

The Effect of Using Authentic Materials on Reading Comprehension across Secondary Students' Cognitive Learning Style

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Abstract

The teaching of reading nowadays is urged to empower students to cope with 21st century literacy challenges and to develop prevailing 21st century. Further, English teachers have to implement interesting and creative materials and strategies to motivate students in learning English. Compared to non-authentic materials, authentic materials seemed more promising to fulfill the demand. The aim of this study was to investigate whether or not the use of authentic materials in the classroom in teaching reading comprehension is effective toward students' cognitive learning styles. The effect of authentic materials was compared to the non-authentic ones. This study employed a quasi-factorial 2 x 2 design and involved 68 tenth graders SMKN 3 Banjarmasin, South Kalimantan Province. The instruments used were reading comprehension posttest and GEFT. Statistical analysis was performed using SPSS 23.0 to test hypotheses at .05 level of significance. The results showed that authentic materials improved students' reading comprehension compared to the non-authentic ones. It conforms to the theory of authentic materials and the previous studies indicating authentic material is effective in improving students' reading comprehension. It was further found that there was no significant difference in the reading comprehension between field independent and field dependent students. Based on the results, it can be concluded that using authentic materials is promising alternative materials to help students increase students' reading comprehension with different cognitive learning styles.

Keywords: Authentic Materials, Reading Comprehension, Cognitive Learning Styles

Background

In some countries where English is learnt as a foreign language, the ability to read in English is considered as an important skill, especially when students want to develop their ability to access information. In EFL classroom context, mastery of reading is unavoidable since students have to read a great number of English reading materials during their learning process.

During the process of reading, readers find out the meaning and thinking what they are reading. Comprehension is the ultimate goal and hopefully the end result of reading. In Indonesian context, the teaching of reading has been part of in English curriculum with integration of the teaching of other skills (listening, speaking and writing) from secondary to tertiary level. Reading comprehension skill is the ability to construct meaning from a given written text through interaction and involvement with written language.

The selection of teaching materials is critical since in most classroom activities both students and the teacher rely heavily on the materials that influence the success of the instruction which fit to the students characteristics. (Maulany, 2013). Therefore, by having appropriate materials, teachers can maximize their effectiveness in conducting teaching and learning process.

Authentic materials can be a solution to this issue. With their uniqueness, they help learners to realize and capture how the language is exposed in real use, and expose the learner to more genuine exposure of the language, which means the students will be able to see how to suit the language functions and expressions more appropriately based on relevant situations. These points are related to the language acquisitions especially second language acquisition in term of language input, social contexts and individual.

Regarding to these issues above, those take interest to conduct an experimental study which carried out authentic materials in reading comprehension becomes strategy which is implemented which its effectiveness is measured as observed from students' cognitive learning styles. Therefore this present studies aims to investigate the impact of using authentic materials to improve reading comprehension skills of students with different students' cognitive learning style as the further investigation from previous research.

Literature Review

Authentic Materials

The term authentic materials has been defined in different ways throughout the literature. (Shi & Nunan, 2000). (Belaid, 2015) . Authentic materials are used for some social purposes in the language context where they are produced (Akbari & Razavi, 2015). While Harmer points out that authentic text as “materials which are designed for native speakers, they are real text; designed not for language students, but for the speaker of the language.” Therefore, it can be assumed that authentic

materials are text which produced by native speakers for real-life goals and native speakers' communication. (Harmer, 1998)

Furthermore it is stated that learners are motivated by reading the authentic materials, which are considered to be more interesting or stimulating than non-authentic materials that are especially designed for language learning purposes (Peacock, 2003). It means that, by using authentic material the students can develop their motivation and interest about what they learn, because in authentic materials they can find information of the world. However, the students as foreign language learners should understand what native speaker said, because it will influence teaching reading in the classroom. The texts that are brought to the classroom for pedagogical purposes, arguably, and lost their authenticity. That is why authentic materials are called authentic because they are written by native speakers, thus the language is authentic and they are easily found.

There have been many empirical studies conducted previously which proved enormous positive results gained by language learners who had opportunities for interaction with authentic materials. Extracting real information from real text in a new or different language can be used extremely motivating (Akbari & Razavi, 2015). By exposing students to cultural features in a text, a deeper understanding of the content or topic can be generated and thus interest toward text can be raised. Some Previous studies revealed reading skills using authentic materials, (Siao, 2012; Belaid, 2015) involving EFL colleges students found that students who thought reading using authentic materials improve their reading ability and enhance their overall English ability and knowledge. It can be concluded that authentic materials have significance influence for college students in learning target language, especially English.

In line with the findings above, more previous studies in Indonesian context about the use of authentic materials that had been conducted by previous researchers namely (Azri, 2014) argued that if the materials are beyond the learners' ability or level of language comprehension, it might lead to de-motivation and discourage them from learning the target language. On the other hand, the classroom action research conducted by Riniastuti (2012) showed that the use of authentic materials could improve the students' reading achievement of the tenth graders of senior high school students by using magazines.

Cognitive Learning Style

One of those factors affecting students' achievement in learning second language is learning style. Learning styles constitute innate and preferred ways of learners to learn best. Learning style is an individual's natural, habitual, and preferred way of absorbing, processing, and retaining new information and skills. There are some domains in term of learning styles, namely, cognitive learning styles, perceptual learning styles and personality learning styles. (Gibson & Hedge, 2002)

Cognitive learning styles refer to the preferred way of an individual processes information. Different cognitive learning styles represent different manners in acquiring and processing information. Cognitive learning style is a

usually described as a personality dimension which influences attitudes, values and social interaction.

Moreover, the field dependent /field independent dimension is one of the most frequently referred to in SLA-related research. In addition, it is state thatd field independent and field dependent learning styles can affect second language acquisition. Since the readers read the passage, the way of readers in processing the message from the text has a close relationship with the readers' ways separate details from the general background or to see things more holistically. In other words, separating details the general background is called field independent style of learning while seeing things more holistically is called as field dependent style of learning (Gibson & Hedge, 2002)

Meanwhile in the independent learning style, students who like to think for themselves are confident in their learning abilities. Preferring to learn the content that they feel is important and would prefer to work alone on course projects than with other students. There are four dimensions related to field independent and field dependent on environment which is global, right-brain, simultaneous, and deductive. In contrast, a field independent student tends to be separated from circumstance which is analytic, left-brain, sequential, and inductive. These characteristics influence the preferences and strategies learners use to perceive, process, store and recall information.

A result of study found out that field independent students' score was higher than field dependent students in an English achievement test. The result shows that students with field independent cognitive styles have better reading comprehension than those with field dependent cognitive styles (Maghsudi, 2017) Therefore, it can be said that FI students can achieve better in reading comprehension.

In relation to the issues raised above, the researcher tried to take learning style as one of the variables (attribute variable) to this study. In this case, learning style is focused on cognitive learning style covering field independent and field dependent which are a widely studied construct.

Research Method

Research Design

This current study is aimed to investigate the effect of authentic materials on students' reading comprehension skills across cognitive learning styles, therefore the experimental research design is employed since it is the right type of research to establish cause-and-effect relationship among variables (Latief, 2017). Besides, the study also investigated whether there is the significant different between student's with independent learning style and dependent learning style. Moreover, this study administered a post-test to know the difference results between the two groups after being given different treatments.

Participants

The research subjects of this study were the people who fit to the conceptual definition for this study. They were tenth grade students of Vocational School. The tenth grade students were suitable, accessible, and available. They fitted the criteria of being experimented to generalize the result under this study. Tenth graders were chosen as the subject due to the reason that they had already learned English more than three years. However, due to the accessibility reason, the students were selected as a sample using clustered random sampling from the population or intact group which involved the random selection of groups that already exist (Latief, 2016: 199). To avoid selection bias, these groups, then, were randomly assigned by using lottery into experimental group and control group. Further, each class of the population has equal chance of being selected. These two selected groups were randomly chosen, Accounting B was as an experimental group and Accounting A was as the control group.

Instruments

There were two kinds of instruments to gather the data in this research namely reading comprehension test and GEFT test. The reading comprehension test which consisted 40 items is used to test the ability of reading of the subject. The researcher concerns on the finding topic, main idea, stated and implicit information, guessing the meaning of words and finding references. The specification in reading test meets some aspects that students must grasps to read academic texts successfully.

To categorize students' cognitive learning styles, the researcher used GEFT test. The test was distributed to both groups before treatment to classify students' cognitive learning style: field-independent (FI) or field dependent (FD) which used Group Embedded Figures Test as instrument. It required students to locate simple geometric figures within more complexes geometric design within a specific time limit. The estimate of reliability of GEFT was reported a .82. The test consisted of three sections which have to be completed in twelve minutes. Students were asked to mark simple figure with pencil or a color pen.

Data Analysis

Data analysis is aimed to test the research hypotheses. The data were obtained from the students' posttest. The achievement of the students' reading comprehension in the two groups was measured and the average scores are compared statistically. The next step is analyzing the results using a descriptive statistics analysis. Statistical hypotheses are established to be statistically tested to answer the research problems. It is fulfilled by formulating the null hypotheses and alternative hypotheses.

Finally, the last step in the data analysis is making decision of accepting or rejecting the null hypothesis. In this step, when one of the obtained values exceeds the critical value, it means enough statistical evidence is found to reject the null hypothesis or alternative hypothesis is accepted. On the other hand, when the

obtained values fall in the critical region, it indicates that there is not enough evidence to reject the null hypothesis.

Findings and Discussion

Findings

Reading Comprehension of Students in the Experimental and the Control Groups

The results of the posttest from the experimental and the control group were tabulated and analyzed using descriptive statistics to organize and describe the students' reading comprehension scores. The brief description data of the posttest scores are reported in Table 1

Table: 1 Descriptive Data of Posttest Scores in the Experimental and the Control Groups

Group	N	Range	Min	Max	Mean	Std. Dev
Experimental Group	33	22.50	72.50	95.00	81.14	5.77
Control Group	35	25.00	60.00	85.00	72.71	5.64

Based on the result of Table 3.1, the scores of the students in the experimental group ranged from 72.50 to 95 with the standard deviation (SD) of 5.77, while the score of students in the control group ranged from 60 to 85 with the standard deviation of 5.64. Moreover, the mean scores from the experimental and the control groups were 81.14 and 72.71 respectively.

The rough difference of the mean score from the experimental and the control groups was 8.43 points. It was concluded that the mean score of the experimental group was higher than the mean score of the control group.

Reading Comprehension of Students across Cognitive Learning Styles

The Learning Styles Result of the Students

Based on the analysis of the data from GEFT, 20 students from experimental group had independent learning style and 13 students had dependent learning style. In the control group, there were 24 students with independent learning style and 11 students with dependent learning style. It could be concluded that the number of students with independent and dependent learning styles was nearly equal in each group. The classification of students based on the cognitive learning styles is summarized in Table 2

Table 2
The Classification of Students based on the Learning Style

Group	Number of Students based on the Cognitive Learning Style	
	Independent	Dependent
Experimental Group N= 33 Students	20	13
Control Group N= 35 Students	24	11
Total	44	24

Based on the result of Table 3.2, It can be seen that both experimental and control group had students with various cognitive learning styles. In experimental group, there were thirty three students in which twenty students were independent and thirteen students were dependent. As same as experimental group, the control group which consisted of thirty five students had twenty four independent students and eleven dependent students.

The Result of the Posttest of Students across Different Cognitive Learning Styles

In this study, independent and dependent cognitive learning styles were attributes variable investigated in addition to authentic materials as the independent variable. Accordingly, the students' reading comprehension scores across cognitive learning styles in the experimental and the control groups were analyzed. The description data of the posttest scores across the cognitive learning styles are shown in Table 3.

Table 3. Descriptive Data of Posttest Scores in the Experimental and the Control Group across Cognitive Learning Styles

Group	Learning Style	N	Range	Minimum	Maximum	Mean	Std. Deviation
Experimental	Independent	20	22.5	72.5	95	82.62	6.73
	Dependent	13	7.5	75	82.5	78.86	2.51
Control	Independent	24	25	60	85	73.54	6.20
	Dependent	11	12.5	65	77.5	70.9	3.58
Both Groups	Independent	44	35	60	95	77.67	7.87
	Dependent	24	17.5	65	82.5	75.21	5.06

Like the mean difference in each group across cognitive learning style, the mean difference between students with independent learning style and those with dependent learning style as a whole was also relatively small. It is apparent from the mean scores of the independent and the dependent students, which were 77.67 and 75.21, respectively. Regardless the small mean difference, the independent students had higher mean scores than the dependent students did.

Hypothesis Testing

The results of the hypothesis testing were employed to make decision about the findings of this study that the research problem related to the effect authentic materials on reading comprehension of students across different cognitive learning styles could be answered. Test of statistical significance was performed using SPSS 23.0 in this step. If the observed significance value or p value from the test was lower than significance level of .05, the decision was to reject the established null hypothesis. Otherwise, if the p valued was greater than the .05 level of significances, the null hypothesis was accepted.

The Difference in Reading Comprehension of Students across Groups

The first research problem of this study was addressed whether there was significant effect of authentic materials on students' reading comprehension. To test the first hypothesis related to the problem, the difference between students' reading comprehension scores in the experimental group and those control group was analyzed using parametric statistic since the data satisfied homogeneity and normality assumptions. The test of statistical significance for parametric statistic employed was independent t-test which reported in Table 4.

Table 4. Result of Independent Samples Test of Research Question 1

Levene's Test for Equality of Variances		t-test for Equality of Means								
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference Lower Upper	
Score	Equal variances assumed	.002	.966	-5.993	66	.000	-8.428	1.406	-11.236	-5.620
	Equal variances not assumed			-5.989	65.557	.000	-8.428	1.407	-11.238	-5.618

Referring to the result of Table 3.6, it can be seen within the column sig. that the p value of difference of both groups is .000.0. It is important to be noted that p value will never be 0. So when the result shows that the p value is 0.000, it indicates that the p value of the difference itself is very small. Because of this reason, the p

value is very small then it will be considered to have 0.0001. Thus the p value is lower than the level of significance ($0.0001 < 0.05$), then the null hypothesis is rejected. All in all, it can be said that there is very significant difference between the mean score between students who taught using authentic materials and not (H1 is accepted, H0 is rejected). In short, there is significant effect of authentic materials on students' reading comprehension.

The Difference in Reading Comprehension of Students across Cognitive Learning Style

The second research problem of this study was related to whether there is significant difference on student's reading comprehension skills with different cognitive learning styles in which the score of reading comprehension of independent students compared to the dependent students. To test the second hypothesis related to the research problem, the posttest scores of independent students from both groups were compared to those of dependent students using parametric statistics as the data fulfilled the statistical assumptions on homogeneity and normality. The differences of the posttest scores among the students with independent and dependent in both experimental and control groups were compared using t-test. The result of the statistical comparison is displayed in Table 4

Table 4. The Result of Independent Samples Test of Research Question 2

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Score	Equal variances assumed	3.566	.063	1.361	66	.178	2.454	1.802	-1.145	6.053
	Equal variances not assumed			1.543	64.141	.128	2.454	1.591	-.723	5.631

The result of the analysis t-test of the posttest scores between independent and dependent students in both the experimental and the control group showed that

in the column of sig is .178 in which in this case it is higher than the level of significance (.05). Therefore, there was not enough evidence to reject null hypothesis. This result also explained that although there was difference in the mean scores between independent and dependent students in reading comprehension, the difference was proven not statistically significant. In conclusion, there was no significant difference in the reading comprehension of students with different cognitive learning styles.

Discussion

Authentic Materials, Non-Authentic Materials and Reading Comprehension

This study examined the effect of authentic materials compared to the non-authentic materials on reading comprehension of students as observed from independent and dependent cognitive learning styles. As regards the first formulated research problem, the inferential statistical analysis using Independent T-test was used to answer whether or not the difference between the experimental group taught using authentic materials and control group using non-authentic materials which revealed that there was significant difference between the two groups.

This finding was supported by the evidence from the result of the first hypothesis testing which indicated that the mean difference in posttest between the students taught using authentic materials and those taught using non-authentic materials was statistically significant in favor of the class receiving authentic materials. Thus, it is argued that authentic materials is confirmed by this study as a more effective strategy than non-authentic materials in enhancing students' reading comprehension in EFL context. This finding reflects the review by Peacock (1997:144) asserting that authentic materials motivate EFL students in reading further enhanced students' reading comprehension output.

The finding of this study is pertinent to the advantages of the authentic materials; (1) provide a natural model that encourages students to be better readers, (2) work as a means to contextualize the target language and (3) lead meaningful learning or use the language than the pattern of the language (Akbari & Razavi, 2015) In addition, the purpose of the authentic materials that is different compared to non-authentic. Authentic materials are texts which are produced by native speakers for real-life goals and native speakers' communication. It can assume that the authentic materials have higher difficulty level of the language in reading passages rather than non-authentic materials have which produced for language learners. Further, the authentic materials learnt which have more difficulty level did helped them in order doing their reading test because the text in posttest seemed easier than the passages they learnt. In contrast, the students in control group taught by using non-authentic materials taken from Kangguru magazine and supplementary exercise for ten graders which contained easy to standard vocabularies had less confused in the process of treatment rather than the experimental group had.

However, the students of control group had more difficulties in doing the posttest although the test was same as experimental had.

Later, it is also essential to highlight that the application of authentic materials particularly on the selection of language in terms of the vocabulary, the difficulty level of students' ability in comprehending reading, and the source chosen. This kind of materials adds a burden on teachers as they may contain difficult vocabulary and structures which need to be simplified in order to make the materials appropriate for the students. (Guariento, 2001)

Additionally, this finding focusing on the effect of authentic materials toward students' reading comprehension in this study conforms not only to the theory underlying authentic materials, but it is also similar to the findings of the previous studies. The finding of this study is similar to Mousavi's (2012) study involving EFL college learners in the area of listening and reading which demonstrated students who used authentic materials outperformed those in the control group.

Further, it is pointed out that another reason of the insignificant difference was related to the schedule of the treatment. The control group was taught in the first and second period while the experimental group was taught seventh and eighth period, so the experimental group students might be feel tired and sleepy during the treatment. In contrast, this present study provided more relevant materials which fit to the students' level in reading ability. Before the materials given as the treatments, the chosen materials were consulted to the teacher in order to make sure that the materials used were appropriate to the topic, and fit to the students' level and interest although there were still some students who argued that they had difficulties in understanding some words. Besides, in the term of the schedule of the treatment, both groups had the same time in the different day indeed.

To sum up, the significant effect of authentic materials compared to non-authentic materials on students' reading comprehension in this study is consistent to strengthen the majority of the previous studies. As a more effective teaching material than the non-authentic one in enhancing reading comprehension, authentic materials can facilitate the students to cope the demand of literacy challenges.

Independent-Dependent Learning Styles and Reading Comprehension

The second research problem regarding the effect of cognitive learning styles on students' reading comprehension was answered by the second hypothesis testing which yielded dissimilar result to the first hypothesis testing. Although there was difference in the mean of posttest between field independent (FI) and field dependent (FD), it was relatively small. Furthermore, the statistical independent t-test analysis showed that there was no significant difference on reading comprehension between FI and FD students in students' reading comprehension.

The presence of students' cognitive styles plays no role in influencing the students' reading comprehension. Even though, the mean score of students' field independent was higher than the students' field dependent, the result of t-test explained that there is no significant effect of cognitive learning style on students' reading comprehension.

During the treatment process, there is a group work in every meeting. By working in the group, FD students would get benefits to learn in social setting which involve interaction. FD learners are more likely to be attentive to social frames, have sensitive radar system to social components in the environment so that they are perceived as socially outgoing, pay more attention to verbal message with social content. FD learners have been referred to as group-oriented, global sensitive to social interactions and criticism. Meanwhile, FI students would not get any benefit from discussion since FI students tend to work alone, individual, detailed oriented so that during the treatment process. It is believed that FD students gained more benefit than FI students. Meanwhile, in every meeting there is an individual work which gave more advantage to the FI students. This fact, then might explain why there was no significant difference between FI and FD students in this research.

Conclusion

Several conclusions are drawn on the basis of the findings. The first conclusion is that authentic materials were proven to be one of effective alternative materials to improve students' reading comprehension. The treatment fidelity or the quality of the authentic materials is believed to be a contributive factor to the positive impact on students' reading comprehension. The second conclusion is that the students' cognitive learning styles were believed not having contribution toward their reading comprehension skills. Students of both groups had almost similar achievement in reading comprehension. The subsequent conclusion is that the presence of authentic materials of students with different cognitive learning styles on reading comprehension were believed did having contribution in reading comprehension skills.

Moreover, authentic materials can be considered as an effective alternative reading materials with its own strength in improving students' L2 reading; for instance, to help students to link what they are reading to their prior knowledge, reduce the boredom during teaching and learning activities, bring various topics in reading passages, can make the students aware of the daily life sources that can be used as a reading materials.

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