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# Effects of Cooperative and Problem-Solving Learning Strategies on Students' Achievement in Senior Secondary School History in Oyo State, Nigeria

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#### **Abstract**

The increasing and fluctuating level of poor performance of students in History calls for a need to ascertain students' learning strategies that promote achievement in the subject. This study investigated the effect of learning strategies as determinants of achievement in History. The study adopted a non-randomised pre-test posttest control group quasi-experimental design using 3x2x2 factorial design. Multi-stage sampling technique was used and data were collected from 184 SSS II History students from 18 public senior secondary schools in Oyo State. Seven hypotheses guided the study and four instruments were used for data collection with reliability coefficients of 0.74 for HAT, 0.72 for LSI, 0.75 for HIG and 0.75 for SHI. Data were analysed using Analysis of Covariance. Results indicated that cooperative and problem-solving learning strategies had significant main effect on students' achievement in History, F (2.171) = 63.19 with partial eta square of 0.43; learning style has significant main effect on students' achievement,  $F_{(1,171)} = 11.84$  with partial eta square of 0.07; Learning strategies, learning styles and study habit had no significant interaction effect on students' achievement. Learning is internalised faster and better when students are given opportunity to interact with one another in small groups; when topics are structured to solve real life problems, studying becomes fun and learning is facilitated and internalised; students learn better when a problem is used as a starting point for new knowledge and adjustment of instructional strategies will enhance achievement in History.

Key words: Learning strategy, Achievement in History, Learning style and Study habit

#### Introduction

The curriculum designed for Senior Secondary School is comprehensive and broad based, aimed at broadening students' knowledge and outlook towards preparing them for useful living within the society and higher education (FRN, 2004). Subjects offered in senior schools are in three groups – core subjects, vocational and non-vocational subjects. One of the vocational subjects is History. Unfortunately, students nowadays perform poorly in this important subject. The poor performance of students in this subject area has become a matter of concern to stakeholders. According to Ogunu (2000), poor academic performance has been identified as a problem in Nigerian secondary school public examinations. For example, WAEC (2013) analysis of candidates' performance in WASSCE History from 2003 to 2013 revealed that more than half of the candidates failed to get a credit in the subject year after year, as shown in Table 1.

**Table 1:** Statistics of Students Performance in WASSCE History from year 2003 – 2013

Year	Total Entry	Total Sat (%)	Total Credit 1-6 (%)	<b>Total Pass 7-8</b> (%)	Fail (%)
2003	61,671	52,284 (84.77)	14,783 (28.27)	9,777 (18.69)	25,393 (48.56)
2004	50,950	44,903 (88.13)	18,812 (41.89)	9,431 (20.99)	16,660 (37.10)
2005	64,465	57,335 (88.93)	17,184 (29.97)	14,484 (25.26)	24,680 (43.04)
2007	65,077	57,543 (88.42)	21,350 (37.10)	12,168 (21.15)	23,044 (40.05)
2008	63,045	55,872 (88.62)	15,626 (27.97)	13,012 (23.29)	26,398 (47.25)
2009	63,433	55,127 (86.91)	15,692 (28.47)	12,181 (22.10)	25,594 (46.43)
2010	54,411	47,520 (87.34)	16,403 (34.52)	12,569 (26.45)	16,240 (34.18)
2011	59,565	53,467 (89.76)	18,872 (35.13)	13,800 (25.81)	20,483 (38.31)
2012	64,470	58,317 (90.46)	22,299 (38.28)	16,170 (27.73)	18,174 (31.16)
2013	59,065	53,293 (90.22)	22,328 (41.89)	14,678 (27.54)	15,184 (28.49)

Source: WAEC, Test Development Division, Ogba. Lagos

A student's learning style can be an important variable in his or her academic achievement. It is therefore important for educators to know how their students learn in order for them to know the best way to teach and assess them since learning styles can be a predictor of academic achievement. However, studies of Kolb & Kolb (2009) and Zhang & Sternberg (2006) indicated that learning styles are presumed to influence student academic performance. Educational leaders agree that learning styles have an important function in education, with reference to teaching styles (Montgomery &

Groat, 1998). It was stated that learners with a strong preference for a specific learning style may have difficulties in learning if the teaching style does not match with their learning style (Felder & Brent, 2005, 2007).

When the learning styles of students in a class and the teaching style of their teachers are seriously mismatched, those students may become uncomfortable, bored, and inattentive in class. As a consequence, they may lose interest in the course, the curriculum and themselves, and in some cases may change to other courses or drop out of studies altogether. If learning styles affect students' academic performance and competence, then it certainly poses further challenges for educators in assisting students in learning and succeeding academically.

There are numerous learning style models and instruments used for assessing students' learning preferences. The Kolb model is one of the theoretical perspectives that have been applied to the investigation of learning styles. The model has been widely used throughout the field of education. The Kolb's Learning Styles Inventory (LSI) has been the most widely documented test to assess learning styles. Kolb suggests that experience, and the analysis of it can assist in the formation of concepts; then the concept, after being assimilated and organized, may be applied to new experiences. In this model, learning is conceived as a process through which the transformation of experience creates knowledge. Here, a person is required to employ each of the four key learning abilities: concrete experience (CE), abstract conceptualization (AC), reflective observation (RO), and active experimentation (AE) (Kolb, 1984).

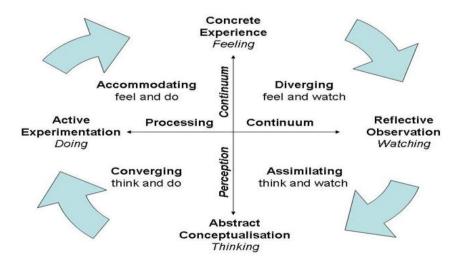


Figure 1: Kolb Model of Experimental Learning (Adapted from Band, K and Yoder, K. 2009 pg. 297-327)

According to Kolb, there are four fundamental learning styles: the diverging learning style which specializes in the two learning abilities of CE and RO; in contrast, the converging learning style which specializes in the two abilities of AC and AE; the assimilating learning style which specializes in the two abilities of AC and RO; in contrast and finally, the accommodating learning style which specializes in the two abilities of CE and AE. Notably, both converging and assimilating learning styles have a higher score in abstract conceptualization (AC) and lower score in concrete experience (CE). Abstract conceptualization which actualized in adolescence is conceived to be a higher level ability rather than concrete experience (CE).

The convergent thinker is someone who is personally best at solving problems with single correct solutions. The convergent learning style makes use of abstract conceptualization to process experience and abstract experimentation to transform experience. Convergers tend to take abstract ideas and actively experiment with them to find the best solutions to problems. Such thinkers perceive abstractly and process actively. This style has advantages in completing traditional intelligence tests and in making decisions. Persons with this learning style tend to do well in technical tasks and less well in interpersonal relations. The divergent thinker is different in being someone who is able to generate and explore multiple answers to problems. To Kolb (1984), the Divergent learning style depends on concrete experience to process reality and reflective observation to transform reality. Divergers perceive concretely and think reflectively and imaginatively. Divergent thinking is related to fluency (i.e., the ability to produce multiple ideas in response to a task rapidly), flexibility (i.e., the capacity to consider multiple approaches to a problem), originality (i.e., the tendency to produce novel ideas in response to a task), and elaboration (i.e., the ability to consider the implications and consequences of ideas). Divergent thinkers tend to choose the liberal arts and humanities.

A third learning style is that of the assimilator who perceives information through abstract conceptualization and transforms that information through reflective observation. Assimilators tend to be rational, unemotional, and more interested in abstract concepts than in people. They tend to be solitary and avoid practical activities. Finally, accommodators perceive information through concrete experience and process it through active experimentation. They base their decisions on feelings and prefer to work with people.

In summary, the four Kolb learning styles result from different combinations of perception, abstract conceptualization versus concrete experience, and subsequent information processing, active experimentation versus reflective observation. Much of the research on Kolb's learning styles has focused on the assessment of individual learning styles (Kolb & Kolb, 2009). Because of the possible effect of learning styles on student achievement, there is a definite need for research to address the relationship

between Kolb's learning styles and academic achievement (Cano-Garcia & Hughes, 2000). It is shown in literature that cooperative learning strategy is the suitable learning strategy for convergers while problem-solving learning strategy is suitable for assimilators (Jawahitha, 2013). Therefore, to enhance the understanding of History, students must be more active in the classroom and must creatively acquire knowledge.

Cooperative learning refers to an instructional method in which students at various performance levels work together in small groups toward a common goal. Zakaria and Iksan (2007) agree that in cooperative learning students work face to face to complete a given task collectively. Cooperative learning also encourages students to interact and to communicate with peers in harmony (Webb, Troper & Fall, 1995). In this way, cooperative learning promotes values such as honesty, cooperation, mutual respect, responsibility, tolerance, and willing to sacrifice a consensus. Execution of duties in cooperative learning can develop self-confidence in pupils. On the other hand, problem-solving learning strategy is also a model which centred on students, develops active and motivated learning, problem-solving skills and broad field knowledge, and based on the deep understanding and problem-solving (Major, Baden & Mackinnon, 2000). In those classrooms in which problem-solving learning method is used for instructional process, the students take much more responsibility of their own learning. They have become independent and long life learners, and can continue to learn in their whole life.

In the problem-solving learning model the students' turn from passive listeners of information receivers to active, free self-learner and problem solvers. It also shifts the emphasis of educational programs from teaching to learning. It enables the students to learn new knowledge by facing the problems to be solved instead of feeling boredom. Problem-solving learning impact positively in certain other attributes such as information acquisition. In addition, problem-solving is a deliberate and serious act which involves the use of some novel method, higher thinking and systematic planned steps for the acquisition set goals. The basic and foremost aim of this learning model is acquisition of such information which based on facts (Yuzhi, 2003; Mangle, 2008).

According to Gallagher, Stephien, Sher & Workman (1999) in problem-solving learning environment, students act as professionals and are confronted with problems that require clearly defined and well-structured problems, developing hypothesis, assessing, analysing, utilizing data from different sources, revising initial hypothesis as the data is collected, developing and justifying solutions based on evidence and reasoning. The practice of problem-solving learning is richly diverse as educators around the world and in a wide range of discipline have discovered it as a route to innovating education. The educators used problem-solving method as a tool to enhance learning, as a relevant and practical experience, to halp students' problem-solving skills and to promote students' independent learning skill. Eng (2001) opined

that problem-solving learning as a philosophy aims to design and deliver a total learning environment that is holistic and student-centred and for student empowerment.

Closely related to learning strategies and learning styles is the concept of study habit. Education leaders agree that study habit has an important function in education. Study habits are learning tendencies that allow students to study privately. Echebe (2008) opined that a study habit is an extra learning ability which an individual acquires for the success of his academic endeavour, and it is a propeller to better academic performance. He further stated that the ability of a student to study carefully after normal classroom study builds in such student study skills necessary for better academic growth while non-practice after classroom study created room for poor study habit and poor academic performance. Study habits and skills are particularly important for secondary school students, whose needs include time management, note taking, Internet skill, the elimination of distractions, and assigning a high priority to study. Fielden (2004) stated that good study habits help the student in critical reflection in skills outcomes such as selecting, analyzing, critiquing, and synthesizing. Successful students show a commitment to maximize learning from educational experiences, monitor their progress, and make adjustments in their efforts when necessary to accomplish their goals (Ainley, 2006; Ainley & Patrick, 2006; Miller & Brickman, 2004). These study habits are reflected in the student's ability to organize and plan his or her learning. They also involve clarity of purpose and the use of goal-directed actions in the individual's own learning.

### **Statement of the Problem**

Many attempts have been made to address the problem of low academic achievement and some variables have been identified. Learning style is one variable that is greatly gaining research attention. The increasing level of poor performance of students in History calls for a need to ascertain students' learning styles that can promote achievement in History because it is envisaged that students' poor performance could be as a result of lack of relationship between strategies of teaching History and students' learning styles. However, there appears to be dearth of literature on the possible combined effects of students' learning strategies, learning styles and study habit on their academic performance in History. This paper, therefore, investigated the effects of learning strategies (cooperative learning strategy and problem-solving learning strategy) with learning styles and study habit on senior secondary school students' achievement in History.

#### **Research Hypotheses**

In this study, seven null hypotheses were tested.

 $H_{01}$ : There is no significant effect of treatment on students' achievement in History.

- $\mathbf{H}_{\mathbf{02}}$ : There is no significant effect of learning styles on students' achievement in History.
- **H**<sub>03</sub>: There is no significant effect of study habit on students' achievement in History.
- **Ho4:** There is no significant interaction effect of treatment and learning styles on students' achievement in History.
- **H**<sub>05</sub>: There is no significant interaction effect of treatment and study habit on students' achievement in History.
- **Ho**<sub>6</sub>: There is no significant interaction effect of learning style and study habit on students' achievement in History.
- **H**<sub>07</sub>: There is no significant interaction effect of treatment, learning style and study habit on students' achievement in History.

#### Methodology

This study adopted a 3x2x2 non-randomized pre-test post-test control group design in a quasi-experimental design. The 3x2x2 factorial matrix allows variables that are not manipulated to be included by building them into the study. Three dimensions of learning strategies were considered – cooperative learning strategy, problem-solving strategy, and conventional learning strategy. Two dimensions of learning styles were considered – converging and assimilating; while study habit operated in two levels – good and poor. The study population consisted of all Senior Secondary School II History students in Oyo State public schools. Multi-stage sampling technique was used to select 184 students as participants from 18 schools in various Local Government Areas in the educational zones in the State. The intact classes were randomly assigned to treatment group. Four validated instruments were used for data collection; these were: Learning Style Inventory (r=0.72), History Instructional Guide (HIG), Study Habit Inventory (r=0.75), and History Achievement Test (r=0.74). Data were analysed using Analysis of Covariance.

#### **Results and Discussion**

**Hypothesis 1:** There is no significant effect of treatments on students' achievement in History

Table 2: Showing the effect of treatments on students' achievement in History

Source	Type III	Df	Mean	F	Sig.	Partial Eta
	Sum of Squares		Square			Squared
Corrected Model	788.610 <sup>a</sup>	12	65.718	16.801	.000	.541
Intercept	1632.808	1	1632.808	417.437	.000	.709
Pre-test Score	82.180	1	82.180	21.010	.000	.109
Treatments	494.301	2	247.150	63.185	.000	.425
Learning Style	46.319	1	46.319	11.842	.001	.065
Study Habit	.950	1	.950	.243	.623	.001
Treatment * Learning Style	38.208	2	19.104	4.884	.000	.054
Treatment * Study Habit	6.992	2	3.496	.894	.411	.010
Learning Style * Study Habit	3.574	1	3.574	.914	.341	.005
Treatment * Learning Style * Study	1.009	2	.504	.129	.879	.002
Habit	1.009	2	.304	.129	.819	.002
Error	668.868	171	3.912			
Total	18910.000	184				
Corrected Total	1457.478	183				

Significance at p < 0.05; R Squared = .541 (Adjusted R Squared = .509)

The results in Table 2 indicate that there is significant main effect of treatment (cooperative and problem-solving learning strategies) on students' achievement in History,  $F_{(2,171)} = 63.19$ ; p < 0.05. The null hypothesis one was therefore rejected. This implies that the treatments have significant effect on students' achievement in History. The partial eta squared of 0.43 implies that the treatment (cooperative and problem-solving learning strategies) accounts for 43% of the observed variance in the post-test scores of students' achievement in History.

Table 3: Estimated Marginal Means and Standard Error of Treatment Groups

Treatment	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Cooperative learning strategy	11.038 <sup>a</sup>	.253	10.539	11.537
Problem-solving strategy	10.636a	.277	10.089	11.182
Conventional strategy	$7.248^{a}$	.263	6.730	7.767

Table 3 shows that the mean post-test scores of students exposed to cooperative learning was the highest (x = 11.04), followed by problem-solving learning strategy (x = 10.64), and then conventional learning strategy (x = 7.25).

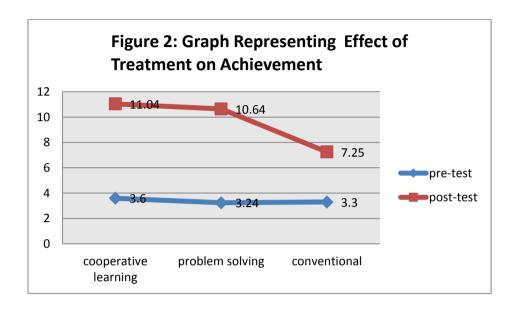


Figure 2 shows that students in the cooperative learning group achieved best which have the highest point plot, followed by students in problem-solving group, and lastly the conventional learning strategy. Scheffe post-hoc multiple comparison test was used to determine the source (s) of the significant difference and see the direction and the amount of variation due to each treatment group, as seen in Table 4.

Table 4: Scheffe Post-Hoc Multiple Comparison

(I) Treatment	(J) Treatment	Mean Difference (I-J)	Std. Error	Sig.
Cooperative learning	Problem-solving	.851	.400	.107
cooperative learning	Conventional	$4.086^{*}$	.384	.000
Problem-solving	Cooperative learning	851	.400	.107
r toblem-solving	Conventional	$3.235^{*}$	.406	.000
Conventional	Cooperative learning	-4.086*	.384	.000
Conventional	Problem-solving	-3.235*	.406	.000

From Table 4, it is seen that the significant mean differences observed are in favour of cooperative and problem-solving learning strategies. The results show that there is significant difference between cooperative learning strategy and conventional learning strategy, and between problem-solving learning strategy and conventional

learning strategy. But there is no significant difference between cooperative learning and problem-solving strategies.

Students achieved more using cooperative learning strategy than problem-solving and conventional learning strategies. This suggests that cooperative learning strategy enhanced student achievement best. This is probably due to the fact that students actively participate in the construction of their knowledge. These findings corroborate those of Zakaria, Chin & Daud (2010) who reported that cooperative learning improves students' achievement. The result also supports the claims of Shimazoe & Al-drich (2010) that cooperative learning promotes deep learning of materials and helps students to achieve better grades. Also, Melihan & Sirri (2011) concluded that the cooperative learning method is more effective than the traditional teaching method in the academic success of students.

**Hypothesis 2:** There is no significant effect of learning styles on students' achievement in History.

The result in Table 2 indicates that there is significant main effect of learning styles on students' academic achievement in History,  $F_{(1,171)} = 11.84$ ; p < 0.05. The second null hypothesis was therefore rejected, which means that learning styles have significant effect on students' achievement. The partial eta squared of 0.07 implies that learning styles only account for 7% of the observed variance in the post-test scores of students' achievement in History.

Table 5: Estimated Marginal Means and Standard Error of Learning Styles

LearningStyles	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Assimilator	9.116 <sup>a</sup>	.217	8.687	9.545
Converger	10.165 <sup>a</sup>	.214	9.744	10.587

The result of Table 5 shows that post-test score of convergers is higher (x = 10.17) than that of assimilators (x = 9.12). This indicates that the convergers performed better in the History achievement test. Students with converger learning style had higher scores in the achievement test than students with assimilator learning style. This result may be due to the fact that students with converger learning style are dominant in the History class. Therefore, students who enjoy active experimentation will tend to perform better academically. The result aligns with the results from Kolb et al (1979) as cited by Marriott (2002) that a person who is converger dominant uses hypothetical-deductive reasoning in handling a situation. He is actively applying concepts in answering a given problem.

**Hypothesis 3:** There is no significant effect of study habit on students' achievement in History.

The results in Table 2 indicate that there is no significant main effect of study habit on students' academic achievement in History,  $F_{(1,171)} = 0.24$ ; p > 0.05. The null hypothesis was therefore not rejected. The partial eta squared of 0.001 implies that learning style only account for 0.1% of the observed variance in the post-test scores of students' achievement in History.

This result may be due to the fact that History is a non-vocational subject in which students might not need high study habit to obtain high achievement scores. This is not to suggest that students' study habit does not impact on their academic achievement at all, but that such effect is not significant. The result supports Adesoji & Oladele (2003), who revealed that study habit had no significant and direct relationship with secondary school students' academic achievement. On the contrary, this finding disagrees with Adetayo (2010) who found out that there is a significant relationship between the students' study habit and achievement scores.

**Hypothesis 4:** There is no significant interaction effect of treatment and learning styles on students' achievement in history.

The results in Table 2 indicate that there is significant interaction effect of treatment and learning styles on students' academic achievement in History,  $F_{(2,171)} = 4.88$ ; p < 0.05. The null hypothesis was therefore rejected, which implies that there is significant interaction effect of treatment and learning styles on students' achievement. The partial eta squared of 0.05 implies that the combination of treatment and learning styles account for 5% of the observed variance in the post-test scores of students' achievement in History.

Table 6: Estimated Marginal Means and Standard Error of Treatment and Learning Styles

Treatment	Learning	Mean	Std. Error	95% Confidence Interval	
	Styles			Lower Bound	Upper Bound
Cooperative	Assimilator	9.856	.393	9.081	10.631
learning	Converger	12.220	.318	11.593	12.847
Dualdana aaladaa	Assimilator	10.499	.345	9.818	11.179
Problem-solving	Converger	10.773	.433	9.919	11.627
Conventional	Assimilator	6.993	.391	6.222	7.764
Conventional	Converger	7.504	.352	6.808	8.199

Table 6 and Figure 3 indicate that irrespective of the learning strategy employed, students with converger learning style reportedly have the highest scores.

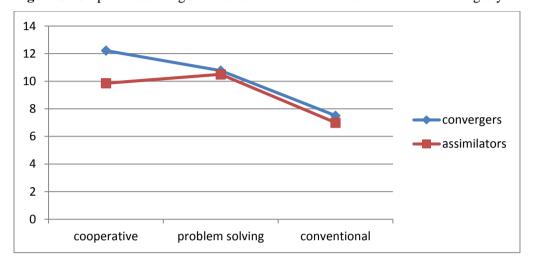


Figure 3: Graphs Illustrating the Interaction Effect of Treatments and Learning Styles

This implies that adjustment of instructional strategies according to the students' learning styles enhances their academic achievement. This result is in support of the view of some scholars like Felder & Brent (2005); Ford & Chen (2001); Fox & Bartholomae (1999); Rogers (2009) & Tulbure (2010) that teaching strategies that meet the learning needs of the students have positive effects on learning outcomes, attitudes toward course contents and learning motivation, and consequently, lead to higher academic achievement. This result is in contrast with the view of Akdemir & Koszalka (2008), Massa and Mayer (2006), & Pashler et al (2008) that there is no adequate empirical support to justify the incorporation of learning style assessments into the educational practice by matching teaching strategies with students' learning styles to improve student performance. In an attempt to explain the differing views of these scholars, it is essential to understand that the interaction of students' learning style and learning strategies cannot be explicitly measured on their academic performance unless students' learning styles is compatible with their instructors learning style.

**Hypothesis 5:** There is no significant interaction effect of treatment and study habit on students' achievement in History.

The result in Table 2 indicate that there is no significant interaction effect of treatment and study habit on student academic achievement in History,  $F_{(2,171)}=0.89$ ; p>0.05. The null hypothesis is therefore not rejected. The partial eta squared of 0.01 implies that treatment (students' learning strategy) and study habit account for 1% of the observed variance in the post-test scores of students' achievement in History, though this is not statistically significant.

This result implies that high variation in students post test scores was not influenced by the interaction of learning strategies introduced as treatment and the student study habit, whether high or low. This is an indication that learning strategies is not sensitive to students' study habit as both student with high and low study habit recorded higher achievement after the treatments.

This result may be due to the fact that History is a format based oriented subject where by, when student understand the concept might not need high study habit to obtain high achievement score irrespective of the strategy used. This result aligns with the work of Adesoji & Oladele (2003) who revealed that study habit had no significant and direct relationship with secondary school students' academic achievement. The result, however, is in contrast with Idialu (2013) who claim that teaching method and study habit interaction has statistically significant effect on students' achievement in Physics.

**Hypothesis 6:** There is no significant interaction effect of learning style and study habit on students' achievement in History.

The results in Table 2 indicate that there is no significant interaction effect of learning styles and study habit on students' academic achievement in History,  $F_{(1,171)} = 0.91$ ; p > 0.05. The null hypothesis is therefore not rejected. The partial eta squared of 0.005 implies that learning style and study habit account for just 0.5% of the observed variance in students' achievement in History, which is not statistically significant.

This means that students' learning style and study habit did not mutually combine to produce a joint impact on students' achievement in History. This shows that improvement in performance of students as seen in their post-test mean scores is strongly dependent on the efficacy of both cooperative and problem-solving learning strategies introduced as treatment. This probably means that students with either converger or assimilator learning style does not demand high study habit to perform better in History. The mean score of students with low and high study habit of both converger and assimilator are nearly equal. The result of this study slightly differs with the findings of Deniz (2013) who submitted that there is a significant relationship between study habits and learning styles.

**Hypothesis 7:** There is no significant interaction effect of treatment, learning styles and study habits on students' achievement in History.

The results in Table 2 indicate that there is no significant interaction effect of treatment, learning style and study habit on students' academic achievement in History,  $F_{(2,171)} = 0.13$ ; p > 0.05. The null hypothesis is therefore not rejected. The partial eta squared of 0.002 implies that treatment, learning styles and study habits account for just 0.2% of the observed variance in students' achievement in History.

The adjusted R square value of .509 indicates that all the independent variables (as we have in this model) accounted for 50.9% of the variance observed in students' academic achievement in History. It shows that treatment, learning style and study habit combined and jointly influenced achievement in History. This implies that the effect of the treatment does not change significantly at the different levels learning style and study habit. The higher level of students' achievement in History observed as a result of treatment in this study did not really depend on both learning style and study habit.

#### Conclusion

The significant main effects of learning strategies and learning style as well as the significant interactive effect of learning strategies and learning styles on students' academic achievement in History is an indication that; learning is internalized faster and better when students' are given opportunity to interact among themselves in small groups and when learning topics are structured to solve real life problems hence, studying becomes fun and learning is facilitated and internalized. Students' also learn better when problem is used as a starting point for new knowledge. Also, adjustment of instructional strategies that will be suitable and appropriate for the students' learning styles will not only improve their thorough understanding of the subject but will enhance academic achievement.

#### Recommendations

This paper thus recommends that History teachers should be sensitized to accept that there is an urgent need for a paradigm shift from the age long conventional teaching/learning approaches to a more student-centred and result oriented approaches. This shift could mean effective combination of the conventional and the cooperative and problem-solving learning strategies in whatever proportion in the teaching of History. They should also be aware that most History students are convergers and more so convergers perform better in History. Hence this should be taken into consideration by incorporating learning strategies that are embedded on student active participation, group discussions as well as creating opportunities for feedback on difficult areas. Teachers should adjust instructional strategies according to the student learning styles as it enhances achievement in History.

Students should be encouraged to open-mindedly co-operate with the efforts of the History teacher in particular and the school authority in general in the use of these learning approaches. For instance, every History problem and assignment must be done and submitted promptly. They should also contribute fully during group exercises and discussions. History students should take into consideration their learning strategies and styles in order to understand how best they learn and master the subject.

#### References

- Adesoji, F. A. & Oladele, O. (2003). Student and teacher related variables as determinant of secondary school achievement in Chemistry in Lagos State Nigeria.
- Adetayo, J. O. (2010). Predicting students' achievement in accounting using study habit and attitude scores. *Journal of Social Science and Public Policy*. 2: 34-43.
- Ainley, M. (2006). Connecting with learning: Motivation, affect and cognition in interest processes, *Educational Psychology Revie*.18: 391–405.
- Ainley, M. & Patrick, L. (2006). Measuring self-regulated learning processes through tracking patterns of student interaction with achievement activities. *Review of Educational Psychology*18:267-286.
- Akdemir, O. & Koszalka, T. A. (2008). Investigating the relationships among instructional strategies and learning styles in online environments, *Computers and Education*, 50: 1451-1461.
- Cano-Garcia, F. & Hughes, E. H. (2000). Learning and thinking styles: An analysis of their interrelationship and influence on academic achievement. *Educational Psychology*, volume 20:4, 413-430.
- Deniz, S. (2013). Analysis of study habit and learning styles in university students. 21.1: 287-302.
- Echebe, P. I. (2008). *Effective study and examination skills for learners*. Port Harcourt: Port Harcourt University of Press.
- Eng, C. S. (2001). Problem-solving learning Educational tool or philosophy. Australia: University of Newcastle.
- Federal Republic of Nigeria (FRN) (2008). *National policy on education*. Lagos: NERDC Press.
- Felder, R. M. & Brent, R. (2005). Understanding student differences. *Journal of Engineering Education*. 4.1: 57-72.
- Felder, R. M. & Brent, R. (2007). Cooperative Learning. In Madrouk, P. A. (Ed). Active learning: Models from the analytical sci. *ACS Symposium series*, 97: 34-53. Washington DC.
- Fielden, K. (2004). Evaluating critical reflection for postgraduate students in computing. Informing Science and Information Technology Education Joint Conference, 2005.

- Ford, N. & Chen, S. Y. (2001). Matching/mismatching revisited: An empirical study of learning and teaching styles. *British Journal of Educational Technology*, 32.1: 5-22.
- Fox, J. & Bartholonemea, S. (1999). Students learning style and educational outcomes: Evidence from a family financial management course. *Financial Service Review*. 8: 235-251.
- Gallagher, S. A., Stephien, W. J., Sher, B. T. & Workman, D. (1999). Implementing Problem-Based Learning in Science Classrooms. *School Science and Mathematics*, 95.3: 136-146.
- Jawahitha, S. (2013). *Learning styles and training methods Vol. 2013*. Article ID 311167, pages 9 IBIMA Publishing.
- Kolb, A. Y. (2005). *The Kolb learning style inventory—version 3.1 2005 technical specifications*. Boston, MA: Hay Resource Direct.
- Kolb, A. Y. & Kolb, D. A. (2009). The learning way: Meta-cognitive aspects of experiential learning. *Simulation & Gaming*, 40.3:297-327.
- Kolb, D. A. (1984). Experiential learning—experience as a source of learning and development. Englewood Cliffs, NJ: Prentice-Hall.
- Idialu, A. (2013). Effect of interaction of teaching method and study habits on students' achievement in Chemistry faculty.
- Major, C. H., Baden, m. s. & mackinnon, m. (2000). issues in problem based leaning: a message from guest Editors. *Journal on Excellence in College Teaching*, USA, Web Edition, 11, 3.
- Mangle, S. K. (2008). *Advanced Educational Psychology*. (2nd Edi). New Delhi: Prentice Hall of India.
- Marriott, P. (2002). A longitudinal study of undergraduate History students' learning style preferences at two UK universities History Education.II.1: 43-62.
- Massa, L. J. & Mayer, R. E. (2006). Testing the ATI hypothesis: Should multimedia instruction accommodate verbalizer-visualizer cognitive style? *Learning and Individual Differences*, 16:321-336.
- Melihan, U. & Sirri, A. (2011). The effect of cooperative learning method on the students' success and recall levels of the 8th grade students learning in permutation and probability subject. *Journal of Kirsehir Education Faculty*, 12: 1-16.
- Miller, R. B. & Brickman, S. J. (2004). A model of future-oriented motivation and self-regulation. *Educational Psychology Review*, 16: 9-33.

- Ogunu, M. A. (2000). Strategies for effective supervision of instruction in UBE programmers: In Awabor, D. & Aghenta, J. A. (eds.). *Proceedings of the 15th Annual Congress of the Nigerian Academy of Education*. Benin city, Ambik Press Ltd, 155
- Pashler, H., McDaniel, M., Rohrer, D. & Bjork, R. (2008). Learning styles. Concepts and evidence, *Psychological Science in the Public Interest*, *9*:105-119.
- Rogers, K. M. A. (2009). A preliminary investigation and analysis of student learning style preferences in further and higher education. *Journal of Further and Higher Education*, 33.1: 13-21.
- Shimazoe, J. & Aldrich, H. (2010). Group can be gratifying: Understanding and overcoming resistance to cooperative learning. *College Teaching*, 58: 52-57.
- Tulbure, C. (2010). Determinanțipsihopedagogiciaireuşiteiacademice (Psychological and educational predictors of academic achievement), Cluj-Napoca: PresaUniversitaraClujeana.
- Webb, N., Troper, J. & Fall, R. (1995). Constructive activity and learning in collaborative small groups. *Journal of Educational Psychology*, 87: 406-423.
- Yuzhi, W. (2003). Using Problem-solving learning and Teaching Analytical Chemistry. *The China Papers*, July, 28-33.
- Zakaria, E. & Iksan, Z. (2007). Promoting cooperative learning in science and mathematics education: A Malaysia perspective. *Eurasia Journal of Mathematics, Science & Technology Education*, 3:35-39.
- Zakaria, E. Chin, L. C. & Daud, M. Y. (2010). The effects of cooperative learning on students' Mathematics achievement and attitude towards mathematics. *Journal of Social Science*, 6: 272-275.
- Zhang, L. & Sternberg, R. J. (2006). *The nature of intellectual styles*. Mahwah, NJ: Erlbaum