

LINGUA, JURNAL BAHASA & SASTRA, VOLUME 21, NOMOR 1, DESEMBER 2020

Social Constructivism-Based Reading Comprehension Teaching Design

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Abstract: This study aimed to investigate students' reading comprehension achievement, vocabulary mastery, and social values among students. The methodology was Research & Development (R&D). There were six classes involved in the research and grouped into three high classes and three low classes based on the reading comprehension and vocabulary placement test results. All classes were taught with the social constructivism-based reading comprehension teaching design in the phase of large field testing in the academic year 2016/2017 with total number of 148 students; 72 in the high class and 76 the low students. To collect the data, tests of reading comprehension and vocabulary were used. Shapiro-Wilk test was used to the normality of data distribution. The findings from the paired-sample t-tests showed significant differences revealing the effectiveness of the social constructivism-based reading comprehension teaching design. The article concludes with implications for pedagogy.

Keywords: *reading comprehension achievement, vocabulary mastery, social constructivism*

Abstrak: Penelitian ini bertujuan untuk mengetahui prestasi pemahaman membaca siswa, penguasaan kosakata, dan nilai-nilai sosial siswa. Metode yang digunakan adalah Research & Development (R&D). Terdapat enam kelas yang terlibat dalam penelitian ini dan dikelompokkan menjadi tiga kelas atas dan tiga kelas rendah berdasarkan hasil tes pemahaman membaca dan tes penempatan kosa kata. Semua kelas diajar dengan desain pembelajaran pemahaman membaca berbasis konstruktivisme sosial pada tahap uji coba lapangan besar pada tahun ajaran 2016/2017 dengan jumlah 148 siswa; 72 di kelas tinggi dan 76 di kelas rendah. Untuk mengumpulkan data digunakan tes pemahaman membaca dan kosakata. Uji Shapiro-Wilk digunakan untuk mengetahui normalitas sebaran data. Temuan dari uji-t berpasangan menunjukkan perbedaan yang signifikan yang menunjukkan keefektifan desain pengajaran pemahaman membaca berbasis konstruktivisme sosial. Artikel ini memberikan kesimpulan dengan implikasi pedagogi.

Kata-kata kunci: *prestasi pemahaman membaca, penguasaan kosakata, konstruktivisme sosial*

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In general, according to Au (2005, p.31), the goal of education is to improve the literacy skills of any individual, for example, reading. Literacy development is a beneficial activity involving students in ways of making, interpreting, and communicating ideas or meaning with written language. It means that literacy is the way to understand other skills. Students must be taught to be aware of their own literacy skills reading, writing, speaking through different kinds of reading materials.

One of the literacy skills that must be developed is reading. In the writers' perspectives, reading is the basic skill for any students to understand in the process of learning. Having low comprehension in reading will influence students' active thinking and participation in the classroom. Moreover, an English lecturer has got to communicate effectively and exchange ideas to his students in the teaching and learning process.

Literacy development in Indonesia especially for reading is really needed in the tertiary education the students are going to find job, work, and attend many kinds of seminars. Moreover, the development of technology in the digital age rapidly grow in which much information is the form of written texts. Such a condition makes students need to understand the basic skill first to achieve success.

Based on the TOEIC scores started from 2014-2017 at Sriwijaya State Polytechnic, it was found that students' reading comprehension scores of TOEIC were the lowest. It did not wonder, their total scores of TOEIC were low too. Indirectly, it indicated that there were problems in the teaching and learning process of reading comprehension course at Sriwijaya State Polytechnic.

The observations conducted by the writers during the research revealed that English lecturers teaching reading comprehension course had yet to have reading comprehension teaching design. This affected the teaching quality on reading comprehension. In the teaching and learning process, only some knowledgeable students, whose English competence is high, dominated the classroom. Others only kept silent and were busy with themselves, and even made a noise. In the classroom, there was a gap between students who were knowledgeable and students who were less-knowledgeable. When the English lecturers asked them to work in a group, the knowledgeable students did not want

to select less-knowledgeable students to join their group. They just selected students whose competencies were like theirs. They were willing to welcome less-knowledgeable students to be a member of their group after the English lecturers had insisted on them. Such above things indicated that there was something wrong in the teaching and learning process.

The above descriptions indicated that the problems taking place were not only about how to improve reading comprehension achievement and vocabulary mastery but also how to grow social values among students in the one framework of reading comprehension design.

A teacher is considered to be the academic leader and facilitator of students. S/he recognizes their potential and helps them in right direction at right time. A constructivist approach is oriented on construction of knowledge putting students in practical situations under the guidance and tutelage of teachers. It seems to be based on the belief that learners construct their own knowledge through interaction, and the assumption that "knowledge is physically constructed by learners who are involved [actively in learning process]" appears to be substantiating it (Gagnon and Colley, 2001). Knowledge, according to Lord et.al. (2005, p.19), is constructed in social environments where interaction is considered to be a fundamental factor for effective teaching learning process. Under such circumstances the role of a teacher cannot be neglected rather it becomes more significant in terms of coaching students to selecting appropriate activities for learning.

Use of constructivist approach in education has direct effects on students learning. They are active stake holders in the process of knowledge construction and its dissemination. They participate in teaching learning process and assume responsibility of their learning by giving it their own meaning in their respective contexts. Constructivism offers students opportunities of cooperative and collaborative learning.

From a social constructivist perspective, five explanations for the literacy achievement gap appear: linguistic differences, cultural differences, discrimination, inferior education and rationale for schooling. Both success and failure in literacy learning are the collaborative social accomplishments of school systems, communities, teachers, students and families.

In social constructivism, communication or discourse processes are compared to processes of building. The emphasis is on generative acts, such as those of interpreting or composing texts. Themes in constructivist work include active engagement in processes of meaning-making, text comprehension as a window on these processes and the varied nature of knowledge, especially knowledge developed as a consequence of membership in a given social group (Au, 2005, p.51). In addition, Au (2005, p.300) cites that social constructivism includes the idea that there is no objective basis for knowledge claims, because knowledge is always a human construction. The emphasis is on the process of knowledge construction by the social group and the inter-subjectivity established through the interaction of the group. Social constructivist research on literacy learning focuses on the role of teachers, peers, and family members in mediating learning, on the dynamics of classroom instruction, and on the organization of systems within which children learn or fail to learn. Every day and scientific concepts are differentiated, that is, the child gains everyday (or spontaneous) concepts through daily life, whereas he or she learns scientific concepts through formal instruction and schooling.

Social constructivism involves students and they participate actively in teaching learning process through different activities. The study in Pratton and Hales (1986, p.210) found that the mean achievement of the students who participated actively in teaching learning process was greater than their counterparts who attended traditional classes. The study further explained that the students spent more time in doing activities that required thinking, responding and verifying their knowledge. Therefore, active participation of students (social constructivism) was affirmed to be an efficient instructional approach for creating & sustaining motivation and passion for knowledge construction.

The root of social constructivism-based reading comprehension teaching design is reciprocal teaching reading strategy. Social constructivism, as a foundation for the use of reciprocal teaching, emphasizes the social genesis of knowledge; that is, "every function in the [student's] cultural development appears twice: first, on the social level, and later, on the individual level" (Vygotsky, 1978, p. 57). This social genesis of knowledge construction is comprised of three primary

assumptions: (a) knowledge and meaning are active creations of socialization; (b) knowledge and meaning are social creations and as such reflect social negotiation and consensus; and (c) knowledge and meaning are constructed for the purposes of social adaptation, discourse, and goal achievement (Gergen, 1999; Prawat & Floden, 1994). These three assumptions are evident in reciprocal teaching; specifically, reciprocal teaching is based on active socialization, both instructor-student and student-student interactions, where the knowledge that is constructed from the given text is negotiated within discourse communities and is not merely transferred from instructor to student. In addition, reciprocal teaching emphasizes the instrumentalist supposition that knowledge is to be useful. That is, reciprocal teaching emphasizes the role of language in communication, understanding, and action.

Dealing with the background of the study above, the writers used the social constructivism-based reading comprehension teaching design to improve students' reading comprehension achievement and vocabulary mastery, and to grow social values among them. This social constructivism-based reading comprehension teaching design itself is the results of development of a reading strategy -"reciprocal teaching" combined with social constructivist approach.

METHOD

Research Design

The Research and Development (R&D), according to Borg and Gall (2003, p.775), is a process used to develop and validate educational products. The steps of this process are usually referred to as the R & D cycle, which consists of studying research findings pertinent to the product to be developed, developing the product based on the finding, field testing it in the setting where it will be used eventually, and revising it to correct the deficiencies found in the field testing stage. It indicate that product meets its behaviorally defined objectives. It consists of 10 stages: (1) research and information collecting, (2) planning, (3) develop preliminary form of product, (4) preliminary field testing, (5) main product revision, (6) main field testing, (7) operational product revision, (8) operational field testing, (9) final product revision, and (10) dissemination and implementation.

For Gall, Gall & Borg (2007), in order to investigate new products is necessary to use

the R&D method. Gall, Gall & Borg (2007) say that no other area of research in education is now as productive and intellectually stimulating as that related to R&D. This method is a design-based research to develop new programs and materials to improve education.

This research only followed the first six steps of Borg and Gall (1983) in consideration of time effectiveness and cost. The educational product of R & D is called the social constructivism-based reading comprehension teaching design.

Participants

There were six classes comprising 148 students of three study programs; Computer Engineering, English, and Business Administration, at Polytechnic of Sriwijaya in the academics year of 2016/2017. They were all the third semester students distributed into two categories; three high classes and three low classes based on the reading comprehension and vocabulary placement test results. All classes were taught with social constructivism-based reading comprehension teaching design. This study was administered for 10 sessions for each class. One session took three hours.

Table 1. Participants

No.	Study Programs	High Class	Low Class
1	Computer Engineering	Class A (24 students)	Class B (25 students)
2	English	Class A (23 students)	Class B (25 students)
3	Business Administration	Class A (25 students)	Class B (26 students)

Instrumentation

To achieve the aims of the study, the researcher used an achievement (pre-post) test of comprehension and vocabulary comprising forty items for each test. Tests of reading comprehension and vocabulary were taken from ready-made tests so it was not necessary for the researcher to do reliability and validity test on them. Before applying the paired-samples t test, the writers had to analyze the normality of distribution of data with Shapiro-Wilk test. If the distribution of data is normal, then the writers used paired-samples t test to know whether there is a significant before and after the treatment.

To know the growth of social values among students, a classroom-based evaluation referring to individual and group works was used.

Table 2. Lesson Plan for Social Constructivism-based Reading Comprehension Teaching Design

Step	Activities by Lecturer	Activities by Students	Media and Teaching Aid	Characters
(1)	(2)	(3)	(4)	(5)
Beginning 5 min	<ul style="list-style-type: none"> •communicate what students are going to learn for today •communicate why the topic is important to learn •communicate how communicate how the learning process is happening •communicate how the learning process is happening •communicate the expectation towards the learning objectives •motivate students 	<ul style="list-style-type: none"> •listen •pay attention •question 	<ul style="list-style-type: none"> •syllabus •course agreement •reading text 	<ul style="list-style-type: none"> •careful •cooperative •responsible •critical •communicative •respectful

<p>Middle -The heart of the lesson- 135 min</p>	<ul style="list-style-type: none"> •introduce the new learning material •demonstrate and illustrate the steps in the reciprocal teaching •place students in a heterogeneous group of 4-5 students (depend on the number of students in the class) •have students play their roles in their group as a predictor, clarifier, questioner, and summarizer (next meeting they change their roles in their group) •make sure all students capable of applying RT strategy well •make sure all activities reflect the learning objectives •have the groups present their team work •distribute formative test 	<ul style="list-style-type: none"> •listen and pay attention •question, play a role as predictor, questioner, summarizer and clarifier in a group •cooperate in a team •present the group's work and propose a question(s) to other groups (if any) •criticize other groups' work
<p>End 10 min</p>	<ul style="list-style-type: none"> •summarize the teaching and learning material for the day •communicate the students achievement for the day •communicate the reading material for next meeting 	<ul style="list-style-type: none"> •have the groups hand their groups work out •have the students hand their formative test out •summarize the lesson

Source: Ardiansyah (2017)

FINDINGS AND DISCUSSION

In the table 3, it is known that *P-values (Sig.)* of reading comprehension tests and vocabulary tests of high classes and low classes for normality test **Shapiro-Wilk** are bigger than $\alpha = 0.05$. It means that the data of reading comprehension tests and vocabulary tests from high and low classes are normally distributed.

Because the distribution of data is normal, one of the parametric statistics, t-test, can be used to know whether two sets of data are significantly different from each other. The t-test is generally applied to normal distribution.

The pretests and posttests of reading comprehension and vocabulary were given to the students in the high and low classes. Pretests were given before the treatment and the posttests were given after the treatment. In short all classes were treated with the social constructivism-based reading comprehension teaching design.

Based on the table 4, all classes either high classes or low classes could significantly improve their reading comprehension achievement and vocabulary mastery. The highest achievement of reading comprehension was obtained by computer

engineering study program of high class with mean score 2.08333. Relating to vocabulary mastery, the highest achievement was

obtained by English study program of high class with mean score 1.95652.

Table 3. Summary of Normality Test in the High and Low Classes

Study Programme	Category	Shapiro-Wilk Test	df	Sig.
Computer Engineering	High	Reading Comprehension	24	.396
			24	.742
		Vocabulary	24	.113
	Low		24	.505
		Reading Comprehension	23	.193
		Vocabulary	23	.388
English Department	High	Vocabulary	23	.185
			23	.325
		Reading Comprehension	25	.187
	Low		25	.285
		Vocabulary	25	.185
			25	.249
		Reading Comprehension	25	.134
			25	.222
		Vocabulary	25	.140
Business Administration Department	High		25	.259
		Reading Comprehension	25	.180
			25	.226
	Low	Vocabulary	25	.174
			25	.215
		Reading Comprehension	26	.104
			26	.240
		Vocabulary	26	.179
	26	.354		

Table 4. Reading Comprehension and Vocabulary Test of High and Low Class

		High Class					
		Pre-test	Post-test	Mean	Std. Deviation	Sig. (2-tailed)	t
Computer Engineering	Reading Comprehension	5.5313	7.6146	-2.08333	.55003	.000	-18.556
	Vocabulary	6.6563	8.1771	-1.52083	.98333	.000	-7.577
English Department	Reading Comprehension	5.8804	7.8478	-1.96739	.70833	.000	-13.320
	Vocabulary	5.8913	7.8478	-1.95652	.70972	.000	-13.221
Business Administration	Reading Comprehension	5.8400	7.6300	-1.79000	.58488	.000	-15.302
	Vocabulary	6.0100	7.7900	-1.78000	.73001	.000	-12.192

Low Class							
Computer Engineering	Reading Comprehension	5.2000	6.8600	-1.66000	.75993	.000	-10.922
	Vocabulary	5.4400	6.8100	-1.37000	.58238	.000	-11.762
English Department	Reading Comprehension	5.3300	6.7900	-1.46000	.64015	.000	-11.404
	Vocabulary	5.6300	6.9200	-1.29000	.75925	.000	-8.495
Business Administration	Reading Comprehension	5.5962	7.0288	-1.43269	.66542	.000	-10.978
	Vocabulary	5.7981	6.7885	-.99038	.61433	.000	-8.220

Indirectly the table 4 also informed that social constructivism-based reading comprehension teaching design could be applied either to good readers or poor readers.

Before being introduced with social constructivism-based reading comprehension teaching design, students' individualism was so dominant that they had their own learning group in the classroom whenever there was assignment or task from English lecturers. The knowledgeable students had a tendency to have a seat and worked with the students having the same qualities. Usually their seating positions were at the front row. After being introduced to social constructivism-based reading comprehension teaching design, such conditions did not happen anymore. The social values, based on the results of classroom-based evaluation such as cooperation, responsibility, respect, openness, and constructive-criticism, obviously grow among students.

CONCLUSIONS

Considering the results of the research, three conclusions could be drawn. First, the social constructivism-based reading comprehension teaching design can significantly improve students' reading comprehension either to good readers or to poor readers. Second, the social constructivism-based reading comprehension teaching design can significantly improve students' vocabulary mastery either to good readers or to poor readers. Third, the social constructivism-based reading comprehension teaching design has the nurturant effects towards the growth of social values among students.

The philosophical root of the social constructivism-based reading comprehension teaching design cut off a partition of being individualistic. All students want to succeed together. They do not want even one of them

to be left behind in education. The social constructivism-based reading comprehension teaching design also positively helps the English reading comprehension lecturers to manage the classroom well, and be more caring to the students' learning process.

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