Learning Short Story Writing by Quantum Model for Eleventh Graders based on Learning Styles

Nurus Sa'adah[1]✉ & Mukh Doyin[2]

[1] Public Vocational High School Assaidiyyah Kudus, Jawa Tengah, Indonesia
[2] Universitas Negeri Semarang, Indonesia

Article Info

Abstract

Writing a short story by learners needs to consider formative elements. Therefore, it needs appropriate and suitable learning model for their learning styles. This research aims to analyze the effectiveness of writing short story learning with a quantum model based on learning styles of eleventh graders of senior high school. This pseudo-experimental research used written short story writing test, learning style test, attitude observation, photographs, and interview as techniques of collecting data. Normality test is done by using the Kolmogorov Smirnov test. Homogeneity test of the data used Levense. Hypothesis test used paired sample t-test. All of them were done by using SPSS 20 program. It is concluded that the implementation of the model is effective in learning short story writing based on the learning styles of the students. The learning by using the model is more effective for kinesthetic learning style than visual and auditory learning styles. This research is expected to contribute to developing educational field research and to enrich the knowledge of short story writing in an educational institution.

✉ Correspondence address:
 Mbah Hamzyah, Krapyak, Kirig, Mejobo,
 Kudus, Jawa Tengah, 59381
 E-mail: nurussaadah17@gmail.com

INTRODUCTION

Writing is a productive and expressive activity. Thus, by writing, an individual may express himself and his feeling through a written work (Tarigan, 2008). Learning short story writing is also attached in the 2013 curriculum syllabus, especially XI Senior High School.

A short story is a formation of short proses (Suyatno, 2012). It is also stated by Ismail (2001) that short story is a variety of fiction or imaginative story frequently called as short proses. Writing a short story needs effective stimulus, such as an appropriate learning model. It triggers the reasoning pattern of students. The learning model is a plan or pattern used as guidance in planning learning during a class (Joyce, Weil, and Calhoun, 2011). It is in line to Zulaeha (2016) learning model is a conceptual framework to draw systematic procedure in organizing learning experience to achieve the specific purpose of learning.

The used learning model in short story writing is a quantum model. It allows various interactional changes within and around learning moments to improve students'' competences (Hernacki, and DePorter, 2010). This interaction covers effective learning elements to maximize the learning moment of students. The interaction changes the ability and natural talent of students into useful individual potency for their own sake and his surrounding.

There are previous studies stating the model was effective to be implemented in short story writing. It was done by Sari (2016) titled "*Effectiveness of Short Story Writing learning by Using Student Team Achievement Division Model and Quantum Model with TV Program Meia "Orang Pinggiran" for Seventh Graders of Junior High School.*" The research showed the learning model was effective to compose a short story.

Quantum model implementation in previous studies gained more effective result than other models. The principle of quantum model is to create effective learning by joyful learning (Harimurni, 2012). Quantum model implementation in learning short story writing if finding out an effectiveness of learning is done

only through learning model. Therefore, learning style is used to determine effectiveness of learning through quantum model implementation. It is in line with Kusnida, Mulyani, and Su'udi (2015) stating that learning style is an individual way to be easier, more comfortable, and safer while learning both seen from time and senses. Learning style is selected style of individual to gain information or knowledge of certain learning process. There are three styles; visual, auditory, and kinesthetic (Silberman, 2001).

This research aims to examine effectiveness of short story writing by using quantum model for eleventh graders based on their learning styles. It is expected to contribute educational knowledge, especially short story writing learning by using effective learning and considering learning styles of students. Furthermore, it is expected to provide new insights as reference for further research.

METHODS

This pseudo experimental research has an experimental group intervened by quantum model. It was done to find out effectiveness of short story writing learning by using the model based on learning styles. From pre-test, post-test, learning style test and observation of managerial elements of learning model will reveal effectiveness of quantum model in the learning.

Normality test used Kolmogorov-smirnov test. Homogeneity test used Levene test. Hypothesis test used paired sample t-test. Data analysis was done by using SPSS 20 program for windows. The data was in the form of pre-test, post-test, and learning style results. Qualitative analysis was gained from interview and attitude observation. Quantitative analysis was gained from capability test of the students in writing short story and learning style test.

RESULTS AND DISCUSSION

Effectiveness of the learning with the model could be seen from its implementation of the element model during the learning and it could be seen from the learning achievement of

the students. The implementation of quantum model covers implementation of the principles, syntagmatic, reactive system, supportive system, and instructional and supportive impacts of quantum model.

Short story writing learning by using the model was supported by analysis of leanring styles of the students. It was done to devise strategy of learning so the students could enjoy and understand learning based on their learning styles.

The experimental group is grouped into 3 based on learning styles: visual, auditory, and kinesthetic. The number of experimental group students are 35 students with current details.

Table 1. Quantum Class Learning Model

Learning styles	Numbers
Visual	15
Auditory	7
Kinesthetic	13
Total	35

From 35 students, it can be seen that:

a. 15 visual typed students
b. 7 auditory typed students
c. 13 kinesthetic typed students

Thus, the class is dominated by visual and kinesthetic typed students.

Pre-Test and Post-Test Results of Quantum Class

Table 2. Descriptive Statistics

	N	Min.	Max.	Mean	Std. deviation
Pre-test	35	50	85	68.2857	10.49810
Post-test	35	65	95	81.2857	7.10663
Valid N (listwise)	35				

The scores can be seen on table 2. It can be seen the average of evaluative score of the class:

a. The highest pre-test score is seen on 4 SHS Semarang with 85 and the highest post-test score is 95.
b. The lowest pre-test score is 50 and lowest post-est is 60.
c. The average pre-test score is 68.29 while the average post-test score is 81.29.
d. The highest pre-test at SMA 4 Semarang was 85 and the highest post-test score was 95.

Besides that, there is difference average score of the writing skill for each type of learning style of the students: visual, auditory, and kinesthetic.
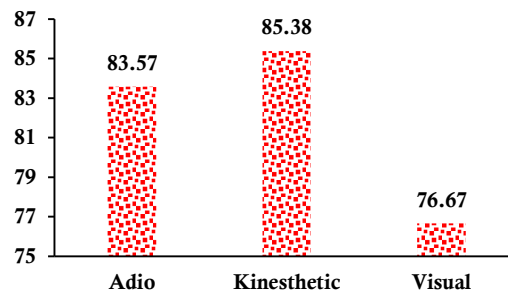
Figure 1. Difference of Each Learning Style Average

The diagram shows different result. Visual typed students have average score 76.67. Auditory typed students have average score 83.57. Meanwhile, kinesthetic typed students have average score 85.38.

To test effectiveness of short story writing by using quantum model for eleventh graders based on learning styles was done by:

Normality Test

The data was gained from pre-test and post-test of short story writing. This test used Kolmogorov-smirnov test. The criterion is normal data distribution when it has higher significant score than 0.05.

Table 3. Pre-test and Post-test Normality Test of Quantum Class
(One-Sample Kolmogorov-smirnov Test)

Information		Post-quantum	Pre-quantum
N		35	35
Normal parameters[a,b]	Mean	81.2857	68.2857
	Std. deviation	7.10663	10.49810
Most extreme	Absolute	.157	.193
Differences	Positive	.129	.099
	Negative	-.157	-.193
Kolmogorov-smirnov Z		.926	1.144
Asymp. dig. (2-tailed)		.358	.146

Based on One-Sample Kolmogorov-Smirnov Test, the score of Asymp. Sig. (2-tailed) on pre-test and post-test of the class is higher than 0.05, thus H_0 is accepted. When the data meets

the requirement of hypothesis test, then H_0 is accepted while H_1 is denied. It is concluded that the data from the population was normally distributed.

Paired Sample t-test

It is used to conclude whether there is learning achievement improvement between without quantum leanring (pre-test) to intervened condition by having quantum model (post-test).

Based on result, sig.(2-tailed) column has sig score on pair 1 pre-quantum – post-quantum = 0.000 < 0.05. Significant score of (2-tailed) column shows significance on pre-test and post-test of the learning is 0.000. The data shows 0,000 < 0.05. Thus, H_0 is denied but H_1 is accepted. It shows different average scores of pre-test and post-test of the writing ability on quantum class. It is concluded there is learning achievement improvement of quantum model class.

Table 4. Paired Sample t-test

	Paired differences					t	df	Sig. (2-tailed)
	Mean	Std. deviation	Std. error mean	Lower	Upper			
pre_quantum – post_quantum	-13.00000	10.30420	1.74173	-16.53962	-9.46038	-7.464	34	.000

Homogeneity Test

It is used to ensure that data varieties of learning styles are equal. If the data is not homogeneous, then one way anova is used.

Table 5 that experimental group, each learning style variety data are equal. It is seen on Levene statistic column (explaining about homogeneity data). It gained significant score 0.480 > 0.05. Thus, H_0 is accepted while H_1 is

denied. To test homogeneity data, criteria of test state when significant score is higher than 0.05, the data is said to be homogeneous. It means no differences of data varieties. Since the results scores 0.480, then the data is homogeneous.

Table 5. Homogeneity Test

Levene statistic	df_1	df_2	Sig.
.752	2	32	.480

Table 6. One-way Anova Test Result

	Sum of squares	df	Mean square	F	Sig.
Between groups	575.018	2	287.509	8.055	.001
Within groups	1142.125	32	35.691		
Total	1717.143	34			

Table 6 shows that in significance column, sig score is 0.0001. The data shows 0.002 < 0.05. Thus, H_0 is denied and H_1 is accepted. Then, the data analysis shows there is difference of

significant learning achievement average score of quantum model class among auditory, visual, and kinesthetic typed students. Thus, LSD test can be proceeded.

Table 7. Post Hoc LSD Test

(I) Style	(J) Style	Mean difference (I-J)	Std. error	Sig.	95% Confidence interval	
					Lower bound	Upper bound
Audio	Kinesthetic	-1.81319	2.80076	.522	-7.5182	3.8918
	Visual	6.90476*	2.73463	.017	1.3345	12.4750
Kinesthetic	Audio	1.81319	2.80076	.522	-3.8918	7.5182
	Visual	8.71795*	2.26383	.001	4.1067	13.3292
Visual	Audio	-6.90476*	2.73463	.017	-12.4750	-1.3345
	Kinesthetic	-8.71795*	2.26383	.001	-13.3292	-4.1067

Table 7 shows comparison between audio and kinesthetic styles is sig. = 0.522 > 0.05. Thus, there is no difference of significant learning achievement score between the interventions. Meanwhile, to compare audio and visual learning

styles, it has sig score 0.017 < 0.05. Then, there is significant learning achievement score between the interventions. Meanwhile, to compare visual and kinesthetic learning styles, it has sig score = 0.001 < 0.05. Then, there is significant learning

achievement average scores between the interventions. To conclude which one is the best, it can be seen on the description below.

Table 8. Descriptive Test Result

	N	Mean	Std. deviation	Std. error	95% Confidence interval for mean		Min	Max
					Lower bound	Upper bound		
Audio	7	83.5714	3.77964	1.42857	80.0758	87.0670	80	90
Kinesthetic	13	85.3846	6.91060	1.91666	81.2086	89.5606	70	95
Visual	15	76.6667	5.87570	1.51710	73.4128	79.9205	65	85
Total	35	81.2857	7.10663	1.20124	78.8445	83.7269	65	95

Based on post hoc result of table 8, it concludes that:

1. There is significant difference between Audio and Visual. The table shows audio is better.
2. There is difference between kinesthetic and visual. The descriptive table shows kinesthetic type is better.
3. There is no significant difference between audio and kinesthetic although on descriptive table, kinesthetic type is better than audio. However, statistically, audio type and kinesthetic type are equal since they are not too different.

Thus, it can be concluded that quantum model class, the most effective learning styles to improve learning achievement are audio and kinesthetic.

Relationship between learning style to writing literature was also investigated by Krisbiono, Supriyanto, and Rustono (2015) stated the importance of noticing learning style by a teacher since it may assist teacher in developing abilities and knowledge ot the students dealing with writing literature work.

Relationship of quantum model to writing literature work was also investigated by Karlos (2012). In his research, writing ability of students intervened by quantum model in writing poetry improved. Yoehana, Supriyanto, and Rusilowati (2013) stated writing poetry for students by using quantum model was higher and had better interaction between learning model and students' interest learning literature work in writing poetry. Sari (2016) showed quantum model was effective to use in composing short story learning for seventh graders of Junior High School. Gafar (2014) stated writing rhyme by using quantum model ran well and joyful. Harumurni (2012) stated philosophy of quantum model to succeed learning process effectively. The learning activity must be fun. Joyful activity was also conducted by Lutfia (2015). Through quantum model based fiction and musical show implemented in learning, creative writing was proven effective.

Relationship between short story writing and its medium as joyful learning activity was investigated by Puspitasari (2015) argued writing short story through pictorial – visual media and quantum model could improve quality of the process and the writing skill of students. It supports Putri (2016) showing that quantum model positively influenced non-literature text writing such as descriptive text. Furthermore, Sutrisno, Zulaeha, and Subyantoro (2013) stated quantum learning model was more effective in descriptive writing learning in its interaction to student learning style.

Relationship among each learning style was investigated by Zulaeha (2017) stating learning achievement based on learning style was more effective in visual typed students rather than auditory and kinesthetic typed students. It is relevant to this research – implementation of visual, auditory, and kinesthetic learning styles in learning process.

The benefits of this research is to provide convenience in solving problem related to efforts of educators in improving short story writing skill. This research is useful for school educators to conduct further researches dealing with improving learning style of students. It can be used as reference for the researchers to conduct extended research dealing with improving students' skill by using various models and media within learning process.

CONCLUSION

It is concluded that short story writing by using quantum model based on the students' learning styles: visual, auditory, and kinesthetic has met effectiveness criteria. The learning is more effective to be implemented on kinesthetic and auditory typed learners than visual typed learner.

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