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Article _____

Potential Link Between Several Learner Characteristics and Second Quarter Achievement in Science (Physics) of Grade VIII Students

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Abstract

The primary objective of this study is to the determine and analyze the potential link between several learner characteristics (brain dominance, self-esteem and study skills) and their achievement for the second quarter in Grade VIII Science of selected students of Casimiro A. Ynares Sr. Memorial National High School. This study employed three adapted research tools in a questionnaire check list form as main tool in gathering the needed data. One hundred students served as respondents of the study. Results showed that there is no significant difference among the achievement of learners with varied brain dominance and that the achievement of the students does not favour in any particular learner groups based on brain dominance. Furthermore, there is also no significant difference among the achievement of learners with varied self-esteem this implies that that a high, low or moderate self-esteem does not affect the learner's achievement in Science. On the other hand, there is significant difference among the achievement of learners with varied study skills. This suggests that a strong study habit or skills have a great effect on the learners' achievement in Science for the second quarter. The results also revealed a low and no significant correlation exist between self-esteem and achievement, the relationship is not significant because of the low achievement of learners reflected through the second quarter grade with varied self-esteem. On the other hand, there is a high significant correlation that exist between study skills and the achievement of learners. The results imply the importance of a study habit or skills to be able to achieve a high academic achievement in Science. Lastly, a moderate significant correlation exists between self-esteem and study skills as also revealed on the table. In the light of the findings it is recommended that teachers should understand and know their students deeply.

Keywords: *achievement, brain dominance, learner characteristics, self-esteem, study skills*

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INTRODUCTION

Over the recent years, teachers have engaged into many academic researches that have increased the understanding of human cognition, provided greater insight into how knowledge is organized, how experience shapes understanding, how people monitor their own understanding, how learners differ from one another, and how people acquire expertise and knowledge. From these emerging bodies of research, educators and others have been able to synthesize a number of underlying principles of human learning. This growing understanding of how people learn has the potential to influence significantly the nature of education and its outcomes because in schools, teachers manage and have great significant effects on students' learning. However, learning is enhanced if students can manage it themselves; moreover, once they leave school, people have to manage most of their own learning. To do this, they need to establish their goals, persevere, monitor their learning progress, and adjust their learning strategies as necessary and to overcome difficulties in learning. Students who leave school with the autonomy to set their own learning goals and with a sense that they can reach those goals are better equipped to learn throughout their lives.

A genuine interest in school subjects is important as well. Students with an interest in a subject like mathematics and science are likely to be more motivated to manage their own learning and develop the requisite skills to become effective learners of those subjects. Hence, interest in mathematics and science are relevant when considering the development of effective learning strategies in learning the subjects. In contrast, anxiety and learning difficulty can act as a barrier to effective learning. Students who feel anxious about their ability to cope in learning situations may avoid them and thus lose important career and life opportunities. Moreover, majority of students' learning time is spent in school and as such the climate of the school is important for the creation of effective learning environments. If a student feels alienated and disengaged from the learning contexts in school, his or her potential to master fundamental skills and concepts and develop effective learning skills is likely to be reduced. A comprehensive assessment of how well a country is performing in education must therefore look at these cognitive, affective and attitudinal aspects in addition to academic performance. Education is crucial to the success of an individual in their future life as an adult, and the best way to start an individual off on the right path is by providing the most superior education that the parents, schools and state can provide. While many public schools get a bad reputation for huge classes, lack of facilities, number of shifts and little attention to some details of the academic subjects, continuous improvements efforts have been exerted by many school administrators to be able address those issues. Meeting the individual needs of each student can be a monumental task for teachers. But doing so is very important for preparing these students to become active, effective learners for life. This is a big leap away from the near factory style "teaching to the test" that has been used for years. Moving toward a more personal approach can help ease stress on both teacher and student in the classroom, especially in small class sizes. In identifying each student's individual learning needs, that student becomes a kind of partner in their teaching. They can feel a sense of personal, active engagement with the material, rather than a passive, just show up kind of class. This active engagement leads to a more adaptive

learning that can better prepare students for future learning and careers. It also shifts the focus from just the test material, broadening the scope of classroom material. In short, shifting to a more personalized learning paradigm leads to more actively engaged students, and allows for each student's individual talents to develop. The classroom becomes a place of effective study, and less of a bore to some students, less stress for others. The struggling student can get more help, and the advanced student can be more engaged and challenged at the same time as the average student is enabled to advance further in their understanding of the material. All of these students will also have the necessary skills to move on in their education, or to adapt to the constant changes of any career later on. Understanding students is very important to teaching. In order to plan how to teach your students or ways to present a subject in an interesting manner a teacher needs to know what motivates and how the students learn, what background the students are bringing to the classroom, as well as the student's interests. A growing individual are changing cognitively, socially, and physically which all affect their learning. Students are also impact and affected by their culture, neighbourhood, peers and certain characteristics. Knowing much of their background helps teacher understand students and in turn can answer question, such as: 'How can I help this student learn better?' or 'What in the student's life can I relate this topic to so it is interesting?' Anyone can stand up and teach a class about any topic, but understanding the students completes a teacher. While students themselves are the most responsible for their own learning, good teachers should also accept responsibility for the learning of their students. High School students cannot focus solely on the delivery of content while assigning all responsibility for learning to the students. Teachers can do much to encourage and enhance learning both in classrooms and laboratories and outside of them. Teachers who continually try to understand their audiences and to address student interests, deficiencies, and misconceptions will be the most successful in helping students to meet their own responsibilities to learn.

METHODOLOGY

Research Design

The study was exploratory in nature. A descriptive survey was adapted using the correlational-comparative research design. Information on learner characteristics such as brain dominance, self esteem and study skills as well as the subsequent achievement in Grade VIII Science were gathered in a natural classroom setting. This design is the most appropriate design for the study considering the objective of the research is to describe the characteristics and compare their achievement in terms of quarterly grade.

The Population/Research Sample

The samples that participated in this study are 100 Grade VIII students of Casimiro A. Ynares Sr. Memorial National High School, a public junior high school located in the municipality of Taytay in the province of Rizal. Non probability sampling technique was used

in selecting the respondents of the research study from the existing school population, samples were selected because of their availability during the conduct of the study. Subjects came on a voluntary basis, this technique is considered easiest, cheapest and less time consuming.

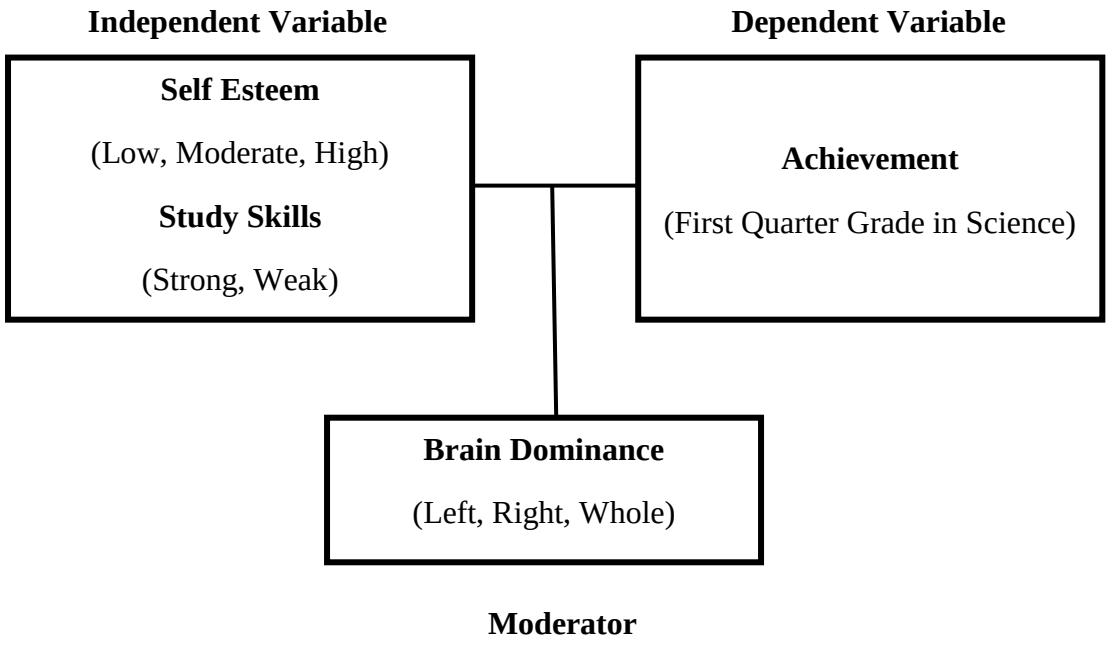

Figure 1. The Conceptual Paradigm of the Study

The Brain Dominance Questionnaire developed by while leading management education at General Electric's Crotonville facility was adapted to be able to classify the respondents based on brain dominance. As shown below 67% are left brain dominant, 19% are right brain dominant and 14% are whole brain learners.

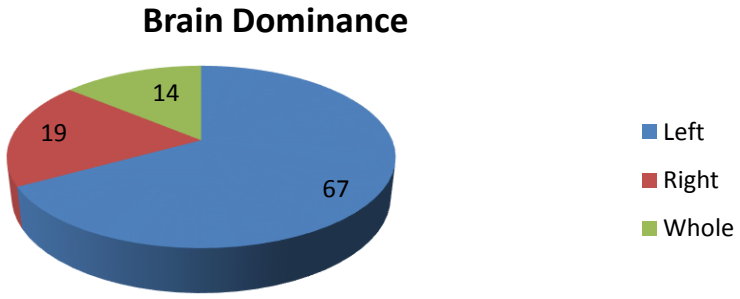

Figure 2. The Brain Dominance of the Research Respondents

Based on the Rosenberg Self Esteem Scale (RSES), developed by sociologist Dr. Morris Rosenberg, 78% of the research respondents have moderate self esteem, 18% are high and 4% have low self esteem. The distribution is presented on the figure below:

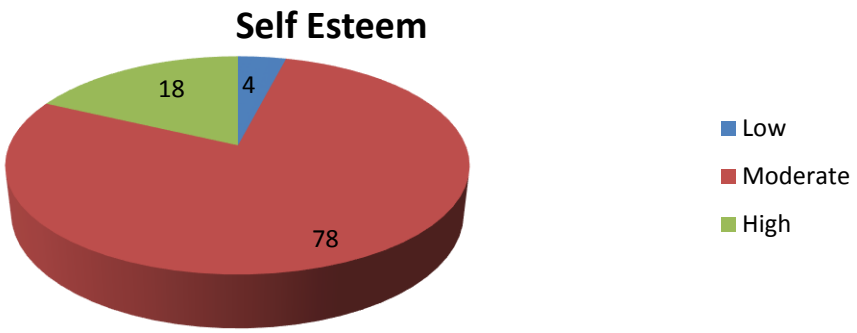

Figure 3. The Level of Self Esteem of the Research Respondents

Figure 3 below shows the study skills of students based on the tool adapted from the University of Central Florida's Student Academic Resource Centre. Sixty percent of the research respondents have strong study habits or skills while 40% have weak study skills.

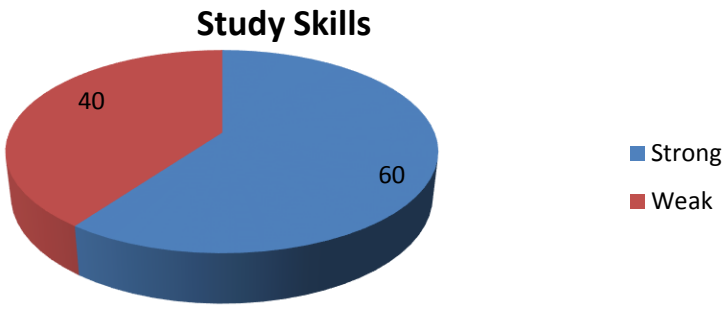

Figure 4. The Level of Study Skills of the Research Respondents

Based on the questionnaire, there are six critical study skills students need to consistently develop to be able to achieve better school performance: text book reading, note taking, memory, test preparation, studying, and time management. As reflected in the graphical representation below, test preparation and reading books are most common study habits of the learners participated in the study, while note taking is the least among the six styles of studying.

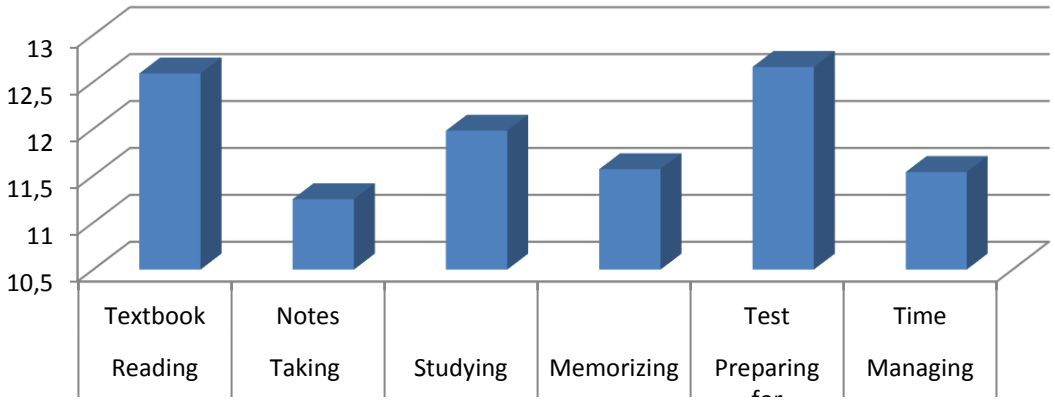

Figure 5. The Graphical Representation of the Study Styles of the Research Respondents

Research Instrument

Three research instruments were used in gathering the needed data for the study. The adapted tools were: Hermann Brain Dominance Instrument, Rosenberg Self Esteem Test and the Study Skills Tool. The instruments were outsourced from the internet and have been used by other researchers from different countries.

Hermann Brain Dominance Instrument

The Herrmann Brain Dominance Instrument (HBDI) is a system to measure and describe thinking preferences in people, developed by William "Ned" Herrmann while leading management education at General Electric's Crotonville facility. It is a type of cognitive style measurement and model, and is often compared to psychological assessments such as the Myers-Briggs Type Indicator, Learning Orientation Questionnaire, DISC assessment, and others. The format of the instrument is a 120-question test, which claims to determine which of the model's four styles of thinking (analytical thinking, sequential thinking, interpersonal thinking, imaginative thinking is a dominant preference. For the purpose of this study only fifteen questions were taken from the original questionnaire for the convenience and consideration of the high school students that served as respondents.

Rosenberg Self Esteem Test

The Rosenberg self-esteem scale (RSES), developed by sociologist Dr. Morris Rosenberg, is a self-esteem measure widely used in social-science research. It is a widely used self-report instrument for evaluating individual self esteem, it is composed of a 10-item scale that measures global self-worth by measuring both positive and negative feelings about the self. The scale is believed to be uni-dimensional. All items are answered using a 4-point Likert scale format ranging from strongly agree to strongly disagree.

Study Skills Tool

The tool content was adapted from the University of Central Florida's Student Academic Resource Centre. The tool is composed of 30 self evaluation questions. Based on the questionnaire, there are six critical study skills students need to consistently develop to be able to achieve better school performance: text book reading, note taking, memory, test preparation, studying, and time management. At the conclusion of the inventory, each of the skills will be assessed based on the manner in which the questions were answered.

Research Procedure

The conduct of the study was divided into three phases, it started with the preparation which involved the sourcing, pilot testing, revision and validation of the research instruments, seeking of approval to conduct the study from the parents of the involved learners and the school principal and other persons concerned, and the selection of research respondents. The second phase is the administering of the research instruments to the research respondents and computing the second quarter grade in Science Grade VIII. Presented in Table 1 is the time table followed in doing the study.

Data Analysis

Presented here are the data processing and the subsequent analyses made to the gathered data to enable the researcher answer the questions posed in the first part of the study pertaining to the students' brain dominance, self esteem and study skills.

Brain Dominance Test

The format of the instrument is a 120 question test, which claims to determine which of the model's style of thinking (left brain, right brain and whole brain dominance). For the purpose of this study only fifteen questions were taken from the original questionnaire for the convenience and consideration of the high school students that served as respondents. The questionnaire was redesigned so that the respondents could be able to answer the questions by placing a mark or by choosing the letter of the answer that best describes their characteristics. In the determining the brain dominance based on the answer of the respondents, the frequency of the "A" and "B" answers were added. All "C" answers were not considered in the computation of the brain dominance. A negative (- minus) sign was placed on the "A" score and a positive (+ plus) sign was denoted in front of the "B" score. The algebraic sum of the "A" and "B" scores were taken. A positive sum indicates the presence of the right brain dominance and a negative sum denotes the left brain dominance of the respondents. An algebraic sum of zero "0" means that the learner has a functional whole brain in learning.

Self Esteem Inventory

The questionnaire is composed of a 10-item scale that measures self-worth by measuring both positive and negative feelings about the self. All items were answered using a 4-point Likert scale format ranging from strongly agree to strongly disagree. The algebraic sum of the scores was taken for the interpretation of responses. A summative score between10-20 indicates a low self esteem, scores between 21-30 means a moderate self esteem on the other hand a score between 31-40 shows a high self esteem. For questions expressed in the negative form, the students' response was rated with the following scores:

1- Agree
2- Strongly Agree
3- Disagree
4- Strongly Disagree
5-

Study Skills Questionnaire

The tool is composed of 30 self evaluation questions intended to measure the critical study skills students need to consistently develop to be able to achieve better school performance: text book reading, note taking, memory, test preparation, studying, and time management. Every respondent was rated on the basis of their response with a corresponding score. The scores were used are as follows:

4- Always

3- Often

2- Sometimes

1-Seldom

0- Never

Summative score between1-10 indicate a weak study skills or habit and a score between11-20 means a strong study skill of the respondents.

Statistical Treatment

The gathered data were grouped, tabled and carefully organized and interpreted by the researcher for the drawing of conclusions. Frequency, percentage and ranking are all reflected in tabular and graphical forms. Gathered raw data were statistically processed and analyzed using MS EXCEL software. Descriptive and inferential statistics were used to treat the data for the basis of interpretation. The t-test for independent samples was applied to compare the achievement in science and study skill. The Analysis of Variance (ANOVA) was used to compare students' science achievement across brain dominance and self esteem. The Pearson Product Correlation Coefficient (Pearson r) was computed to determine if the students' science achievement is related self esteem and study skills. All test of relationships and differences were evaluated at 0.05 level of confidence.

RESULTS

3.1. Figures and Tables

Students' Second Quarter Achievement in Grade VIII Science

The students' second quarter achievement in Grade VIII Science with respect to certain characteristics is presented in three sub-sections. The first sub-section is the achievement profile of students based on brain dominance (left, right and whole brain dominant), the second sub-section is the student's achievement relative to self esteem (low, moderate and high) and the third sub-section is the student's achievement across of study skills (weak and strong).

Science Achievement of Students and Brain Dominance

Table 1 presents the frequency counts of the students based on brain dominance, the highest and lowest second quarter grade and some descriptive statistics. As shown in the table majority or 67 out of the 100 research respondents are left brain dominant, 19 are right brain dominant and 14 are whole brain dominant. Overall mean and standard deviation based on descriptive statistics are 81.07 and 5.42 respectively.

Table 1. Second Quarter Achievement in Science and with Respect to Brain Dominance

Brain Dominance	N	Achievement		Mean	Standard Deviation
		Minimum	Maximum		
Left	67	75	93	81.24	5.35
Right	19	75	88	79.95	4.88
Whole	14	75	91	81.78	6.55
Overall	100	75	93	81.07	5.42

Table 2 shows the summary of statistics for the one-way analysis of variance to determine if there is significant difference across brain dominance and achievement for the second quarter in Grade VIII Science. As shown in table 3, the computed f-value is 0.5570 with a probability of 3.090 which is less than the F-critical of $a = 0.05$. This indicated that there is no significant difference among the achievement of learners with varied brain dominance. This implies that the achievement of the students does not favour in any particular learner groups.

Table 2. Analysis of Variance of Students' Achievement across Brain Dominance

ANOVA

Source of Variation	*Sum of Square*	*Df*	*Mean Square*	$F_{computed}$	*P-value*	*a = 0.05 F crit*
Between Groups	33.0263	2	16.513	0.5570	0.5747	3.0901
Within Groups	2875.48	97	29.644			
Total	2908.51	99				

Science Achievement of Students and Self Esteem

Table 3 presents the frequency counts of the students based on self-esteem, the highest and lowest second quarter grade and some descriptive statistics. As shown in the table majority or 78 out of the 100 research respondents have moderate self-esteem, 18 are high and 4 have low self-esteem. Overall mean and standard deviation based on descriptive statistics are 81.02 and 5.42 respectively.

Table 3 Second Quarter Achievement in Science and with Respect to Self Esteem

Self Esteem	N	Achievement		Mean	Standard Deviation
		Minimum	Maximum		
Low	4	75	87	78.00	6.00
Moderate	78	75	90	81.03	5.20
High	18	75	93	81.94	6.25
Overall	100	75	93	81.02	5.42

Table 4 shows the summary of statistics for the one-way analysis of variance to determine if there is significant difference across self-esteem and achievement for the second quarter in Grade VIII Science. As shown in table 5, the computed f-value is 0.8763 with a probability of 3.090 which is less than the F-critical of a = 0.05. This indicated that there is no significant difference among the achievement of learners with varied self esteem. This implies that a high, low or moderate self esteem does not affect the learner's achievement in Science.

Table 4. Analysis of Variance of Students' Achievement with Respect to Self Esteem

Source of Variation	***Sum of Square***	***df***	***Mean Square***	$F_{computed}$	***P-value***	***a= 0.05 F crit***
Between Groups	516.168	2	25.808	0.8763	0.4196	30.901
Within Groups	2856.89	97	29.452			
Total	2908.51	99				

Science Achievement of Students and Study Skills

Table 5 presents the frequency counts of the students based on self-esteem, the highest and lowest second quarter grade and some descriptive statistics. As shown in the table majority or 60 out of the 100 research respondents have strong study skills and 40 have weak study skills. Overall mean and standard deviation based on descriptive statistics are 81.07 and 5.42 respectively.

Table 5. Second Quarter Achievement in Science and with Respect to Study Skills

Study Skills	**N**	**Achievement**		**Mean**	**Standard Deviation**
		Minimum	**Maximum**		
Strong	60	75	93	82.08	5.47
Weak	40	75	91	79.55	5.04
Overall	100	75	93	81.07	5.42

Table 6. t-Test: Two-Sample Assuming Unequal Variance in Study Skills

Group	**N**	**Mean**	**Difference**	**T-stat**	**P(T<=t) two-tail**	**T Critical 2-tail**	**Interpretation**
Strong	60	82.08	2.55	2.38	0.019	1.98	Significant
Weak	40	79.55					

Table 6 shows the summary of statistics for the t-Test of two samples assuming unequal variance to determine if there is a significant difference across study skills and achievement for the second quarter in Grade VIII Science. As shown in table the value of computed P(T<=t) two-tail which is 0.019 is less than the p value of 0.05 this indicates that there is significant difference among the achievement of learners with varied study skills. This implies that a strong study habit or skills have a great effect on the learner's achievement in Science for the second quarter.

Correlation between Students Achievement and Certain Learner Characteristics

Table 7 presents the computed correlation between self esteem, study skills and second grading achievement in Grade VIII Science. The table shows the value of the computed Pearson r correlation on different variable pairs like self esteem and achievement (0.202), study skills and achievement (0.405) and study skills and self esteem (0.240).

Table 7. Correlation between Certain Learner Characteristics and Achievement in Science

	Self Esteem	**Study Skills**	**Achievement**
Self Esteem	1		
Study Skills	0.24040825	1	
Achievement	0.20236554	0.4053356	1

Results reveal on Table 8 the computed Pearson r correlation coefficients and interpretation between the students' achievement and learner characteristics.

Table 8. Significance of Pearson r Correlation

Variable Pair	***R***	***P***	***Interpretation***
Self Esteem vs. Achievement	0.202	0.159	+, low, NS
Study Skills vs. Achievement	0.405	0.001	+, moderate, HS
Self Esteem vs. Study Skills	0.240	0.016	+, moderate, S

The results reveal a low and no significant correlation exist between self esteem and achievement as revealed by the value of r which is 0.202 and a computed p which is higher than 0.05. The relationship is not significant because the low achievement of learners reflected through the second quarter grade with varied self esteem. This implies that a high, low or moderate self esteem does not affect the learner's achievement in Science. On the other hand, there, high significant correlation that exist between study skills and the achievement of learners as shown in the table, the value of r which is 0.405 and the computed p value is lower than 0.05.

The results imply the importance of a study habit or skills to be able to achieve a high academic achievement in Science. Lastly, a moderate significant correlation exists between self esteem and study skills as also revealed on the table.

CONCLUSION

1. Brain dominance has no effect on the student's achievement in Science that learners do have different personalities and have unique strengths and weaknesses in how they process information and personalities and abilities of learners are not determined by favoring one hemisphere over the other, but both hemispheres are used by learners in thinking processes. This implies that the achievement of the students does not favour in any particular learner groups based on brain dominance.
2. Self esteem is a critical component of students' psychological structure and it supports how a person deals with daily activities. That when students receive good grades, they may automatically feel better about themselves, thereby increasing their self-worth and automatically increasing their self-esteem. However, based on the results of this study, whether high, low or moderate self esteem does not affect the learner's achievement in Science.
3. Strengthen study habits and study skills of students can play an important role in the improvement of their academic performance, furthermore weakness in study habits and study skill and deficit in planning and time management, concentration and note taking skill resulted to poor performance of students. This implies that a strong study habit or skills have a great effect on the learner's achievement in Science for the second quarter.

3.3. Recommendations

1. Learners should be aware of their own neurological strengths and weaknesses and should help themselves strengthen the weaker parts of their brain. Learners should understand how their brain processes information to help themselves learn fast and efficiently. They should consider that no matter which hemispheric dominance they have, they need to learn to adapt to varied learning strategies that will lead them to academic success.
2. Teachers may facilitate the learning of the brain dominance of learners by promoting balancing hemispheric interaction. They should understand the processes at work in the learners' brain to help their learners explore their individual preferences. Teachers should consider teaching strategies of more balanced approach that will equally address the needs of their learners. They must recognize the right-brain, left-brain and whole brain characteristics in their learners for them to plan instructional classroom activities that will stimulate the use of learners' both hemispheres to attain the expected learning outcomes.
3. School authorities, specially guidance counsellors, class advisers and subject teachers should be aware of the importance of developing the self esteem of students in overcoming challenges in life whether it has link or effects to the students' performance

in school. When students understand that their failures are a result of efforts rather than abilities, they will probably exhibit a greater persistence to overcome their failures rather than developing attitude helplessness.

4. New conception of teaching and learning in school should be considered by deepening and increasing the knowledge of teachers in understanding of students' individual differences in cognitive characteristics and behavioural strategies in the way they perceive information and learning things.
5. Developing and improving one's study skills can help in many ways like: make more efficient use of study time - get more work done in less time, making learning easier, and help retain what an individual have learned for longer, feeling the work and effort involved is worthwhile.
6. Additional research needs to be conducted to confirm the findings of this study. Other learner characteristics should be included aside from those included in this study.

REFERENCES

Abell, Lederman (2007). Handbook of Research on Science Education. L.E Associates Press: New Jersey

Anderson, A. (1999). Study Skills and Learning Strategies. Center for the Study of Reading, University of Illinois, Illinois, United States of America

Bautista, V. A. (1998). Research and Public Management. UP Open University Publishing: Quezon City

Boyd, A. (2012). Brain Hemisphere Dominance: Building the Whole-Brain Singer. Florida State University

Branden, N. (2001). The Psychology of Self-Esteem. Nash Publishing, United States of America.

Caintic, Cruz (2008). Scientific Research Manual. Quezon City: C & E Publishing, Inc.

de Jagger M. (2009). Left Brain, Right Brain or Whole Brain? Mind Moves Institute, Johannesburg, South Africa

Dehghani GH.A. (2014). Relationship of Study Skills and Exam Preparation Method in Master Students. Bimonthly of Education Strategies in Medical Sciences, Tabriz University of Medical Sciences

Edward E. (2012). Handbook on Qualitative Research in Education. E. Elgar Limited Publishing: Massachusetts

Feldman R. (2005). Understanding Psychology. Mc Graw Hill Publishing: New York

Ferrer F. (2015). Correlation of Learners' Brain Dominance and Mathematics Performance: An Investigation in Educational Setting. International Journal of

Innovation and Scientific Research, University of the City of Manila, Intramuros, Manila, Philippines

Fraenkel, Wallen (2006). How to Design and Evaluate Research in Education. Mc Graw Hill Publishing: New York

Hassanbeigi A. (2011). The Relationship between Study Skills and Academic Performance of University Students. Procedia - Social and Behavioral Sciences, Shahid Sadoughi University of Medical Sciences, Yazd, Iran

Iniama E. (2004). The Relationship between Self Esteem and Academic Performance of Freshman at the University of the Virgin Islands, University of the Virgin Islands

Keat T. et al (2015). The Relationship between Brain Dominance and Academic Performance: A Cross-sectional Study. British Journal of Medicine & Medical Research, Melaka Manipal Medical College, Malaysia.

Mansour E. et al. (2017). Hemispherical Brain Dominance and Academic Achievement among Nursing Students. IOSR Journal of Nursing and Health Science, Tanta University, College of Nursing, Egypt

National Institute of Neurological Disorders and Stroke (2007). Brain basics: Know your brain. Retrieved from http://ninds.nih.gov/disorders/brain_basics/know_your_brain.htm?css=print

Nematollahi A. (2015). The Relationship between Self-Esteem and Students' Academic Achievement and Some Parental Demographic Factor. Scholars Journal of Applied Medical Sciences, University of Medical Sciences, Shiraz, Iran

Nouhi E, (2008). Study habits and skills and Academic Achievement of Students in Kerman University of Medical Sciences. Journal of Medicine Education, Kerman University of Medical Sciences

O' Donoghue, R. (2006). Study Skills: Managing your Learning. Access Office, NUI Galway National University of Ireland, Galway

Sasikala, V. (2012). Influence of Study Skills and Academic Achievement of B.E. Teacher Trainees. International Journal of Scientific and Research Publications, Faculty of Education, Chennai, India

Singh, P. (2015). Interaction effect of Brain Hemispheric Dominance and Self-Concept on Academic Achievement in Mathematics. Research Inventy:

International Journal of Engineering and Science, Khalsa College, Mahilpur. (Hoshiarpur), Punjab. India

Ulrich, J.K. (2010). The Relationship between Self-esteem and Academic Achievement A Research Paper, Adler Graduate School