THE CURIOSITY EFFECT ON STUDENTS' READING COMPREHENSION

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Abstract

The purpose of this study was to find out whether curriculum has a significant effect on students' reading comprehension or not. This study uses a quantitative ex post facto method. The research instrument used consisted of tests and questionnaires which were distributed to the sample. The population in this study were students of class X from SMA NEGERI 1 BANGUN PURBA (200 students) and the sample of this study was 60 students. The researcher took the sample using proportional stratified sampling technique, in which the sample was divided into three groups proportionally: high, medium, and low curiosity. The results of this study indicate that curriculum has a significant effect on reading comprehension of students in class X. It is shown from the average score of students with high curriculum (83.5) which has a higher score than the average score of students with low curiosity (60). It is also shown from the results of statistical calculations that the value of tp (7.150) > tt (2.086) at the significance level ($\alpha = 0.05$). From these calculations, the alternative hypothesis is accepted and the null hypothesis is rejected.

Keywords: *curiosity, reading comprehension, students*

INTRODUCTION

Learning has been carried out since an individual was born into the world, starting from the first social group, namely the family. According to Dhammaraj (2015), there are three factors that influence the individual learning process, namely differences between individuals, the enthusiasm of teachers in teaching in the classroom, and environmental and other factors. The differences between individuals in question are influenced by three factors, namely: psychological, physical, and socio-cultural factors. One of the psychological aspects of a learner is the motivational factor. Ryan and Deci (2000) in Oudeyer, Gottlieb, and Lopes (2016) state that motivation comes both from within the individual (intrinsic) and from the influence of other individuals (extrinsic). When individuals learn something, what motivates them from each other is curiosity (curiosity). In Indonesia, curiosity (curiosity) is one of the 18 values of character education that is implemented into the new school curriculum by the Ministry of Education and Culture (Kemendiknas, 2010).

According to an English teacher who teaches reading comprehension subjects at SMA Negeri 1 Bangun Purba, the average of all X grade students is approximately 60 while the school's KKM (Minimum Completeness Criteria) score is 65. Students who focus on following subjects about 20%, who follow normally about 65%, and the rest follow the course just to pass. One of the reasons that makes reading comprehension subjects a boring subject is because there are subjects before those subjects that drain students' cognitive abilities, so that it makes students' curiosity decreases.

Based on the explanation above, the researcher conducted a study entitled "*The Effect of Curiosity on Students' Reading Comprehension*" which seeks to find out whether curriculum has a significant effect on students' reading comprehension. This research will focus on epistemic curiosity, and reading comprehension will focus on literal and inferential levels.

Basic Nature of Curiosity

Etymologically, the word "curiosity" comes from the Latin word *curiosus*, which means 'inquisitive' and 'cautious', (Akhtar, 2018). Inquisitive in question means 'the tendency to ask questions.' Then, Litman (2008) in Isikman *et al.* (2016) states that curiosity is a desire for knowledge that motivates a person to learn new ideas, eliminate information-gaps 'information gaps' and solve intellectual problems. In addition, Rowson et al. (2012) defines curriculum as focused or exploratory questions that motivate individuals to relate what is known and what is not (known). In fact, James (1899) in Kidd and Hayden (2015) adds that curiosity is the desire to understand what has not been understood. From the explanation above, it can be concluded that curiosity is the desire/desire to acquire knowledge and to explore new things that are not yet known.

Berlyne (1960) in Livio (2017) also explains that there are 4 typical factors that make individuals curious (curious). The first one is novelty which touches on topics or phenomena that are not easily grouped into previous experiences and expectations. The second one is complexity which is defined as objects or events that do not follow regular patterns but that there are a number of independent components. The third one is uncertainty which marks a situation where there are several alternative outcomes available. The last one is conflict which is described as certain situations in which new information does not match existing or usual knowledge, or situations where it is unclear how a person responds actively or avoids all activities.

Curiosity Types

According to Berlyne (1978), a psychologist, in Livio (2017) and Haggard (2018), he divides curiosity into two dimensional lines: (1) a line stretching from specific curiosity (need or desire for certain knowledge) to diversive curiosity (continuous seeking of stimulation to relieve boredom) and (2) another line stretches from perceptual curiosity (excited by a stimulus that is startling, ambiguous, or novel) to epistemic curiosity (the desire for new knowledge).

There are other models that are developed from the Berlyne model. Reio et al. (2006) introduced three components of curiosity, namely (a) cognitive curiosity which is the desire for information and knowledge, (b) physical curiosity and (c) social sensory is the main purpose, namely to feel heart vibrations and new sensations (Rowson *et al.*, 2012). Kashdan, Rose, and Finchman (2004) distinguish two characteristics of curiosity, namely exploration – where one

looks for new or challenging situations – and absorption – where one takes full attention in a situation (Rowson *et al*., 2012).

The figure below is a summary of the Berlyne dimensionality model and its development (Rowson et al., 2012)

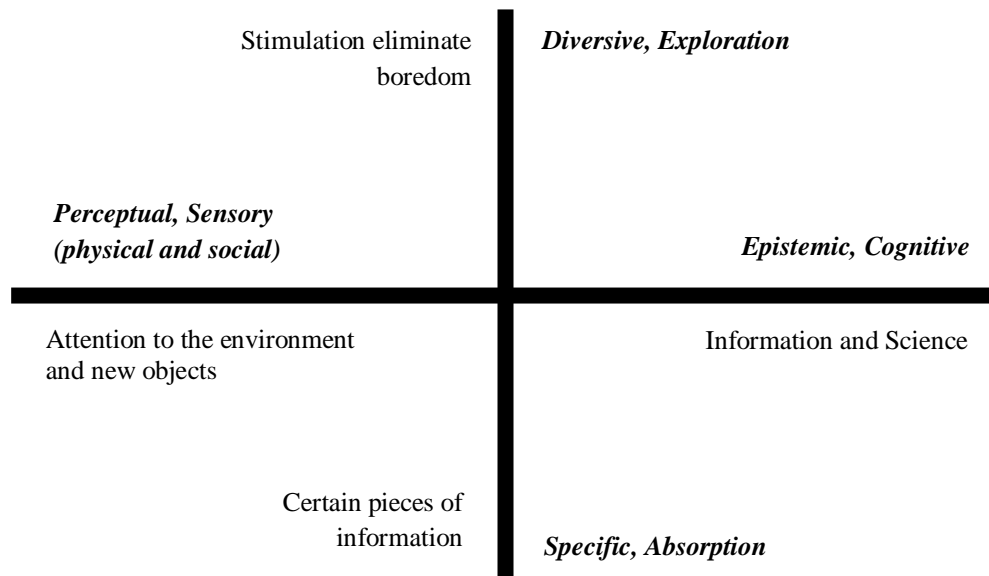|	Stimulation eliminate boredom	*Diversive, Exploration*
Perceptual, Sensory (physical and social)		*Epistemic, Cognitive*
	Attention to the environment and new objects	Information and Science
	Certain pieces of information	*Specific, Absorption*

Figure. 1. Curiosity Dimension

From the illustration above, curiosity is not only in one dimension, but the interaction between two dimensions (Rowson et al., 2012). Therefore, individual ownership can be shared, according to Rowson et al. (2012) to four, which can occur simultaneously. The first one is perceptual-diversive type. This type of curiosity is stimulated by many different environmental cues, with attention paid to these cues. For example, a person is motivated to take a leisurely stroll in the park he finds, enjoying new sights, sounds, smells, and textures. The second one is perceptual-specific type which is a type of curiosity that might make a person wonder how certain experiences feel, such as taking drugs (narcotics), or holding a hedgehog to learn what the thorns taste (texture). The third one is epistemic-diversive type in which individuals want new information or knowledge, which is exploratory. For example, one might describe one's behavior when scrolling through TV channels on a Sunday afternoon or when daydreaming about different topics. The last one is epistemic-specific typ in which individuals want new information or knowledge that leads to the search for answers regardless of how difficult the question is.

Curiosity Indicator

According to the Ministry of National Education (2010), there are two types of curriculum indicators, namely school and class indicators, and subject indicators. The Ministry of National Education (2010) makes the following subject indicators, particularly English, as follows: (1) ask the teacher and friends about the subject matter; (b) ask the teacher about natural phenomena that have just occurred; (c) ask the teacher about natural phenomena heard from mother, father, friends, radio, and television; (d) ask the teacher about various events that are read from the print media; (e) asking questions and reading sources outside of textbooks

about material related to the lesson; (f) read and discuss about natural phenomena that have just occurred; (g) ask and discuss about some natural, socio-cultural, economic, political, technological events that have just been heard; (h) asking about something related to the subject matter but beyond what is discussed in class; and (i) respond to the contents of the conversation between two students that involve action/speech/receiving.

Basic Nature of Reading Comprehension

Wylie et al. (2018) defines reading as the formation of meaning for understanding and responding actively to the text read. In accordance with this view, Durkin (1993) in Solikhah (2017) defines comprehension as the essence of reading activities and an active process in forming the meaning of a text. In addition, the process is defined as a series of actions or events that are carried out to make something or to obtain a specific result, or a series of changes that occur naturally.

As for other definitions according to experts on reading comprehension, Durkin (1993) defines reading comprehension as intentional thinking in which meaning is constructed through the interaction between the text and the reader (Wylie et al., 2018). Harris and Hodges (1995) define reading comprehension as the formation of the meaning of written texts through the exchange of ideas, reciprocally, between the reader and the message in the text (Wylie et al., 2018). And Clarke et al. (2014) defines reading comprehension as a task that exists in a text and its understanding comes from the interaction between the text and the reader's response. In other words, reading comprehension is the formation of understanding that can be concluded by the reader through the interaction between the reader and the text.

Reading Comprehension Level

Smith (1969) in Sari (2016) divides reading comprehension into four levels, namely: literal (literal), interpretative, critical, and creative. According to Reid (1981) in Sari (2016), the four levels are correlated with levels of cognitive thinking identified by Bloom (1966) and other experts: "Knowledge" relates to the literal level; "Understanding" (Comprehension) and "Application" (Application) with interpretive level; "Investigation" (Analysis) and "Assessment" (Evaluation) with a critical level; "Creation" (Syntheses) with a creative level (Sari, 2016).

The level of understanding can be indicated from the questions in a reading according to Heilman et al. (1981) in Sari (2016):

1. Literal Comprehension

At this level, the reader recognizes the ideas, information, and events contained in the text and identifies explicit statements as stated by the author. Rahma (2019) adds that this level has six types of questions: introduction of details (details), main idea, sequence of events, comparison, cause and effect, and character recognition.

2. Inferential Comprehension

At this level, the reader needs to read beyond the information the author has included. Rahma (2019) determines eight types of questions: concluding supporting ideas, main ideas, sequences of events, comparisons, cause and effect, character traits, predicting results, and concluding/guessing expressions.

3. Critical Comprehension

At this level, the reader learns to assess and consider information and the use of the author's language to guide the reader's understanding. In addition, Rahma (2019) further explains that this level has five types of questions: consideration of fiction and reality, on the influence of opinion, adequacy, feasibility, and consideration of expected behavior.

4. Creative Comprehension (Creative/Appreciative Comprehension)

At this level, the reader needs to engage the information that has been provided as he applies it to form or rethink his ideas. Furthermore, Rahma (2019) adds that at this level there are four types of questions: emotional response, character identification, reaction, and imaging.

Students with high curiosity have better achievement in reading comprehension than students with low curriculum. Research conducted by Irmawati (2014) shows that there is a correlation between curriculum and reading comprehension in learning English at MTs Darul Hikmah Pekanbaru (with $rp = 0.789 > rt = 0.361$ at a significance level of 0.05). However, the level of curiosity that students have in a class is different, and teachers must encourage effective teaching in the classroom, both from classes consisting of high-curiosity students, low-curiosity students, or a combination of high and low curriculum students.

1. High Curiosity Students

It is recommended to apply Task-Based Learning (TBL). This method can improve students' reading comprehension skills by giving assignments to students so that students can find out their strengths and weaknesses. By knowing the location of their mistakes, the task can increase students' curiosity towards finding answers to the teacher.

2. Low Curiosity Students

It is recommended to apply the question and discussion model, especially the brainstorming method in reading comprehension activities. Teachers can do brainstorming activities with students, not by forming small groups, to voice ideas to attract students' attention and their curiosity to the topic being discussed.

3. High and Low Curiosity Students

It is recommended to apply Problem-Based Learning (PBL). By applying PBL in reading comprehension activities, teachers can provide students with problems that exist in community life according to the topic being discussed, in order to inform students that the knowledge gained from reading is useful in their lives. By recognizing the problems, these problems will show the importance of learning the science that will be useful during their lifetime.

Hypothesis

A hypothesis is a provisional answer made with the aim of drawing and testing logical and empirical conclusions. In carrying out research, the researcher's predictions are called the alternative hypothesis (Ha), and the others are stated as the null hypothesis (Ho). In this study, the researcher formulated the following hypothesis:

Ha: There is a significant influence of curriculum on students' reading comprehension.

Ho: There is no significant effect of curriculum on students' reading comprehension.

METHOD

This research was carried out with a quantitative approach. According to Creswell (2014: 4), quantitative research is an approach to testing objective theories by testing the relationship between variables, which can be measured by research instruments, so that numerical data can be analyzed using statistical procedures. With this approach, this study applies an ex-post facto design. According to Ary (2010), ex-post facto research is similar to experimental research, but the researcher does not manipulate (condition) the independent variable, but it occurs naturally. Arikunto (2014) also adds that ex-post facto research is a type of research whose variables have occurred in the past.

In this study, researcher applied proportional stratified sampling. Ary (2010) noticed that proportional stratified sampling is applied when the characteristics of the entire population are the main concern in a study. The population in this study consisted of 200 students of class X SMA Negeri 1 Bangun Purba, and the sample was 60 students who would be divided proportionally into three groups: High, Medium, and Low.

Researcher used tests and questionnaires as research instruments. The test consists of 20 Multiple Choice (PG) questions from the Longman Complete Course for the TOEFL Test and the questionnaire consists of 16 numbers formed based on the curriculum indicator above. The test validity test used is content validity, while the questionnaire validity test is construct validity with the application of a Likert Scale. The construct validity of the questionnaire was measured by the Pearson Product Moment Correlation Coefficient (Sugiyono, 2019). After the two research instruments above are valid, the reliability of the instrument is measured. Test reliability is measured by the KR-20 (Sugiyono, 2019). And, the reliability of the questionnaire was measured by Cronbach Alpha (Sugiyono, 2019).

To test the hypothesis, there are several prerequisites, namely normality test and homogeneity test. To test for normality, researcher used the Lilliefors test (L0) (Sudjana, 2005). To test for homogeneity, researcher used Analysis of Variance (ANAVA), namely the F test (Sugiyono, 2019). After these pre-requisites are met, the research hypothesis is tested using the t-test (Ary, 2010).

FINDING AND DISCUSSION

According to Sugiyono (2018), an instrument is declared valid if the instrument can measure what (variable) should be measured. Test the validity of the test can be seen in the table below:

Table 1. Specifications of Reading Comprehension Test

Goals / Content	Text 1	Text 2	Text 3	Text 4	Total
Main Idea	1 (1)	1 (6)	1 (11)	1 (16)	4
Supporting Details	1 (5)	2 (8)	1 (14)	3 (18, 19, 20)	6

	1	1	-	-	2
Unlisted Details	(4)	(7)			
Implicated Details	1 (3)	1 (10)	2 (12, 15)	-	4
Interpretation of meaning (words, phrases, and sentences) based on context	1 (2)	1 (9)	1 (13)	1 (17)	4
Total	5	5	5	5	20

The validity of the questionnaire was measured using the Pearson Product Moment Correlation Coefficient (r_p) for each questionnaire number which can be seen in the table below:

Table 2. Score r_p for Each Number on the Questionnaire

No.	$r_{observation}$	No.	$r_{observation}$
1	0.613	9	0.866
2	0.320	10	0.697
3	0.714	11	0.364
4	0.690	12	0.518
5	0.652	13	0.586
6	0.734	14	0.547
7	0.776	15	0.615
8	0.781	16	0.542

From the results above, the table shows that the rp of each number on the questionnaire has a greater value than rt = 0.254 at the significance level (α = 5%). Therefore, all numbers on the questionnaire were declared valid (valid).

According to Ary (2010), a research instrument is declared reliable 'can be trusted' if the instrument provides consistent results on every measurement of the same variable. Test reliability test was measured by KR-20 (rp). The value of rp on the test is 0.600 which means the test is reliable because rp is in the range (0.600 – 0.799), which is the criterion for the level of correlation is strong. The reliability test of the questionnaire was measured by Cronbach Alpha (rp). The rp value of the questionnaire is 0.899, meaning that the questionnaire is declared reliable because the rp value is in the range (0.800 – 1000).

The normality test was measured using the Lilliefors test (L0). To calculate L observations, researcher are required to calculate the total score, mean, and standard deviation of the test. The total score obtained by all students is 4160, the mean of all students is 69,333, and the standard deviation is 15,389. From the calculation results above, the Lp value is 0.111 and the Lp value is smaller than the Lt value (0.114) at the significance level (α = 5%) which means Ho is accepted (in other words, the sample comes from a normally distributed population).

The homogeneity test of the test was measured using the F test. To apply the F test, the students (sample) were divided proportionally into three groups: high, medium, low. The larger the average value, the higher the group. Then, the high group and the low group were used in the calculation. The table below shows the mean and variance of the two groups.

Table 3. Average Value and Variance of Each Group

Gruop	Mean	Varians (S^2)
High	60	144.737
Low	83.5	71.316

From the above calculation, the table can show that the comparison between the largest variance and the smallest variance (Fp) is 2.030, while the Ft value is 2.12 at the significance level (α = 5%). Because the value of Fp is greater than Ft, then Ho is accepted (in other words, the sample comes from a homogeneous population).

After performing the normality and homogeneity tests, the hypothesis can be tested. To test the hypothesis, a t-test was applied. In carrying out the calculations, the samples were proportionally divided into three groups: high, medium, and low curiosity (in order of highest to lowest value). High-curiosity and low-curiosity groups are used in the calculations; therefore, the value of the two groups can be seen in the following table:

Table 4. The Value of High and Low Curiosity Students

No	Initial Name	High Curiosity		Initial Name	Low Curiosity	
		X_1	X_1^2		X_2	X_2^2
1	S.	90	8100	M.	75	5625
2	A.B.	95	9025	L.	80	6400
3	J.A.	95	9025	M.Z.	70	4900
4	V.V.	85	7225	R.N.	75	5625

5	C.C.	95	9025	M.T.	75	5625
6	A.B.	85	7225	W.F.W.	60	3600
7	D.C.	90	8100	A.T.	70	4900
8	C.K.L.	85	7225	V.W.K	60	3600
9	E.R.	90	8100	A.	50	2500
10	M.T.	75	5625	F.S.	50	2500
11	D.	85	7225	M.A.	60	3600
12	F.A.T.	90	8100	H.	55	3025
13	H.	80	6400	J.K.	65	4225
14	S.V.C.	80	6400	M.	60	3600
15	V.	85	7225	J.C.	65	4225
16	A.J.	80	6400	L.L.	45	2025
17	V.J.	75	5625	J.H.	50	2500
18	G.V.	65	4225	E.W.	45	2025
19	V.	70	4900	C.T.	55	3025
20	W.	75	5625	F.	35	1225
	Total	1670	140800	**Total**	1200	74750
	Mean	83.5		**Mean**	60	

From the table above, the tp value is 7,150, and the tt value is 2,086 at the significance level (α = 5%). Because the value of tp is greater than tt (tp = 7.150 > tt = 2.086), it can be concluded that Ha is accepted and Ho is rejected (curiosity has a significant effect on students' reading comprehension).

CONCLUSION

From the findings above, the researcher can conclude that curiosity has a significant effect on the reading comprehension of X grade students at SMA Negeri 1 Bangun Purba (tp > tt = 7150 > 2,086). Based on the findings above, the researcher suggest the English teacher should stimulate students' curiosity during the lesson to improve students' reading comprehension achievement. This clearly increases students' curiosity about any topic in the reading comprehension class and makes students try to find out about these topics. If teachers do not have sufficient knowledge in terms of curriculum, teachers can apply Task-Based Learning (TBL) for classes with high curriculum students, brainstorming and discussion methods for classes with low curriculum students, and Problem-Based Learning (PBL) for classes with high and low curriculum students.

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