FACTORS AFFECTING THE STUDENTS' ACADEMIC ACHIEVEMENT AND STUDY HABITS OF ISABELA STATE UNIVERSITY-JONES CAMPUS IN THE HISTORY OF BIOLOGICAL THEORIES

KRISTINE MAE CULTURA-SADANG
https://orcid.org/0000-0001-8018-1507
krisculturajones@gmail.com
Isabela State University-Jones Campus
Barangay 1, Jones, Isabela, Philippines

ABSTRACT

History in biological concepts does not end. It develops intermittently that brings forth new ideas and continually throws fresh light on the past. This research work is addressed in this analysis using statistical models. Essentially, the normative-descriptive method was used with 40 students enrolled in Biology subjects at Isabela State University-Jones Campus who served as respondents of the study. More so, factorial multivariate analysis of covariance (MANCOVA), using Pillai's trace (V) statistic was also used. For each covariate, homogeneity of regression slopes was assessed against the fixed factors using a univariate model. Likewise, discriminant function analysis (DFA) was used and Wilks' lambda (Λ) was used to assess the significance of these functions and canonical R^2 to assess the relative importance of each. Results revealed that there was no significant effect of profile variables; study habits and academic achievement cannot be used to make significant differentiations on levels of the respondents' parents' monthly income, and this cannot be used to make significant predictions on respondents' biological sex. It is recommended for future researchers to increase the number of participants to intensify the power of the three procedures. For the factorial MANCOVA, it is good to reduce the number of profile variables and include only those that are theoretically relevant to academic achievement and study habits.

Keywords: Education, Academic Achievement, Study Habits, Biology, History, 21st century, Respondents, correlation coefficient

INTRODUCTION

History is constantly moving. It evolves gradually, introducing novel concepts and continuously shedding new light on the past. In the nineteenth century, proponents of the idea were so enthusiastic about it that they predicted it would cause a revolution in every aspect of society, including politics, science, social structures, and even philosophy and religion. It is a significant objective that is demanded of every person in every culture. Teenagers discover their talents, abilities, and competences through academic accomplishment, which is a crucial step in the process of building career aspirations. The success of the pupils is one of the most crucial results of any educational setting. Individuals are classified as high, average, or poor achievers based on their degree of success.

In the history of biological theories, students' study habits have always been a significant determinant of their academic success. This might embrace the past's history. The philosophical concepts equip them with the information needed to easily complete the lessons. Both internal and external influences might have an impact on pupils' academic performance (extern). Psychological and physiological elements are

P – ISSN 2651 - 7701 | E – ISSN 2651 – 771X | www.ioer-imrj.com

SADANG, K.M.C., *Factors Affecting the Students' Academic Achievement and Study Habits of Isabela State University Jones Campus in the History of Biological Theories, pp. 32 -39*

32

internal aspects, whereas environmental and instrumental factors are external factors. Study habits are psychological elements that have a significant impact on academic progress. Poor study habits can play a significant role in the inability to succeed academically. Being organized, taking good notes, reading your textbooks, paying attention in class, and working every day are all examples of strong study habits (Verma, 2016).

It is well known that students' study habits or learning styles have a real impact on their academic success. A persistent area of scholarly interest has been the contribution of effective study techniques and attitudes to academic success. The student's study habits aid this research endeavor because it is the basis of the subject matter in school. The study is accurate, crucial to learning, and individuals who understand how to study and who have ideal circumstances typically experience effective learning. The ineffective study is by far the biggest and most persistent issue facing students. They struggle with their academic work, which prevents them from passing their college courses. Such a sad state of affairs is indicative of how poorly pupils do in various academic disciplines, including history, philosophy, and verbal, mathematical, and scientific reasoning. There is no denying that academic performance among students and graduates has generally declined.

Due to the fact that study skills are linked to academic success, it is in the best interests of both students and instructional staff to teach pupils inefficient study techniques. Lack of study skills is one of the most commonly mentioned issues among high school and college students. Effective study habits are just as important to academic success as talent and effort. A complete understanding of the kid is essential to ensuring that he develops to his fullest potential in all areas of learning, and this understanding is essential to the efficacy of education.

Reading books, attending lectures, taking examinations, and going to the library had correlation coefficient values ranging from high to low for study habit markers. According to this study, reading for pleasure had the strongest link. It is advised to carry out experimental studies on how effective reading habits are (Prasetyo E., Ridlo S., Kartijono N.E., 2019).

Theoretically, a student's academic performance and study habits are tightly related (Alva, 2017; Ebele & Olofu, 2017; Obadara & Olaopa, 2018; Magulod, 2019). Students who practice good study habits will perform better academically. Variable study habits do not work alone to raise academic performance. Academic accomplishment is influenced by a number of factors, including learning styles, learning strategies, learning activities, encouraging student engagement, literacy, and attitude (Üzüm & Pesen, 2018; Alburaidi & Ambusaidi, 2019; Salvo, Welch & Shelton, 2019; Kumaraswamy, 2019). Meanwhile, the Biology Learning Station Strategy (BLISS) is a successful method for raising students' science proficiency and biology attitudes. D.V. Rogayan Jr. (2019).

Academic success and study habits can therefore be inferred from the foregoing as purchasing a committed scheduled and uninterrupted time to devote to the work of learning. Without it, one does not develop and their life becomes self-contained. One can only advance in life to the extent that the study habits (learning/education) allow him or her to do so. The study habits throughout life determine how far one wants to go, how much one wants to earn, and how physically demanding the work one chooses to do.

The researcher aimed to use this research to communicate her findings, experiences, and comments with her peers in the teaching profession. The researcher was able to assess his pupils' biology ability thanks to his experience teaching biology at the tertiary level. She thought that students' study habits have some bearing on their academic success. She was inspired to do this research.

OBJECTIVES OF THE STUDY

The study aimed to determine the multivariate main effect of the profile variables of the participants on their study habits and academic achievement in the history of biological theories. It sought to identify the participants' parents' monthly income to be differentiated using study habits and academic achievement in the history of biological

P – ISSN 2651 - 7701 | E – ISSN 2651 – 771X | www.ioer-imrj.com

SADANG, K.M.C., *Factors Affecting the Students' Academic Achievement and Study Habits of Isabela State University Jones Campus in the History of Biological Theories, pp. 32 -39*

33

theories. Lastly, it aimed to find out the participants' sex to be predicted using study habits and academic achievement in the history of biological theories.

METHODOLOGY

The current study aimed to assess college students at ISU's Jones Campus' academic accomplishments in the history of biological ideas and study habits. The normative-descriptive technique was employed to collect the required data, together with documentary analysis to ensure the reliability and accuracy of the information. According to Good (1973), who claimed that the method serves the functions, the researcher thought that this way is the most tenable. When it comes to the nature and state of everything, the descriptive technique describes and interprets what is now true. It is concerned with existing situations or relationships, active processes, perceptible impacts, or emerging trends.

The major tool for acquiring data was the questionnaire checklist. In order to gather first-hand information, the researcher interviewed college freshmen while serving as a mentor for Biology in the Agriculture Department. The data received from the questionnaire was enriched and complemented by this information. In addition to the questionnaire, documentary analysis was utilized to gather extra data that was crucial to the study and to check some of the students' responses to the questionnaire.

The study was carried out at the Jones Campus of Isabela State University in Jones, Isabela. The sample for this study comprised 40 college students, 20 of whom were male and 20 of whom were female, who were taking biology courses at ISU's Jones Campus. A random sampling method was used to choose the sample. It was done via total enumeration sampling. A self-reporting questionnaire was used to collect information on the academic accomplishments in the history of biological theories and study habits of college students at ISU's Jones Campus, as well as information on their personal circumstances, study habits, home life, school life, and teacher relationships. Since Bastian (1995) and Chadya (2008) employed the instrument in their respective studies on the "Factors Affecting the Academic Performance of the Intermediate Grade Filipino Pupils at Easter College, Baguio City," the instrument was already recognized as valid and reliable.

After fully explaining the results of the tabulations based on the respondents' responses to the question, it asked for assistance and reassurance that all information gathered were handled with absolute secrecy. On the other hand, all data are imported in a licensed version of IBM® SPSS™ Statistics 26. This software is used entirely in the analysis. All inferential statistics assumed an alpha level of .05. Probability (p) values below this level is significant. For the first question, factorial multivariate analysis of covariance (MANCOVA), using Pillai's trace (V) statistic, was used to assess the main effect of the participants' profiles on their study habits and academic achievement. Sex and parents' occupation were set as fixed factors while age, number of siblings, birth order, and income were set as covariates since order makes sense in these variables. For each covariate, homogeneity of regression slopes was assessed against the fixed factors using a univariate model. No serious violations were found. Also, multivariate residual normality was assumed based on univariate residual plots; and no serious violations were found. Furthermore, homogeneity of covariance matrices can be assumed, $M = 7.23$, $F(9, 396.29) = 0.63$, $p = .78$. For the second question, discriminant function analysis (DFA) was used to assess whether study habits and academic achievement can form functions to differentiate the levels of respondents' parents' monthly income. Wilks' lambda (Λ) was used to assess the significance of these functions and canonical R^2 to assess the relative importance of each. Assumptions for this procedure are the same as that of the first one. Finally, for the third question, binary logistic regression was used to determine if respondents' sex can be determined using study habits and academic achievement. Chi-square (χ^2) and pseudo-R^2 statistics were used to assess the overall fit of the model. Moreover, 95% bias-corrected and accelerated confidence intervals (95% BCa CI) around b-values were used to assess whether study habits and academic

P – ISSN 2651 - 7701 | E – ISSN 2651 – 771X | www.ioer-imrj.com

SADANG, K.M.C., *Factors Affecting the Students' Academic Achievement and Study Habits of Isabela State University Jones Campus in the History of Biological Theories, pp. 32 -39*

34

achievements were significant predictors. As for the effect size, odds ratio (*OR*) was used to quantify this. Before the analysis, the major assumptions for logistic regression were assessed, e.g., linearity and multicollinearity. And after the analysis, residuals and influential cases were checked. There were no serious violations of assumptions, residuals were assumed normality, and no influential cases were found.

RESULTS AND DISCUSSION

1. Effect of profile variable on academic achievement and study habits

Based on the descriptive statistics in *Table 1*, there were small differences in the average level of study habits and academic achievement of the participants when grouped according to their profile variables.

Some potential mean difference may be present in study habits across male (*M* = 3.27, *SD* = 0.41) and female (*M* = 3.07, *SD* = 0.34) participants. The same can be observe in their academic achievement (female: *M* = 3.12, *SD* = 0.29; male: *M* = 3.29, *SD* = 0.30).

Another potential source of difference may be in the study habits across family income. The difference could exist between the level of study habits between students with families earning 5 000 to 10 000 per month (*M* = 3.06, *SD* = 0.28) and those earning 15 000 to 20 000 (*M* = 3.38, *SD* = 0.56).

However, the multivariate statistics shown in Table say otherwise. There was no significant effect of the fixed factors, i.e., sex, *V* = 0.13, *F*(2, 31) = 2.31, *p* = .116, mother's occupation, *V* = 0.00, *F*(2, 31) = 0.04, *p* = .963, and father's occupation, *V* = 0.01, *F*(2, 31) = 0.11, *p* = .897, in the study habits and academic achievement of the participants. This infers that the level of study habits and academic achievement is the same for both male and female participants and those with parents working in the government and self-employed.

Table 1
Descriptive statistics for study habits and academic achievement across profile variables

	Study habits		Academic achievement	
	Mean	SD	Mean	SD
Sex				
Female	3.07	0.34	3.12	0.29
Male	3.27	0.41	3.29	0.30
Age				
18 years and below	3.21	0.31	3.35	0.42
19 – 20 years	3.09	0.33	3.13	0.22
21 – 22 years	3.22	0.53	3.18	0.32
23 years and above	3.00	0.12	3.34	0.22
Number of siblings				
1	3.26	0.25	3.43	0.30
2	3.26	0.38	3.14	0.20
3	3.20	0.46	3.22	0.37
4	3.08	0.18	3.06	0.20
5	2.73	0.05	3.06	0.00
6	2.62	-	3.13	-
Ordinal position in the family				
1	3.27	0.27	3.36	0.29
2	3.19	0.38	3.12	0.24
3	3.09	0.48	3.17	0.37
4	2.69	-	3.19	-
Mother's occupation				
Government employee	3.31	0.43	3.27	0.37
Self-employed	3.12	0.37	3.18	0.28
Father's occupation				
Government employee	3.15	0.11	3.06	0.09
Self-employed	3.17	0.40	3.21	0.31
Parents' monthly income				
5 000 – 10 000	3.06	0.28	3.19	0.26
10 000 – 15 000	3.14	0.34	3.20	0.31
15 000 – 20 000	3.38	0.56	3.22	0.39

Table *2*
Multivariate statistics for the main effect of profile variables to study habits and academic achievement

Profile Variable	V	Fa	p
Sex	0.13	2.31	.116
Age	0.01	0.13	.880
Number of siblings	0.04	0.67	.519
Ordinal position in the family	0.04	0.65	.530
Mother's occupation	0.00	0.04	.963
Father's occupation	0.01	0.11	.897
Parents' monthly income	0.10	1.68	.203

a. dfH = 2, dfE = 31.

There was also no significant effect of age, *V* = 0.01, *F*(2, 31) = 0.13, *p* = .880, number of

P – ISSN 2651 - 7701 | E – ISSN 2651 – 771X | www.ioer-imrj.com
SADANG, K.M.C., *Factors Affecting the Students' Academic Achievement and Study Habits of Isabela State University Jones Campus in the History of Biological Theories, pp. 32 -39*

35

siblings, V = 0.04, $F(2, 31)$ = 0.67, p = .519, ordinal position in the family, V = 0.04, $F(2, 31)$ = 0.65, p = .530, and parents' monthly income, V = 0.10, $F(2, 31)$ = 1.68, p = .203, in the study habits and academic achievement of the participants. This implies that the group of participants under these variables have the same level of study habits and academic achievement.

2. Differentiation of parents' monthly income using study habits and academic achievement

Table *3*
Group centroids for each level of parents' monthly income from discriminant functions generated by study habits and academic achievement

Parents' monthly income	Function	
	1	2
5 000–10 000	−0.32	0.00
10 000–15 000	−0.08	0.00
15 000–20 000	0.64	0.00

[1] Exact value is 99.99996064%
[2] Exact value is 0.0000393633%.
[3] Exact value is .000048416.
[4] Exact value is 0.000002.

Discriminant analysis revealed two discriminant functions. The first explains 100%[i] of the variance, canonical R^2 = .110, whereas the second explained less than 0.0005%[ii], canonical R^2 < .0005[iii]. This information shows that group differences are concentrated on the first variate.

In combination, these discriminant functions did not significantly differentiate the levels in monthly income, Λ = 0.89, $\chi^2(4)$ = 4.23, p = .375, and removing the first function yielded to the same findings, Λ = 1.00, $\chi^2(1)$ < 0.005[iv], p = .999.

The correlations between outcomes and the discriminant functions revealed that study habits loaded more highly on the first function, r = .887, than the second, r = .461; academic achievement loaded more highly on the second function, r = .996, than the first, r = .086. Moreover,

the first variate is a function differentiating the levels in monthly income by using the difference between study habits, β = 1.18, and academic achievement, β = −0.55; the same is true with the second variate but uses different coefficients, β = −0.10 for study habits and β = 1.05 for academic achievement.

Finally, illustrated in **Error! Reference source not found.** Previously stated findings are confirmed in this table that differences are concentrated on the first function which differentiates the levels of parents' monthly income using the different study habits and academic achievement. In the table, the first function differentiates respondents with parents' monthly income of 5 000 to 10 000 from those with parents earning 15 000 to 20 000. However, this difference is not significant. Thus, investigations revealed that there is no association between pupils' test scores and income level, much to the study of Lacour, M. and Tissington, (2011). There might not always be a correlation between income and accomplishment in some studies due to the source of the revenue. Along with the effects of poverty, the education level of the mother also affects the academic achievement of the students. Numerous studies have found that a mother's education has a greater influence on her children's test scores than her income. The research found that the mother's educational level was a predictor of school completion for all middle school participants (Halpern-Felscher et al., 1997).

3. Predicting respondents' sex using study habits and academic achievement

Table 4
Coefficients of the model predicting respondents' sex

	B	Odds ratio
Constant	−8.08	
Study habits	0.95[ns] [−1.12, 3.02]	2.59 [0.33, 20.57]
Academic achievement	1.59[ns] [−1.10, 4.27]	4.90 [0.33, 71.80]

Note. 95% BCa bootstrap CI in brackets. R_L^2 = .078, R_{CS}^2 = .102, R_N^2 = .136. Model $\chi^2(2)$ = 4.31, p = .116. ns = not significant.

Based on Table 4, the model did not make a significant prediction on the respondents' sex

using study habits and academic achievement, $\chi^2(2) = 4.31$, $p = .116$. Using the pseudo-R^2s, the model accounted for 7.8% to 13.6% of the variance which is relatively moderate in size.

Furthermore, the same table's b-values show beneficial impacts. This indicates that male responders are more likely to have effective study techniques and achieve high academic standards. However, none of the b-values' CIs contain zero, indicating that they cannot be used to predict respondents' sex because none of them can significantly predict respondents' sex. Using the odds ratio, similar results were seen. Using this data, it can be deduced that the probabilities of the respondent being a man rise by 2.59 for every unit improvement in study habits. Additionally, the likelihood that the respondent is male increases by 4.90 times when academic achievement rises by one unit. Nevertheless, given the odds ratio's CIs contain one and can move in any direction, they were found to be insignificant. These results are consistent with the findings of the Ossa, M. study. (2012). Based on the findings, there were substantial disparities in the study habits of the students by gender and age. Female students reported having better study habits than male students, suggesting that study habits improve with age. This recommends that male students should be given serious consideration and that strong counseling against poor study habits should start at the primary level of education. However, the present study found that female students do better in the areas of time management, focus, listening, taking notes, and reading. This is consistent with a study by Singh, Muktesh, and Snehalata (2010) that discovered girls have better study habits than boys. This study supports the researcher's paper of criticism (Sadang, K., 2020). Female students did better than male students, according to the statistics that were split up by gender. Thus, it can be said that when employing the learning stations method, female students perform better than male students do.

CONCLUSIONS

There was no significant effect of profile variables on the academic achievement and study habits of ISU Jones students in the history of biological theories. Study habits and academic achievement in the history of biological theories cannot be used to make significant differentiations on levels of the respondents' parents' monthly income. Study habits and academic achievement in the history of biological theories cannot be used to make significant predictions on respondents' biological sex. In the history of biological theories, it is critical to continue to research the circumstances underlying the variables influencing students' academic performance and study habits at Isabela State University Jones Campus. This tool can be helpful for researchers and educators working on academic performance and related topics. This is in line with the critique paper by Sadang, K. (2020), who claims that instructional materials act as a conduit for the teacher to communicate with students in order to improve the quality of their academic performance. They might also act as the process's driving force for instructing and learning. It is used to capture kids' attention and end boredom. For teaching, especially for new teachers, instructional materials are crucial. In every element of teaching, teachers rely on instructional materials. They require resources to provide background knowledge on the subject they are teaching.

RECOMMENDATIONS

It is advised that future investigations add more individuals to boost the effectiveness of the three processes. Reduce the amount of profile variables for the factorial MANCOVA and only include those that are conceptually related to academic performance and study practices. Additionally, focus should be placed on and exercised in individual comments on each student's exam results and counseling, particularly with underachievers. It should be encouraged to conduct more research on other factors that might influence students' academic performance.

REFERENCES

Alburaidi, A., & Ambusaidi, A. (2019). The impact of using activities based on the montessori approach in science in the academic achievement of fourth grade

P – ISSN 2651 - 7701 | E – ISSN 2651 – 771X | www.ioer-imrj.com
SADANG, K.M.C., *Factors Affecting the Students' Academic Achievement and Study Habits of Isabela State University Jones Campus in the History of Biological Theories, pp. 32 -39*

37

students. International Journal of Instruction, 12(2), 695–708. doi: https://doi.org/10.29333/iji.2019.12244a

Alva, M. L. C. (2017). Self-esteem, study habits and academic performance among university students. *Journal of Educational Psychology*, 5(1), 71–127. doi: https://doi.org/10.20511/pyr2017.v5n1.145

Chadya B.P. (2008) Factors affecting academic performance of the intermediate grade pupils in Filipino at Easter College, Baguio City, (BSU May)

Cohen, J. W. (1988). Statistical power analysis for the behavioral sciences (2nd ed.). Hillsdale, New Jersey: Lawrence Erlbaum Associates.

Dano, J. C. (2017). Learning styles, study habits and academic performance of nursing students. The Malaysian Journal of Nursing, 8(4), 26–35. http://ejournal.lucp.net/index.php/mjn/article/view/461

Ebele, U. F., & Olofu, P. A. (2017). Study habit and its impact on secondary school students academic performance in biology in the Federal Capital Territory, Abuja. Educational Research and Reviews, 12(10), 583–588. doi: https://doi.org/10.5897/err2016.3117

Fitriah, D. (2017). Hubungan kemampuan membaca buku teks dan keterampilan berpikir kritis dengan hasil belajar pendidikan agama islam. Studia Didaktika: Jurnal Ilmiah Bidang Kependidikan, 11(1), 91–110. http://jurnal.uinbanten.ac.id/index.php/studiadidaktika/article/view/523

Halpern-Felscher B.L., Connell J.P., Spencer M.B., Aber J.L., Duncan G.J., Clifford E., Crichlow W.E., Usinger P.A., Cole S.P., Allen L., Seidman E. (1997). Neighborhood and family factors predicting educational risk and attainment in African American and white children and adolescents. In Brooks-Gunn, Duncan, Aber (Eds.), Neighborhood Poverty. New York: Russell Sage Foundation, pp 146-173

Irhas, M., Sumadi, S., & Ridlo, S. (2018). The quantitative and qualitative analysis of students learning outcomes acording to student admission line of biology education program FMIPA Unnes. *Journal of Biology Education*, 7(1), 44–53. https://journal.unnes.ac.id/sju/index.php/ujbe/article/view/22086

Kaur, A., & Pathania, R. (2015). Study habits and academic performance among late adolescents. Studies on Home and Community Science, 9(1), 33–35. doi: https://doi.org/10.1080/09737189.2015.11885430

Kumaraswamy, S. (2019). Promotion of students participation and academic achievement in large classes: an action research report. *International Journal of Instruction*, 12(2), 369–382. doi: https://doi.org/10.29333 /iji.2019.12224a

Magulod, G. C. (2019). Learning styles, study habits and academic performance of Filipino University students in applied science courses: implications for instruction. *Journal of Technology and Science Education*, 9(2), 184–198. doi: https://doi.org/10.3926/jotse.504

Manurung, T. M. S. (2017). Pengaruh motivasi dan perilaku belajar terhadap prestasi akademik mahasiswa.Jurnal Analisis Sistem Pendidikan Tinggi, 1(1), 17–26. http://journal.fdi.or.id/index.php/jaspt/article/view/36

Naqeebul M., Shaheen K., Kayani M., (2017). Improving students' attitude towards biology as a school subject:do the instructional models really work? TextRoad Publication. *J. Appl. Environ. Biol. Sci.*, 7(1)170-179, 2017

Obadara, O. E., & Olaopa, S. O. (2018). Social media utilisation, study habit and undergraduate students' academic performance in a university of education in Nigeria. Library Philosophy and Practice, 3(1), 115. https://digitalcommons.unl.edu/libphilprac/2082/

Ogunduyilemi, K. S. (2018). The relationship of undergraduate study habits with use of library resources in two universities in oyo state, Nigeria. Library Philosophy and Practice, 4(1), 1–28. https://digital commons.unl.edu/libphilprac/1862/

Ossa, M. 2012. Age and gender differences in study habits: A Framework for proactive counselling against low academic achievement. delta state college of physical education, Mosogar, P.M.B 4088, Sapele, Nigeria. *Journal of Educational and Social Research* ISSN 2240-0524 Vol. 2 (3)

Prasetyo E., Ridlo S., Kartijono N.E., (2019) A path analysis of the relation between study habit and students' academic achievement. JPBI (Jurnal

P – ISSN 2651 - 7701 | E – ISSN 2651 – 771X | www.ioer-imrj.com

SADANG, K.M.C., *Factors Affecting the Students' Academic Achievement and Study Habits of Isabela State University Jones Campus in the History of Biological Theories, pp. 32 -39*

38

Pendidikan Biologi Indonesia) p-ISSN 2442-3750, e-ISSN 2537-6204 // Vol. 5 No. 2 pp. 297-304

Rogayan Jr., D.V. (2019). Biology learning station strategy (BLISS): Its effects on science achievement and attitude towards Biology. *International Journal on Social and Education Sciences*. Volume 1, Issue 2,

Sadang, K. (2020). Analysis **of the** Effect on Science Achievement and Attitude towards Biology by the Use of Biology Learning Station Strategy (BLISS): A Critique of the Multivariate Statistical Procedures: Rogayan Jr., D.V., (2019). Biology Learning Station Strategy (BLISS): Its Effects on Science Achievement and Attitude towards Biology. International Journal on Social **and Education Sciences.** Volume 1, Issue 2.

Sadang, K. (2020). Analysis of the instructional models to improve the academic achievements and study habit of students toward biology subject. A Critique on/of the Multivariate Statistical Procedures in Naqeebul, M; Shaheen, K; and Kayani, M. 2017, Improving Students' Attitude towards Biology as a School Subject: Do the Instructional Models Really Work? Department of Education, International Islamic University Islamabad. *J. Appl. Environ. Biol. Sci.*, 7(1)170-179, 2017. ISSN: 2090-4274. Journal of Applied Environmental and Biological Sciences.

Singh, S., Muktesh, S. & Snehalata, C. (2010). Study habits in relation to academic performance in high school students. *Asian Journal of Developmental Matters*, 4, 209 -215.

Verma, A. (2016). A study of academic achievement among high school students in relation to their study habits. *International Journal of Research in Humanities, Arts and Literature*, 4(3), 75–88. http://www.impactjournals.us/archives

AUTHOR'S PROFILE

Kristine Mae Cultura-Sadang is an assistant professor at Isabela State University, Jones Campus. She is the former Research and Development and Extension Director from 2015 to 2018. She is currently the Campus Office of Student Affairs and Services Director. She is also one of the authors of a refereed journal entitled "Performance of Broiler Chickens Fed Diet with Different Levels of Anabiong *(Trema orientalis (Linn) Blume) Leaf Meal*" in the Philippine Journal of Veterinary and Animal Sciences. As of now, she is enrolled in her Doctor of Philosophy in Biology at St. Mary's University-Bayombong, Nueva Vizcaya, Philippines.

P – ISSN 2651 - 7701 | E – ISSN 2651 – 771X | www.ioer-imrj.com
SADANG, K.M.C., *Factors Affecting the Students' Academic Achievement and Study Habits of Isabela State University Jones Campus in the History of Biological Theories, pp. 32 -39*

39