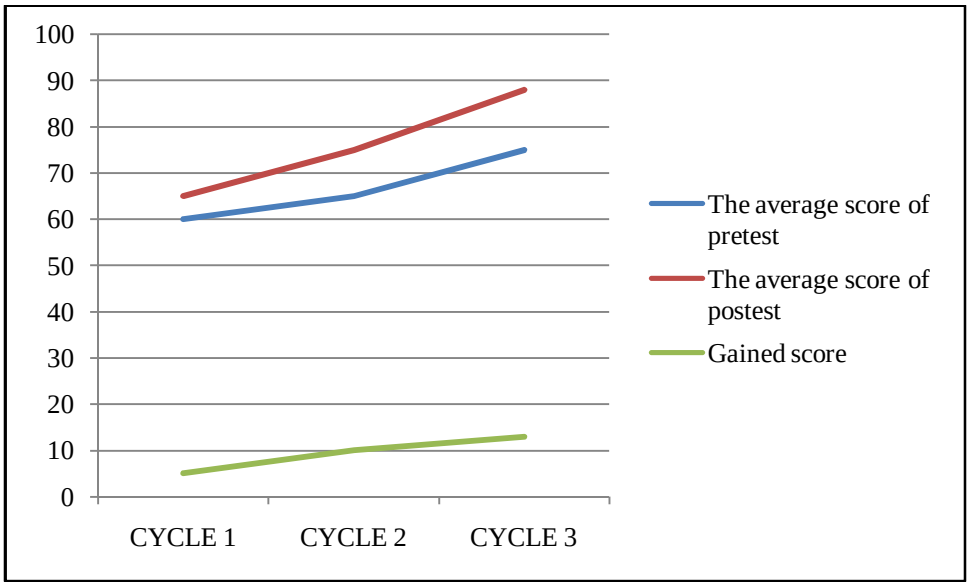


*Figure 2: The Improvement of Students' Critical-Creative Reading Ability in Cycle 1, 2, 3*

The data in Table 4 and Figure 2 showed the average pretest score was 60 and the mean score of postest was 65 in Cycle 1. This means there is an increase in the average score between pretest and postest in Cycle 1, although the increase is not significant, ie 5 points . Students who achieved mastery (70%) were as many as 5 people (14%) for pretest and 8 people (21%) for postest.

The students' ability to read critically is still low and it is described subsequently in the following order: the ability to evaluate the strength and the weaknessess of books, the ability to compare books reviewed with other similar books, the ability to determine the classification of books, the ability to make synopsis, especially the ability to add detailed information or additional information to increase reader's insight. It was found out that there was 79% of the students have not been able to find the strength and the weaknessess of the books being reviewed and there were only 21% can do so but the findings are general, trivial or nonessential.

The critical-creative-reading weaknesses were improved in Cycle 2 by carrying out the original individual critical reflection in Cycle 1, conducted in conjunction with the guidance of the lecturers. Guided and classical critical reflection was done using the Evaluation Guide criteria of Critical-Creative Reading (appendix 1).

In Cycle 2, the critical-creative reading ability began to increase significantly proven by the increase on the average of pretest 65 and postest 75, with an increase of 10 points. Students who achieved mastery (70%) were as many as 10 people (26%) for pretest and 15 people (39%) for postest. The average student begun to critically determine the classification of books, compared books that are reviewed with other similar books. The weakness is that students were still unable to add detailed information or additional information to the synopsis to increase the reader's insight and the students were still weak in evaluating the strengths and the weaknessess of the book.

The ability to read creatively that began to increase is the ability to write a review title which is different from the title of the book as students finally have the ability to find the review title in the form of impression, evaluation or essential aspects of the book's content, and the ability that still needs to be improved is the ability to use a unique/unique style of disclosure emotive choice of words that are able to arouse the reader's emotions.

The ability to read critical-creative ones was still weak in Cycle 2. It is related to the ability to evaluate the strength and the weaknessess of books and the ability to use unique style of expression and emotive word choice, is improved in Cycle 3 and it was done by asking students to read various examples of reviews categorized as creative-critical, then reflect the advantages of the works of the review individually in the form of reflection journals.

In Cycle 3, students' critical-creative reading ability improved significantly shown by the average pretest 75 and postest 88, with an increase of 13 points. Students who achieve mastery (70%) are as many as 13 people (34%) for pretest and 32 people (84%) for postest. Based on the results of research from the three cycles it can be concluded that reflective learning responsive technology significanly can improve students' critical-creative reading ability on Informative Reading /Non-scientific Text course. As many as 84% of student reviews have shown significant degree of criticality and creativity, viewed from the following five aspects: (1) review title, (2) review opening, (3) synopsis, (4) evaluation the strength and weaknesses of the book, and concluding review.

Student A's example is used here to illustrate how the reflective learning responsive technology can improve students' critical-creative reading ability on Informative Reading /Non-scientific Text course.

| Aspects | Excerpt from Student A's online website (membacaref.com) | The improvement of students' critical-creative reading ability |
|---|---|---|
| ***Review title*** | Book title : Gus Dur in Gus Mus' Discussion<br>Review title : Love Makes Us Closer, not Further Apart | The review title of the student work is significantly improved which is indicated by: (1) the review title is different from the title of the book being reviewed, (2) the review title is the impression, the evaluation, the essence of the book content, or the rating of the book; An emotive-aesthetic word |
| ***Review opening*** | Because of their closeness (Gus Mus and Kiai Husein Muhammad) with Gus Dur, then the picture of Gus Dur in the conversation also feels very real as a figure ". Not only Gus Dur is potrayed as intellectual, but it is also showed that Gus Dur is the leader, not the politician, not as the kiai (religious figure) only: but more than that is Gus Dur is portrayed as a human being with all attributes attached to the figure ". Writen by Alissa Wahid in the introduction to this book. | The reviewer's review of a student's work is significantly improved which is characterized by: (1) the introduction of book quality, (2) the introduction of book classification, (3) comparison with other similar books, and (4) the use of distinctive disclosure styles.<br><br>The reviews opening was done by quoting essentially deemed essays from the books reviewed. |
| ***Synopsis*** | The book entitled *Gus Dur dalam Obrolan Gus Mus* is not a biography of the former 4th President of Indonesian Republic, but it is a book containing Gus Dur's stories summarized by K.H. Husein Muhammad, the author of *Fiqh Perempuan* and founder of Fahmina Institute based on his talk with Gus Dur's close friend, KH. Musthofa Bisri (Gus Mus). | The ***Synopsis*** is opened by firstly mentioning the book classification and it then continued by adding some additional information about the author of the book. |
| ***Evaluating the strength and weaknesses of the Book*** | The beauty of Gus Mus in telling the story plus Buya Husein's skill in breaking it into a wider perspective, makes this book not only interesting from the narrative side of the story, but it is also a small talk between two different generations of ulama which is very meaningful. With a relaxed style of storytelling, accompanied by similar stories, the leader of Pondok pesantren Darr At-Tauhid Arjawinangun, Cirebon Pesantren, made the book suitable to read at sunset accompanied by a cup of tea or coffee | The evaluation on the strength and weaknesses of the book from the aspect of content combined with the additional information about the author is expressed in a relaxed style. |
| ***Concluding review*** | Thus, when the alim-arif speak, the simple things that are brought always bring depth of meaning and lesson. The two of them (Gus Mus and Buya Husein) only told about the Kyai they idolized, they are not competing to show who is the smartest, the most popular and the other. Perhaps that is a valuable lesson we can get after reading this book - in addition to the lessons we can draw from Gus Dur's figure | Here is one example of a concluding review that is presented with a looping style. |

*Table 5: The Improvement of Students' Critical-Creative Reading Ability*

Student A's example is used here to illustrate how the reflective learning responsive technology can be a mechanism for creating new understandings and to inspire intellectual change.

The review that I think is only limited to the summary of a book and it has elements that must be met in writing so it is interesting to read. I remember very well, how the lecturers criticize the review of *The Jilbab Traveler* book by Asma Nadia that I write, in front of my classmates. Still far from perfect indeed. But by doing so, I became aware of where the shortcomings of the review were, and I tried to improve with the reflection Guidance that I had provided. From that moment on, I became more confident to participate in the review competition that many famous writers or Indonesian printing media held.

The next activity is to make a review of the synopsis of the book that I have done, from that I understand that the synopsis and the review is different, because the review has already covered the whole about the summary, advantages and disadvantages, evaluation of the author and used our own language.

Student B's example is used here to illustrate how the reflective learning responsive technology calls individual reflection a "conscious service learning" that requires participants to consider their individual identity and perspective.

The activity of reviewing the book initially did look simple. However, the large number of books we have read also greatly influenced my ability in giving evaluation of the book, especially as a comparison between one book with other books, whether similar or not. The beauty in stringing the words also greatly affects the quality of the review especially in the effort of attracting readers. A good

review is not too short and not too long, but it includes writers, publishers, the number of pages, short synopsis, the strength and the weaknesses of the book as well.

The activities I really like are the task of reading ten books and making reviews afterwards. From the activities of the review, it gives much advantages to me as I finally mastered the book a lot as it is not just the activity of reading but it really adds t my insight about the book as I deeply understood the contents of the book.

**5. Discussion**

The enhancement of critical-creative reading ability through reflective learning of this responsive technology is in accordance with the results of the case study conducted by Barton et al. (2010) stating that applying reflective learning to multimodal creative lectures and utilizing digital technology in fashion lectures, music arts, and dance arts can trigger students to gain a deep understanding, enable students to actively participate in reflecting on their work and fFor certain reasons, it can produce creative work (Barton, et al., 2010). The creative works that he analyzed can actually be the trigger, the source of inspiration to produce similar creative works.

The involvement of students to reflect on their own work with the guidance guidance provided, in cycle 1, has not been able to improve students' critical-creative reading ability. In cycle 2, individual reflection is transformed into reflection with the guidance of lecturers and able to improve students' critical-creative reading ability. This finding is in line with the statement of Maclellan (2004) who argued that for novice writers, reflective learning models require guidance. Toyoda (2015) also stated that the guidance and feedback from the teacher as a scaffolding to go to the real competence. Feedback from peers, while reviews are uploaded on the blog, are also able to improve cognitive abilities (Saeed, M.A, et al. 2016).

Improvement of critical-creative reading ability through reflective learning in this research was also done by reflecting critically other reviewer's work. This finding is in line with De Vitaa's opinion, et al. (2011) who stated that fostering reflective learning is important because the intellectual and affective activities involve individuals exploring their experiences to gain new understanding. De Vitaa's statement, et al. (2011) is also in line with Marton & Säljö's (1984) opinion that the reflective learning model is able to encourage learners to move towards 'deep approach'. Reflective learning can also lead to 'transformative learning' experiences (Harvey & Knight, 1996). By reading other reviewer's works, students actually learn through 'modeling'. Students transform the knowledge gained from the 'model' to gain a new understanding

De Vitaa, et al. (2011) states that reflection can be a mechanism for creating new understandings and to inspire intellectual change. This statement is in accordance with the student reflection report as outlined in the following reflection journal. Mobely (2011: 89) calls individual reflection a "conscious service learning" that requires participants to consider their individual identity and perspective.

**6. Conclusion**

Based on the findings of the research sought in the discussion and discussion section, the conclusions of this research are summarized as follows.

The results showed that at the end of the cycle (third cycle), the average score of pretest reached 75 and postest was 88, with an increase of 13 points. Students who achieved a score of 70 (mastery) for postest were 84%. This means that Technologically Responsive Reflective Learning can improve the critical creative reading skills of Z-generation students. Student reviews have shown the level of criticality and creativity seen from the reviews title, the reviews opening, synopsis, evaluation of book quality, and reviews closing.

To improve students' critical-creative reading in this research, modifications have been made to the syntax of reflective learning, namely: (1) individual reflection is replaced by guided reflection for novice writers, (2) adding learning activities in the form of reading various examples of reviews categorized as critically-creative, then reflect the advantages of the works of the review individually in the form of reflection journals. It can be concluded that there needs to be a modification of reflective learning syntax for students' critical-creative reading ability to achieve optimal results.

The level of criticality and creativity of students is measured from their ability to read critically and express their critical reading skills in the form of review text. The level of criticality and creativity of students in writing review text is seen from the following five aspects: (1) review title, (2) review opening, (3) synopsis, (4) evaluation the strength and weaknesses of the book, and concluding review.

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