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Synchronizing Students Learning Styles in Promoting Learners' Grammatical Knowledge; a Cultural Dimensions Study

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Abstract

This study aims to examine learning styles based on cultural dimensions theory's hypothesis. The research focuses to investigate whether styles from cultural view provide an exact description of students' learning styles and to describe the exactitude of current concept of the theory's hypothesis. The study employs quasi-experimental design which clusters the experimental design into control and experimental group. In collecting the data, cultural dimensions questionnaire was used to determine students learning styles. As instructed by cultural dimensions theory, one group was assigned with students-centered learning and one was with teacher centered learning. One Way Anove test was conducted to determine the sample homogeneity. The statistical analysis uses Wilcoxon Statistic Test to compare the results of control group and experimental group. The result of experimental group shows moderate learning outcome significance compared to control group. The result is not necessarily significant but consistent. The study suggests that empowering students learning styles will help students learn better compared to conventional teaching.

Keywords: *Learning Styles; Cultural Dimensions; Learning Outcome*

Introduction

In teaching and learning, there is no doubt that students are affected by the way teacher deliver the material (Ali, Akhter & Khan, 2010; Sadeghi, Sedaghat & Ahmadi, 2014; Daluba, 2013). While belief in learning styles is it helps students learn effectively when taught based on their preferred way of learning (Simpson & Du, 2004). Yet, the biggest undisclosed quest of learning styles is how it takes place (An & Carr, 2017). Little study has directed the focus on how students develop preferences and/or what factor may cause the preferences.

Zhang, Sternberg & Rayner (2012) have tried to direct the attention to how culture takes place in the development of styles in learning. Their proposed paradigm adopted four of cultural dimensions from Hofstede (1990). This includes power distance,uncertainty avoidance,individualism (versus collectivism), and masculinity (versus femininity). It is suggested that the four adopted cultural dimensions can affect cognition.

In grammatical teaching and Learning, several studies have revealed various notable findings. The study of Aliakbari & Nejad (2013) examined the effect of co-teaching to the improvement grammatical proficiency. The study suggests insignificant result after implementing the approach. They state that securing the intended outcome of teaching requires consideration on cultural background. Research conducted by Jalalifarahani & Azizi (2012) examines the influence of peer feedback and teacher response in enhancing students' grammatical proficiency. The study suggests that teacher feedback is more helpful than peer feedback. This is due to students' lack of grammatical knowledge. The study conducted by Al-Jarrah et al (2019) suggests that there is a significant improvement of students' grammatical proficiency through educational games. The study result of Cannon et al. (2011) revealed that there is a significant improvement from the pre-test to the post-test of learners' comprehension of morphosyntax structure through the implementation of computer software grammar instruction program as individual classroom activity. Furthermore, it is also found that "the participants instructed by using both computer-based and teacher-driven grammar instruction supported by computer-based materials score higher than those who receive traditional instruction" (Kılıçkaya, 2015; Umarova, 2020).

The study of learning styles in language learning has gone through investigation with mostly examining the theory form Oxford (2003). Language Learning Styles theory adopted existing concepts considered most related to language teaching. Considering learning styles from cultural perspective is worth using especially in grammatical learning in EFL context.

Furthermore, the previous studies in grammatical teaching directly compare overall students mean score test results from the pre-test to the post-test. While little attention have been directed to how students score differently from one to another after having the same treatment. Unlike the previous studies, the present research will attempt to describe how learning styles as one factor determine the students' differences in their learning outcome.

Methods

This study is a quantitative study with a quasi-experimental design. To meet the needs of data, data collection uses non-probability sampling. This technique will allow the researcher to provide treatment in accordance with the results expected from the research. In collecting the data, this study uses the Cultural Dimensions Questionnaire (Hofstede, 2009) to determine the learning styles of students, the Longman TOEFL Structure Pre-Diagnostic Test as a pre-test and the Longman TOEFL Structure Post-Test were used to record the students learning outcome.

During the treatment, we divided the group in to two classes. The control group is assigned to teacher-centered approach and the experimental group with student-center approach. As assumed by the theory that students-centered the experimental students will be divided and treated based on their learning style groups, which are the student center learning method for type I learning styles, teacher center learning for type II and the two methods for type III learning styles.

The variables in this study are learning styles consisting of type I, type II, and type III as independent variables and teaching methods that include teacher-centered and student-centered and student learning outcomes as the dependent variable.

In data analysis, this study will use the TOEFL ITP Score Descriptors to analyze the level of students' knowledge on grammar. To identify the increase and decrease in learning achievement, the pre-test and post-test will be compared via the Paired Sample t-test in IBM SPSS statistics. To analyze the correlation of the dependent and independent variables, this study will use multivariate analysis.

Results and Discussion

The Distribution of Students Learning Styles

Table 1. Learning Styles Based on Cultural Dimensions Questionnaire

No	Power Distance	Uncertainty Avoidance	Individualism/ Collectivism	Masculinity Femininity	Average	Learning Style
1	52	36	56	44	47	Type 1
2	44	56	52	36	47	Type 1
3	36	60	60	36	48	Type 1
4	36	72	36	52	49	Type 1
5	52	56	44	44	49	Type 1
6	52	36	72	36	49	Type 1
7	44	36	60	60	50	Type 1
8	44	44	44	60	48	Type 1
9	52	36	56	52	49	Type 1
10	60	36	44	52	48	Type 1
11	72	68	76	68	71	Type 2
12	68	76	84	72	75	Type 2
13	52	76	72	84	71	Type 2
14	68	84	84	60	74	Type 2
15	68	76	76	72	73	Type 2
16	76	72	68	76	73	Type 2
17	68	76	72	68	71	Type 2
18	76	60	84	72	73	Type 2
19	76	72	76	68	73	Type 2
20	68	72	84	72	74	Type 2
21	52	76	60	44	58	Type 3
22	44	84	60	44	58	Type 3
23	44	84	56	48	58	Type 3
24	52	76	60	44	58	Type 3
25	52	76	52	52	58	Type 3
26	52	76	68	36	58	Type 3
27	60	60	52	60	58	Type 3
28	44	72	60	60	59	Type 3
29	52	60	76	52	60	Type 3
30	68	60	60	52	60	Type 3

Source: Primary Data Processing Result, 2020

From the results of the cultural dimensions questionnaire, even if students are coming from common tribes of South Sulawesi, different learning style is present. The present research result suggests contradicting findings with the Hofstede's cultural dimensions insights and is an indication of modernization effect at individual level. Jiaxue (2009) suggest that modernization may reconstruct a

community from individualist into collectivist. Changes that occur within cultures due to values exchange caused by modernization at the same time transform individuals' perspective and thinking (Abdulaeva, 2019). Both findings support the present research that learning styles may change due to modernization.

Present research finding of learning styles theory that considers culture as determining factor of students' cognition suggests that there is no such one absolute learner type. It supported by the result of the present study that shows a fairly close range score of Type I, II, and III from cultural dimensions questionnaire results and students' achievement.

Furthermore, there is also a high possibility that it is not modernization that changes the students' learning styles. This is due to existing educational system that does not consider personality differences especially learning styles. The fact that the control group likewise shows consistent but slightly lower than the experimental group learning outcome, it is an indication that there is a possibility that students taught with various methods has been a factor leading to the preferences development. Research by Tuan (2011) suggests related cases that adjustment in learning occurs within students even if not taught based on their styles cluster. This result indicates similar outcome with the present study. To be fair, it is possible that both modernization and the diversity of teaching methods are contributing factors of students' learning styles development.

Students' Proficiency Level from Pre-test Results

Table 2. Descriptive Statistics of Students Proficiency Level from Pre-Test Result

	N	Minimum	Maximum	Mean	Std. Deviation
Type 1 Pre Test Control	5	260	310	296.00	21.909
Type 2 Pre Test Control	5	290	310	302.00	10.954
Type 3 Pre Test Control	5	270	310	290.00	14.142
Type 1 Pre Test Experiment	5	270	310	288.00	17.889
Type 2 Pre Test Experiment	5	270	310	290.00	14.142
Type 3 Pre Test Experiment	5	290	310	306.00	8.944
Valid N (listwise)	5				

Source: Primary Data Processing Result, 2020

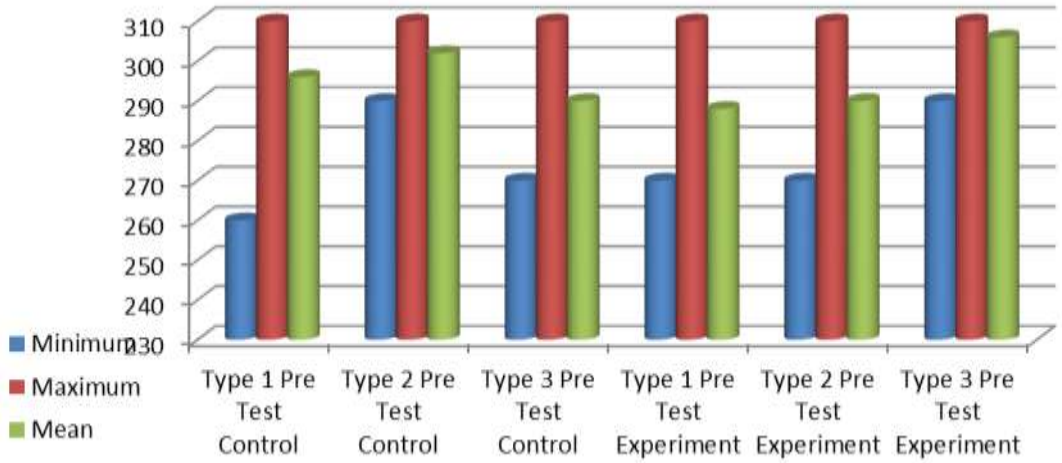

Figure 1. Grammatical Proficiency Category based on Pre-Test

Source: Primary Data Processing Result, 2020

The above results indicate that Type I learners score minimum 290 and maximum 310. Type II learners score minimum 270 and maximum 310. Type III learners score minimum 260 and maximum 310. In general, both figure and table above illustrate that all students score differently in the pre-diagnostic TOEFL test. Although each student performs differently but their proficiency category are all below standard of beginner level (A2=320).

Homogeneity Test

Table 3. One-way Analysis of Variance

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1346.667	5	269.333	1.154	.360
Within Groups	5600.000	24	233.333		
Total	6946.667	29			

Source: Primary Data Processing Result, 2020

The result of the one-way ANOVA analysis above shows sig. value 0,360 (p>0,005) indicating that there is no significant differences students grammatical knowledge from all types of learning styles. Thus, there is no need to cluster students based on their proficiency levels during the treatment process.

Data Normality Test

Table 4. Data Normality Test Results

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Type 1 Pre Test Experiment	.243	5	.200*	.894	5	.377
Type 1 Post Test Experiment	.237	5	.200*	.961	5	.814
Type 1 Pre Test Control	.339	5	.062	.754	5	.033
Type 1 Post Test Control	.473	5	.001	.552	5	.000
Type 2 Pre Test Experiment	.300	5	.161	.883	5	.325
Type 2 Post Test Experiment	.372	5	.022	.828	5	.135
Type 2 Pre Test Control	.367	5	.026	.684	5	.006
Type 2 Post Test Control	.337	5	.066	.676	5	.005
Type 3 Pre Test Experiment	.473	5	.001	.552	5	.000
Type 3 Post Test Experiment	.367	5	.026	.684	5	.006
Type 3 Pre Test Control	.300	5	.161	.883	5	.325
Type 3 Post Test Control	.231	5	.200*	.881	5	.314
*. This is a lower bound of the true significance.						
a. Lilliefors Significance Correction						

Source: Primary Data Processing Result, 2020

From the results of the data normality test above, although the total data satisfies the needs of a parametric test but some of the data significance are less than 0.05 which indicates that the data are not distributed normally and therefore must be analyzed using non-parametric test.

Table 5. Wilcoxong Statistics Test Results

	Tipe 1 Post Test Experiment - Tipe 1 Pre Test Experiment	Tipe 1 Post Test Control - Tipe 1 Pre Test Control	Tipe 2 Post Test Experiment - Tipe 2 Pre Test Experiment	Tipe 2 Post Test Control - Tipe 2 Pre Test Control	Tipe 3 Post Test Experiment - Tipe 3 Pre Test Experiment	Tipe 3 Post Test Control - Tipe 3 Pre Test Control
Z	-2.023[b]	-2.060[b]	-2.032[b]	-2.032[b]	-2.041[b]	-2.032[b]
Asymp. Sig. (2-tailed)	.043	.039	.042	.042	.041	.042

Source: Primary Data Processing Result, 2020

Wilcoxon Statistics test result above indicates that students after treated to their preferred and non-preferred way of learning score higher than the pretest results. There is no decrease if the teaching approach contradicts students learning styles.

Comparison of Experimental and Control Group

To analyze whether the students from experimental groups score more significant than the control group, Kruskal Wallis of K-Independent test is carried out.

Table 6. Kruskal Wallis Test Statistics Results

	Score Result
Kruskal-Wallis H	18.110
df	5
Asymp. Sig.	.003

Source: Primary Data Processing Result, 2020

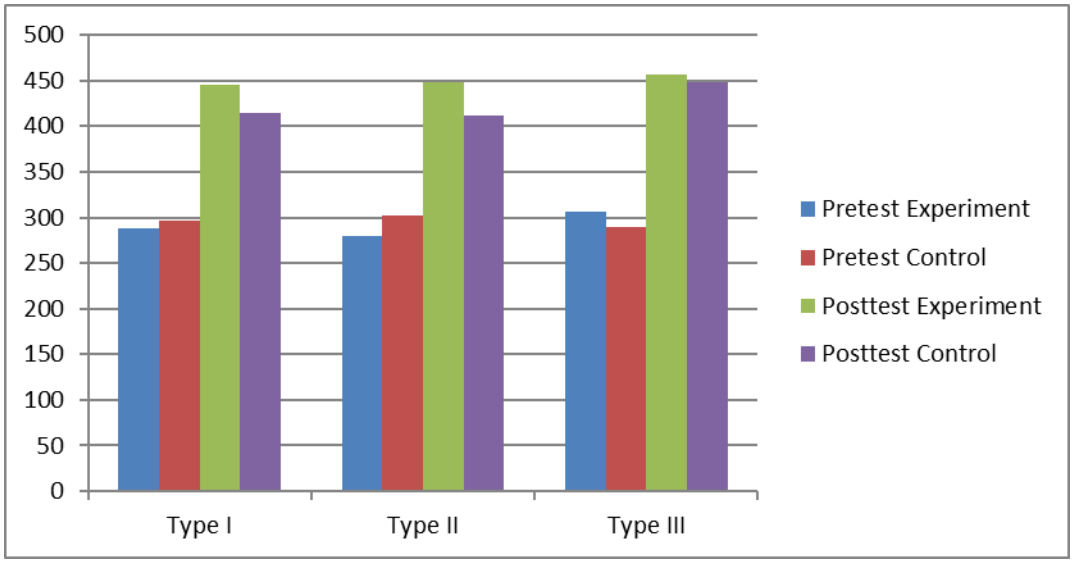

Figure 2. Comparison of Students Performance of Experimental and Control Group

Source: Primary Data Processing Result, 2020

Table 18 shows significance value of 0,003 (<0,005). This indicates that there is a different result of learning outcome when students are taught based on their learning styles. Yet, as can be seen in figure 7 and table 18 showing asymp sig. value of 0.003 which is an indication that the different results suggest only a slight improvement compared to control group performance in grammatical learning. Interestingly, Type III post-test from both experimental and control group score very slightly different. This confirms that Type III learner is adaptable to both teacher-centered and student-centered learning.

The present study results indicate a slight difference when students are taught based on their learning styles rather than conventional teaching that do not cluster students. The result of the present study is indeed slight but consistent. This is in line with the previous research finding that students are favored when taught based on their learning styles (Andreou, Andreou & Vlachos, 2008). Furthermore, Tulbure (2011) suggests that each learning style performed differently and significantly higher in certain teaching strategy. The present study supports this but somehow extend the analysis to one learning styles that is adjustable to both teacher-centered and student-centered learning.

Moreover, the study of Chen, Jones & Xu (2018), Damrongpanit & Reungtragul (2013), Erton (2010) contradicts the present finding which suggest that students will be disadvantage when not taught with their learning styles. The present study result does suggest that students will be at their best performance when taught based on their learning styles but not the extent to be disadvantaged. The students will be performing well even if not taught based on their learning styles but at their best performance when taught based on their learning styles that boost their achievement learning.

The present study result still lacks in term of its method. There needs to be an investigation using qualitative study that explores what may cause students' achievement consistency after students are treated in accordance and not in accordance to their preferences. Specific detail on what are their struggle when learn not in their preferred way will be a huge contribution to pedagogy.

The present study shows different scoring in the cultural dimensions questionnaire result. In addition, the experimental result of each student likewise shows distinct output. This leads to an assumption that the lower or the higher each cultural dimension score is, the more diverse of students' preferences and/or cognition will be. It is hard to draw a conclusion that whether this issue leads to a specific cognitive process or not because the present study does not have direct concern to it. From this, an investigation on what cognitive process may have been when students has a specific score in each cultural dimension and whether there the rest abandoned dimensions from hofstede's theory considered influential are worth conducting.

Finally, the present study has provided implication that considering students learning styles from cultural dimensions perspective will enhance, although slight, students' performance in grammatical learning.

Conclusion

The present study has indicated two major contributions. Firstly, learning styles distribution is diverse. Two students from the same cultural background may have distinct learning styles. This is most likely predisposed by the modernization an individual exposed to. Secondly, considering students learning styles based on cultural dimension theory by matching students learning styles will help students boost their achievement. Teacher is recommended to bring learning styles based on cultural dimension theory into practices. Teaching method needs to be designed to help students stretch their learning styles and/or adjust the students with any teaching setting that makes them to be advanced-learner. Further research involving a longitudinal study is worth conducting to investigate the development of students learning styles.

References

Abdulaeva, E. S. (2019). Modernization Processes in Spiritual Culture of Traditional Societies. In The European Proceedings of Social & Behavioural Sciences EpSBS (pp. 1850-1856).

Ali, R., Akhter, A., & Khan, A. (2010). Effect of using problem solving method in teaching mathematics on the achievement of mathematics students. *Asian Social Science*, *6*(2), 67.

Aliakbari, M., & Nejad, A. M. (2013). On the Effectiveness of Team Teaching in Promoting Learners' Grammatical Proficiency. *Canadian Journal of Education*, *36*(3), 5-22.

Al-Jarrah, J. M., Waari, O. T., Talafhah, R. H., & Al-Jarrah, T. M. (2019). Improving English grammar achievement through educational games among eleventh grade students in east Jarussalem. *International Journal of Academic Research in Progressive Education & Development*, *8*(1), 75-86.

Andreou, E., Andreou, G., & Vlachos, F. (2008). Learning styles and performance in second language tasks. *Tesol Quarterly*, *42*(4), 665-674.

Cannon, J. E., Easterbrooks, S. R., Gagné, P., & Beal-Alvarez, J. (2011). Improving DHH students' grammar through an individualized software program. *Journal of Deaf Studies and Deaf Education*, *16*(4), 437-457.

Chen, C., Jones, K. T., & Xu, S. (2018). The Association between Students' Style of Learning Preferences, Social Presence, Collaborative Learning and Learning Outcomes. *Journal of Educators Online*, *15*(1), n1.

Daluba, N. E. (2013). Effect of Demonstration Method of Teaching on Students' Achievement in Agricultural Science. *World Journal of Education*, *3*(6), 1-7.

Damrongpanit, S., & Reungtragul, A. (2013). Matching of learning styles and teaching styles: Advantage and disadvantage on ninth-grade students academic achievements. *Educational Research and Reviews*, *8*(20), 1937-1947.

Erton, I. (2010). Relations between personality traits, language learning styles and success in foreign language achievement. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi*, *38*(38), 115-126.

Hofstede, G. (2009). Geert Hofstede cultural dimensions.

Jalalifarahani, M., & Azizi, H. (2012). The efficacy of peer vs. teacher response in enhancing grammatical accuracy & general writing quality of advanced vs. elementary proficiency EFL learners. In *International Conference on Language, Medias and Culture* (Vol. 33, pp. 88-92).

Jiaxue, C. A. O. (2009). The analysis of tendency of transition from collectivism to individualism in China. *Cross-Cultural Communication*, *5*(4), 42-50.

Kılıçkaya, F. (2015). Computer-based grammar instruction in an EFL context: Improving the effectiveness of teaching adverbial clauses. *Computer Assisted Language Learning*, *28*(4), 325-340.

Oxford, R. L. (Ed.). (2003). *Language learning styles and strategies*. Mouton de Gruyter.

Sadeghi, R., Sedaghat, M. M., & Ahmadi, F. S. (2014). Comparison of the effect of lecture and blended teaching methods on students' learning and satisfaction. *Journal of Advances in Medical Education & Professionalism*, *2*(4), 146.

Simpson, C., & Du, Y. (2004). Effects of learning styles and class participation on students' enjoyment level in distributed learning environments. *Journal of education for library and information science*, 123-136.

Tuan, L. T. (2011). Matching and Stretching Learners' Learning Styles. *Journal of Language Teaching & Research*, *2*(2).

Tulbure, C. (2011). Do different learning styles require differentiated teaching strategies? *Procedia-Social and Behavioral Sciences*, *11*, 155-159.

Umarova, Z. (2020). Pedagogical Opportunities of Media Resources in a Digital Media Educational Environment. *Journal La Edusci*, *1*(5), 1-5.

Zhang, L. F., Sternberg, R. J., & Rayner, S. (2012). Culture and intellectual styles. *Handbook of Intellectual Styles. Preferences in Cognition, Learning and Thinking*, 131-152.

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