

FULL ISSUE: Volume 1, Issue 1, s. 2020

ASEAN Journal of Basic and Higher Education

e-ISSN: 2719-048x

Published by the Philippine Association of Research Practitioners, Educators, and Statistical Software Users (PARESSU), Inc (CN2019001170) through the OFFICE OF THE DIRECTOR FOR JOURNAL MANAGEMENT (ODJM)

www.paressu.org/online/jbhe

ASEAN-JBHE April 2020 Issue

Published online (Full Issue): **December 30, 2020**

The PARESSU, Inc ODJM retains rights for reproduction.

No unauthorized photocopying and/or distribution in any form.

All rights reserved. No part of this Full Issue may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying or otherwise, without the prior written permission of the PARESSU, Inc ODJM.

editor@paressu.org

Contact: 0977-756-2735

e-ISSN 2719-048x

Editor-in-Chief:	JUN S. CAMARA
Proofreading:	MARVIN Z. ISLA
Managing Editor:	TERENCE M. LAPEÑAS
Lay-out:	CHRISTINE E. ETRATA
Journal Manager:	BRUCE AERON O. DEL CAMPO

RANDY JOY M. VENTAYEN
Director for Journal Mngt.

TERENCE M. LAPEÑAS
Asst. Dir for Journal Mngt.

Foreword

We are very happy to finally release this Full Issue for the April 2020 Issue of the ASEAN Journal of Basic and Higher Education. Late release one may consider it, but just in time to greet every one of the authors a Happy Holidays!

In this issue, we have accepted papers largely from researchers' outputs from their thesis writing and dissertation, and which came from at least 3 graduate schools in the country, namely: University of Luzon Graduate School, Pangasinan State University School of Advanced Studies, and Pangasinan State University Open University Systems in Lingayen, Pangasinan.

Elsa, in her study 'English Language Teachers' Expectations, Satisfaction, Needs and Performance in the Senior High Schools in Pangasinan' has found convincing evidence that the level of expectations, satisfaction and needs of the Senior HS English Language Teachers did not affect their teaching performance; Marleo and Honelly Mae, adapting from Grasha and Reichmann Learning Style Model, have established in their study entitled 'Learning Styles and Difficulties of College Students in Chemistry', that students who have independent avoidant and collaborative learning style found all performance tasks in Chemistry as difficult; Gretchen and Phillip, in their study 'Relationship of the Use of Mother Tongue-Based Multilingual Education to the English Learning Competencies of Pupils', have found of a dependent relationship between the pupils' mother tongue grade and English competencies; Shiela and Honelly Mae, in their study 'Development and Validation of a Multimedia based-Module in Science for TVL Track', have developed a material using the Rapid Application Development (RAD) using the Microsoft Visual Studio with Visual Basic as the programming language; and Rodelyn *et al.* in their study entitled 'Tracer Study of BS Hospitality Management Graduates of Pangasinan State University, Lingayen Campus for School Year 2015-2019', have recommended fortifying the PSU (Pangasinan State University) Alumni Programs thru linkages and partnerships in response to their findings that the PSU graduates are employed in the Philippines and are landing jobs which are related to hospitality management.



JUN S. CAMARA, LPT, MAEd, PhD
Editor-in-Chief

Again, we welcome you to the April 2020 Issue of the ASEAN-JBHE. We hope to receive more articles by 2021! Congratulations to all authors.

Message to Readers

Dear Authors and Readers,

I hope you are safe and well during these trying times. First and foremost, I would like to thank the whole PARESSU executive officials for tirelessly coming up with all of the organization's projects. A lot has happened since the lockdown, but that didn't stop PARESSU to grow amidst adversities. With constant communication, adjustments, and resilience, it is with much pride and honor that the plans have finally been concretized and showcased in this issue.

On behalf of the Dept. of Journal Management, I would like to thank you for your continuous support of PARESSU's initiatives in shining light to research both for students and professionals. This first-ever full hardcopy issue of the ASEAN Journal of Basic and Higher Education marks the beginning of an organization's ever-stronger push to greater heights. Let us continue to devote ourselves to a lifelong journey of studying and discovering new knowledge through research. Now, more than ever, research is essential as we face challenges in getting across this extraordinary time we are in where SARS-COV2 disrupted not only our regular daily lives but most especially our education system. We need a more collaborative network to tackle all our education issues, and we start that as early as now by forming connections and contacts that share common interests. Again, thank you, and may you acquire tons of knowledge from the featured studies.



TERENCE M. LAPEÑAS, RMT
Faculty of Medicine and Surgery
University of Sto. Tomas
Regional Chairperson – AMSA Philippines

Table of Contents

No	Author - Title	Page No.
1	Elsa Q. Terre English Language Teachers' Expectations, Satisfaction, Needs and Performance in the Senior High Schools in Pangasinan, Philippines	<i>6</i>
2	Marleo B. Montenegro; Honelly Mae S. Cascolan Learning Styles and Difficulties of College Students in Chemistry	<i>19</i>
3	Gretchen P. Tadeo; Phillip G. Queroda Relationship of the Use of Mother Tongue-Based Multilingual Education to the English Learning Competencies of Pupils	<i>33</i>
4	Shiela S. Padua; Honelly Mae S. Cascolan Development and Validation of a Multimedia Based-Module in Science for TVL Track	<i>49</i>
5	Rodelyn A. Mejia; Mondey May M. Fernandez; Sonia V. Mangrobang, Genelyn C. Tersona,; Victor T. Bernal Tracer Study of BS Hospitality Management Graduates of Pangasinan State University, Lingayen Campus for School Year 2015-2019	<i>60</i>

English Language Teachers' Expectations, Satisfaction, Needs and Performance in the Senior High Schools in Pangasinan, Philippines

Elsa Q. Terre, EdD, PhD

University of Luzon, Dagupan City, Philippines

Abstract

This study aimed to determine the English language teachers' expectations, satisfaction, needs and performance in the Senior High Schools in Pangasinan and to develop an innovative language development plan. Descriptive correlational-comparative design was utilized in the study. Results showed that the level of expectations, satisfactions and needs of the Senior High School English language teachers in Pangasinan were unanimously high that needs to be addressed in order for them to work effectively in their respective schools. There is significant difference between and among expectations, satisfaction and needs of the English language teachers in the Senior High Schools along the seven areas or domains. The teaching performance of the Senior High School English language teachers in Pangasinan was very satisfactory. Thus, the level of expectations, satisfaction and needs of the Senior High School English language teachers didn't affect their teaching performance. Furthermore, the researcher recommended that the DepEd officials concerned would try out the proposed innovative development plan concerning the needed activities and projects for the Senior High School teachers, likewise, the principals and assistant principals would help and guide new teachers to reduce the stress level that is associated with the multiple tasks of teaching and they should design staff development programs for them.

Keywords: Expectation, Needs, Performance, Satisfaction, Senior High Schools

INTRODUCTION

Provision of quality education is important for facilitating a nation's development. Research has found that, to improve individual learners' values, attitudes, behaviors, and skills, quality education is of paramount importance [1- 10].

Teachers are the heart of classroom instruction, so they are the key to the learners' productivity and hence to society's efficiency. Teachers' effectiveness depends on their competence, both academic and pedagogical, as well as a correlation between their training and skills and their position, workload, and work encouragement [11-16].

Accepting the teaching role calls for sacrifice and devotion. Alongside the demands of teaching, teachers have other duties such as guiding, counseling, and disciplining students and managing classes. For teachers to devote their efforts to serving the community, they need to see that they are valued and are being properly supplied with the things necessary for them to accomplish their duties [17-26].

When teachers are at school, they require a conducive workplace environment to conduct their profession effectively. They also need adequate remuneration [43]. According to [27], employees are attracted to jobs that make it possible for them to meet their daily needs. Unless these needs are achieved, teachers cannot realize their full potential and will begin to be less committed to teaching. Several papers have studied some areas of senior high school education in the Philippines [40-42; 44-47], but this study focuses on the expectations, satisfaction, needs, and performance of English language teacher.

MATERIALS AND METHODS

Respondents of the Study

The respondents of the study were 174 English language SHS teachers in the forty four municipalities and four cities (public mother schools) in Pangasinan. The researcher took the complete number of teacher-respondents excluding those who were teaching in the Senior High School but their appointments are in the Junior High and those who were on-leave either for personal or official business like attending seminars and serving as coach in the contests during the administration of the research questionnaire.

Instrumentation

A combination of data collection techniques such as questionnaire (Appendix B) and the Individual Performance Commitment and Review Form (IPCRF) filed in every

school were utilized in this study.

A researcher-made test was used to determine the level of expectations, satisfactions and needs of the English language teachers in the Senior High School.

For purposes of establishing the instruments validity, the first draft of the questionnaire was presented to the adviser and a panel of experts. Then, using the experts validation, necessary corrections were incorporated based on their suggestions.

The results of the validation of the questionnaire show a computed mean of 4.28 which has a descriptive equivalent of "highly valid" extent of validity.

Data-gathering Procedure

A letter of permission from the dean of the Graduate School of University of Luzon was forwarded to get the approval to conduct the present study. Upon the approval of the dean of the graduate school, a letter of permission to conduct the study was likewise forwarded to Schools Division Superintendents of the six divisions in the province of Pangasinan requesting the approval for the gathering of the needed data in this study. Upon the approval of the Superintendent, the researcher asked for the the approval of the Senior High School Principals to gather the needed data among the Senior High School English teachers. With the guidance and approval of the SHS school principals the researcher floated the survey questionnaire and explained to the respondents the purpose of the present study. After the respondents accomplished the survey questionnaire, the researcher gathered and consolidated the data for analysis and interpretation.

Statistical Treatment

The data were all encoded and analyzed in SPSS 20. Mean, Analysis of Variance (ANOVA) and Pearson r product moment of correlation were utilized in the study.

RESULTS AND DISCUSSION

Levels of Expectation, Satisfaction and Needs of English Language Teachers in the SHS

Areas	Expectation	Satisfaction	Needs
Compensation	4.19	3.44	4.45
Pre-Service Preparation	4.42	3.96	4.56
External Forces	4.35	3.78	4.52
School Culture	4.48	3.84	4.60
In-Service Trainings	4.44	3.81	4.61
Motivation to Teach	4.56	4.14	4.60
Emotional Factors	4.35	3.91	4.54
Mean	4.40	3.84	4.55
Descriptive Equivalent	Very Highly Expected	Highly Satisfied	Very Highly Needed

Table 1 shows that the level of expectation of the English Language teachers along the seven areas/domains was very high that the teacher-respondents were expecting very highly along the indicators given. On the other hand, the level of satisfaction of the respondents was high such that the teacher-respondents were highly satisfied in the Senior High School. Similarly, the level of needs of the English Language Teachers along the areas/ domains was also very high which evidently shows that the given indicators were very highly needed in the Senior High School.

Positive working environment for teachers is one of the important factors to reconsider as supported by the study of [29]. Working conditions for teachers are directly impacted by the principal's leadership style and administrators have the power to create a favorable work environment for them. Thus, environment that teachers work in influences a teacher's satisfaction level and if they are happy with their workplace, they get satisfied and their expectations and needs are addressed.

Significant Difference on the Levels of Expectation, Satisfaction and Needs of the English Language Teachers

Areas	F-Value	Sig	Interpretation
Compensation	38.739	0.000	Significant
Pre-Service Preparation	152.367	0.000	Significant
External Forces	63.704	0.000	Significant
School Culture	58.704	0.000	Significant
In-Service Trainings	170.491	0.000	Significant
Motivation to Teach	48.866	0.000	Significant
Emotional Factors	40.157	0.000	Significant

Table 2 shows the significant difference on the levels of expectation, satisfaction and needs. It can be gleaned from the table that the computed f-values along different areas such as compensation, pre-service preparation, external forces, school culture, in-service trainings, motivation to teach, and emotional factors were less than 0.05 indicating that there is a significant difference between the level of expectations, satisfaction and needs of the English teachers in Pangasinan.

Performance Level of the English Language Senior High School Teachers in Pangasinan

Key Result Area	Mean	Descriptive Equivalent	Rank
Classroom Instruction/Teaching	4.29	Very Satisfactory	3.5
Classroom Management	4.28	Very Satisfactory	5
Community Activity/Outreach	4.29	Very Satisfactory	3.5
Professional Growth	4.36	Very Satisfactory	2
Plus Factor Innovations and Other Assignments	4.37	Very Satisfactory	1
<u>Overall Mean</u>	<u>4.31</u>	<u>Very Satisfactory</u>	

Table 3 presents the performance level of the English Language teachers in the Senior High school along classroom instruction/teaching, classroom management, community activity/outreach, professional growth, plus factor innovations and other assignments. The table shows that among 174 English Language teachers in Pangasinan, the overall mean is 4.31 indicating that they have “very satisfactory” performance. The highest rating of 4.37 was obtained along the area plus factor innovations and other assignments which is “very satisfactory”. The lowest mean along classroom management ranked 5 but this is still described as “very satisfactory”.

The result implies that English Language teachers in Pangasinan performed very satisfactorily in all key result areas. This study supports the contention of that if the employees in an organization are motivated, they will render services to the employer and customers very efficiently and effectively. This implies that motivated and satisfied teachers are most likely to affect the students’ learning positively while the opposite of that may have negative impacts on students’ performance. Thus, educational leaders and

administrators/managers have to pay special attention to the phenomena of motivation and job satisfaction.

Significant Relationship Between the Level of Expectations, Satisfaction and Needs and the Teaching Performance of the English Language Senior High School Teachers in Pangasinan

Variables	Pearson Correlation	P- value	Interpretation
Expectation	0.060	0.429	Weak Relationship
Satisfaction	0.097	0.202	Weak Relationship
Needs	0.021	0.781	Weak Relationship

The relationship of the expectations, satisfaction and needs of the English language teachers to their teaching performance in the Senior High School is determined by using the Pearson r product moment correlation. As revealed on Table 4, in terms of levels of expectation of the Senior High School English teachers in Pangasinan, the computed Pearson r Correlation is 0.060 with a corresponding P- Value of 0.429 indicating that there is a weak relationship between the level of expectations of teachers with their teaching performance.

It implies that their level of expectations does not affect their teaching performance. Furthermore, in terms of their level of satisfaction, it shows that the computed Pearson Correlation is 0.097 having a P-value of 0.202 that is greater than 0.05 indicating that there is a weak relationship between the level of satisfaction with the teaching performance of the teachers.

Lastly, in terms of level of needs of the teachers, it shows that the computed Pearson Correlation is 0.021 with a P-Value of 0.781 that is greater than 0.05 indicating that there is weak relationship between the levels of needs of the English teachers with their teaching performance as manifested in their IPCRF.

The results negate the findings of [31] where he found out that there is significant relationship that exists between job satisfaction and performance. He found out that the relationship between work performance and job satisfaction is significant. A more complete understanding of its significance requires more investigation beyond the

significant relationship between teacher respondents' personal profile in terms of age, length of service, educational attainment and job satisfaction and between personal profile in terms of sex, civil status and job. Individual performance is generally determined by three factors—the desire to do the job, ability, the capability to do the job, and the work environment, the tools, materials, and information needed to do the job. If an employee lacks ability, the manager can provide training or replace the worker. If there is an environmental problem, the manager can also usually make adjustments to promote higher performance [32].

CONCLUSIONS AND RECOMMENDATIONS

Summary of Findings

The following are found:

1. Based on the data, the level of expectation of the English Language teachers along the seven areas/domains is very high that the teacher- respondents are expecting very highly along the indicators given while their level satisfaction is high such that the teacher-respondents are highly satisfied in the Senior High School. Similarly, the level of needs of the English Language Teachers along the areas/ domains is also very high which evidently shows that the given indicators are very highly needed in the Senior High School;
2. There is a significant difference between and among the level of expectations, satisfaction and needs of the English language teachers in Pangasinan in terms of compensation, pre - service preparation, external forces, school culture, in-service trainings, motivation to teach and emotional factors; and
3. The performance level of the English Language teachers in the Senior High school is very satisfactory with the overall mean of 4.31. This indicates that the teacher-respondents performed very satisfactorily along classroom instruction/teaching, classroom management, community activity/outreach, professional growth, plus factor innovations and other assignments.
4. There is no relationship that exists on the expectations, satisfaction and needs of the English language teachers to their teaching performance in the Senior High School.

Conclusions

The following conclusions were drawn:

1. The level of expectations, satisfactions and needs of the Senior High School English language teachers are unanimously high that needs to be addressed in order for them to work effectively in their respective schools;
2. The level of expectations, needs and satisfaction of the English teachers in the province are significantly different along with the aforementioned areas; and
3. The teaching performance of the Senior High School English language teachers in Pangasinan is evidently very satisfactory.
4. The level of expectations, satisfaction and needs of the Senior High School English language teachers does not affect their teaching performance.

Recommendations

The following are recommended:

1. The DepEd officials concerned should try out the proposed innovative development plan concerning the needed activities/projects for the Senior High School teachers [33-36];
2. The principals and assistant principals should help and guide new teachers to reduce the stress level that is associated with the multiple tasks of teaching and they should design staff development programs for them [37-39]; and
3. Other researchers are invited to conduct parallel studies to find out if there are already some changes or improvements on the expectations, satisfaction, needs and performance of the English Language teachers.

ACKNOWLEDGMENT

The author would like to express her heartfelt gratitude to her adviser, Dr Ma. Emma J. Tuvera and her former co-teacher, Prof. Jun S, Camara for their invaluable assistance and support in making the manuscript.

REFERENCES

1. Amanuel A.T .(2009). Human Resource Management for Education Practitioners in Africa: Nairobi: CUEA Press
2. Creswell, J. W. (2013). Quantitative Inquiry & Research Design: Choosing among Five approaches (3rd ed.). Los Angeles, CA: SAGE Publications, Inc.
3. Dessler, G. (2001). Management: Leading People and Organization in 21st Century. Harlow: Printice Hall
4. Hammond, Linda D. (2010). Evaluating Teacher Effectiveness: How Teacher Performance Assessments Can Measure and Improve Teaching at Stanford University, Center for American Progress,
5. Maslow, A. H. (1943). A theory of human motivation. *Psychological review*, 50, p.37
6. Ikenyiri, E. (2007). Psychology of Learning. Port-Harcourt: Osia's Int'I Publishers Ltd.
7. Oladele, J. O. (2005). Fundamentals of Educational Psychology. Lagos: John- Lad Publishers Ltd.
8. Boehlert, M. (2005). Self-fulfilling prophecy. In S. W. Lee (Ed.), Encyclopedia of school psychology, Thousand Oaks, CA: Sage
9. Essien, E. (2002). Psychology, applied to work. Ibadan: Sceptre Prints Limited.
10. Vroom, V.H. (1964). Work and motivation. New York: John Wiley and Sons.
11. Darling-Hammond, L. (2001). The Challenge of Staffing our Schools. *Educational Leadership*, 58 (8), 12-17.
12. Diaz-Serrano & Cabral Vieira. (2005). Low pay, High pay and Job satisfaction within European Union: Empirical Evidence from fourteen Countries, IZA Discussion Papers
13. Loeb, S., Darling-Hammond, L., & Luczak, J. (2005). How teaching conditions predict teacher turnover in California schools. *Peabody Journal of Education*, 80 (3),44-70
14. Monyatsi, PP. (2012). *European Journal of Educational Studies*, , 4(2): 219-232.
15. Ololube, N. P. (2006). Teacher Education, School Effectiveness and Improvement: A Study of Academic and Professional Qualification on Teachers' Job Effectiveness in Nigerian Secondary Schools. Doctoral Dissertation, December 2006. University of Helsinki, Faculty of Behavioural Sciences, Department of Applied Sciences of Education. Helsinki: University of Helsinki Press.

15. Ubom, I. U. & Joshua, M. T. (2004). Needs Satisfaction Variables as Predictors of Job Satisfaction of Employees: Implication for Guidance and Counseling. *Education Research Journal*. Vol. 4 No. 3.
16. Youngs, P. (2007). How elementary principals' beliefs and actions influence new teachers' experiences. *Educational Administration Quarterly*, 43(1), 101- 137.
17. Zembylas M. & Papanastasion E. (2007). Sources of Teachers' Job satisfaction and Dissatisfaction in Cyprus. *Journal of Education Sdministration*, 68:229-247.
18. Akiri, Agharuwhe A. (2014). Teachers' Career Satisfaction and Students' Academic Performance in Delta Public Secondary Schools
19. Chase, K. A. (2006). Great Expectations: A Study of the Discrepancies Between New teachers' Expectations and Their Perceptions of the Teaching in Urban Schools
20. De Rosa, Laura. (2016). Beginning Teachers: The Connection Between Expectation and Job Satisfaction at Southern New Hampshire University
21. Drake, Diane & Hebert Edward P. (2002). Perceptions of Occupational Stress and Strategies for Avoiding Burnout: Case - Studies of Two Female Teacher Coaches at Southeastern
22. Louisiana University Gavino, Zorayda. (2010). The Teaching Performance in the Higher Institutions in Kalinga, Philippines: A bench Mark for Quality Education
23. Gosnell S. (2000). Determinant of Career Satisfaction Among Federal Employees. Paper presented in Seminar on Public Policy. Georgia Institute of Technology. Atlanta, Georgia, U.S.A
24. Hean, Sarah & Garrett, Roger. (2001). Sources of Job Satisfaction in Science Secondary School Teachers in Chile
25. Ikenyiri, Emmanuel and Maduenyi, Richard I. (2011). Teachers Assessment of Needs Satisfiers as Motivation for Teachers Effectiveness in Rivers State Primary Schools Federal at College of Education (Technical), Omoku-Rivers State, Nigeria
26. Jyoti, Jeevan & Sharma R.D. (2009). Job Satisfaction of University Teachers: An Empirical Study: *Journal of Services Research*
27. Kadtong, Maeda L. (2013). Work Performance and Job Satisfaction among Teachers at Notre Dame University, Cotabato City

28. Liu, X. S., & Ramsey, J. (2008). Teachers' Job Satisfaction: Analysis of the Teacher Follow-up survey in the United States for 2000-2001. *Teaching and Teacher Education*, 24, 1173-1184.
29. Myers Giacometti, Karen S. (2005). Factors Affecting Job Satisfaction and Retention of Beginning Teachers at Virginia Polytechnic Institute and State University
30. Price, H. E. (2012). Principal–teacher interactions: How affective relationships shape principal and teacher attitudes. *Educational Administration Quarterly*, 48(1):39-85.doi:10.1177/0013161X11417126
31. Tasnim, Shamima. (2006). Job Satisfaction among Female Teachers: A study on primary schools in Bangladesh at University of Bergen, Norway.
32. Tayyar, Al Khalid. (2014). Job Satisfaction and Motivation amongst Secondary School Teachers in Saudi Arabia in Saudi Arabia. PhD Thesis, University of York.AL-Qahtani ,M. (2015). Teachers' Voice: A Needs Analysis of Teachers' Needs for Professional
33. Cuartel, Imelda E. (2006). Teaching Performance of Student Teachers in Teacher Education Institutions: Basis For a Proposed Guidelines in Student Teaching, Doctoral Dissertation, University of Luzon, Dagupan City
34. Terre, Elsa Q. (2011). English Grammar Proficiency and Performance of Student Teachers in Pangasinan State University, Doctoral Dissertation, PSU Lingayen, Pangasinan
35. DiCicco, M., Sabella, L., Jordan, R., Boney, K., & Jones, P. (2014). Great Expectations: The Mismatched Selves of a Beginning Teacher. *The Qualitative Report*, 19 (42), - Retrieved from <https://nsuworks.nova.edu/tqr/vol19/iss42/1>
36. National Education Association. (2004). Attracting and keeping quality teachers. Retrieved July 29, 2004, from www.nea.org/teachershortage.htm
37. Renzulli, L., MacPherson, H., & Beattie, I. (2007). Are charter schools satisfying? The effects of racial composition and school type of teacher satisfaction. Paper presented at the annual meeting of the American Sociological Association, New York, NY. Retrieved from http://www.allacademic.com/meta/p182879_index.html
38. Camara, J. S. (2018). Correlates of Self- efficacy, Learning Style and Aptitude Across Strand of Senior High School Students in San Jacinto NHS. *Asian Journal of Multidisciplinary Studies*. Vol. 1, No. 2. Available at asianjournal.org

39. Camara, J. S. (2020). Post-evaluative insights among Filipino Engineering Students on Alignment, Spirality, Strand and Award (ASSA) in K to 12 Implementation. *International Journal of Scientific and Technology Research*. Vol. 9, No. 2. Available at ijstr.org
40. Camara, J. S. (2018). Spirally Progressive and Contextualized Research Curriculum Competency Checklists for the Philippine Special Science Program. *Asian Journal of Multidisciplinary Studies*. Vol 1, No. 3. Available at asianjournal.org.
41. Ventayen, R. J. M. (2017). Human Practices for Teaching Personnel of Selected Private Asian Higher Educational Institution. Retrieved from <https://grdspublishing.org/index.php/matter/article/view/638>.
42. Ventayen, R. J. M., R. E. Salcedo, & C.C. Orlanda-Ventayen. (2019). Senior High School Students' Engagement and Readiness in eLearning Environment: Basis for Proposed Online Learning Environment Model. Available at SSRN 3504191
43. Ventayen, R. J. M., R. E. Salcedo, C. C. Orlanda-Ventayen, L. M. Ventayen. (2019). Senior High School Teachers' Practices and Readiness in Blended Learning Environment: Basis for a Blended Learning Preparedness Framework. Available at SSRN 3504189.
44. Dela Peña, A. K. F., A. R. anaois, J. P. Pasana. (2020). Publication Practices of Undergraduate Authors Using Turnitin.com Software and Its Implications to Reading: A Qualitative Study Using Quantitative Approach. *Philippine Journal of Qualitative Studies*. Vol. 1, No. 1. Available at journal.paressu.org
45. Retuya, J. R. T. & J. A. Castro. (2020). The Use of Plagiarism Tool in Analyzing Reading Behavior of Special Science Researchers: A Qualitative Study. *Philippine Journal of Qualitative Studies*. Vol. 1, No. 1. Available at journal.paressu.org

Learning Styles and Difficulties of College Students in Chemistry

Marleo B. Montenegro¹, Honelly Mae S. Cascolan, Ph. D.²

¹Faculty, Pangasinan State University, Sta. Maria Campus ²

Department Chair, BSE & BTLE Department PSU – Asingan Campus

Abstract

This study set out to identify the most and least dominant learning styles and difficulties in organic chemistry of the second year college students coming from the 7 campuses of Pangasinan State University namely: Asingan, Bayambang, Binmaley, Infanta, Lingayen, San Carlos, and Sta. Maria who took up organic chemistry subject during the school year 2018-2019. The instruments used were survey-questionnaires. The first questionnaire was adopted from Grasha and Reichmann learning style model Turkish Adaptation by Saritas and Sural (2010) comprised of 6 dimensions which are the learning style. These are independent, dependent, participant, avoidant, collaborative, and competent learning styles. Each dimension is composed of 10 items, in total, 60 items. Each learning styles were determined at three levels of low medium and high. The second questionnaire was made by the researchers consists of thirty-five (35) questions and the respondents would rate themselves as to their perceived level of difficulty of the performance task in organic chemistry. To statistically treat the data, frequency counts, percentages, average weighted mean, spearman rho and point biserial were employed. The most dominant learning styles of the respondents in this study were collaborative and competitive learning styles; and least dominant were independent and participant learning styles. It was understood that difficult performance tasks were from the following topics; bonding and molecular structure; functional groups overview; organic reactions and their mechanisms; stereochemistry; and alkenes, alkynes and aromatic compounds. Moreover, students who have independent, avoidant and collaborative learning styles find all the performance tasks as difficult.

Keywords: Difficulty, Learning Style, Organic Chemistry, Pedagogical Intervention , Performance Task

INTRODUCTION

As a branch of knowledge, science deals with a body of facts and truths that are arranged systematically and gained through observation and experimentation. No curriculum exists in isolation, ie each curriculum is designed to be an input to another output. The interplay of curricula in the trifocal system of education in the Philippines only becomes ideal when alignment is checked at crucial checkpoints including the most recent checkpoint—the implementation of the K to 12 Basic Education Curriculum. One field that changed is Science Education [7]. One branch of science is Chemistry which is said to be the central science, central to a fundamental understanding of other sciences and technologies since many subjects share an essential tie to chemistry. Chemistry is the study of matter and the changes that matter undergoes [2]. One branch of chemistry is Organic Chemistry, which is the study of the compounds of carbon. Perhaps the most remarkable feature of organic chemistry is that it is the chemistry of carbon and only a few other elements—chiefly hydrogen, oxygen, and nitrogen [3].

Chemistry as a subject contains abstract concepts which are seemingly difficult to grasp. The way students learn chemistry could also affect their performance in chemistry. Each student has styles or preference in the way they recognize and process information. They differ in doing performance tasks [4] employing a variety of activities targeting higher- order proficiencies. Requires students to engage in certain activities or create products to demonstrate their academic knowledge and abilities.

Recognizing the students' learning style may very well aid the teachers in becoming more sensitive to students' differences in the classroom, thus promoting enhancement to teaching practices that best suit the student learning styles [8]. Camara [5] studies the correlation between self-efficacy, learning style and aptitude among senior high school students. Some of the reasons identified by [1] for students' difficulties in Organic Chemistry at the University level hinged on: Chemistry teachers' teaching methods; Learning style of the students; Nature of the subject itself; and Students experience of learning. Eticha [9] has also identified the following major areas of Organic Chemistry topics as difficult for students to comprehend: Functional groups (Writing appropriate reaction for different functional groups); Stereochemistry (Visualizing structure of stereoisomers in three-dimensional); Organic reactions (Categorizing the types of organic reactions).

As cited by [10], they stated learning styles and general class preferences of the students with these learning styles as follows: Independent, Dependent, Collaborative, Avoidant, Participant, and Competitive. Independent learners prefer to think for themselves and are confident about their learning abilities. They prefer to work alone, learning content that they think is important. Dependent learners show little intellectual curiosity and learn only what is required. They look to authority figures, teachers, and peers for specific guidelines on structure, support, and what to do. Collaborative learners enjoy working with peers and teachers, and they believe they can learn by sharing ideas and talents. Avoidant learners tend to be uninterested and/or overwhelmed by the learning situation. They are not enthusiastic and do not participate in the learning process. Participant learners are the "good citizens." They are eager to please and will do as much as is required to meet requirements. They enjoy most learning activities and are likely to participate actively in the learning process. Competitive learners compete with their peers for grades and like to be the center of attention receiving recognition for their accomplishments.

Osokoya [8] found out that students with collaborative learning style performed better in chemistry. Awareness of the learning styles is vital for allowing adjustment in the educators' pedagogic approaches or making pedagogical interventions. For example, according to Elban [10] a project-based teaching approach can be used for the students with dependent leaning style where the teacher should be the source of the directive for the dependent learners. For the students with independent learning style, project assignments can be given, yet, teacher will not play the good directive-giving role but will play a role, which sets the student free and alone. When the teacher assigns a project to the students with collaborative learning style, he/she should play neither the directive-giving role nor the setting-free role. Also, Organic Chemistry teachers should understand students' areas of learning difficulties in Organic Chemistry topics and design appropriate instructional strategy and approach for them with relevant interjections wherever applicable [9]. Curriculum evaluation in the perspectives of student- clienteles is a significant and healthy approach to curriculum improvement [6] and thus teachers with students should work hand-in-hand.

OBJECTIVES OF THE STUDY

The researcher came to an understanding based on the realities mentioned above that the success in learning organic chemistry depend on the students' learning style and the difficulties they encounter in performing learning task or performance tasks as a result of the complexity of a performance task. Therefore, there is a need to explore by conducting a study intended to determine the learning styles and difficulties of college students in Organic Chemistry at Pangasinan State University. The problems are as follows;

1. What is the profile of the students who took up organic chemistry in terms of; sex; course; performance in the entrance exam; performance in organic chemistry; and monthly family income.
2. Which learning style/s is/are the most and least dominant among respondents?
3. What is the perceived level of difficulties of the students in the performance tasks in organic chemistry?
4. Is there a significant relationship between the perceived level of difficulties of the students in the performance tasks in organic chemistry across; the different learning styles, and profile variables
5. Is there a significant relationship between the learning style and the profile of the students?
6. What pedagogical intervention can be proposed to address learning styles and difficulties of college students in organic chemistry?

MATERIALS AND METHODS

Respondents of the Study

The subjects of the study are the two hundred four (204) selected second year students coming from the 7 campuses of Pangasinan State University namely: Asingan, Bayambang, Binmaley, Infanta, Lingayen, San Carlos, and Sta. Maria who took up organic chemistry subject during the school year 2018-2019. The courses of these students are Bachelor of Secondary Education Major in Science and Bachelor of Science in Agriculture.

Instrumentation

The instruments which were used as data-gathering tools are survey-questionnaire [14]. The first questionnaire was adopted from Grasha and Reichmann learning style model Turkish Adaptation by Saritas and Sural [1], with modifications for applicability with

the present study like the use of 'organic chemistry class' instead of 'class' and "organic chemistry teachers" instead of "teachers". The model is comprised of 6 dimensions which are the learning style. These are independent, dependent, participant, avoidant, collaborative, and competent learning styles. Each dimension is composed of 10 items, in total, 60 items. When learning styles of the students were determined, each learning styles were determined at three levels of low, medium and high shown in table 1. (Table found in original article).

The second questionnaire was made by the researchers and validated by Chemistry Professors at Pangasinan State University – Bayambang Campus. The questionnaire had thirty-five (35) questions and the respondents would rate themselves as to their perceived level of difficulty of the performance task in organic chemistry. Further, the survey-questionnaire opened with a section asking for their participation with a consent form section, and a reiteration of the confidentiality of their identity.

Data-gathering Procedure

The researchers secured a written permit from the Offices of the Campus Executive Directors of the seven (7) campuses Pangasinan State University. After the approval of the permit, the researchers administered the survey questionnaire. There were two-hundred four questionnaires gathered. The survey-questionnaires were all coded from 001 to 204 by the researchers. After coding, the survey- questionnaires were also encoded by the researchers and submitted for data analysis in SPSS by the Pangasinan State University – Statistic Center Statistician.

Statistical Treatment

The data in the 204 survey-questionnaires were all encoded and analyzed in SPSS. Frequency counts, percentages, average weighted mean, spearman rho and point biserial were employed to statistically treat the data.

RESULTS AND DISCUSSION

Table 2 (found in original article) shows that, majority of the respondents are female (112 or 54.9 %), while in terms of course and major is an equal distribution of students for Bachelor of Science in Agriculture major in General Curriculum and Bachelor of Secondary Education major in Science with 102 or 50% each. With regards to the performance in entrance exam, scores in ranging from 31 – 40 was obtained by majority (47.5% or 97) and on the Performance in Organic Chemistry, the grade of 2.00 is the most obtained grade (67 or 32.8%). And 74.5% or 152 from the respondents belong to families with an income ranging from 8000-below.

Table 3 (found in the original article) shows the number of students for each learning style grade level and the mean. This table shows the most and least dominant learning styles of the students based on the frequency of grading of learning style as low, medium or high by [1]. It reveals that majority of the students under collaborative and competitive learning styles resided in high range of grade according to the frequencies 162 and 120, and means of 3.88 and 3.04 respectively. Accordingly, most students under

independent, avoidant, dependent, participant learning style fell on the medium range with the frequency of 132, 132, 103 and 119 and means of 3.32, 2.89, 3.74, and 3.72 respectively. Independent and participant learning styles have the highest frequencies in low range of grade which is 34 and 31 respectively and lowest frequencies in high range of grade which is 38 and 54 respectively. Overall, this table revealed that the most dominant learning style of the students in this study are collaborative and competitive learning styles while the least dominant are independent and participant learning styles. Similarly, the most dominant learning styles in the study of [11] are collaborative and competitive learning styles and also the study of [10] which revealed that collaborative and competitive learning styles are dominant. Some study like [12] and [13] also found collaborative learning style as dominant but not paired with competitive learning style, instead, for Azarkhordad, dependent and participant learning style are also dominant and for [13], independent learning style is also dominant.

Table 4 (found in original article) presents the performance tasks perceived by the respondents as difficult came from five main topics namely; bonding and molecular structure; functional groups overview; organic reactions and their mechanisms; stereochemistry; and alkenes, alkynes and aromatic compounds. On the other hand, performance tasks perceived by the respondents as Moderately easy came from two main topics; alkanes and cycloalkanes; and functional classes and their nomenclature.

It can be seen in table 5 that 3 learning styles namely: independent, avoidant and collaborative learning styles have significant relationship (at 0.01 level) and have almost slightly high positive correlation with Spearman rho values all found in the range of 0.34 – 0.50 of all the seven performance tasks: bonding and molecular structure; functional groups overview; organic reactions and their mechanisms; alkanes and cycloalkanes (saturated hydrocarbons); Stereochemistry; alkenes, alkynes and aromatic compounds (Unsaturated Hydrocarbons); functional classes and their nomenclature. Hence, students who have independent, avoidant and

collaborative learning styles find all the performance tasks as difficult. Dependent learning style has significant relationship and has low positive correlation to performance tasks; bonding and molecular structure; functional groups overview; and functional classes and their nomenclature only, therefore dependent learners find performance these performance tasks as difficult. Competitive learning style has low positive correlation to performance tasks; bonding and molecular structure; functional groups overview; and functional classes and their nomenclature, hence, competitive learning style students find these performance tasks as difficult. Competitive learning style has low negative correlation to performance tasks; organic reactions and their mechanisms; alkanes and cycloalkanes; and Stereochemistry making them difficult for those who have low level of attitudes and feelings in competitive learning style.

The participant learning style has significant relationship to all the performance tasks. It has low positive correlation to performance tasks; bonding and molecular structure, organic reactions and their mechanisms, alkanes and cycloalkanes, Stereochemistry and alkenes, alkynes and aromatic compounds making them difficult for students with participant learning style. Meanwhile, participant learning style has slightly high positive correlation to functional groups overview; and functional classes and their nomenclature making those who have high level of attitudes and feelings in participant learning style find these performance tasks as more difficult. a significant relationship and has a very low positive correlation to performance task functional groups overview in a way that females find this task difficult than males. Both courses and majors are significantly related to performance tasks; bonding and molecular structure; functional groups overview; organic reactions and their mechanisms; alkanes and cycloalkanes; alkenes, alkynes and aromatic and their mechanisms; alkanes and cycloalkanes; alkenes, alkynes and aromatic compounds as difficult while BSE students major in science find performance tasks bonding and molecular structure; functional groups overview and functional classes and their nomenclature as difficult. With

regards to entrance exam raw score, this is significantly related to performance tasks: organic reactions and their mechanisms; alkanes and cycloalkanes; and Stereochemistry that have low positive correlation and alkenes, alkynes and aromatic compounds that has very low positive correlation. This means that those who obtained high raw score in entrance exam find those tasks as difficult than those who obtained low raw score. On the other hand, the performance in organic chemistry is significantly related to performance tasks; organic reactions and their mechanisms; alkanes and cycloalkanes; Stereochemistry; alkenes, alkynes and aromatic compounds that have low negative correlation and functional classes and their nomenclature that has very low negative correlation which means that students who have performance that is equivalent to higher decimal grade or poor grade in organic chemistry find those tasks as easy. Also, monthly family income has significant relationship to performance task bonding and molecular structure only which has very low negative correlation, meaning, students who belong to families with higher monthly income find this performance task as difficult.

Table 7 (found in the original article) showed that sex is significantly related and has very low negative correlation to dependent learning style (-.140) and low negative correlation to participant learning style (-.224). Hence, dependent and participant learning styles are the more dominant learning styles for females than males. Course is significantly related to all learning styles, has low negative correlation to learning styles (Independent -.220, Avoidant -.211, Collaborative-.251, Dependent -.302, Competitive -.198,) and very low negative correlation to participant learning style-.164. This means that Bachelor of Secondary Education students are more dominant in varied learning styles than Bachelor of Science in Agriculture Students. Dependent learning style is significant and has a low negative correlation to the entrance exam raw score (-.198) and so Dependent learning style is more dominant for those who obtained lower scores in the entrance exam than those who obtained higher scores. Performance in organic chemistry has no significant relationship to the learning styles.

Monthly family income is significantly related to only one learning style which is the participant learning style and has very low positive correlation (.142).

Table 8 (found in the original article) shows the proposed Pedagogical Interventions addressing Dominant Learning Styles and Difficult Performance Tasks. Students could be engaged to group or competition - based performance task, peer discussion, demonstration and presentation for the difficult performance task for them. Group performance task and peer discussion can be used for the collaborative students and outputs of their tasks will be presented and compared against the outputs of other groups by the competitive students. For competitive students, competition-based performance tasks can be used and at the end of the tasks competitive learners will demonstrate what they did or present their output to the class

DISCUSSION AND CONCLUSION

Majority of the respondents are female, while in terms of course and major is an equal distribution of students for Bachelor of Science in Agriculture major in General Curriculum and Bachelor of Secondary Education major in Science. With regards to the performance in entrance exam, most scores are in the range of 31 to 40 and on the Performance in Organic Chemistry, the grade of 2.00 is the most obtained grade. Majority of the respondents belong to families with an income ranging from 8000-below.

The most dominant learning style of the students in this study are collaborative and competitive learning styles. On the other hand, the least dominant are independent and participant learning styles.

Overall, performance tasks perceived by the respondents as difficult came from five main topics namely; bonding and molecular structure; functional groups overview; organic reactions and their mechanisms; stereochemistry; and alkenes, alkynes and aromatic compounds. On the

other hand, performance tasks perceived by the respondents as moderately easy came from two main topics; alkanes and cycloalkanes; and functional classes and their nomenclature.

Students who have independent, avoidant and collaborative learning styles find all the performance tasks as difficult. Students with dependent and competitive learning styles find performance tasks: bonding and molecular structure; functional groups overview; and functional classes and their nomenclature only as difficult. Performance tasks organic reactions and their mechanisms, alkanes and cycloalkanes (saturated hydrocarbons) and stereochemistry are difficult for those who have low level of attitudes and feelings in competitive learning style. The students with high score in participant learning style find performance tasks bonding and molecular structure, organic reactions and their mechanisms, alkanes and cycloalkanes (saturated hydrocarbons), stereochemistry and alkenes, alkynes and aromatic compounds (Unsaturated Hydrocarbons) as difficult while functional groups overview and functional classes and their nomenclature as more difficult.

Females find performance tasks from the topic functional groups overview as difficult than males. BSA students major in general education find performance tasks organic reactions and their mechanisms, alkanes and cycloalkanes (saturated hydrocarbons) and alkenes, alkynes and aromatic compounds (Unsaturated Hydrocarbons) as difficult while BSE students major in science find performance tasks; bonding and molecular structure, functional groups overview and functional classes and their nomenclature as difficult. Students who obtained high raw score in entrance exam find tasks from main topics; organic reactions and their mechanisms; alkanes and cycloalkanes; Stereochemistry and alkenes, alkynes and aromatic compounds as difficult than those who obtained low raw score. Students who have performance in organic chemistry that is equivalent to higher decimal grade or poor grade in organic chemistry find; organic reactions and their mechanisms; alkanes and cycloalkanes; Stereochemistry

and alkenes, alkynes and aromatic compounds; and functional classes and their nomenclature tasks as easy. Students who belong to families with higher monthly income find performance task; bonding and molecular structure, as difficult.

Dependent and participant learning styles are the more dominant learning styles for females than males. Course, Bachelor of Secondary Education students are more dominant in varied learning styles than Bachelor of Science in Agriculture Students. This means that dependent learning style is more dominant for those who obtained lower scores in the entrance exam than those who obtained higher scores. Performance in organic chemistry has no significant relationship to the learning styles. Monthly family income, students who have participant learning style as their dominant learning styles are from families with higher income.

Students could be engaged to group or competition - based performance task, peer discussion, demonstration and presentation for the difficult performance task for them. Group performance task and peer discussion can be used for the collaborative students and outputs of their tasks will be presented and compared against the outputs of other groups by the competitive students. For competitive students, competition-based performance tasks can be used and at the end of the tasks competitive learners will demonstrate what they did or present their output to the class.

ACKNOWLEDGMENT

The authors would like to thank the President of Pangasinan State University Dr. Dexter R. Buted and the Executive Directors of the 7 campuses of Pangasinan State University for the approval to conduct the study. Likewise, the authors are grateful for the moral, technical, and financial support from the sponsoring organization – the PARESSU, Inc. through its Board of Directors, for the publication of the article.

REFERENCES

1. Saritas, E. & Sural, S. (2010). Grasha-Reichman öğrenme ve öğretme stili ölçeklerinin Türkçe uyarlama çalışması [Grasha-reichmann learning and teaching style of the scale study Turkish adaptation], *E-Journal of New World Academy*, 5(4), 2162-2177.
2. Brown T. et al. (2012). *Chemistry: The Central Science*, 12th edition. Pearson Education Inc.
3. Brown W. and Poon T. (2013) *Introduction to Chemistry* 5th Edition. John Wiley & Sons, Inc.
4. Ernst Jeremy V. et. al. (2017). Performance-Based Task Assessment of Higher-Order Proficiencies In Redesigned STEM High Schools, *Contemporary Issues in Education Research – First Quarter 2017*
5. Camara, J. S. (2018). Correlates of Self-Efficacy, Learning Style and Aptitudes Across Strand of Senior High School Students in San Jacinto National High School. *Asian Journal of Multidisciplinary Studies*. Vol. 1, No. 2. Available at asianjournal.org
6. Camara, J. S. (2020). Post-evaluative Insights Among Filipino Engineering Students on Alignment, Spirality, Strand, and Awards (ASSA) in K to 12 Implementation. *International Journal of Scientific & Technology Research*. Vol. 9, No.2. Available at researchgate.net
7. Camara, J. S. (2020). Philippine Biology Education for a Curricular Innovation Towards Industrial Revolution 4.0: A Mixed Method. *Asian Journal of Multidisciplinary Studies*. Vol. 3, No. Available at asianjournal.org
8. Osokoya M. (2016). Social Media and Learning Styles as Correlates of Senior Secondary Students' Chemistry Achievement in Abeokuta, Ogun State, Nigeria. *Journal of Sociological Research*
9. Eticha A. and Ochonogor C. (2015), Assessment of Undergraduate Chemistry Students' Difficulties In Organic Chemistry. Institute for Science and Technology Education
10. Elban M. (2018). Learning Styles as the Predictor of Academic Success of the Pre- Service History Teachers. *European Journal of Educational*

Research Volume 7, Issue 3, 659 – 665

11. Kamisli Halil and Ozonur Mesut (2019). Students' learning styles in vocational education, *International Journal of Curriculum and Instruction*
12. Azarkhordad F. and Mehdinezhad V. (2016) Explaining the Students' Learning Styles Based on Grasha-Riechmann's Student Learning Styles. *Journal of Administrative Management, Education and Training (JAMET)* ISSN: 1823-6049
13. Cimermanová, I. (2018). The Effect of Learning Styles on Academic Achievement in Different Forms of Teaching. *International Journal of Instruction*, 11(3), 219-232.
<https://doi.org/10.12973/iji.2018.11316a>
14. Cascolan, Honelly Mae S. (2019). Students' Conceptual Understanding, Metacognitive Awareness and Self-Regulated Learning Strategies Towards Chemistry Using POGIL Approach. *ASEAN Multidisciplinary Research Journal*. Vol. 1, No. 1. Available at journal.paressu.org

Relationship of the Use of Mother Tongue-Based Multilingual Education to the English Learning Competencies of Pupils

Gretchen P. Tadeo, M.A.Ed.¹, Phillip G. Queroda, Ed.D.²

^{1 2} Pangasinan State University; Open University Systems
gpt112092@gmail.com, phillipqueroda@psu.edu.ph

Abstract

This study was conducted to find the relationship of the Mother Tongue Based Multilingual Education (MTB-MLE) to the acquisition of the English learning competencies of the Grade 4 pupils. Specifically, it identified the level of acquisition of the English learning competencies as perceived by the teachers across the following domains: listening comprehension, oral language, vocabulary development, reading comprehension, oral reading fluency, study strategy, grammar, writing composition and attitude and its relationship across pupils profile variables. The descriptive type of research was used in this study and was anchored on the Second Language Acquisition (SLA) Theories. The data were gathered through the use of a questionnaire. The information gathered were tabulated and analyzed using the frequency counts, percentage, weighted mean, rank, chi-square statistics and Pearson r Correlation. The study found out that the Grade 4 pupils moderately acquired all the English learning competencies with regards to the given. Only oral reading fluency competencies are found to be related to age and with regards to pupils' sex vocabulary development, grammar and attitude learning competencies show significant relationship. It also disclosed that vocabulary development, grammar, writing composition and attitude learning competencies are related with the pupils' parents' monthly income. While there is significant relationship between listening comprehension and writing composition learning competencies and pupils' mother tongue. Lastly, results in this study showed that all the English competencies turned out to be highly related with the pupils' mother tongue grade. Hence, there is a dependence between the pupils' mother tongue grade and English competencies.

Keywords: English learning competencies , mother tongue, MTB-MLE

INTRODUCTION

Amidst the abrupt changes in the twenty-first century that brought demands and challenges to our education, the Philippines has undertaken educational reforms that transition and shift its 10-year basic education into a K-12 curriculum. Such initiatives aim to expand students' program of learning, improve access to quality education, form individuals, who can contribute to the wider community, and boost the global competitiveness of the Filipino workforce [1]. Many Filipino learners face various barriers in education and one of these barriers is that our learners begin their schooling in a language where they do not comprehend. They do not understand the language of education being used as a medium of instruction in the classroom [2].

The use of mother tongue enables the young learners to immediately construct and explain without fear of making mistakes, articulate their thoughts and add new concepts to that which they already knew. In turn, the teachers can more accurately assess what has been learned and identify the areas where they need help [3]. Now that mother tongue (first language) has been used as a medium of instruction in Kindergarten to Grade 3 for almost six years and with its negative and positive effects to the pupils' performances in various learning areas particularly English [4] a study on the relationship of the use of the mother-tongue based multilingual education in the acquisition of English learning competencies of the Grade 4 pupils will be a great help to improve the pupils performance in English particularly their reading, speaking, listening and writing skills as well as equipped teachers with understanding and knowledge to develop and enhanced their teaching performances.

This study determined the relationship of the use of Mother Tongue-Based Multilingual Education (MTB-MLE) to the acquisition of the English learning competencies of the Grade 4 pupils of Alaminos City Division. Specifically, this study identified the personal profile of the teachers in terms of age, sex, highest educational attainment, position and length in service and the personal profile of the pupils in terms of age, sex, parents' monthly income, mother tongue and Grade 3 mother tongue grade and pupils, the level of acquisition of the English learning competencies of the Grade 4 pupils as perceived by the teachers across the listening comprehension, oral language, vocabulary development, reading comprehension, oral reading fluency, study strategy, grammar, writing composition and attitude domains and the significant relationship

between the level of acquisition of English learning competencies of Grade 4 pupils and their profile variables.

MATERIALS AND METHODS

The descriptive type of research was used in this study. The descriptive research presents the existing conditions to be studied [15] [16][19-21]. The teacher respondents were chosen using complete enumeration and stratified random sampling were used in selecting the pupil respondents. The data were gathered through the use of a questionnaire which validated by different experts. The information gathered were tabulated and analyzed using the frequency counts, percentage, weighted mean, rank, chi-square statistics and Pearson r Correlation [17][18].

RESULTS AND DISCUSSION

Profile of the Teachers

Most of the Grade 4 teachers aged 46 years old and above as evidently shown by the frequency distribution of 14 or 24.1% of them. 10 or 17.2% of the them are aged 41 – 45 years old, 11 or 19.0 % are 36 – 40 years old, 8 or 13.80% are 31 – 35 years old, 8 or 13.80% aged are 26 – 30 and there are only 7 or 12.10% of them who are 25 years old and below. Grade 4 teachers were dominated by female teacher as evidently shown by the frequency of 46 or 79.30% of the respondents. There are only 12 or 20.70% who are male teachers. Out of 58 respondents there are 35 or 60.30% who have acquired units in the Master's degree. 13 or 22.40% of them who are Master's Degree graduates, 9 or 15.50% who are only have their bachelor's degree and there is only 1 or 1.70% who graduated his Doctorate degree. Out of the 58 teachers there are 26 or 44.80% who are already promoted to Teacher III. There are 24 or 41.40% who are still Teacher I. Moreover, 4 or 6.90% who are Master Teacher I and 4 or 6.90% who are Teacher II. It was found that there are 15 or 25.90% who have been teaching for more than 16 years. There are 14 of them or 24.10% who are in the service for 2- 5 years, 12 or 20.70% who have teaching for 6 – 10 years, 11 or 19.0% who are teaching for 11 – 15 years, and there are only 6 or 10.30% who are newly hired or in the service for a year and less.

Profile of the Pupils

Out of the 333 pupils, half of them are nine years old as shown with the frequency of 175 or 52.60%. There are 136 or 40.80% who are ten years old, 14 or 4.20% who are eleven years old, 7 or 2.10% who are eight years old and only 1 or 0.30% who is twelve years old. The pupils obtained the mean age 9:48. It was found that there are more female pupils as evidently shown by the frequency 178 or 53.50% of the pupils. There are 155 or 46.50% who are male. Out of 333 pupils 113 or 33.90% of the pupils have parents who are earning 1001 pesos – 5000 pesos mean. Kurtosis (-0.959) shows a platykurtic distribution and the values are wider spread around the mean. The aspect of language development education begins with the use of the first language of the learners, a language that they understand. School children will have a good language bridge to the next language which is needed to succeed in school and for lifelong learning. The first language that children master will provide a strong foundation [5].

Level of Acquisition of the English Learning Competencies on Listening Comprehension

Table 1 (found in the original article) shows that the pupils have moderately acquired the English Learning Competencies with regards to listening monthly. There are 88 or 26.40% whose parents' monthly income is 1000 pesos below, 78 or 23.40% whose parents are earning 5001 pesos – 10000 pesos monthly and 54 or 16.20% whose parents monthly income is 10 000 pesos and above. Majority of the pupils have Iloko as their mother tongue as shown by the frequency 255 or 76.60%. There are 54 or 16.20% whose mother tongue is Pangasinan and 24 or 7.20% whose mother tongue is Tagalog. There are 95 or 28.50% of the pupils have a grade of 85 – 89 (Very Satisfactory). There are 91 or 27.30% whose Grade 3 Mother Tongue grade is 90 – 100 (Outstanding), 91 or 27.30% pupils have a grade of 80 – 84 (Satisfactory) and 56 or 16.80% with grades of 75 – 79 (Fairly Satisfactory). It was revealed that the pupils has a mean grade of 85.43 which indicates that most of the pupils have a very satisfactory performance in their Grade 3 Mother Tongue subject.

Furthermore, it was disclosed that the pupils' grade has a variability of 5.586 which implies that their grades are widely disperse. The lowest grade obtained was 75 while 97 was said to be the highest. A positive skewness (Right Skewed) was observed in the pupils' performance as implied by the computed value 0.005 which means more values are

concentrated to the left of the mean, with extreme values to the right of the comprehension as shown by the overall mean 2.99. The competencies distinguish fact from opinion in informational text and tell whether an action or event is a reality or a fantasy were highly acquired by the pupils. While, the pupils have moderately acquired evaluate the likelihood that a story/event could really happen, draw conclusion in informational text heard, give conclusions to realistic fiction listened to, give one's reaction to an event or issue heard and identify cause-and-effect relationship. In listening, learners listen to understand and use what they hear [5].

Level of Acquisition of the English Learning Competencies on Oral Language

The data in Table 2 (found in the original article) revealed that the Grade 4 pupils moderately acquired all the English learning competencies with regards to oral language as shown by the overall mean of 2.98. The competencies state a fact and opinion about a particular topic (advertisements) and express whether an action or event is reality or fantasy have a high level of acquisition. While on the other hand, the pupils have moderately acquired state a fact and opinion about a particular topic (announcement), state conclusion to realistic fiction, state conclusion to informational text, state one's conclusion to realistic fiction listened to, express one's reaction to an event or issue and state the effects of a given cause.

Level of Acquisition of the English Learning Competencies on Vocabulary Development

As shown in Table 3 (found in the original article) the English learning competencies with regards to vocabulary development was acquired by the pupils moderately as evidently shown by an overall mean 3.01. The pupils showed high level acquisition in the competencies identify meaning of word with suffixes -ful and -less and identify meaning of words with suffixes -er and -or. While, they have acquired moderately use knowledge of context clues to find the meaning of unfamiliar words (synonyms), use knowledge of context clues to find the meaning of unfamiliar words (antonyms), identify the meaning of words with multiple meanings, identify meaning of words with prefixes un-, in-, im-, dis-, mis- and re-, identify meaning of words with

prefixes de- and dis-, identify meaning of words with suffixes -ly and -y and identify meaning of words with suffixes -able and -ible. Learners speak with understanding to communicate their thoughts and ideas clearly in speaking [5].

Level of Acquisition of the English Learning Competencies on Reading Comprehension

Table 4 showed that the English learning competencies with regards to reading comprehension as evidently shown by the overall mean 2.94 was acquired by the pupils moderately. Moreover, the competencies: distinguish fact from opinion in an informational text and distinguish reality from fantasy in stories read were highly acquired by the students. On the other hand, the pupils have moderately acquired make inferences and draw conclusions based on informational text, give conclusions to realistic fiction read, make generalizations and identify cause- and-effect relationship. Learning to read in the L1 develops skills that transfer to reading any other languages. Comprehension in reading other languages only occurs after oral proficiency has developed such that vocabulary. Proper sequencing strengthens learning [6].

Level of Acquisition of the English Learning Competencies on Oral Reading Fluency

Table 5 revealed that with regards to oral reading fluency competencies the level of acquisition of the Grade 4 pupils was moderate as clearly revealed by the overall mean of 2.98. Moreover, the competencies: read aloud grade four-level texts with accuracy rate of 95–100% and read grade-level texts with 118 words correct words per minute were acquired by the pupils moderately. In reading, learners read to understand, apply, analyze, critique and use information from printed or digital materials[6].

Level of Acquisition of the English Learning Competencies on Study Strategy

It can be gleaned in Table 5 that the level of acquisition of the pupils to the different English learning competencies with regards to study strategy domain was moderate as implied by the overall mean

2.96. Moreover, get information from an advertisement, get information from an announcement, use search engine, encyclopedia, almanac and other multimedia sources to get information, take down important information, interpret a map, use a glossary to get the meaning of words and use strategies in taking tests (A) before the test (B) during the test were moderately acquired by the pupils. On the other hand, the table also showed that only interpret bar and line graphs was highly acquired by the pupils.

Level of Acquisition of the English Learning Competencies on Grammar

The pupils acquired the different English learning competencies with regards to grammar domain moderately as revealed by the overall mean 3.02. the pupils have highly acquired Identify prepositions in sentences and use prepositions in sentences – among and between as shown in Table 6. While the competencies: use prepositions in sentences – to and from, use prepositions in, on, under, and above in sentences, use prepositional phrases in sentences, use simple sentence: simple subject and simple predicate, use simple sentence: Compound subject + simple predicate, use simple sentences: Simple subject and compound predicate and Use compound sentences were moderately acquired by the pupils.

Level of Acquisition of the English Learning Competencies on Writing Composition

Table 8 revealed that the overall mean 2.79 suggests that the English learning competencies under the writing composition domain is moderately acquired by the Grade 4 pupils. Moreover, outline a paragraph with explicitly given main idea, Write a 2-point sentence outline, Write a paragraph based on a 2-point outline, write 5–6 sentence paragraph about a given topic (Prewriting), write 5–6 sentence paragraph about a given topic (Writing) and write 5– 6 sentence paragraph about a given topic (Editing) were acquired by the pupils moderately. On the other hand, the pupils have slight acquisition towards the competencies write 5–6 sentence paragraph about a given topic (Rewriting/ Revising) and write 5–6 sentence paragraph about a given topic (Publishing). Learners write creatively to communicate thoughts and feelings clearly and accurately to others.

[6]

Level of Acquisition of the English Learning Competencies on Attitude

The level of acquisition of the pupils to the different English learning competencies with regards to attitude domain was moderate as implied by the average weighted mean 2.92. Moreover, it was also shown in the table that express interest in different texts by reading available print, express interest in text by reading available print, express interest in text by reading available print and browse and read books for learning or for pleasure were all acquired by the pupils moderately.

Summary of English Learning Competencies Acquisition Level of Grade Four Pupils

It was revealed that the pupils moderately acquired all the English learning competencies as indicated by the grand mean 2.95. The vocabulary development and grammar competencies received the highest weighted mean 3.02 that signified that it is the most learned English competencies of the pupils. On the other hand, the writing composition competencies obtained the lowest mean 2.79 that implied that it is the least learned competency among the English learning competencies of Grade 4 pupils. It was found out that none of the English learning competencies was not acquired, slightly acquired and highly acquired by the pupils. This supported the findings in the Lingua Franca Project and Lubuagan First Component that (a) learners learn to read more quickly when in their first language (L1), (b) pupils who have learned to read and write in their first language learn to speak, read and write in second language (L2) and third language (L3) more quickly than those who are taught in a second or third language first; and (c) third, in terms of cognitive development and its effects in other academic areas, pupils taught to read and write in their first language acquire such competencies more quickly [7].

Significant Relationship between Age and English learning competencies of Grade 4 pupils

It was unveiled that only oral reading fluency is related to age as expressed by its chi-square value ($\chi^2 = 43.476, p = .009$) that is considered to be significant as supported

by its p-value which is less than .05. Moreover, the strength of their relationship is expressed by the effect size of 0.172.. This is a small effect which can be hardly seen or observed. While other English Learning competencies show no dependence with age as implied by their chi-square values with p values that are greater than .05 [6].

The researcher can conclude that age and oral reading fluency are related. This support the assumptions of Language Acquisition device of Noam Chomsky that children in every language are able to learn to speak and understand language at very early age. The children are not just mimicking language patterns but actually producing meaningful utterances on their own. There is an innate ability or device for acquiring language in the human mind that allows all humans to learn and use language almost instinctively. This implies that language can be and is acquired in part because of the human condition, the nature of being human, regardless of the difficulty of the language and age [8].

Significant Relationship between Sex and English learning competencies of Grade 4 pupils

It was revealed that vocabulary development, grammar and attitude learning competencies are related with the pupils' sex as expressed by their chi- square values that is considered to be significant as implied by their p-values which are less than .05 level of significance. Moreover, the effect size of vocabulary development and grammar shows the strength of their relationship and were considered as medium effect which means that the relationship would be perceptible to the naked eye of a reasonably sensitive observer. On the other hand, attitude learning competencies effect size shows the strength of their relationship and that effect is consider as small effect. While other English Learning competencies are not related to sex as expressed by the obtained chi-square values with p values that are greater than .05. The overall acquisition of the English learning competencies and sex were related as indicated by the obtained chi-square value ($\chi^2 = 397.864$, $p = .000$) which is said to be significant as supported by the p-value which is lower than the 0.05 level of significance. Furthermore, the strength of the relationship as expressed by the effect size 0.930, this is a large effect which is highly observed and seen.

These findings in the study are in contradictory to the findings of the research of Awopetu [6] that there was no significant difference in the learning abilities of boys and girls in the experimental group. The analysis of the t-test samples in her study indicated that both male and female participants in the experimental group showed a significant gain in their learning outcomes after being taught in their mother tongue. On the other hand, these findings supported the result of the study conducted by Olanipekun [10] that female students were better off in their performance in English language than the males.

Significant Relationship between Parents' Monthly Income and English learning competencies of Grade 4 pupils

It was found that vocabulary development, grammar, writing composition and attitude learning competencies are related with the pupils' parents' monthly income as expressed by their chi-square values that is considered to be significant as implied by their p-values which are less than .05 level of significance. Moreover, the effect size of vocabulary development shows the strength of their relationship and was considered as medium or moderate relationship. On the other hand, grammar, writing composition and attitude learning competencies effect size shows the strength of their relationship and that effect is consider as low or small relationship. While other English Learning competencies are not related to pupils' parents' monthly income as expressed by the obtained chi-square values with p values that are greater than .05.

Parents who are earning a higher monthly income can provide their children enough materials to nurture their knowledge and are more knowledgeable to guide, teach and follow up their children's development and learning. Parents are more likely to participate in the children's learning [5].

Significant Relationship between Mother Tongue and English learning competencies of Grade 4 pupils

It was unveiled that listening comprehension and writing composition learning competencies of the Grade 4 pupils are related to pupils' mother tongue as implied by their chi-square values that is considered to be significant as implied by their p-values which are less than .05 level of significance. Moreover, the effect size of listening comprehension shows the strength of their relationship and was considered as medium a low or small relationship. On the other hand, writing composition learning competencies effect size shows the strength of their relationship and that effect is consider as medium or moderate relationship. While other English Learning competencies and mother tongue obtained chi-square values with p values that are greater than .05 which were considered to insignificant. This means that all those other English Learning competencies show no relationship with mother tongue.

The teaching of Mother Tongue subject also enables the child to acquire knowledge of language structure. Knowledge of the language structure encompasses phonemes, morphemes, syntax and context, grammar, semantics, and pragmatics[11].

Mother tongue has no effect on students' academic performance in English language and that there is no correlation between students' academic performance in English and mother tongue language. Thus, English performance of many students could not have been plagued from mother tongue interference which some scholars have identified to be affecting academic performance in English language which has also extended to other school subjects [10].

The use of mother tongue had no negative influence in the performance of English. It emerged from the study that the use of mother tongue influences the way students write and pronounce in English, hence negatively influencing the performance of English in the examination [12].

Significant Relationship between Grade 3 Mother Tongue Grade and English learning competencies of Grade 4 pupils

The results show that all the English competencies turned out to be highly related with the Mother tongue grade as expressed by the Correlation values (r) with p-values that are less than .05 and .01. Moreover, the r - values indicates that there is a very high positive relationship between the mother tongue grade and the level of acquisition of the English learning competencies. Furthermore, the positive r - values implied that the higher the pupils' performance in their mother subject is the higher their level of the acquisition of the English learning competencies. Thus, it was found out that the level of acquisition of all the English competencies are related with the mother tongue grade.

These findings support the Common Underlying Proficiency or CUP Theory by Jim Cummins which states that proficiency in a learner's first language (L1), such as literacy skills, are universal in the sense that such skills can be applied, or transferred, to other languages (L2). Facility in the first language (L1) strengthens and supports the learning of other languages (L2). Acquisition of sets of skills and implicit metalinguistic knowledge in one language provides the base for the development of both the first language (L1) and the second language (L2). It follows that any expansion of CUP that takes place in one language will have a beneficial effect on the other language(s). This principle serves to explain why it becomes easier and easier to learn additional languages [13].

Language learning involves recognizing, accepting, valuing and building on students' existing language competence, including the use of non- standard forms of the language, and extending the range of language available to students. Through language learning, learners develop functional and critical literacy skills. They learn to control and understand the conventions of the target language that are valued and rewarded by society and to reflect on and critically analyze their own use of language and the language of others [13].

Pupils will more readily learn to read, write and communicate in a second or third language once they have mastered those skills in their first language, their mother tongue. Moreover, that MTB-MLE provides a good bridge to listening, speaking, reading and writing the L2s (L2, L3) of the classroom using sound educational principles for building fluency and confidence in using the other languages for lifelong learning [14].

CONCLUSIONS AND RECOMMENDATIONS

The Grade 4 pupils moderately acquired all the English learning competencies with regards to listening comprehension, oral language, vocabulary development, reading comprehension, oral reading fluency, study strategy, grammar, writing composition and attitude as perceived by their teachers.

Only oral reading fluency competencies are related to age and have small effect which can be hardly seen or observed. With to regards to pupils' sex only vocabulary development, grammar and attitude learning competencies show significant relationship. Vocabulary development and grammar shows medium effect while, attitude learning competencies shows small effect. Vocabulary development, grammar, writing composition and attitude learning competencies are related with the pupils' parents' monthly income. The effect size of vocabulary development was considered as medium or moderate relationship. While, writing composition and attitude learning competencies shows low or small relationship. In terms of mother tongue, listening comprehension and writing composition learning competencies are related to pupils' mother tongue. The listening comprehension shows a low or small relationship while, writing composition learning competencies shows medium or moderate relationship. The results show that all the English competencies turned out to be highly related with the Mother tongue grade. There is a very high positive relationship between the mother tongue grade and the level of acquisition of the English learning competencies. Hence, there is a dependence between the mother tongue grade and English competencies.

The Grade 4 teachers should continue a well- oriented bridging program for the transition from the mother/first language to the subsequent languages of the curriculum that is appropriate to the language capacity and needs of learners to enhance, develop and strengthen their skills and abilities that would helped them achieved a higher level of acquisition of the different learning competencies.

The educators should accept and embraced the challenge to face the new curriculum implemented and mandated by the Department of Education to secure the new trends, enhance and develop the curriculum locally for a better-quality education.

There should be a diligently monitoring using mother tongue-based instruction as the key in learning in securing appropriateness in the implementation of the curriculum. Parents should be encourage to continue providing interventions and follow up activities at home to help the teachers in developing their children’s knowledge, skills and abilities. The learners in kindergarten to Grade 3 should be encourage to master their mother tongue language for them to have a better acquisition of their second language (Filipino) and third language (English) respectively.

REFERENCES

1. Republic Act No. 10533 – Enhanced Basic Education Act of 2013
2. DepEd Order No. 43 s. 2013 – The Implementing Rules and Regulations (IRR) of Republic Act No. 10533
3. RICABLANCA, JOVEM D. 2014. Effectiveness of Mother Tongue-Based Instruction on Pupils’ Achievement in Mathematics. Unpublished Thesis. Central Mindanao University
4. YADAV, MANOJ. 2014. Role of Mother Tongue in Second Language Learning International Journal of Research 2348-6848. pp. 572-582
5. ALCUDIA, FINA FELISA L. ET. AL. 2016. Mother Tongue for Teaching and Learning. Quezon City, Metro Manila. Lorimar Publishing Inc.
6. GIRON ED.D., PARALUMAN P. ET AL. 2016. Teaching and Learning Languages and Multiliteracies: Responding to the MTB-MLE Challenge. Quezon City, Metro Manila. Lorimar Publishing Inc.
7. DepEd Order No. 74 s. 2009 – Institutionalizing Mother Tongue-Based Multilingual Education (MTB-MLE)
8. VILLANUEVA, PH.D., ET.AL. 2015. Developmental Reading 1. Quezon City, Metro Manila. Lorimar Publishing Inc. AWOPETU, ANNA V. 2016. Impact of Mother Tongue on Children’s Learning Abilities in Early Childhood Classroom. Published Thesis. Ikere-Ekiti, Ekiti State, Nigeria
9. OLANIPEKUN, SHOLA S. 2014. Mother Tongue and Students’ Academic Performance in English Language among Secondary School Students. Published Thesis. Kaduna State University, Kaduna State, Nigeria
10. CORPUZ, PH.D., BRENDA B. ET.AL. 2015. Principles of Teaching 2 (with TLE) Quezon

- City, Metro Manila. Lorimar Publishing Inc.
11. ATETWE, JULIUS A. 2013. Analysis of the Influence of Mother Tongue on Students' Performance in English in KCSE in Public Day Secondary Schools in Gatundu District, Kiambu County, Kenya. Published Thesis. The Catholic University of Eastern Africa
 12. ALCANTARA, REBECCA D. ET. AL. 2013. Strategies for Communication Arts: Listening, Speaking, Reading and Writing. Makati City. Philippine Association for Teacher Education (PAFTE) Katha Publishing Co. Inc.
 13. DepEd Order no. 16, s. 2012 – The Guidelines on the Implementation of the Mother Tongue- based Multilingual Education (MTB-MLE)
 14. Queroda, P. 2018. Perceived Knowledge and Skills of Teachers in Innovative Instructional Activities .Southeast Asian Journal of Science and Technology, 3(1). Retrieved from <https://mail.psu.edu.ph/zdomains/j.sajst.org/index.php/sajst/article/view/45>
 15. Mejia, R., Queroda, P., & Mangrobang, S. 2018. Learning Style Preferences of Hospitality Management (HM) Students of Pangasinan State University, Philippines: Basis for Enriched Pedagogical Strategies .Southeast Asian Journal of Science and Technology, 3(1). Retrieved from <https://j.sajst.org/index.php/sajst/article/view/104>
 16. Oclay, A. D., M. I. Isla & J. S. Camara. (2020). Regression Analysis on Publication Views and Downloads of a Philippine Journal and Its Implications to Quality Journal Management and Monitoring. *ASEAN Multidisciplinary Research Journal*. Vol. 4, No. 1. Available at journal.paressu.org
 17. Camara, J. S. & Ventayen, R. J. M. (2020). Publishing Practices Among Senior Multidisciplinary Researchers Using Turnitin.com Originality Reports. *ASEAN Journal of Multidisciplinary Research Journal*.
 18. Vol 4, No. 1. Available at journal.paressu.org
 19. Cascolan, H. M. S. (2019). Students' Conceptual Understanding, Metacognitive Awareness and Self-Regulated Learning Strategies Towards Chemistry Using POGIL Approach. *ASEAN Multidisciplinary Research Journal*. Vol. 1, No. 1. Available at journal.paressu.org
 20. Camara, J. S. (2020). Philippine Biology Education for a Curricular Revolution 4.0: A

Mixed Method. *Asian Journal of Multidisciplinary Studies*. Vol. 3, No. 1.

21. Available at asianjournal.org

22. Terre, E. Q. (2020). English Language Teachers' Expectations, Satisfaction, Needs and Performance in the Senior High Schools in Pangasinan, Philippines. Vol. 1, No.

1. Available at journal.paressu.org

Development and Validation of a Multimedia Based-Module in Science for TVL Track

Shiela S. Padua¹, Honelly Mae Cascolan, Ph.D²

¹Teacher II, Victoria National High School, Philippines

²Department Chair, Pangasinan State University, Philippines

Abstract

This study aimed to develop and validate a multimedia-based module in teaching Physical Science among Senior High School students under the Technical-Vocational- Livelihood Track. This research made utilized the Rapid Application Development (RAD) in developing the module using the Microsoft Visual Studio with Visual Basic as the Programming Language and also used the Research and Development Design (R & D) in validating the said module. After the development phase of the multimedia-based module, Science and IT experts were asked to evaluate the developed module. Results showed that the Level of Validity of the developed Multimedia-Based Module is Highly Valid along its Content, Format, Presentation and Organization, Accuracy and Recency of Information. The Online Readability Index of the Multimedia Based Module is appropriate for Grade 11 learners.

Keywords – develop, experts, multimedia, module, user, validate

INTRODUCTION

Teaching serves as an important medium for achieving institutional goals of enhancing students' knowledge and learning by engaging them in learning activities to prepare for future use. Teachers are always looking for ways and means to accomplish things and to make science activities more meaningful to lifelong learning.

Learners are presently ready to completely envision the inward workings of different ideas that were not, in any way, shape or form, clear before in a course reading or such. Utilizing advanced instructional materials, particularly the one with a profound intuitive point, would amazingly get the learners' consideration and make them want to learn as opposed to being put a course book to their appearances. Furthermore, these teaching materials shall drive them to understand words and numbers on a page and expecting that it should be very simple.

With the utilization of computerized simulations, ideas which are exceptionally hard to comprehend turned out to be less demanding to get a handle on. This is on account that it gives the understudies a solid visual case of what is occurring while describing the said idea. An example is the nuclear structure, which is near undetectable by the naked eye and even with other mechanical guides. Utilizing computerized reproductions would extraordinarily help learners to conceptualize the idea that would be viewed as a strict spec in this endless world [1].

The utilization of instructional material [2] has been a custom in educating for its impact in the instructing learning procedure so he urged educators to use instructional materials to enhance their guidelines and make the instruction processes more engaging learners.

Learning using interactive multimedia-based scientific approach has an important role in improving students' learning experiences and proven to provide motivation to students because learning using interactive multimedia-based scientific approach students love to learn in the presence of a combination of image display, animation, audio, and graphics are packed in the form applications that can be used using a computer[3].

The Interactive Multimedia Technology empowers the educational process by means of increased interaction between teachers and students and utilization of technology in the instructional media development has an important role in the increase of the quality of teaching and learning environments of the students which provide concrete experience and integration.[4].

With the advancement of technology in the recent times, different approaches to facilitate teaching and learning are needed in order to adapt to the trend and pace of cognitive development of the new generation of learners. One such approach is through interactive learning module [5].

In general, the study is connected to the Cognitive Theory of Multimedia Learning (CTML) which tries to address the issue of how to structure multimedia instructional practices and employ more effective cognitive strategies to help people learn efficiently [6].

MATERIALS AND METHODS

Research Design

This study used Research and Development (R & D) Design which is the process used in developing and validating educational products [7]. In this study, the term "product" referred to the developed interactive instructional material. This focused along the status and validity of the multimedia-based module. The Research Development Design covered all the planning phase, the development phase, and the validation phase of the interactive instructional material and module in teaching Physical Science.

Rapid Application Development (RAD) was also used as the methodology in designing and developing the Multimedia Based Module which composed of four stages namely Requirements Planning, User Design, Rapid Construction and Transition.

The Requirements Planning (RP) is the combination of elements of the system planning and systems analysis phases of the system development life. In the User Design (UD), the users interacted with system analysts and develop models and prototypes that represented all system processes, inputs and outputs. The Rapid Construction (RC) focuses on program and application development task similar with the SDLC. The Transition (TR) Cutover resembles the final tasks in the SLDC implementation phase including data conversion, testing, changeover to the new system and user training. The Flesch Reading Ease formula, The Flesch-Kincaid Grade Level, the Fog Scale (Gunning Fog Formula), The Smog Index, The Coleman-Liau Index, Automated Readability Index and Linsear Write Formula were used to determine the readability index of the multi-media-based module.

Instrumentation

The researcher utilized a survey form that was used in determining the status of existence of multimedia-based module, its availability, adequacy, accessibility and usability. Another set of questionnaires from the DepEd rating sheet for print materials was adopted and used in validating the module as instructional material in teaching Physical Science.

Data-gathering Procedure

The researcher secured a written permission from the Schools Division Superintendent and the Education Supervisor in Science in Tarlac Province, the principal of Victoria National High School in Victoria and Tarlac National High School, in Tarlac and the Dean of Pangasinan State University – School of Advanced Studies and the Dean of IT Department- College of Computing to conduct the study. The researcher worked on the instruments needed in the pursuit of the study and in developing the interactive instructional material then, the researcher consulted literature, evaluated and validated the module. The researcher asked the assistance of a computer programmer to make the interactive instructional material. The experts' comments and suggestions were considered in improving further the module. After developing the module and gathering the pertinent data needed the researcher then proceeded to the analysis and interpretations of the gathered data and came up with such conclusion about the validity of the developed module.

Statistical Treatment

The status of the material along Availability, Adequacy, Accessibility and Usability were determined using counting. The level of validity of the module along Content, Format, Presentation and Organization, and Accuracy and Recency of Information mean were employed. The level of validity of the module along the given areas were employed, following ranges with their corresponding descriptive rating:

Range	Descriptive Rating
3.5 – 4.0	Highly Valid (HV)
2.5 – 3.4	Valid (V)
1.5 – 2.4	Slightly Valid (SV)
1.0 – 1.4	Not Valid (NV)

The readability index of the material was determined using the online readability software. On this process, it analyzed the text of the multimedia and output the results based on the seven (7) readability formula. The tool determined the grade level based from the comprehend text of the instructional material.

RESULTS AND DISCUSSION

Status of the Existing Multimedia Based Module in Physical Science

Interview and survey were conducted to determine the status of the existing multimedia-based module ready for the utilization for every department concerned if there is any. Based on the result of the interview and survey, it was found out that there is no existing multimedia based module in Physical Science since the implementation of the Senior High School is on its third year and the available materials are the curriculum guide and teaching guide in the subject and in developing their own presentation in presenting their lessons.

The Least Learned Topics in Physical Science

There are lot factors that might affect perception as well as meaningful learning. In his learning model, White (1993) expresses that factors such as attitude, skill, and knowledge, physical state and needs might affect learning.

From Johnstone's point of view (1991), the difficulties in science may be related to the problems of perception and thinking. He argues that the analysis of the nature of the topics that are perceived as difficult by the students leads to a realization that their complexity lies in the fact that the ideas and concepts inherent in them exist on three different thought levels: the macro and tangible, the micro (or even sub micro and molecular) and the representation.

Validity Level of the Multimedia Based Module

Quite difference but nevertheless both evaluations rated as 3.7 which was described as Highly Valid. This indicates that the content of the multimedia based module is highly valid which is suitable to the students level of development, that this module can contribute to the achievement of specific objectives, that it can provide for higher development of higher cognitive skills, that is free from ideological, religious, racial and gender biases and prejudices, that it can help enhance the development of desirable values and traits, that it

arouses interests and it provides topics where safety and health are concern. The results of the evaluation of Science and IT Experts on the Validity of the Multimedia-Based module along the Content revealed that they have different perceptions as shown by the results of each indicator. The Average Weighted Mean of the Science Experts is higher with a rating of 3.8 and the results of the evaluation of the IT Experts along the Content is lower which was rated as 3.6.

Format of the Multi-Media Based Module

In summary, as a result of evaluation, in term of format, the multimedia-based module is highly valid. This signifies that the prints, illustrations, design and lay-out as well as the graphics and animation in multimedia-based module are all appropriate. After evaluating the content and format, the presentation and organization of the multimedia- based module was then evaluated. Table 3.3 shows the evaluation of the science experts.

As seen in Table 3.3 (Please refer to the original article), it was found out that the presentation and organization of the multimedia- based module is highly valid after gaining a total rating of 3.74 for Science Experts and 3.38 for the IT Experts with an average mean of 3.56.

This indicates that the multimedia based module is interesting, engaging and understandable, that there is a smooth and logical flow of ideas, that the vocabulary level is adapted to target reader's experience and level of understanding, that the length of sentence is suited to the comprehension level of the target clientele, and the sentences and paragraph structures are varied and interesting.

Table 3.5 presented the results on the evaluation conducted to science and IT experts on the Validity Level of the Multimedia Based Module based on the four (4) criteria and indicators given which include the Content, Format, Accuracy and Recency of Information and Presentation and Organization. Based on the results, the Content has the highest score with a rating of 3.7, followed by other indicators in a decreasing order, the Format, with a rating of 3.65, the Accuracy and Recency of Information, with a rating of 3.62, and Presentation and Organization, which has the lowest score, with a rating of 3.56. All the factors or indicators were described as Highly Valid.

Science Experts point of view on the Validity Level of the Multimedia Based Module is different from the IT experts as shown in the results, Science experts total score is 3.75 and the latter is 3.55, though, when merged the overall mean is 3.63, and they were both described as Highly Valid. Different inclinations of both experts are considered one factor that is why they have different perceptions on the Content, Format, Presentation and Organization, Accuracy and Recency of Information.

Readability Index of the Multimedia- Based Module

Based from the results of the Online Readability Index, the developed multimedia-based module for the ten least learned topics was appropriate for Grade 11 learners.

Though, the reading level of the two out of the ten least learned topics - Competencies 3 and 6 respectively are fairly to read which are suited to 13 to 15 years old. This means that if can be understood by the lower grades the more it is understood by the grade 11 learners. topics - Competencies 3 and 6 respectively are fairly to read which are suited to 13 to 15 years old. This means that if can be understood by the lower grades the more it is understood by the grade 11 learners.

CONCLUSIONS AND RECOMMENDATIONS

Based on the results of the validation, the following conclusions were drawn:

There is no available Multimedia Based Module [10]. The Least Learned Competencies are

- a.) Give evidence for and explain the formation of the light elements in the Big Bang Theory
- b.) Describe the contributions of the alchemists to the science of chemistry
- c.) Describe the nuclear model of the atom and its major components
- d.) Explain the effects of intermolecular forces on the properties of substances
- e.) Explain how the structures of biological macromolecules determine their properties and functions
- f.) Use simple Collision Theory to explain the effects of concentration, temperature, and particle size on the rate of reaction and Recognize that energy is released or absorbed during chemical reaction
- g.) Explain each Newton's Three Laws of Motion
- h.) Describe what happens when light is reflected, refracted, transmitted and absorbed
- I.) Cite examples of Waves and
- j.) Explain how Brahe's innovations and extensive collection of data in observational astronomy paved the way for Kepler's discovery of his laws of planetary motion and Apply Kepler's 3rd law of planetary motion to objects in the solar system.

The Science Experts' evaluation on the developed Multimedia Based Module is Highly Valid on the Content, Format, Presentation and Organization, Accuracy and Recency of Information. The Science and IT Experts' evaluation on the developed Multimedia Based Module is Highly Valid on the Content, Format, Presentation and Organization, and Accuracy and Recency of Information, The

Online Readability Index of the Multimedia Based Module is appropriate for Grade 11 learners.

RECOMMENDATIONS

Experts or teachers should learn to innovate learning resources by developing a multimedia- based module in every subject not only in Science which will serve as a supplementary learning material. Developed Multimedia Based Module must be adequate so that this will be available to all schools whether it is a big or small school. If the module is available in every department, it must be accessible to all and must utilized by all learners. Teachers should develop learning materials to enhance mastery of the least learned topics in a subject. The module should be properly aligned along with the criteria or factors used in validating it. The content should be suitable to the student's level of development and material should contribute to the achievement of specific objective of the subject area, the Format should follow the standard criterion to have appropriate Prints, Illustrations, Design and Lay-out, Graphics and Animations. When it comes to its Presentation and Organization, its presentation must be engaging, interesting and understandable. There should be a logical and smooth flow of ideas as well. For the Accuracy and Recency of Information, information presented must be recent and upgraded, properly checked the developed module to avoid conceptual, factual, grammatical, typographical and other minor errors. The texts of the developed modules should be simplified so that it will be easily comprehend by a target user or level. For the future researchers, this study may be used for another study wherein the impact analysis of the multimedia-based module will be the subject of the study. This will test the effectiveness of the multimedia-based module in improving students' performance in Physical Science.

ACKNOWLEDGEMENT

This piece of work was made possible through the effort of the following people who helped and inspired the researcher pursue from the beginning until its completion: Dr. Adonis S. Bautista, PSU – SAS Executive Director, Dr. Honelly Mae S. Cascolan, researcher's adviser, Dr. Emmanuel B. Tomas, Dr. Raquel C. Pambid, Dr. Elizabeth F. Episcopo, Dr. Rodelio M. Garin, the panel members, Dr. Conrado C. Domingo, Dr. Frederick Patacsil, Paul Andrew V. Roa, Ric Manalastas, Lester Vic Pascua, administrators and experts.

REFERENCES

1. Mayer, R.E. and Pilegard, C. (2014) *Principles for Managing Essential Processing in Multimedia Learning: Segmenting, Pre-training, and Modality Principle*. In RE Mayer (Ed.). *The Cambridge Handbook Multimedia Learning* (2nd Ed., pp.316-344), New York.
2. Laxamana, R. (2012). *Development and Validation of Video-based Instructional Material in Physics*. Unpublished Master's Thesis Tarlac State University, Tarlac City.
3. Sweller, J. (2003). *Evolution of Human Cognitive Architecture*. In B. Ross (Ed.) *The Psychology of Learning and Motivation* (Vol.43, pp. 215-216). San Diego, CA:Academic Pres
4. Gall, M. & Borg, W.R. (2007). *Educational Research: An Introduction*, Utah: University of Utah
5. Rajendra, M. and Sudana M. (2018). *The Influence of Interactive Multimedia Technology to Enhance Students' Achievement on Practice Skills in Mechanical Technology*. Retrieved at J. Phys.Conf.Ser.953012104.IOPe-Books downloaded from IP address 175.158.202.49 on 06/07/2018 at 9:47 AM.
6. Lapie, A.G. et. al, (2015) *Development and Evaluation of an Interactive Learning Module on Summation Notation on Comics*, Retrieved from http://mathed.weebly.com/uploads/7/8/5/0/7_850000/pp_665_vernel_lawas_final_paper_edited.pdf
7. Mayer, R.E. (2009). *The Science of Instruction: Determining What Work in Multimedia Learning*. Cambridge University Press. Retrieved from [HTTPS://doi.org/10.1017/CB09780511811678.004](https://doi.org/10.1017/CB09780511811678.004),pp.28-56.
8. Camara, J. S. (2020). Post-evaluative Insights Among Filipino Engineering Students on Alignment, Spirality, Strand and Awards (ASSA) in K to 12 Implementation. *International Journal of Scientific and Technology Research*. Vol 9, No. 2. Available at ijstr.org
9. Bernal, VT *et al.* (2019). Comparative Employment Applicability and Reflectivity of Profiled Culinary Booklets of Hospitality Management Students: AN Input for Work eFolio. *Asian Journal of Multidisciplinary Studies*. Vol 2, No. 2. Available at asianjournal.org
10. Camara, J. S. (2016). A Validated Module in Biological Science for College Students in

the Philippines. *Southeast Asian Journal of Science and Technology*. Vol 1, No. 1. Available at sajst.org.

11. Camara, J. S. (2020). Web-based Sentheme Mining on Abstracts of Junior Researchers: A Thematic Analysis for 'Attractive' Writing for Beginners. *ASEAN Multidisciplinaru Research Journal*. Vol 3, No. 1. Available at journal.paressu.org
12. Pioquinto, B. *et al.* (2019). Portfolio-based Analysis and Competencies of Hospitality Management Students in Events Management: A Basis for Syllabus Enrichment. *Asian Journal of Multidisciplinary Studies*. Vol. 2, No. 1. Available at asianjournal.org.
13. Camara, J. S. (2020). Philippine Biology Education for a Curricular Innovation Towards Industrial Revolution 4.0: A Mixed Method. *Asian Journal of Multidisciplinary Studies*. Vol 3, No. 1. Available at asianjournal.org
14. Cascolan, H. M. S. & Prudente, M. S. (2018). Using Process Oriented Guided Inquiry Learning in Teaching Climate Change. *Advanced Science Letters*. Vol 24, No. 11.
15. Cascolan, H. M. S. (2018). Students' Conceptual Understanding, Metacognitive Awareness and Self-regulated Learning Strategies Towards Chemistry using POGIL Approach. *ASEAN Multidisciplinary Research Journal*. Vol 1, No. 1. Available at journal.paressu.org

Tracer Study of BS Hospitality Management Graduates of Pangasinan State University, Lingayen Campus for S.Y. 2015-2019

**Rodelyn A. Mejia, Mondey May M. Fernandez, Sonia V.
Mangrobang, Genelyn C. Tersona, Victor T. Bernal**

Faculty, College of Hospitality Management Pangasinan State University,
Lingayen Campus

Abstract

This study was intended to conduct a tracer study of BS Hospitality Management graduates of Pangasinan State University, Lingayen Campus for S.Y. 2015-2019. Quantitative descriptive design was utilized in the study. In gathering significant data, survey questionnaire was used thru Google Form and facilitated in social media. Researchers made use of appropriate statistical tools in analysing the data to secure substantial results and findings such as frequency and percentage. Salient findings of the study disclosed that majority of the graduates are employed in the Philippines and landed on jobs related to hospitality management. Recommendations include fortifying PSU Alumni Programs thru linkages and partnerships to stakeholders

Keywords: Tracer Study, Hospitality Management, Employability of Graduates

INTRODUCTION

Pangasinan State University

Pangasinan State University is a government-owned university in Pangasinan province, Philippines. The university was founded in its current form in 1979, although its origins trace back to the 1920s. PSU is notable for its many locations throughout the province of Pangasinan. It is mandated to provide advanced instruction in the arts, agricultural and natural sciences as well as in technological and professional fields. Its main campus is located in Lingayen, Pangasinan [1] [16].

PSU was chartered by Presidential Decree No. 1497 promulgated on June 11, 1978. It became fully operational on July 1, 1979. The University is an integration of the college courses of six government-supported institutions in the province with the Central Luzon Teachers College (CLTC) as the only tertiary education component then. The Western Pangasinan College of Agriculture created through P.D. No. 1494 was also integrated although it was not yet operational at the time of integration. The Central Luzon Teachers College maintains laboratory units in the elementary and secondary levels [2].

PSU Lingayen Campus or Main Campus, as most Pangasinenses know it today, is the result of fusion of then six independent colleges in Lingayen namely the College of Arts, Sciences and Letters; College of Technology; College of Business and Public Administration; College of Computing Sciences; College of Education; and College of Hospitality Management [2].

Hospitality Management

The Bachelor of Science in Hotel and Restaurant Management (BHRM) was first offered in PSU in 1997 under the supervision of the former President Reynaldo P. Segui. The program declared the first batch of graduates on March 25, 2001.

In the year 2008, the program renamed from Hotel and Restaurant Management to Hospitality Management (HM) under the administration of the former President Victoriano C. Estira. The program named to prepare the student to become an effective promoter of the country's natural and cultural attractions to domestic and international travellers.

HM Program Outcomes

Program outcomes are statements about the knowledge, skills and attitudes (attributes) the graduate of a formal program should have. It deals with the general aspect of graduation for a particular program, and the competencies and expertise a graduate will possess after completion of the program [5].

In PSU, BSHM Program Outcomes include the following: (1) demonstrate determination and embody traits and values of hospitality management professional; (2) shows positive attitude in expecting best outcome from any given situation; (3) exhibits competence to accomplish good work and experience the effective and efficient outcome; (4) have tireless exertions & willingness to take the risks of being committed to their purpose to succeed; (5) create and use new ideas or methods in particular interest in the creative and multicultural aspects of the hospitality industry; (6) practice integrity in response to the needs and aspirations of the hospitality industry; (7) apply genuine practical learning skills reflective to the best practices in the real life learning experiences in the industry; (8) stand out prominently through recognition and acceptance of a diverse hospitality industry standards; (9) promote learning beyond traditional schooling, which shows flexibility, diversity and availability in different times and places; and (10) show mastery in every phase of the learning process and provide proficiency in upholding the hospitality core values at all times [20] [21].

HM Program Objectives

On the other hand, a program objective describes what a faculty member will cover in a course. They are generally less broader than desirable goals and more broader than student learning outcomes [5].

In the case of PSU, BSHM program aims to achieve the following: (a) An effective promoter of the country's natural and cultural attractions to domestic and international travellers; (b) a component planner of tourism development who can evaluate and identify tourism opportunities at the same time preserve and cultural heritage and environment of the country; (c) an effective manager of the tourism resources to include establishments such as hotels, resorts, restaurants, travel agencies and land-water-air-transport systems; (d) an entrepreneur who will accelerate economic development; and (e) a true and responsible citizen of the country.

OBJECTIVES OF THE STUDY

The purpose of this tracer study is to create an empirical portrait that describes employment and employability aspects of the graduates of BS Hospitality Management in PSU-Lingayen Campus during the years 2015-2019 to identify policy imperatives for greater relevance of higher education curricula to industry needs and expectations. Specifically, the following objectives were achieved: (1) determine the profile of the respondents in terms of sex, civil status, location of residence, and year graduated; (2) identify the employment profile of the respondents in terms of employment background, present employment, first job employment, and unemployment; and (3) determine the school-acquired skills and competencies learned in college relevant to graduate's chosen jobs.

MATERIALS AND METHODS

The research design that was used in the study is quantitative descriptive. Descriptive research seeks to describe the current status of an identified variable. These research projects are designed to provide systematic information about a phenomenon. The researcher does not usually begin with an hypothesis, but is likely to develop one after collecting data. The analysis and synthesis of the data provide the test of the hypothesis [3] [17] [18].

There were eight hundred fifty nine (859) graduates of BS Hospitality Management from 2015 to 2019 of Pangasinan State University-Lingayen Campus. Using the Sloven's formula with a 90% confidence level and a margin of error of 5%, seven hundred seventy three (773) respondents were chosen through stratified random sampling technique. But because of the unavailability of the respondents due to lack or inactive social media accounts, the said target respondents were not completed and were trimmed down to five hundred fifty (550) which constitutes 65% of the whole population.

The main instrument in gathering the data used in the study was a descriptive survey questionnaire. The questionnaire was inspired from the official tracer study questionnaire of the Commission on Higher Education (CHED). The researchers were able to acquire data by sending the survey questionnaires to the graduates through Google forms attached to social media platforms such as electronic mail, Facebook Messenger and the like.

RESULTS AND DISCUSSION

Profile of Graduates

Civil Status

As shown in Table 1, there are 396 or 72% of BS Hospitality Management graduates are single while the remaining 154 or 28% of the graduates are married. The results may be constituted to the fact that the respondents are fresh graduates and are just starting their career.

Sex

As reflected in Table 1, there are 319 or 58% of BS Hospitality Management graduates are female while the remaining 231 or 42% of the graduates are male. In a similar study entitled, "Hospitality and tourism management graduates expectations: Future implications for the educator" [4], the respondents are also dominated by female.

Year Graduated

As gleaned in Table 1, most of the BS Hospitality Management graduates are from 2019 with 137 or 25% of the total population, followed by 121 or 22% from 2016, and 115 or 21% from 2018. On the other hand, the remaining 94 or 17% of the respondents are from 2017 and 83 or 15% are from 2015.

Residence

As could be seen Table 1, there are 522 or 94.9% of the BS Hospitality Management graduates are residing in Pangasinan followed by Tarlac (8 or 1.5%), Pampanga (6 or 1.1%), La Union (5 or .9%), Nueva Ecija (4 or .7%) and Others (5 or .9%). This may be apparent due to the geographical setting of the institution.

EMPLOYMENT PROFILE

The data on the employment profile are presented in succeeding figures.

Nature of Present Employment

Figure 1 represents the distribution of the graduates according to the nature of

their present employment. There are 462 or 84% of the graduates are employed and 83 or 15% are not employed. The remaining 6 or 1% are never employed. The results may be attributed to the promising status of tourism industry where BSHM graduates are affiliated with.

According to reports [6], the Philippines received an estimated 7.1 million tourists in 2018. It is expected to grow up to about 6 to 7% every year in the next 5 years. It means that the demand for hotel rooms is expected to increase as well. With this rising demand, other players in the construction, casino and resorts, transportation, and many more all over the country and abroad can take advantage of this growing market.

Status of Present Employment

Figure 2 shows the distribution of the graduates according to the status of their present employment. There are 330 or 60% of the graduates work having contractual status while 115 or 21% are self-employed. On the other hand, there are 55 or 10% of the graduates are regular or permanent employees, 28 or 5% are temporary, and the remaining 22 or 4% are casual employees.

According to the April 2019 Labor Force Survey (LFS) of the Philippine Statistics Authority (PSA) [7], the government generated 1.346 million jobs for said year, with a total of 42.242 million Filipinos employed, a higher statistic compared to 2018's 40.896 million employed Filipinos. The labor participation rate rose from April 2018's 60.9% to April 2019's 61.4%.

The employment rate only had a slight increase of .4% resulting to 94.9% this year compared to 94.5% last April 2018, last April 2018 and the underemployment rate decreased by 3.5%, resulting in 13.5% from April last year's 17.0%. The percentage of unemployed Filipinos decreased from 5.5% in April 2018 to 5.1% this year, which is the lowest unemployment rate recorded since 2009 (18.9%).

Place of Work

Figure 3 illustrates the distribution of the graduates in terms of their place of work. There are 374 or 68% of the graduates are working within the country while 176 or 32% are working abroad. As tourism serves as the main market for hotel and restaurant services, increase in visitor traffic over the past ten years resulted in a

corresponding boom in the hotel and restaurant industry. During the last decade, the hotel and restaurant industry has flourished even as it struggled to cope with difficult challenges. New hotels mushroomed in the capital while older hotels did their best to spruce-up both their interiors and upgrade services. Likewise, the growth of the restaurant sub-sector, the number of players and the variety of services offered had been notable during the same period [8].

Starting Job Level Position

Figure 4 displays the distribution of the graduates in terms of starting job level position in their first job. There are 303 or 55% of the graduates who started their career in rank and file position or with clerical work while there are 115 or 21% who belong to Professional, Technical or Supervisory. In addition, there are 115 or 21% of the graduates who are self-employed and the remaining 17 or 3% are with managerial positions. Rank-and-file employees, or rank-and-file staff, are the backbone of most companies [9]. Moreover, any rank-and-file definition refers to the non-management, lower level employees who perform the day-to-day tasks that keep the company running. They are usually paid hourly wages and receive overtime pay when they work beyond an eight-hour day.

Monthly Income

Figure 5 portrays the distribution of the graduates by initial monthly gross income. There are 346 or 63% of the graduates who receive a payout of Php 5,000 to 10,000 gross monthly income. On the other hand, there are 115 or 21% of the graduates receive Php 10,000 to 15,000, 61 or 11% have Php 15,000 to 20,000, and the remaining 28 or 5% have below Php 5,000 gross monthly income.

Minimum wage rates across ASEAN countries are rising gradually to match the region's increased cost of living and boost domestic demand. To combat inflation and prevent any outbreaks of labor unrest, ASEAN countries have increasingly been pushing for higher minimum wage levels and enacting new labor laws to protect workers' rights [10].

The Philippines has daily minimum wage rates that vary from region to region, ranging from P290 (US\$5.70) to P537 (US\$10.61) a day. The

wages are set by tripartite regional wage boards located in every region. The country's average minimum wage rate is among the highest in ASEAN– and compared to its neighbors Indonesia and Vietnam [10]

Length of Time in Staying in Job

Figure 6 exhibits the distribution of the graduates according to reason for finding present job. There are 198 or 36% of the graduates indicated that they have responded to an advertisement. On the other hand, 88 or 16% found their job thru recommendation by someone, 77 or 14% thru walk- in application and job fair (Public Employment Service Office) respectively, 71 or 13% thru information from friends, and 27 or 5% thru arranged by school's job placement officer, and 12 or 2% thru family business.

In a similar study entitled "Employability and the Contribution of Learned Competencies and Catholic Education in the Workplace for the Graduates of Cor Jesu College" [11], the top reasons from respondents include recommendation by someone, walk-in application and information from friends.

Reason for Accepting Present Job

Figure 7 reveals the distribution of the graduates according to reason for accepting the present job. There are 374 or 68% of the graduates reasoned out that it is because of salaries and benefits. On the other hand, there are 137 or 25% of the graduates responded that they accepted the present job due to related special skills. And the remaining 39 or 7% stated that career challenge is the reason why they accept their job.

A recent study by HR consultancy Towers Watson found differences of opinion between employers and employees on the reasons people want to work for a company. Money is at the top of both lists of employee and employer. The employees' reasons (convenient work location, vacation/holiday/paid time off, and flexible schedule) all speak to the need for work/life balance. Meanwhile, the employers' reasons (business/industry of the organization, opportunities to learn new skills, and organization's financial health) speak to the issues of job security, company branding, and professional development.

Length of Time in Landing First Job

Figure 8 indicates the distribution of the graduates in terms of the length of time in landing their first job. There are 302 or 55% of the graduates landed on their first job with the span of 1 to 6 months while or 27% with the span of 7 to 12 months, 44 or 8% with the span of 1 to 2 years, 39 or 7% with the span of less than a month, and the remaining 17 or 3% have 2 – 3 years. In a similar study entitled “Employability and the Contribution of Learned Competencies and Catholic Education in the Workplace for the Graduates of Cor Jesu College” [11], the majority of the respondents also landed a job within six months after graduation.

Length of Time in Landing First Job

Figure 9 discloses the distribution of the graduates in terms of the length of time in staying their first job. There are 193 or 35% of the graduates stayed in their first job for 1 to 6 months, 154 or 28% stayed for 1 to 2 years, 110 or 20% stay for 2 to e years. On the other hand, 77 or 14% of the graduates stayed on their first job for 7 to 12 months and the remaining 16 or 3% stayed for less than a month.

From a study entitled “Employability and the Contribution of Learned Competencies and Catholic Education in the Workplace for the Graduates of Cor Jesu College” [11], As to the length of stay on their first job, the majority stayed within one year to less than two years (28.52%) and one to six months (27.78%).

Course Relatedness to the Present Job

Figure 10 presents the distribution of the graduates in terms course relatedness to the present job. There are 346 or 63% of the graduates indicated that their job is related to hospitality management while 234 or 37% indicated that their job is not related to hospitality management.

The econometric analyses suggest that workers can compensate for their shortfall in education with greater amounts of working experience; however, surplus education cannot substitute for tenure and on-the-job training. Likewise, educational mismatch has no impact on labor mobility. However, other factors influence internal and external turnover [12].

SCHOOL-ACQUIRED SKILLS AND COMPETENCIES

Professional skills may be classified as personal, interpersonal and technical skills. Personal skills refer to the ability to work harmoniously with others in the work environment. Technical skills refer to the ability to make full use of field know-how with great ease and facility [13] [14] [15].

Figure 11 deals with the distribution of graduates in terms of competencies in college relevant in getting the job. There are 187 or 34% of the graduates perceived that they have learned or acquired human relationship skills while 165 or 30% of the graduates learned or acquired communication skills. Further, 147 or 27% of the graduates learned or acquired entrepreneurial skills. On the other hand, the remaining 49 or 9% of the graduates learned or acquired information technology skills.

Based from published study [11], almost tied for the top spot were communication skills (22%) and human relation skills (21%). Next in rank was information technology skills (16%), critical thinking skills (15%) and last was entrepreneurial skills (10%).

CONCLUSION

Majority of BS Hospitality Management graduates, S.Y. 2015-2019 of Pangasinan State University – Lingayen Campus were female, single, and residents of Pangasinan. Most of them are from batch 2019 and 2016.

In terms of employment status, majority of the BSHM graduates are locally employed as rank and file with contractual status and earns Php 5,000 to 10,000 on a monthly basis. Most of the graduates landed on their jobs thru responding to advertisement. Majority of them were hired in a span of 1 to 6 months. Further, majority of the graduates stated that salaries and benefits play a vital role in accepting their present job. In addition, most of the graduates stayed on their first job in a span of 1 to 6 months. Majority of the acquired jobs of the graduates are related to hospitality management. Most of the graduates perceived human relationship skills and communication skills as competencies learned and acquired.

RECOMMENDATION

PSU administration may consider strengthening their alumni programs especially in the field of employment such as job fair and professional learning community. Partnerships and linkages to different stakeholders are also encouraged for alumni support system. Capability enhancement seminars and training [19] are advised to take place to further develop the skills and knowledge of the graduates.

REFERENCES

1. En.wikipedia.org. n.d. Pangasinan State University. [online] Available at: <[https://en.wikipedia.org/wiki/Pangasinan_State_University#PSU_Expanded_Tertiary_Education,_Equivalency_and_Accreditation_Program_\(ETEEAP\)](https://en.wikipedia.org/wiki/Pangasinan_State_University#PSU_Expanded_Tertiary_Education,_Equivalency_and_Accreditation_Program_(ETEEAP))>
2. En.wikipedia.org. n.d. Pangasinan State University. [online] Available at: <[https://en.wikipedia.org/wiki/Pangasinan_State_University#Lingayen_\(Main\)_Campus](https://en.wikipedia.org/wiki/Pangasinan_State_University#Lingayen_(Main)_Campus)>
3. Wssu.edu. n.d. Key Elements Of A Research Proposal Quantitative Design. [online] Available at: <https://www.wssu.edu/about/offices-and-departments/office-of-sponsored-programs/pre-award/_Files/documents/develop-quantitative.pdf>
4. Manhas, Parikshat Singh & Dogra, Jeet. 2011. Hospitality and tourism management graduates expectations: Future implications for the educators. *Journal of Tourism*. XII.
5. Linways. 2018. A Definitive Study On Course Outcomes & Program Outcomes. [online] Available at: <<https://stories.linways.in/a-definitive-study-on-course-outcomes-program-outcomes-fc55332df510>>
6. Hulog, L., 2019. DOLE Confirms Improvement Of Philippine Employment Situation 2019. [online] KC Global Talent Solutions. Available at: <https://kcrecruitment.com/philippine-employment-situation-improves-2019/>
7. Edralin, D. and Castillo, P., 2011. An In- Depth Study On The Hotel And Restaurant Industry In The Philippines. [online] Citeseerx.ist.psu.edu. Available at: <<https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.130.4728&rep=rep1&type=pdf>>

8. Bean-Mellinger, B., 2019. What Is A Rank- And-File Employee?. [online] Small Business - Chron.com. Available at:<<https://smallbusiness.chron.com/rankandfile-employee-24601.html>>
9. Rastogi, V., n.d. Minimum Wages In ASEAN: How Are They Calculated?. [online] ASEAN Business News. Available at:<<https://www.aseanbriefing.com/news/minimum-wages-in-asean-how-are-they-calculated/>>
10. Tudy, et.al. 2017. Employability and the Contribution of Learned Competencies and Catholic Education in the Workplace for the Graduates of Cor Jesu College.
11. Marchante, A. J., Ortega, B., & Pagán, R. 2007. An Analysis of Educational Mismatch and Labor Mobility in the Hospitality Industry. *Journal of Hospitality & Tourism Research*, 31(3), 299–320. <https://doi.org/10.1177/1096348007299920>
12. Queroda, P. 2017. Professional Characteristics of Education Teachers in Pangasinan. *Southeast Asian Journal of Science and Technology*, 2(1).
13. Queroda, P. (2018). Perceived Knowledge and Skills of Teachers in Innovative Instructional Activities. *Southeast Asian Journal of Science and Technology*, 3(1).
14. Braga, T. L. S., & Queroda, P. G. (2020). Composition Writing Skills of Grade 8 Students. *ASEAN Multidisciplinary Research Journal*, 4(1), 68-84. Retrieved from <https://www.paressu.org/online/index.php/aseanmrj/article/view/214>
15. [16] Queroda, P. (2020). INTERNATIONALIZATION PERSPECTIVE OF PANGASINAN STATE UNIVERSITY: OPEN UNIVERSITY SYSTEMS . *Turkish Online Journal of Distance Education* , 21 (3) , 27-35 . DOI: 10.17718/tojde.761931
16. Queroda, P. G. Massive Open Online Course (MOOC) Readiness of Pangasinan State University–Open University Systems Students.
17. Queroda, P. G. (2020). Classroom Management Practices Employed by Pangasinan State University Faculty. *The Asian ESP Journal*, 131.
18. De Vera, M. R. G. T., & Queroda, P. G. (2020). Effects of Extra Curricular and Co- curricular Activities to the Academic Performance of Intermediate

- Pupils. ASEAN Multidisciplinary Research Journal, 4(1), 85-96. Retrieved from https://www.paressu.org/online/index.php/asean_mrj/article/view/216
19. Fernandez, M. M., Queroda, P., & Sison, R.T. (2019). Brain-Based and Individualized Instructional Strategies of Hospitality Management Faculty Members in Pangasinan State University, Philippines. Southeast Asian Journal of Science and Technology, 4(1), 108-112. Retrieved from <https://sajst.org/online/index.php/sajst/article/view/103>
 20. Mejia, R., Queroda, P., & Mangrobang, S. (2018). Learning Style Preferences of Hospitality Management (HM) Students of Pangasinan State University, Philippines: Basis for Enriched Pedagogical Strategies . Southeast Asian Journal of Science and Technology, 3(1), 105-109. Retrieved from <https://sajst.org/online/index.php/sajst/article/view/104>
 21. Rappler. 2019. *Demand For Hotels And Restaurants Expected To Rise In 2019*. [online] Available at: <https://www.rappler.com/brandrap/announcements/demand-for-hotels-and-restaurants-expected-to-rise-in-2019>

FULL ISSUE: Volume 1, Issue 1, s. 2020

ASEAN Journal of Basic and Higher Education

Note:

The articles included in this issue are also available online at www.paressu.org/online. Should you want to see the full article, in case you will need data in tables which were not included in this issue, feel free to see the original article. For any concerns, you can contact us at editor@paressu.org. Lastly, the ASEAN Journal of Basic and Higher Education are open for collaboration with universities and colleges in the Philippines and with the rest of the world.