Development of Mass Media Text-Based Instructional Materials to Improve Critical Reading Skills of University Students

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Abstract. Critical thinking competency is one of the requirements for university graduates to succeed. Critical reading skills learning can accommodate the development of the critical thinking competency. Therefore, this study was designed to develop instructional materials for the students to learn the skills. The present study was carried out following some steps of research and development study that includes a preliminary study, the development of product prototype, tryout, and the effectiveness test. This study involved 82 pre-service Indonesian teachers studying at Universitas Negeri Makassar, Indonesia. Data was collected through a questionnaire, an experts’ validation sheet, and a test on critical reading skills. The results of the study indicated that instructional materials developed with a complete and integrated structure, involving the activity of conceptualizing, modeling, and practicing are effective in improving students’ critical reading skills. The characteristics of mass media texts are highly appropriate for habituating students to evaluate, respond to, and reflect on information critically. The instructional materials developed in this study can be used by the university students in learning and support the development of students’ 21st-century learning competency.

Keywords: instructional materials, critical reading, critical thinking, language skills.
Introduction

Critical thinking skills have become crucial for every individual who lives in a competitive era such as of the 21st-century. As the main competency needed to succeed in this era (Trilling & Fadel, 2009), critical thinking skills are supposed to be a part of the curricula. Morocco, Aguilar, Bershad, Kotula, and Hindin (2008) identify four competencies that need to be improved by university graduates in facing challenges at the workplace. These competencies cover conceptual knowledge, critical thinking skills, creative thinking skills, and communication and collaboration skills.

The development of critical thinking skills should be a foundation of learning at a university. The students need the skills to help them achieve success and career in the future. Wagner (2008) categorizes critical thinking skills as primary skills required to survive and to solve problems in the new world of work. The rapid change of competency requirements in the workplace makes it difficult for the university graduates to follow the pace. One of the reasons is that because high schools or university they went to did not prepare them well to face the current situation (Wagner, 2008).

Critical reading belongs to a language skill which is possessed by the critical thinkers. The critical reading activity involves the activity to search for and analyze information, and develop a critical attitude towards a text. These activities actualize critical thinking skills which can be used to find a solution to a problem, make a decision, persuade, analyze, and evaluate an opinion (Johnson, 2002). Critical reading is a process in which university students are prepared to succeed not only in the classroom but also in the real world (Kadir, Subki, Jamal, & Isgmail, 2014).

Previous related research has proven the importance of critical reading in improving critical thinking skills. Zing, Eng, and Rafik-Galea (2014) found that university students did not have an ability to identify writer’s purpose and main idea of a text. In addition, Karabay, Kusdemir Kayıran, and Isik (2016) proved that university students’ had a medium level of self-efficacy in reading critically. Their self-efficacy also depended on gender. Lun, Fischer, and Ward (2010) and Lee, Lee, Makara, Fishman, and Hong (2014) discovered that most of the Asian university students had lower critical thinking ability compared to the students who come from the West. One of the factors that might contribute to this issue was students’ limited opportunity to perform their critical and creative thinking skills. Bharuthram (2012) revealed that many university students who are entering the higher level of education had insufficient ability to analyze, criticize, evaluate, and synthesize information from various sources. Even, findings by Bharuthram and Clarence (2015) also showed that around 80% of the students had a very limited view or did not understand the meaning of critical reading. These findings indicate that it is necessary to provide university students with the ability to read critically in order that they can be more confident in facing challenges in the 21st-century era.
Critical reading activity is carried out by applying the critical thinking process in reading. Since it requires a higher order of cognitive thinking, readers need to do some activities which involve constructing knowledge, evaluating the quality and the validity of the information based on some criteria and evidence. Critical thinking skills which can be implemented in reading are interpretation skill, analysis skill, making an inference skill, evaluation skill, explanation skill, and self-regulation skill (Facione, 2013 & 2015). The results of a study conducted by Thomas (2011) have revealed that university students’ critical thinking competency can be improved through evaluating the quality of a reading material, analyzing an argument, and utilizing a rubric to do self-reflection. Research by Sultan, Rofiuddin, Nurhadi, and Priyatni (2017b) indicated that learning models which were able to encourage students to evaluate author’s messages and purposes, reflect ideological assumptions, and respond to texts from many perspectives could help grow the students’ critical awareness. Therefore, it can be hypothesized that structured and interactive learning activities can improve students’ critical reading ability.

This study aimed to develop critical reading instructional materials for university students. Instructional materials are a crucial element of learning to achieve learning goals (Brown, 1995). Instructional materials offer students concepts and a set of structured activities which can enhance the students’ critical reading skills. The results of a preliminary study indicated that it was necessary to develop instructional materials to facilitate critical reading learning at a university. An analysis of learning tools proved that instructional materials for critical reading learning are not yet available. Besides, it was found that university students were still unable to provide critical responses towards a text. In general, the students admitted that they accepted the information from the text as it is and did not attempt to understand something lies beyond the text. They also did not try to connect the information found in the text to another text and did not develop a new perspective which was supposed to be different from the author’s (Sultan, Rofiuddin, Nurhadi & Priyatni, 2017a).

Instructional materials developed in this study were mass media text-based. It means that reading materials would cover texts from mass media, such as news item texts, editorial texts, advertorial texts, and opinion texts. These texts were used because the characteristics of the texts support critical reading activities. News item texts bring about a narrative genre which not only explains information but also persuades readers and expose an argumentation (Winterowd & Winterowd, 1992). Argumentative texts have a characteristic to convince readers to a certain point of view (the writer’s point of view). Meanwhile, persuasive texts are to persuade readers to do a certain action. The characteristics of each text are relevant to the purpose of critical reading learning that is to train students’ critical reading skills that include interpretation skill, analysis skill, making an inference skill, evaluation skill, explanation skill, and self-regulation skill. The results of a study conducted by Atay (1990) have shown that media mass texts are quite appealing to the university students so that they can be used as reading materials.
However, research findings by Silva, Bargallo, and Prat (2017) suggested that the difficulties faced by pre-service teachers in reading critically might result from the students’ inability to identify argumentation. The current study, thus, was oriented to develop critical reading instructional materials which contained activities that allowed students to find writer’s arguments and respond to them from various perspectives.

Specifically, this study aimed to:
1. develop mass media-based critical reading instructional materials;
2. examine the validity of the product by experts’ examination;
3. investigate the effectiveness of the instructional materials on university students’ critical reading skills; and
4. measure the students’ responses towards the instructional materials.

Methods

This research was designed as a Research and Development (R & D) study. Research and development is a research design used to develop a new product systematically through a field test until the product fulfills the predetermined criteria of qualities and effectiveness (Gall, Gall, & Borg, 2003). The R & D model applied here was adapted from the (R2D2) Recursive, Reflective Design, and Development model suggested by (Willis, 1995) and (RDR) Research-Development-Research model. The implementation of both models produced a design which consists of four main activities that are (1) conducting a preliminary study, (2) developing a product, (3) conducting a tryout, and (4) testing the effectiveness of the product.

This research combined the paradigm of qualitative and quantitative study. The qualitative approach was applied during the preliminary study, product prototype development, and tryout. The research began with a preliminary study conducted to collect data as the basis of the product development. A preliminary study was carried out by analyzing theories and doing field-observation to obtain data on critical reading learning. The data was collected through document analysis, a survey, and interviews.

The development of product prototype was focused on: (1) developing critical reading competencies, (2) developing main concepts, (3) selecting texts, (4) examining the readability of the texts, (5) examining the attractiveness of the texts, (6) developing questions, and (7) packaging the product.

The product was validated by three experts and one practitioner of critical reading, instructional materials development, teaching reading, and learning assessment. The validators were required to check the accuracy and conformity of the learning materials and provide comments, critics, and recommendation for revision. The validation results were used as a guide to improve the product.
One group pretest-posttest experimental design was employed to measure the effectiveness of the product in improving the students’ critical reading achievement. The design was selected according to the objective of the current study that was to observe changes in students’ critical reading ability before and after the field test (Mertens, 2010). This design is normally used to test a new learning method or innovation (Cohen, Manion, & Morrison, 2007) or to evaluate the progress of one’s knowledge or skills (Czaja & Sharit, 2013). There were 82 students from the Indonesian Language Department, Universitas Negeri Makassar, Indonesia, participating in this study. All participants had been registered to Reading classes. More than 80 percent of the participants were females. The process of examining the product effectiveness lasted in 12 meeting. Learning activities are conducted by utilizing text-based critical reading materials of mass media, such as news, editorials, advertorials, and opinions.

Data was collected through a questionnaire, an experts’ validation sheet, and a test. The questionnaire was used to gather data related to the students’ perception of the product with two alternative answers, yes or no. The expert validation sheet was developed in the form of Likert scales format with four alternatives (scored 1–4) that showed the quality (accuracy and appropriateness) of the product. The test was constructed based on the critical reading indicators. The validity and reliability of the test had been examined beforehand. The validity of the test was confirmed by the experts in critical reading and critical thinking. The results of the reliability test showed that every aspect of the test had met the criteria of Cronbach’s alpha internal consistency coefficients (.70).

There were two categories of data collected in this study, qualitative data and quantitative data. The qualitative data was in the form of speech and behaviors. Speech data included responses, suggestions, and critiques from the experts, practitioners, and students. The qualitative data was used to revise the product.

The quantitative data was in the form of scores resulting from expert validation and pretest-posttest results. Data collected from the experts and practitioner was interpreted using the Aiken’s V formula (Aiken, 1985). To define the results, the criteria determined were; High (>0.80), Average (0.40–0.80), Low (<0.40). Meanwhile, the pretest-posttest scores were analyzed using IBM SPSS Statistics 23 t-test. The significance level was determined at α = .05. Before analyzing the data, a normality test was conducted. The result of the normality test using One-Sample Kolmogorov-Smirnov Test showed a significance value of .052 for the pretest and of .294 for the posttest. This result indicated that both pretest and posttest data had a normal distribution; hence, t-test could be conducted afterward.
Results

Instructional Materials Structure

Instructional materials developed were structured to train students’ critical thinking skills in reading news item texts, editorial texts, advertisements, and opinion texts. Each text was presented in one learning unit which included the activity to guide students to (1) get to know the text, (2) identify the text’s characteristics, (3) model the critical reading skills, (4) train their critical thinking skills, and (5) do self-reflection. All activities were oriented to provide students with conceptual knowledge, instances, and training of the skills.

In the introduction section, the students were required to relate their previous knowledge and experience to the text. The students could observe their surroundings and find recognizable phenomena which can be used as a proof that critical reading skills are useful. The students identified the text’s characteristics to understand the nature, structure, and function of the information found in the text.

In modeling critical reading activity, the students were exposed to two main parts. First is “why” the texts (news item texts, editorial texts, advertisements, opinion texts) should be read critically and the second is “how” the texts should be read. The first part consists of the information about the potential of the text to contain elements of propaganda. The second part consists of the information on how to read the texts critically from the linguistic aspect, and how to pay careful attention to information, data, arguments, and facts presented in the texts.

Critical reading training is the main activity to develop students’ critical reading skills. There are six critical reading skills that need to be developed; they are Activity 1: Interpreting, Activity 2: Analyzing, (3) Activity 3: Making an Inference, (4) Activity 4: Evaluating, (5) Activity 5: Explaining, and (6) Activity 6: Self-regulating.

The reflection activity aims to check students’ understanding after doing several steps of critical reading. This activity belongs to self-evaluation activity to measure the students’ achievement.

Instructional Materials Validation

Instructional materials being developed were validated by the experts and practitioners in reading, learning assessment, reading instructional materials, and teaching reading. The materials were evaluated from the theoretical and practical aspect. The results of the experts’ validation are presented in Table 1.
Table 1

The results of experts’ validation

<table>
<thead>
<tr>
<th>No</th>
<th>Aspects of Evaluation</th>
<th>R1</th>
<th>R2</th>
<th>R3</th>
<th>R4</th>
<th>s1</th>
<th>s2</th>
<th>s3</th>
<th>s4</th>
<th>Σs</th>
<th>V</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Content</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>The content conforms to reading learning competency at the university</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>11</td>
<td>0.92</td>
<td>High</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>The concepts presented conform to the students’ needs</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>8</td>
<td>0.67</td>
<td>Average</td>
</tr>
<tr>
<td>3.</td>
<td>The texts conform to the students’ intellectual maturity</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>11</td>
<td>0.92</td>
<td>High</td>
</tr>
<tr>
<td>4.</td>
<td>The presentation of the examples can facilitate the students</td>
<td>4</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>11</td>
<td>0.92</td>
<td>High</td>
</tr>
<tr>
<td>5.</td>
<td>The content covers a whole set of reading activities</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>11</td>
<td>0.92</td>
<td>High</td>
</tr>
<tr>
<td>6.</td>
<td>The content contains sophisticated information</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>9</td>
<td>0.75</td>
<td>Average</td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>The content arouses the students’ curiosity</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>10</td>
<td>0.83</td>
<td>High</td>
</tr>
<tr>
<td>8.</td>
<td>The concepts and the theories are accurate</td>
<td>4</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>10</td>
<td>0.83</td>
<td>High</td>
</tr>
<tr>
<td>B</td>
<td>Presentation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>The content is presented coherently</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>10</td>
<td>0.83</td>
<td>High</td>
</tr>
<tr>
<td>2.</td>
<td>The systematic is consistent between units</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>11</td>
<td>0.92</td>
<td>High</td>
</tr>
<tr>
<td>3.</td>
<td>Learning objectives are delivered clearly</td>
<td>4</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>10</td>
<td>0.83</td>
<td>High</td>
</tr>
<tr>
<td>4.</td>
<td>Learning steps are carried out structurally</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>12</td>
<td>1.00</td>
<td>High</td>
</tr>
<tr>
<td>5.</td>
<td>The instructions are presented clearly</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>12</td>
<td>1.00</td>
<td>High</td>
</tr>
<tr>
<td>6.</td>
<td>The excerpts of the main concepts are presented prominently</td>
<td>4</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>10</td>
<td>0.83</td>
<td>High</td>
</tr>
<tr>
<td>7.</td>
<td>The reflection activity helps the students to review the lesson</td>
<td>4</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>11</td>
<td>0.92</td>
<td>High</td>
</tr>
<tr>
<td>C</td>
<td>Language</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>The language used is accurate</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>11</td>
<td>0.92</td>
<td>High</td>
</tr>
<tr>
<td>2.</td>
<td>The language used is communicative</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>11</td>
<td>0.92</td>
<td>High</td>
</tr>
<tr>
<td>3.</td>
<td>The language used refers to the cognitive and socio-emotional development of the students</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>12</td>
<td>1.00</td>
<td>High</td>
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<tr>
<td>D</td>
<td>Graphics</td>
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</tr>
</tbody>
</table>
Table 1 suggested that the indicators of the five validated aspects had fulfilled the criteria of the product merit. Of all the evaluated items, only three indicators obtained average scores while the rest were categorized high. The results of the experts and practitioners evaluation indicated that the learning materials developed in this study were qualified and reliable so that it could be implemented.

The Effectiveness of Instructional Materials

The effectiveness test was used to measure the effect of instructional materials on students’ critical reading skills. The results of the t-test show that $t = 19.318$ and $p = 0.000$ (Table 1). It indicates that the effect was significant. Therefore, it can be concluded that the use of the instructional materials improved the students’ critical reading skills in general.
Table 2
Paired samples test on students critical reading skills in general

<table>
<thead>
<tr>
<th>Paired differences</th>
<th>Mean</th>
<th>Std. deviation</th>
<th>Std. error mean</th>
<th>95% Confidence interval of the difference</th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
</table>

Table 3
Paired samples test on every aspect of critical reading skills

<table>
<thead>
<tr>
<th>Paired differences</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. error mean</th>
<th>95% Confidence interval of the difference</th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interpreting</td>
<td>2.43902</td>
<td>1.73630</td>
<td>.19174</td>
<td>2.05752 – 2.82053</td>
<td>12.720</td>
<td>81</td>
<td>.000</td>
</tr>
<tr>
<td>Analysing</td>
<td>2.70732</td>
<td>2.62696</td>
<td>.29010</td>
<td>2.13011 – 3.28452</td>
<td>9.332</td>
<td>81</td>
<td>.000</td>
</tr>
<tr>
<td>Inferencing</td>
<td>1.30488</td>
<td>1.83040</td>
<td>.20213</td>
<td>.90270 – 1.70706</td>
<td>6.456</td>
<td>81</td>
<td>.000</td>
</tr>
<tr>
<td>Evaluating</td>
<td>5.79878</td>
<td>4.02757</td>
<td>.44477</td>
<td>4.91383 – 6.68374</td>
<td>13.038</td>
<td>81</td>
<td>.000</td>
</tr>
<tr>
<td>Explaining</td>
<td>9.07317</td>
<td>11.07163</td>
<td>1.22266</td>
<td>6.64047 – 11.50587</td>
<td>7.421</td>
<td>81</td>
<td>.000</td>
</tr>
</tbody>
</table>

To measure the effectiveness of the instructional materials in a more specific way, a statistical analysis was conducted for each skill. Based on the information in Table 2, it can be concluded that the level of significance of all skills is .000 (p = .000). It shows that the use of learning materials brought a significant effect on learning and was effective to improve the students’ critical reading skills, particularly in interpreting, analyzing, making an inference, evaluating, and explaining the texts. Table 3 depicts the complete results of the statistical analysis.

Students’ Responses to Instructional Materials

The students were required to respond to the instructional materials from the aspect of practicality, the functions, texts selected, and attitude towards learning. Based on the results of the analysis, it was found that the students’ responses were positive. The complete results are recorded in Table 4.
Table 4
Students’ responses on instructional materials

<table>
<thead>
<tr>
<th>No</th>
<th>Aspects</th>
<th>Students’ responses</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>f</td>
</tr>
<tr>
<td>1.</td>
<td>The activities in the textbook improve students’ understanding of the concept of reading critically.</td>
<td>74</td>
</tr>
<tr>
<td>2.</td>
<td>The activities help students implement critical reading skills.</td>
<td>77</td>
</tr>
<tr>
<td>3.</td>
<td>The examples provided in the textbook assist students in implementing critical reading skills.</td>
<td>73</td>
</tr>
<tr>
<td>4.</td>
<td>The presentation of instructional materials is quite clear so that students can improve their understanding.</td>
<td>71</td>
</tr>
<tr>
<td>5.</td>
<td>The instructional materials help students improve their critical thinking skills.</td>
<td>76</td>
</tr>
<tr>
<td>6.</td>
<td>The texts used develop insights.</td>
<td>79</td>
</tr>
<tr>
<td>7.</td>
<td>Students are excited to use the critical reading instructional materials</td>
<td>75</td>
</tr>
<tr>
<td>8.</td>
<td>Students’ self-confidence improves to do the critical reading activities.</td>
<td>69</td>
</tr>
<tr>
<td>9.</td>
<td>The instructional materials introduce a new learning experience.</td>
<td>74</td>
</tr>
<tr>
<td>10.</td>
<td>The instructional materials grow students’ enthusiasm for learning.</td>
<td>72</td>
</tr>
</tbody>
</table>

Discussion

The validation of the product (instructional materials) has been justified by the experts and practitioners. The results of the t-test also show that the effect of the instructional materials on students’ critical reading skills was significant. It indicates that the instructional materials have been developed according to the principles of the development of critical reading instructional materials. Also, the positive responses from the students have proven that the instructional materials are appropriate, effective, and able to suit the students’ needs and characteristics.

The instructional materials integrate the activity of developing conceptual understanding and practicing. As a result, the combination of conceptualizing, modeling, and practicing critical reading skills is present in one set of instructional materials. Conceptual understanding is necessary since the students are not familiar with critical reading which requires a higher order of thinking.

An instructional material with theory-modeling-practice model provides an assist for the students to enhance their critical reading competencies. Learning materials which only present theory without practice or practice without theory will be burdensome for
the students. Therefore, in line with Tomlinson’s (1998), learning materials should help students learn easily through the presentation of concepts and modeling, for example.

Modeling is aimed to make the students able to relate their conceptual understanding to the critical reading activity they are doing. Blair, Rupley, and Nichols (2009) state that modeling is an important part of reading because it helps readers finish their training session. Modeling assists the students in constructing their conceptual understanding, applying it, and boosting their self-confidence. Good learning materials should be able to keep their self-confidence high (Tomlinson, 1998).

The exercises are provided for the students to practice their critical reading skills. In this part, they need to improve their interpretation skill, analysis skill, making an inference skill, evaluation skill, explanation skill, and self-regulation skill. Each skill is divided into some sub-skills which are then represented by questions. The students need to answer the questions to train their critical reading skills. This part becomes the main part of learning using the instructional materials being developed. Similarly, Blair et al. (2009) argue that students will be successful in reading if they are given an opportunity to apply their skills by doing some exercises.

Learning materials developed in this study contained mass media texts as a reference for reading. Texts variation is a key to the students’ success in reading since there is a chance that the students can repeatedly apply their skills on reading different kinds of texts. Learning materials can be influential when they are presented in variation (Tomlinson, 1998). The mass media texts, for example, which provide updated information can help students promote knowledge of a wider context. This knowledge is needed to develop a critical attitude.

The selection of mass media texts to be used as reading materials implies the instructional materials’ effectiveness. Mass media texts can be used to improve students’ critical attitude through identifying values and perspectives found in the texts, interpreting the messages, evaluating the trustworthiness of the texts, and many others (Alvarado, 2012). Mass media texts are authentic. Therefore, they are appealing to students and motivating; students are interested in criticizing the texts. Authentic texts provide an opportunity for the students to explore authentic cultural information and real language use (Berrardo, 2006).

The results of the effectiveness test showed a significant difference in students between they learned using critical reading materials and before they used the materials. Texts in mass media which contain argumentative and persuasive information are relevant for the development of students’ reading competences. The texts provide potentially biased events, data, and information. Editorial texts, for instance, serve a propaganda function. Advertorial texts contain information that can persuade readers to do as they are told. Opinion texts are persuasive. Argumentation, propaganda, and persuasion are texts elements that are effective in improving one’s critical reading skills. Learning to criticize such texts from domination perspectives is therefore useful to promote students’
critical reading skills (Sultan, Rofuiddin, Nurjadi, & Priyatni, 2017c). The use of domination elements found in mass media texts can enhance students’ thinking and higher cognitive processes.

The results of the current study indicated that learning materials that were developed using analytical questions could empower students’ critical ability. Analytical questions helped the students think deeply about the texts. They reflected on the information obtained from the texts. This finding was in line with the results of the research conducted by Wang and Seepho (2017) who found that analytical questions encouraged learners to critically think about writer’s ideas or point of view to help them connect, interpret, and synthesize the text’s purposes. In this study, students practiced their critical reading skills by answering some texts’ comprehension questions in the form of multiple choice and essay. The multiple choice test was effective to train the students’ interpretative skill in reading (Nuttal, 2005), while the essay test could be very useful to elicit the students’ perspectives.

Critical reading skills trained through the instructional materials are adopted from Facione’s six critical thinking skills (Facione, 2013 & 2015). Those skills have a hierarchical structure determined by experts in critical thinking. The critical thinking skills have become important for the students to pursue their future career and life. Trilling and Fadel (2008) categorize three main skills needed in the 21st-century; they are learning and innovation skills, digital literacy skills, and career and life skills. Critical thinking skills and problem-solving skills are components of learning and innovation skills. Therefore, to prepare university graduates to face any kind of situation in their life, these skills need to be integrated into the school curriculum.

Language skills and critical thinking skills have a reciprocal relationship. Tung and Chang (2009) in their study report that learning to read can improve students’ critical thinking skills and show the better disposition of critical thinking. Grosser and Nel (2013) have found out that there is a significant relationship between academic language proficiency and making inferences and critical thinking skills. On the other hand, Azin and Tabrizi (2016) have revealed that students who are competent in critical thinking are better at interpreting. Based on the results of the research, it can be said that the development of critical reading skills in the present study has a direct contribution to the improvement of students’ critical thinking.

The instructional materials have been proven able to improve the students’ critical reading skills. Therefore, it is recommended to use the instructional materials in the classroom. Tiruneh, Verburgh, and Elen (2014) assert that the effectiveness of critical thinking learning is influenced by the learning environment. Instructional materials, learning strategy, and instructional media are components that create a learning environment which supports the development of critical thinking skills.
Conclusion

Based on the results of the present study, it can be concluded that one of the most important aspects in developing a critical reading material is learning activities or learning processes that can encourage students as readers to think deeply. The six levels of critical reading skills developed in this research constitute a part of students’ cognitive processes which help them develop their critical analytical thinking ability. Critical reading skills being developed have a unique characteristic to train students’ critical reading skills. Instructional materials were developed with a complete and integrated structure, involving the activity of conceptualizing, modeling, and practicing. The structure of the instructional materials helps university students develop their critical reading competencies and motivate them and boost their self-confidence.

It can be concluded that the product (instructional materials) developed in this study is effective in improving students’ critical reading skills. This finding also indicates the significance of the use of mass media texts in teaching critical reading. Mass media texts are highly relevant with the development of students’ critical reading skills because they contain argumentation, propaganda, persuasion, and writer’s purposes which habituate students to evaluate, respond to, and reflect on information critically. The use of mass media texts has provided an opportunity for the students to train their critical reading skills in various texts.

Critical reading skills as a result of the critical thinking process are crucial to the success of every university graduate in the future. The instructional materials developed in this study can be used by the university students in learning to read critically and support the development of students’ 21st-century learning competency. It is recommended for the lecturers to make use of mass media texts as learning materials to teach critical reading at the university.

References


Mokymo priemonių kūrimas remiantis žiniasklaidos tekstais siekiant pagerinti studentų kritinio skaitymo įgūdžius

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Santrauka

Kritinio skaitymo įgūdžiai yra svarbūs ir reikalingi universiteto studentams mokantis ir sprendžiant įvairias problemas, kylančias šioje konkurencinėje epochoje. Kritinis skaitymas yra procesas, kurio metu universiteto studentai yra rengiami sėkmingai dirbti ne tik auditorijoje, bet ir realiame pasaulyje (Kadiras, Subkis, Džamalas ir Ismail, 2014). Vis dėlto tyrimų rezultatai parodė, kad studentų kritinio skaitymo kompetencijos ugdymo metu kyla daug problemų: 1) vis dar menki studentų kritinio mąstymo įgūdžiai, 2) mokymosi proceso trūkumai neleidžia išugdyti skaitytojo kritinio mąstymo, 3) studentų nepasitikėjimas savo kritinio skaitymo įgūdžiais ir 4) studentų nesugebėjimas identifikuoti netiesiogiai išreikštą teksto mintį. Todėl studentų kritinio skaitymo įgūdžių ugdymas universitete turėtų būti prioritetas. Šio tyrimo tikslas – remiantis žiniasklaidos tekstais, sukurti kritinio skaitymo ugdymui skirtas mokymo priemones. Šis tyrimas remiasi tyrimo ir plėtros (angl. research and development) strategija, kurią sudaro keturios pagrindinės veiklos rūšys: 1) žvalgomojo tyrimo atlikimas, 2) produkto sukūrimas, 3) tyrimo vykdymas ir 4) produkto veiksmingumo patikrinimas. Produkto patikrinimo ir patvirtinto trys ekspertai ir vienas specialistas praktikas. Siekiant įvertinti sukurtų mokymo priemonių veiksmumą gerinant studentų kritinio skaitymo pasiekimus, buvo atliktas eksperimentas su viena tiriamųjų grupe prieš ir po vykdomo diagnostinio tyrimo. Tyrimo dalyvavo 82 studentai iš Makassar valstybinio universiteto Indonezijos kalbų katedros. Tyrimo rezultatai parodė, kad sukurtos mokomosios medžiagos taikymas turėjo didelį poveikį mokymuisi ir buvo veiksmingas studentų kritinių
skaitymo įgūdžių tobulinimui, be to, studentų reakcija į priemones buvo teigiama. Taikomi šeši kritinio skaitymo įgūdžių ugdymo lygiai buvo išskirtinės šio kritinio skaitymo įgūdžių ugdymo tyrimo bruožas. Mokomoji medžiaga buvo integruota į ugdymo procesą ir apėmė konceptualizavimo, modeliavimo ir praktikos veiklas. Tyrimo rezultatai rodo, kad žiniasklaidos tekstai yra labai svarbūs besimokančiųjų kritinio skaitymo įgūdžių ugdymui, nes juose yra argumentavimo, įtikinėjimo, propagandos ir rašytojo minties elementų, kurių identifikavimas gali įpratinti studentus reaguoti ir kritiškai vertinti informaciją. Mokymo medžiaga, sukurtą šiam tyrimui, gali būti naudojama studentams mokantis kritinio skaitymo.

**Eminiai žodziai:** mokymo priemonės, kritinis skaitymas, kritinis mąstymas, kalbos įgūdžiai.

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## Appendices

### Appendix A

*The Summary of Learning Activities in the Implementation of the Product Learning Materials*

<table>
<thead>
<tr>
<th>Critical Reading Activities</th>
<th>Title of the Text</th>
<th>Learning Activities</th>
<th>Meeting</th>
</tr>
</thead>
</table>
| News Item Text-Based        | The Campaign Used Jokowi: Unable to Lead a Family, Dare to Lead a Country?       | Identifying a news item text and building an understanding of the text  
Students identify the characteristics of the news item text from the structure, linguistic aspects, and information functions  
Students understand and take a close look at the examples of the use of language, information, data, arguments, and facts presented in the text  
Students discuss an example of a critic on a news item text. Lecturer guides the students to answer three main questions: (1) What does the writer expect from the reader, (2) What are the effects of diction, data, facts, and information used by the writer in the text?, (3) What is the writer’s purpose? |
| Critical Reading            | A Night-Walk Invitation through Facebook                                         | Develop students’ critical reading skills of a news item text  
Activity 1: Interpretation skills; students read to categorize and classify the meaning of the text  
Activity 2: Analysis skills; students read to detect ideas and arguments in the text  
Activity 3: Inference skills; students read to draw an inference, examine evidence, and propose a news item text-based alternative  
Activity 4: Evaluation skills; students read to evaluate claims and arguments found in the text  
Activity 5: Explanation skills; students read to state their thoughts, justify the procedures, and present arguments from the text  
Activity 6: Self-regulation skills; students read to practice their self-regulation and self-correction abilities | 2 & 3   |
<table>
<thead>
<tr>
<th>Critical Reading Activities</th>
<th>Title of the Text</th>
<th>Learning Activities</th>
<th>Meeting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Editorial Text-Based Critical Reading</td>
<td>Institution Loopholes from Ambition</td>
<td>Identifying an editorial text and building an understanding of the text  Students identify the characteristics of the editorial text from the structure, linguistic aspects, and information functions  Students understand and take a close look at the examples of the use of language, argumentation, and conclusion presented in the text  Students discuss an example of a critic on an editorial text. Lecturer guides the students to answer three main questions: (1) Was the editorial text written objectively/subjectively, (2) Does the writer position himself as one particular party, (3) What does the writer expect from the reader?</td>
<td>4</td>
</tr>
<tr>
<td>Embarrassing New Legislative Council</td>
<td>Develop students’ critical reading skills of an editorial text  Activity 1: Interpretation skills; students read to categorize and classify the meaning of the text  Activity 2: Analysis skills; students read to detect ideas and arguments in the text  Activity 3: Inference skills; students read to draw an inference, examine evidence, and propose an editorial text-based alternative  Activity 4: Evaluation skills; students read to evaluate claims and arguments found in the text  Activity 5: Explanation skills; students read to state their thoughts, justify the procedures, and present arguments from the text  Activity 6: Self-regulation skills; students read to practice their self-regulation and self-correction abilities</td>
<td>5 &amp; 6</td>
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</tr>
<tr>
<td>Critical Reading Activities</td>
<td>Title of the Text</td>
<td>Learning Activities</td>
<td>Meeting</td>
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</table>
| Advertorial Text-based Critical Reading | Commitment Satisfied Customers at the Age of 10 | Identifying an advertorial text and building an understanding of the text  
Students identify the characteristics of the advertorial text from the structure, linguistic aspects, and information functions  
Students understand and take a close look at the examples of the use of persuasive messages, strategies to convince readers, and advertorial argumentation presented in the text  
Students discuss an example of a critic on an advertorial text. Lecturer guides the students to answer three questions: (1) Do you understand what the advertisers instill in readers? (2) How do the advertisers shape their product and service image? (3) What are the advertisers' strategies to persuade the reader? | 7 |
| The Secrets to Success of the Increased Wealth with Credit Card Capital | Develop students’ critical reading skills of an advertorial text  
Activity 1: Interpretation skills; students read to categorize and classify the meaning of the text  
Activity 2: Analysis skills; students read to detect ideas and arguments in the text  
Activity 3: Inference skills; students read to draw an inference, examine evidence, and propose an advertorial text-based alternative  
Activity 4: Evaluation skills; students read to evaluate claims and arguments found in the text  
Activity 5: Explanation skills; students read to state their thoughts, justify the procedures, and present arguments from the text  
Activity 6: Self-regulation skills; students read to practice their self-regulation and self-correction abilities | 8 & 9 |
<table>
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<tr>
<th>Critical Reading Activities</th>
<th>Title of the Text</th>
<th>Learning Activities</th>
<th>Meeting</th>
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| Opinion Text-Based Critical Reading | Prabowo and the Mystery of State Sovereignty at the Paper Pulp Factory, PT KIANI | Identifying an opinion text and building an understanding of the text  
Students identify the characteristics of the opinion text from the structure, linguistic aspects, and information functions  
Students understand and take a close look at the examples of the use of language, opinions, ideas, data, and facts presented in the text  
Students discuss an example of an activity to read an opinion text critically. Lecturer guides the students to answer three main questions:  
(1) What ideas does the writer want to convey?  
(2) What does the writer intend to say behind the text?  
(3) What does the writer expect from the reader? | 10      |
| Three Elements to Support Jokowi | Develop students’ critical reading skills of an opinion text  
Activity 1: Interpretation skills; students read to categorize and classify the meaning of the text  
Activity 2: Analysis skills; students read to detect ideas and arguments in the text  
Activity 3: Inference skills; students read to draw an inference, examine evidence, and propose an opinion text-based alternative  
Activity 4: Evaluation skills; students read to evaluate claims and arguments found in the text  
Activity 5: Explanation skills; students read to state their thoughts, justify the procedures, and present arguments from the text  
Activity 6: Self-regulation skills; students read to practice their self-regulation and self-correction abilities | 11 & 12                                                                 |
Appendix B

Pretest and Post-tests Instrument

Instructions:
Read carefully the text entitled “The Blackmailing Country: Loud to the People, Gentle to the Foreigners.” Then answer the following questions.

Questions

Based on the style of delivering information in the text, identify the writer’s purpose

1. In the text, the writer wrote: “The Joko Widodo regime apparently will be more brutal in blackmailing the people”. What does the sentence imply?

2. In the third paragraph, the writer revealed: “the spirit to justify any means began to appear, batu akik (the agate stones) merchants will be paying taxes” What is the meaning behind the statement?

3. The writer’s arguments can be categorized as a marginalization act. Write appropriate reasons to support this statement!

4. Are the facts presented sufficient to prove that the government is justifying any means to collect taxes from the community? Provide your arguments related to this!

5. After reading the text, predict actions that are expected by the writer from the reader!

6. Pay attention to the writer’s statement below! Ironically, to collect taxes from the people, the neoliberal government seems to be harsh and hardly affectionate. Anything can be taxed, will be taxed, regardless of the difficulties that might be faced by the people.

Does this perspective have credibility which is supported by facts presented in the editorial text?

7. Observe the whole text. What is the main weakness of the writer when s/he delivers his/her ideas?

8. In the text, the writer often cites data and uses a tax perspective as a government policy to put the people in misery. Why does the writer do this?

9. In the fourteenth paragraph, it is implied that the writer provides a hint that the Khilafah system can serve as a better state system. What factors influence the appearance of the claim based on the text?

10. Does the writer provide the information in a balanced way? Explain your reasons!

11. How is your attitude toward a text which has a purpose to instill a certain belief or faith?

12. Do a self-reflection, what benefits can you get from the text for yourself and your life?

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