



# **STUDENTS' MOTIVATION AND LEARNING STRATEGIES ON ACADEMIC PERFORMANCE IN SCIENCE OF TOURISM STUDENTS**

*Mary Criss M. Tus, Kimberly N. Toring, Eugene E. Toring, Cherry C. Escarilla, Elvis Lesly T. Taño-An, Angelyn M. Aquino, Manuel A. Gaviola, Niño N. Sacapaño, Jhoselle Tus, Jimmy B. Maming*

Email: [marycrissmalaca@gmail.com](mailto:marycrissmalaca@gmail.com)

## **Abstract**

The COVID-19 epidemic has negatively affected the world of education. The study employed a correlational design, with 129 college students as respondents. Based on self-efficacy, self-determination, career motivation, concerns surrounding science evaluation, the significance of learning science, the duty of learning science, the assurance that one can learn science, and the importance of studying science According to the findings, students shown a strong desire to acquire scientific knowledge. These students frequently employed various scientific learning strategies: information collection, planning, record-keeping, self-evaluation, monitoring, memorization, and rehearsal. It was determined that the scientific performance of the students was "extremely satisfactory." Based on the results obtained from the investigation, the subsequent deductions were made: An exceptional correlation has been observed between the self-efficacy, self-determination, and accountability of students about learning and their scholastic performance in the field of science throughout the period of curriculum implementation. The students' enhanced self-efficacy, self-determination, and sense of responsibility for learning were influential factors in their improved scientific performance. There is a strong positive association that has been established between the academic performance of students in the scientific field and the learning strategies that they apply in order to adapt to the new normal. Students in the field of science who raised the frequency with which they utilized learning strategies had higher levels of academic achievement.

**Keywords:** *students' motivation, learning strategies*

---

## **Introduction**

COVID-19 epidemic has negatively affected the world of education. For several months, everyone was under lockdown and forbidden from engaging in any physical contact. Schools in the Philippines have been required to stop in-person classroom sessions and instead use online distance learning and printed modules. This event changed the educational process significantly. The Filipino students were shocked by the abrupt shift in paradigm since they were not completely used to independent study. Concerns were expressed over the potential impact on students' academic performance if distance learning continues to be used. Multiple research have been undertaken on motivation and learning strategies in the current educational environment, since pupils have been found to struggle throughout the adjustment phase.

In January and February 2020, three cases of COVID-19 were confirmed, followed by seven reported cases in March 2020. Coronavirus cases in the country have escalated significantly since then. Different levels of community laws for quarantine were enforced by the government, depending on the number of cases in each district. Face-to-face classes were suspended for Academic Year 2020-2021 following the comprehensive instructions on community quarantine in the Philippines, with updates as of December 14, 2020.

Intellectual capacity is not a sole determinant of a student's success in learning. Motivation significantly influences students' ability to complete academic activities and is used to evaluate their academic achievement. There are many perspectives on how motivation levels impact students' academic performance, learning outcomes, adaptability in certain settings, and overall well-being (Vansteenkiste, et al., as cited by Bengtsson & Teleman, 2019).

The role of motivation is crucial in the determination of academic achievement. Activation and maintenance of an individual may be influenced by both internal and external factors. The catalyst for an individual's decision to undertake a particular course of action and the degree to which they will persevere in that action is their motivation. Motivation, as defined by Dornyei (p.317 as cited in Gbollie

& Keamu, 2017), impacts the trajectory and persistence of an individual's endeavors by serving as the driving force that initiates and sustains goal-directed behavior.

The literature recognizes two distinct categories of motivation: intrinsic and extrinsic. According to the self-determination theory, it is possible for an individual to have intrinsic motivation. Intrinsic motivation is demonstrated when an individual engages in activities because of genuine interest or pleasure. Engaging in pleasurable activities such as exploration, play, and inquiry-driven activities can significantly foster the intrinsic motivation and personal fulfillment of learners. In light of this, consider Ryan and Deci (2020). Voluntary participation in activities is encouraged by a sense of satisfaction and gratification, in addition to the individual's inherent curiosity and enthusiasm.

Research has demonstrated that intrinsic motivation has a substantial impact on academic performance within the realm of formal education. This influence manifests as increased student engagement in school tasks and higher GPAs, as well as higher academic achievement (Taylor et al., 2014; in Ryan & Deci, 2020; Froiland & Worrell, 2016).

It was noted that highly motivated students had an edge over those with less motivation because motivational factors impact various areas of self-regulation, including behavior, context, and cognition. Furthermore, highly motivated students exhibit adaptive attitudes and tactics such as self-monitoring, goal planning, and retaining intrinsic interest (Alderman, as quoted by Gbollie & Keamu, 2017).

Extrinsic motivation is not characterized by an intrinsic desire to complete tasks for the sake of personal interest. A compensation is commonly administered as an incentive for task completion. The term "external regulation" refers to a sort of motivation that is dependent on external rewards and penalties. It is commonly perceived as demanding control and depriving individuals of their autonomy. Ryan and Deci (2020) found that internal rewards such as self-esteem for achievement and the desire to prevent feelings of anxiety, shame, or remorse for failure play a role in controlling a portion of partially internalized external motivation.

Extrinsic motivation, as defined by Deci and Ryan (2020), can be autonomously implemented, in contrast to controlled motivation methods such as introjection and external regulation. The individual consciously acknowledges and endorses the significance of a particular course of action in accordance with established regulations, which inspires a strong resolve or readiness to execute it. Integrated regulation occurs when the participant completely recognizes and establishes a connection with the activity's worth, thereby harmonizing it with their fundamental interests and convictions.

An important parallel that can be drawn between extrinsic and intrinsic motivation is the considerable amount of volition that is inherent in the former. Primarily, intrinsic motivation is differentiated from the alternative form by its basis in pleasure and satisfaction. It occurs when an individual engages in an activity due to their personal interest or enjoyment in it. Conversely, extrinsic motivation is founded on an individual's subjective assessment of their own worth. This phenomenon arises when an individual perceives the completion of tasks as advantageous, even though they do not derive any personal pleasure from them. An extensive number of academic studies have been conducted to investigate the relationship between students' intrinsic and extrinsic motivation, as well as the learning strategies that they employ in academic settings. (Gbollie & Keamu, 2017; Day, Kelley, Browne, et al., 2020; Bengtsson & Teleman, 2019; Hariri et al., 2021).

Learning strategies are defined as activities that facilitate the process of obtaining, comprehending, or applying knowledge and abilities. They are the means by which pupils accomplish their learning objectives, which are subject to change over time. Students' learning strategies are typically flexible and designed to meet learning objectives efficiently (Zlatovix, Balaban, & Kermek, 2015). Thus, pupils freely utilize various tools to monitor and advance their learning methods. Students' learning approaches can reflect their motivation type and learning strategies. Learning strategies can be broken down into three primary categories: cognitive, metacognitive, and motivational procedures. (Boekaerts, as referenced by Hattie & Donoghue, 2021). Cognitive emphasis is placed on elaboration to enhance understanding of the learning material. Metacognition involves strategic planning for learning. The final aspect is motivating and is associated with self-efficacy, which refers to the capability to do tasks.

Hattie and Donoghue (2021) have extensively examined learning techniques and identified over 400 strategies used by various types of learners, in addition to the three strategies previously described. Each learner use a distinct learning approach based on the subject content. The core concept of the results indicates that pupils are currently prepared to learn and are knowledgeable about how to support their own learning. Furthermore, people are consistently enhancing their skills in acquiring crucial subject knowledge based on their level and type of motivation. When motivation and learning strategies are taken into account, it is evident that these factors greatly influence students' academic success. Students' Academic achievement can be significantly impacted by external or internal motivation, as well as the application of different learning techniques. This study was designed with the expectation that learning styles will have a strong connection with students' motivation to learn science. In the new normal, learning styles are anticipated to have a favorable correlation with students' academic success in science.

## Methodology

In this section, a comprehensive overview of the sample and research procedures that were utilized by the researcher is presented. In addition, this chapter provides a complete examination of the research design that was carried out, as well as the methods that were utilized for data collecting and the methodology that was utilized for data analysis.

## Research Design

The purpose of this study was to analyze the influence of motivation and learning strategies on the academic accomplishment of students in the subject of science throughout the implementation of the new normal. This was accomplished via an explanatory sequential mixed methods research design. The researcher begins the study with a quantitative phase, and then moves on to a qualitative phase in order to acquire a more comprehensive understanding of the quantitative findings. This is an example of an explanatory sequential design. The explanatory sequential design is a method that commences the inquiry into a given issue by collecting and analyzing quantitative data. After this, qualitative research is conducted to explain the quantitative results in greater depth. Subsequently, a succinct summary of the research findings is provided, encompassing confidence intervals, effect sizes, and statistical significance for the quantitative results (Creswell, 2015).

The researcher commenced the research procedure with a quantitative phase, which aimed to gather and analyze quantitative data. In the second stage, the researcher directed their attention towards the quantitative findings that required additional investigation. Offering elucidation and guidance regarding the qualitative approach, which necessitated the amalgamation of multiple methodologies. In order to align with the quantitative findings, the researcher modified qualitative research inquiries, deliberate sampling methods, and data collection approaches. Consequently, the qualitative phase developed an interdependence and dependence on the quantitative result. Qualitative data was gathered and analyzed by the researcher during the third phase. The researcher evaluates the degree to which the qualitative data enhance the understanding of the quantitative findings and provide further broader insights (Creswell & Plano Clark, 2018).

## Data Analysis

The surveys were gathered, structured, classified, and assessed utilizing statistical methodologies. Descriptive statistics were computed to characterize the scientific academic performance of students in consideration of the new normal. The range, the mean, and the standard deviation were all included in these statistical calculations. It was determined to compute a weighted mean in order to characterize the learning strategies and motivational strategies of students who were studying science in the midst of pandemics. A correlation analysis was carried out in order to ascertain the potential relationship that exists between the academic accomplishments, learning practices, and motivation of students in the subject of science throughout the duration of the new normal.

The implementation of theme analysis was utilized in order to conduct an evaluation of the qualitative data that was gathered. According to the definition supplied by Braun and Clarke (2006), thematic analysis is a research methodology that is utilized to recognize, evaluate, and communicate themes, which are patterns that manifest themselves repeatedly within the dataset that is provided. At the most fundamental level of organization, a thorough explanation of the dataset is provided. Through its focus on the most fundamental aspects, thematic analysis enables scholars to identify and interpret common meanings and experiences that are inherent in a provided dataset. Thematic analysis does not prioritize the identification of distinct and distinctive interpretations and experiences pertaining to individual data items. By utilizing this approach, one can discern commonalities in the discourse or writing pertaining to a specific topic and gain an understanding of the shared attributes.

## Result and Discussion

Analyzed data indicated a direct association between the variables due to the positive correlation values ranging from 0.543 to 0.890.

*Table 1. Results of the Correlation Analysis*

<i>Strategies in Learning</i>	<i>Academic Performance</i>	
	<i>r-value</i>	<i>p-value</i>
Planning	0.651**	0.000
Keeping Records	0.738**	0.000
Self-Evaluation	0.672**	0.000
Monitoring	0.543**	0.000
Memorizing	0.890**	0.000
Rehearsing	0.833**	0.000
Seeking Information	0.812**	0.000

The findings reveal a positive correlation between students' utilization of learning strategies such as planning, record-keeping, self-evaluation, monitoring, memorization, rehearsal, and information-seeking and their academic achievement in science. The results suggest that students' academic performance in science will increase using specific learning methodologies. The study's findings demonstrated that students must employ diverse learning methodologies to excel in science during this modern era.

Rosário et al. (2015) discovered that students who utilized several learning methods, including metacognitive self-regulation, elaboration, and organizational strategies, enhanced their academic performance in science. Students who employ these strategies have been shown to have a significant and favorable correlation with their happiness in studying (Kasalak & Dagyar, 2020). Adaptable learning methods. Moreover, research has shown that they can augment students' perception of agency in the educational journey (Obergrösser & Stoeger, 2020). The students' self-efficacy, academic sentiments, and learning outcomes are all impacted by this event (Choi, 2016).

During the interview, the students were queried regarding the relevance of scientific learning techniques in light of the present conditions.

As stated by the students, it is critical to employ strategies to ensure successful learning amid a multitude of responsibilities in the current environment. Having strategies enables us to be more organized, achieving great grades in all disciplines, including science. With the evolution of education, students have recognized the significance of employing effective tactics in learning to enhance their academic achievements.

## Conclusion

It was possible to derive conclusions from the study's results. A strong positive correlation has been identified between the degree of self-efficacy, self-determination, and accountability demonstrated by students with regard to their academic progress and their academic achievement in the domain of science during the period of adjustment to the new norm. The students' increased self-efficacy, self-determination, and sense of accountability for learning contributed to improved scientific academic performance. A discernible correlation exists between the scholastic performance of students in science amidst the new normal and the learning strategies they employ. In science, students who utilized learning strategies more frequently earned higher grades. Finally, after giving the findings and conclusions of the study due consideration, the following recommendations are presented: (1) Considering the students' relatively low assessments of motivation and learning strategies, instructors might consider providing lecture series that emphasize the critical importance of these aspects in achieving academic success in the field of science. (2) In science, instructors are authorized to provide supplementary aid and encouragement to students who are not meeting expectations, in accordance with the suggested course of action delineated in this article. (3) Subsequent investigators are motivated to conduct further studies in this field. (4) Consider integrating supplementary factors such as study patterns and learning styles in order to investigate alternative dimensions that might influence the scholastic achievement of the students in the field of science in the era of the new normal.

## References

- Abesamis, R., Tus, J., (2022). Happiness and Depression Among College Students Amidst the Online Learning. *Psychology and Education: A Multidisciplinary Journal*, 2(2), 91-94. <https://doi.org/10.5281/zenodo.6541673>
- Archer, L., DeWitt, J & Dillon, J. (2014). 'It didn't really change my opinion': exploring what works, what doesn't and why in a school science, technology, engineering and mathematics careers intervention. *Research in Science & Technological Education*, 32(1), 35-55.
- Aristovnik, A., Keržič, D., Ravšelj, D., Tomaževič, N., & Umek, L. (2020). Impacts of the COVID-19 pandemic on the life of higher education students: A global perspective. *Sustain*, 12, 20, 1–34.
- Avila, E. & Genio, A. (2020). Motivation and learning strategies of education students in online learning during pandemic. *Psychology (Savannah, Ga.)*. 57. 1608-1614.
- Basilio, J.J., Pangilinan, T., Kalong, J.J., Tus, J., (2022). Amidst the Online Learning Modality: The Social Support and Its Relationship to the Anxiety of Senior High School Students. *Psychology and Education: A Multidisciplinary Journal*, 1(3), 331-335. <https://doi.org/10.5281/zenodo.6654353>
- Batiola, E.M., Boleche, N., Falcis, S.W., Tus, J., (2022). The Relationship Between Anxiety And Self-Esteem Among Senior High School Students. *Psychology and Education: A Multidisciplinary Journal*, 2(1), 66-72. <https://doi.org/10.5281/zenodo.6534512>
- Baylon, L., Latiban, A.M., Ricafort, A.D., Tus, J., (2022). The Relationship Between Self-Concept and Anxiety Among College Students During the Online Learning Modality. *Psychology and Education: A Multidisciplinary Journal*, 1(3), 348-353. <https://doi.org/10.5281/zenodo.6654385>
- Bengtsson, E., & Teleman, B. (2019). Motivation, learning strategies and performance among business undergraduates at university colleges in Sweden. *Business, Management and Economics Engineering*, 17(2), 111-133. <https://doi.org/10.3846/bme.2019.10512>
- Bernard, H. R. (2002). *Research methods in anthropology: Qualitative and quantitative approaches* (3rd ed.). Walnut Creek, CA: Alta Mira Press.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101.
- Bryan, AS. (2019). High-school students' motivation to learn science: validation of the science motivation questionnaire. *Research in Science Education*, 38(3), 321-341.
- Calingacion, J.R., Lolo, D., Villalobos, G., Tus, J., (2022). The Relationship Between Stress and Happiness Among Senior High School Students Amidst the COVID-19 Pandemic. *Psychology and Education: A Multidisciplinary Journal*, 2(1), 52-58. <https://doi.org/10.5281/zenodo.6534439>
- Cho, J., & Hongsik, C. (2015). Roles of university support for international students in the United States: Analysis of a systematic model of university identification, university support, and psychological well-being. *Journal of Studies in International Education*, 19(1), 11-27.
- Choi, B. (2016). How people learn in an asynchronous online learning environment: the relationships between graduate students' learning strategies and learning satisfaction. *Can. J. Learn. Technol.* 42, 1–15



- Compuesto, K.M., Bantog, J., Malabay, G.M., Santibanez, A.M., Tus, J., (2022). Amidst the Online Learning Modality: The Self-Efficacy and Its Relationship to the Academic Burnout of Senior High School Students. *Psychology and Education: A Multidisciplinary Journal*, 1(3), 174-184. <https://doi.org/10.5281/zenodo.6654318>
- Creswell, J. W. (2015). *A Concise Introduction to Mixed Methods Research*. Sage Publications Ltd.
- Creswell, J. W., & Plano Clark, V. L. (2018). *Designing and Conducting Mixed Methods Research* (3rd ed.). Sage Publications.
- Cruz, A.D., Francisco, J., Manalo, J., Tus, J., (2022). Amidst the Online Learning Modality: The Self-Efficacy and Its Relationship to the Perceived Loneliness of Senior High School Students. *Psychology and Education: A Multidisciplinary Journal*, 1(2), 163-173. <https://doi.org/10.5281/zenodo.6523253>
- Cruz, J.M., Torre, A.P.D., Castaños, O.L.S., Tus, J., (2022). The Correlation Between Peer Pressure and Mental Well-Being Among Senior High School Students. *Psychology and Education: A Multidisciplinary Journal*, 2(3), 167-175. <https://doi.org/10.5281/zenodo.6569859>
- Day, M., Kelley, H., Browne, B., & Kohn, S. (2020). Assessing motivation and learning strategy usage by dually enrolled students. *Smart Learning Environments*, 7(1). <https://doi.org/10.1186/s40561-020-00131-w>
- Dela-Cruz, N., Tayras, J., Castillo, D., Tus, J., (2022). Amidst the Online Learning: The Social Adjustment and Its Relationship to Loneliness of Senior High School Public Students. *Psychology and Education: A Multidisciplinary Journal*, 2(1), 59-65. <https://doi.org/10.5281/zenodo.6534480>
- Deveci, T., & Ayish, N. (2017a). Correlation between Critical Thinking and Lifelong Learning Skills of Freshman Students. *Bartın University Journal of Faculty of Education*, 6(1), 282-303.
- Dogan, N. (2016). The Effect of Learning Strategies Used for Rehearsal on the Academic Success, *Education and Science* 2015, Vol 40, No 181, 311-327
- Donoghue, G. & Hattie, J. (2021). A meta-analysis of ten learning techniques. *Frontiers in Education*, 6. <https://doi.org/10.3389/educ.2021.581216> *Education and Science (IJRES)*, 6(4), 638-648.
- Espayos, K., Llevado, L.J., Meneses, L., Tus, J., (2022). Amidst the Online Learning Modality: The Self-Esteem and Its Relationship to the Academic Burnout of the Senior High School Students. *Psychology and Education: A Multidisciplinary Journal*, 2(1), 14-19. <https://doi.org/10.5281/zenodo.6654412>
- Fong, C., Davis, C., Kim, Y., Kim, Y.W., Marriott, L. & Kim S. (2017). Psychosocial factors and community college student success: a meta-analytic investigation. *Rev Educ Res*. 2017;87(2):388–424.
- Francisco, J., Cruz, J., Cruz, K., Resurreccion, L., Lopez, L., Torculas, A., Gumpal, M., Guillermo, N., Tus, J., (2022). The Job Burnout And Its Impact on the Employee's Performance Amidst the COVID-19 Pandemic. *Psychology and Education: A Multidisciplinary Journal*, 2(2), 155-166. <https://doi.org/10.5281/zenodo.6569851>
- Froiland, J. & Worrell, F. (2016). Intrinsic motivation, learning goals, engagement, and achievement in a diverse high school. *Psychology in the Schools*, 53(3), 321–336.
- Gallardo, P.N., Ongkit, M.A., Santillan, R., Tus, J., (2022). The Relationship Between Self-Esteem and Burnout Among College Students Amidst the Online Learning Modality. *Psychology and Education: A Multidisciplinary Journal*, 1(3), 343-347. <https://doi.org/10.5281/zenodo.6654371>
- Gbolli, C., & Keamu, H. P. (2017). Student academic performance: The role of motivation, strategies, and perceived factors hindering liberian junior and senior high school students learning. *Education Research International*, 2017, 1–11. <https://doi.org/10.1155/2017/1789084>
- Gomez, S.L., Sison, C.J., Gavino, M.C., Tus, J., (2022). Academic Burnout and Its Relationship on the Anxiety of the Senior High School Students Amidst the Online Learning Modality. *Psychology and Education: A Multidisciplinary Journal*, 2(2), 82-90. <https://doi.org/10.5281/zenodo.6534581>
- Gribanova, S. (2021). The impact of intrinsic and extrinsic motivators on IT professionals. Case of Latvia. *SHS Web of Conferences*, 92, 04008. <https://doi.org/10.1051/shsconf/20219204008>
- Guevarra, M.J., Tus, J., (2022). The Relationship Between Social Media Addiction And Personality Traits Among College Students During COVID-19 Pandemic. *Psychology and Education: A Multidisciplinary Journal*, 2(3), 244-257. <https://doi.org/10.5281/zenodo.6626190>
- Güvenç, H. (2011). Çalışma günlüklerinin 6. sınıf öğrencilerinin özdüzenlemeli öğrenmeleri üzerindeki etkileri. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi* (41), 206-218.
- Haatainen, O.; Turkka, J.; and Aksela, M. (2021). Students' Perceptions and Self-Efficacy Beliefs Related to Integrated Science Education. *Educ. Sci*, 11, 272.
- Hariri, H. Karwan, D.H. Haenilah, E.Y. Rini, R., & Suparman, U. (2021). Motivation and learning strategies: student motivation

- affects student learning strategies . *European Journal of Educational Research*, 10(1), 39-49. <https://doi.org/10.12973/eu-jer.10.1.39>
- Ibanez, M., Doctolero, K., Senolos, L., Cruz, A.D., Tus, J., (2022). The Relationship Between Happiness and Stress Among Senior High School Students from Public Schools Amidst Online Learning. *Psychology and Education: A Multidisciplinary Journal*, 2(2), 122-125. <https://doi.org/10.5281/zenodo.6565228>
- Kasalak, G., and Dagyar, M. (2020). University student satisfaction, resource management and metacognitive learning strategies. *Teach. Curric.* 20, 73–85.
- Klemm, W. (2013). Memorization is Not a Dirty Word. *The Journal of Effective Teaching*, 7(1), 61-73.
- Lopez, E., Villegas, M., Suliao, A., Tus, J., (2022). The Self-Esteem and its Relationship to the College Students' Perceived Loneliness Amidst the COVID-19 Pandemic. *Psychology and Education: A Multidisciplinary Journal*, 2(1), 31-37. <https://doi.org/10.5281/zenodo.6534313>
- Mahinay, I.K., Rollan, D., Punzalan, C., Reyes, J.M., Tus, J., (2022). The Happiness and Its Relationship on the Anxiety of Senior High School Students During COVID-19 Pandemic. *Psychology and Education: A Multidisciplinary Journal*, 2(2), 143-148. <https://doi.org/10.5281/zenodo.6565350>
- Mallillin, L., Mendoza, L., Mallillin, J., Felix, R. & Lipayon, I. (2020). Implementation and readiness of online learning pedagogy: a transition to covid 19 pandemic. *European Journal of Open Education and E-Learning Studies*, 5(2). <https://doi.org/10.46827/ejoe.v5i2.3321>
- Mateo, K., Lajom, R.M., Vicente, L.J., Tus, J., (2022). The Self-Esteem and Its Correlation on the Anxiety of College Students During Online Learning Modality. *Psychology and Education: A Multidisciplinary Journal*, 2(2), 137-142. <https://doi.org/10.5281/zenodo.6565346>
- Matusovich, H.M. (2018). Developing an Instrument to Measure Motivation, Learning Strategies and Conceptual Change. *The International journal of education*, 27(5): p. 968-984.
- Nabizadeh, S., Hajian, S., Sheikhan, Z., & Rafiei, F. (2019). Prediction of academic achievement based on learning strategies and outcome expectations among medical students. *BMC Medical Education*, 19(1), 1-11. <https://doi.org/10.1186/s12909-019-1527-9>
- Obergriesser, S., and Stoeger, H. (2020). Students' emotions of enjoyment and boredom and their use of cognitive learning strategies—How do they affect one another? *Learn. Instruct.* 66:101285
- Ocbian, J., Murot, J., Alejo, A.M., Tus, J., (2022). Amidst the Online Learning: The Self-Efficacy and Its Relationship to the Anxiety Among Senior High School Students. *Psychology and Education: A Multidisciplinary Journal*, 1(3), 336-342. <https://doi.org/10.5281/zenodo.6654365>
- Padilla, R., Tolosa, K., Placiente, P., Compuesto, K.M., Tus, J., (2022). The Relationship Between Happiness and Depression Among Senior High School Students Amidst the COVID-19 Pandemic. *Psychology and Education: A Multidisciplinary Journal*, 2(1), 1-6. <https://doi.org/10.5281/zenodo.6654390>
- Panadero, E.; Jonsson, A.; Botella, J. (2017). Effects of self-assessment on self-regulated learning and self-efficacy: Four meta-analyses. *Educ. Res. Rev.* 2017, 22, 74–98.
- Pastrana, S.C.M., Faustino, O.R., Tus, J., (2022). Amidst the COVID-19 Pandemic: The Relationship of Burnout and Depression Among College Students. *Psychology and Education: A Multidisciplinary Journal*, 1(3), 208-213. <https://doi.org/10.5281/zenodo.6654330>
- Perkins, K. E. (2018). The Integrated Model of Self-Confidence: Defining and Operationalizing Self-Confidence in Organizational Settings (Doctoral dissertation). College of Psychology and Liberal Arts: Florida Institute of Technology, Melbourne, Florida.
- Pineda, M.A., Mendoza, G., Velarde, C.M., Tus, J., (2022). The Relationship Between Social Support and Depression Among Senior High School Students in the Midst of Online Learning Modality. *Psychology and Education: A Multidisciplinary Journal*, 2(1), 44-51. <https://doi.org/10.5281/zenodo.6534398>
- Ramos, J., Manaloto, A.J., Cruz, S.A.D., Cervera, D.A., Ramirez, C., Tus, J., (2022). The Self-Efficacy And Loneliness of College Students Amidst the COVID-19 Pandemic. *Psychology and Education: A Multidisciplinary Journal*, 2(1), 7-13. <https://doi.org/10.5281/zenodo.6654400>
- Rana, M. (2015). Motivation and science performance: influence on student learning in science. *Sci. Int.* 27(2), 1445-1452, 2015.
- Rashid, S. & Rana, A. (2019). Relationship between the levels of motivation and learning strategies of prospective teachers at higher education level. *Bulletin of Education and Research* 41, 1, 57-66.
- Realyvásquez-Vargas, A., Maldonado-Macías, A., Arredondo-Soto, K., Baez-Lopez, Y., Carrillo-Gutiérrez, T. & Hernández-Escobedo, G., (2020). The impact of environmental factors on academic performance of university students taking online classes during the COVID-19 pandemic in Mexico. *Sustain.* 12,(21), 1–22.
- Ricardo, F. & Pinto, M. (2020). COVID-19: A new crisis that reinforces inequality in higher education in Brazil.

SciELO Prepr. <https://doi.org/10.1590/SciELOPreprints.1341>

Rosário, P., Núñez, J. C., Trigo, L., Guimaraes, C., Fernández, E., Cerezo, R., Fuentes, S., Orellana, M., Santibáñez, A., Fulano, C. Ferreira, A., & Figueiredo, M. (2015). Transcultural analysis of the effectiveness of a program to promote self-regulated learning in Mozambique, Chile, Portugal, and Spain. *Higher Education Research and Development*, 34(1), 173-187.

Roy D, Brine J, Murasawa F (2014). Usability of English note-taking applications in a foreign language learning context. *Computer Assisted Language Learning* 29(1):1- 27

Rufino, A.J., Federio, R.H., Bermillo, M.A., Tus, J., (2022). The Social Support and its Relationship to the College Students' Burnout Amidst the Online Learning Modality. *Psychology and Education: A Multidisciplinary Journal*, 2(1), 38-43.

<https://doi.org/10.5281/zenodo.6534345>

Salonen, A., Hartikainen-Ahia, A., Hense, J., Scheersoi, A. & Keinonen, T. (2017). Secondary school students' perceptions of working life skills in science-related careers. *International Journal of Science Education*, 39(10), 1-14.

Soemantri D, Mccoll G, Dodds A. (2018). Measuring medical students' reflection on their learning: modification and validation of the motivated strategies for learning questionnaire (MSLQ). *BMC Med Educ*. 18(1), 274. <https://doi.org/10.1186/s12909-018-1384-y>

Tamer Sari, F. (2020). Challenges in distance education during the Covid-19 pandemic period. *Qual. Res. Educ.*, 9, 329–361. <https://doi.org/10.17583/qre.2020.5872>

Walet, M., Falcatan, J., Tus, J., (2022). Amidst the COVID-19 Pandemic: The Relationship Between Self Esteem And Depression Among Senior High School Students. *Psychology and Education: A Multidisciplinary Journal*, 2(2), 149-154. <https://doi.org/10.5281/zenodo.6565371>

Walker M, Trafimow D, Bronstein J (2017). The Socratic note taking technique: Addressing the problem of students not engaging with assigned readings before class. *Teaching Philosophy* 40(3):341-365.

Yasmin, H., Khalil, S., & Mazhar, R. (2020). COVID 19: stress management among students and its impact on their effective learning. *International technology and education journal*, 4(2), 65-74.

Zlatovic, M., Balaban, I., & Kermek, D. (2015). Using online assessments to stimulate learning strategies and achievement of learning goals. *Computers and Education*, 91, 35.

## Affiliations and Corresponding Information

**Prof. Mary Criss M. Tus**

Philippine Christian University – Philippines

**Dr. Kimberly N. Toring**

University of the Visayas – Philippines

Nuevo School of Technology and Humanities, Inc. – Philippines

**Dr. Eugene E. Toring**

Indiana Aerospace University - Philippines

Nuevo School of Technology and Humanities, Inc. – Philippines

**Dr. Cherry C. Escarilla**

Malay College – Philippines

**Prof. Elvis Lesly T. Taño-An**

Malay College – Philippines

**Prof. Angelyn M. Aquino**

Malay College – Philippines

**Prof. Manuel A. Gaviola**

Aklan State University – Ibayay Campus

**Niño N. Sacapaño**

Malay College – Philippines

**Dr. Jhoselle Tus**

Malay College – Philippines

St. Dominic College of Asia – Philippines

**Dr. Jimmy B. Maming**

Malay College – Philippines