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ACADEMIC TENACITY IN SCIENCE AMONG STUDENTS IN PRIVATE SCHOOL IN INDANAN SULU, SOUTHERN PHILIPPINES

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ABSTRACT

This study examined the extent of academic tenacity in science among students at Sulu College of Technology Inc. The data was collected using a survey questionnaire to answer the following questions: 1. What is the demographic profile of the student-respondents coming from Sulu College of Technology Inc. when grouped according to gender? 2. What is the extent of the academic tenacity among student-respondents coming from Sulu College of Technology Inc.? and 3. Is there a significant difference in the extent of the academic tenacity among student-respondents coming from Sulu College of Technology Inc. when data are grouped according to gender? A questionnaire was used in collecting data from the respondents. SPSS or Statistical Package for Social Sciences was used in calculation and to analyze the data. The findings revealed the student-respondents displayed a high positive attitude towards science. Based on these findings, the study recommends the following: a) Faculty members of Sulu College of Technology should adopt flexible instructional approaches that accommodate diverse learning styles and levels of science proficiency among students; b) The Sulu College of Technology administrator should incorporate goals and strategies related to promoting academic tenacity in sciences; and c) Furthermore, future researchers in the field of science education are encouraged to conduct similar studies to contribute to ongoing research on improving academic tenacity in science among the students in the Southern Philippines. This will absolutely provide a foundation for continued advancements in the field of science.

Keywords: *academic tenacity, science, Indanan, Sulu, Southern Philippines*

INTRODUCTION

Measuring tenacity and its effects on achievement is one way to traverse the challenge of delivering quality education. According to Dweck et al., (2014) Three decades of psychological research have shown how two students with equal academic abilities can respond in remarkably different ways to frustration, with one relishing the opportunity to learn and the other becoming demoralized and giving up. Such responses, in turn, affect students' ability to learn. In this paper, we will review the extent of this academic tenacity particularly in science, as uttered by Balla F.J. (2024) science has become ubiquitous in our society, it became revolutionized in the community which made a high standard of education, significant for both students and teachers. Science and technology inhibit a dominant position in the growth and progress of the nation. It helps in developing progress that leads to the advancement and success of a country.

Academic tenacity in science is a positive construct, concept or attitude towards science, with this note, the researcher is urged to measure this extent of academic tenacity in science among students at Sulu College of Technology Inc. It is a newly established private school at Indanan, Sulu, less than twenty years ago, a school that is situated in the culturally diverse region of Mindanao, in which phenomena such as outdated intrusions, academic challenge, and other related problems in acquiring solid science are commonly encountered.

Abdulmajid et al., (2024) This century marks the beginning of the science-technological boom with the increase and widespread use of the internet. The use of science-technology has skyrocketed in the past ten years with the change of human lifestyle and norms. Science-technology has become the new trend among people and is widely appreciated around all ages as it offers a variety of benefits and opportunities, one of these, is its contribution to traverse the challenge of learning as expressed by Sabbaha, N. et. al, (2024) cited by Mading F. et. al., (2024) Indeed, learning is the soul of education that eliminates ignorance within an individual's mind, it is an ability influenced by human beings that plays a crucial role in the existence of human life hence, learning is a continuous process. Jailani, A. et.al, (2024) supported that education needs to continue no matter the trend. Truly, education is the key to triumph, thus it shouldn't be interrupted.

Nevertheless, despite the mentioned commonly encountered phenomena, there are unique opportunities that can be discovered, and this can be revealed through a positive mindset, tenacity and attitude. Promoting engagement in activities aimed at improving academic tenacity can be embedded in courses in a variety of ways. Hence the goal to be academically tenacious students can be achieved in a variety of perceptive possibilities.

This paper provided intuition into the extent of academic tenacity in science among the students in the learning environment of Sulu College of Technology Inc. This research offered insights that can guide educational practices and policies. In addition, this research deepened the understanding of academic tenacity in science and offered

useful recommendations for academicians, instructors, administrators, and legislators or policymakers to foster an academically tenacious learner in science by situating the discussion within this context.

Research Questions

This paper sought to investigate the extent of academic tenacity in sciences among Senior High School STEM students of Sulu College of Technology Inc., this study aims to answer the following question:

1. What is the demographic profile of the student-respondents coming from Sulu College of Technology Inc. in terms of gender?

2. What is the extent of the academic tenacity among student-respondents coming from Sulu College of Technology Inc.

3. Is there a significant difference in the extent of the academic tenacity among student-respondents coming from Sulu College of Technology Inc. when data are grouped according to gender?

METHODOLOGY

Research Locale

Sulu College of Technology Inc. is the setting where the study was conducted, it is the one and only private school located at Tanjung, Indanan Sulu, where the permanent address of the corresponding author is located. The said private school founded by Engr. Sambas I. Hassan Al-Haj, during the school year 2021-2022.

Sampling Method

In this study, the researchers used Purposive Sampling or Judgement sampling to select the participant of the study. According to Crossman (2020), as cited by Jailani A. et al. (2024) Purposive Sampling is a non-probability sample that is selected based on characteristics of a population and the objective of the study. Moreover, the respondents of this study are the 80 students coming from Sulu College of Technology Inc.

Research Instrument

The researcher used a checklist questionnaire type wherein the respondents were asked to put a check to show their impression by reading each statement. In this research study, the researchers produced (80) copies of questionnaires as it is the total number of respondents and these were distributed personally after permission was granted.

Statistical Treatment of Data

For the analysis of data, the researchers used weighted mean as a statistical tool in dealing with the extent of the academic tenacity in sciences among student-respondents

coming from Sulu College of Technology Inc. and for the significant difference of the extent of the academic tenacity in sciences among student-respondents in terms of gender used T-test.

Scope and Delimitation

This study focuses on the academic tenacity in sciences among student-respondents coming from Sulu College of Technology Inc. The participant of this study is delimited to the Science Technology Engineering Mathematics (STEM) students of Sulu College of Technology Inc.

RESULTS AND DISCUSSION

Demographic Profile of the Respondents

Table 1. Student-respondents' demographic profile in terms of gender

Gender:		
Female	40	50%
Male	40	50%
TOTAL	80	100%

Table 1 displays the demographic profile of the student-respondents coming from Sulu College of Technology Inc. specifically in terms of gender. The table shows that out of the 80 student-respondents, 40(50%) are males, while 40(50%) are females. This data indicates that the student-respondents are equally divided by females and males. Therefore, it can be concluded that the respondents are neither predominantly female nor male.

Table 2. Extent of academic tenacity in science among the student-respondents

ITEMS	Mean	Description
1. Thinking scientifically can help me visualize the meaning of life.	3.80	Strongly Agree
2. It would be easy to succeed in life with the right foundation of knowledge in science.	3.87	Strongly Agree
3. Science develops good thinking skills that are necessary to succeed in any career.	3.53	Strongly Agree
4. Having a solid knowledge of science helps me understand more complex topics in my field of study.	3.77	Strongly Agree

5. People who are good at science have more opportunities than those who are not good at it.	3.77	Strongly Agree
6. Thinking scientifically can help me mediocrity with things that matter to me.	3.40	Agree
7. Science is essential for my future.	3.50	Strongly Agree
OVERALL MEAN	**3.66**	**Strongly Agree**

Legend: 1.00-1.49= Strongly Disagree, 1.5-2.49 =Disagree, 2.5-3.49= Agree, 3.5-4.49= Strongly Agree

Table 2 presents the extent of academic tenacity in science among the student-respondents. As shown in the table, the mean of the responses to the following statements; Thinking scientifically can help me visualize the meaning of life. (**Item No. 1)**, It would be easy to succeed in life with the right foundation of knowledge in science. **(Item No. 2)** *Science* develops good thinking skills that are necessary to succeed in any career. **(Item No. 3), Having** a solid knowledge of science helps me understand more complex topics in my field of study. **(Item No. 4)** *People* who are good at science have more opportunities than those who are not good at it. **(Item No. 5)** and *Science* is essential for my future. **(Item No. 7)** with the mean of 3.80, 3.87, 3.53, 3.77, 3.77, 3.53 respectively, given the descriptive equivalent of **"Strongly Agree".**

Nevertheless, the mean of the responses to the statement; Thinking scientifically can help me mediocrity with things that matter to me. **(Item No. 6)** with a descriptive equivalent of **"Agree".**

The data shows that the overall mean is **3.66** with a descriptive equivalent of **"Strongly Agree".** This means that the data suggest that the student-respondents perceive themselves as having a high level of academic tenacity in science. These results align with the study conducted by Lim and Lopez (2023), which emphasized that resilient students or the academically tenacious student, these students also demonstrate a strong work ethic, maintain a positive attitude towards the subject, and believe in their ability to succeed. Lim and Lopez (2023) further noted that such a mindset fosters self-efficacy, which is essential for overcoming challenges and persevering in the face of frustration.

Difference in the Extent of Academic Tenacity

Table 3. Difference in the extent of academic tenacity in science among the student-respondents when grouped according to gender.

Group	N	SD	t-value	Decision
Female	40	3.52		H_o
Male	40	3.75	1.17	is accepted
α = 0.05		df = 78	t-crit = 2.00	

Table 4.2.2 shows the extent of academic tenacity in science among the student-respondents when grouped according to gender. The t-test showed a computed t-value 1.17 at 78 degrees of freedom, which is lesser than the t-critical value of 2.00 considering an 0.05 alpha level of significance. The results showed that there is no significant difference between the extent of academic tenacity in science when they are grouped according to their gender on an alpha 0.05 level of significance. This means that both men and women view academic tenacity in science to the same extent. In a meta-analysis conducted by Watt and Credé (2015) on academic resilience or synonymous to tenacity, it was determined that gender does not have a significant overall effect on resilience scores or in other terms tenacious scores. Thus, this finding is consistent with the interpretation in the table.

Conclusions

This study concludes that the student-respondents exhibit a positive attitude toward academic tenacity in science. Eighty students coming from Sulu College of Technology Inc. are the respondents, fifty percent are males, and fifty are females, the student-respondents are equally divided by females and males. Therefore, it can be concluded that the respondents are neither predominantly female nor male. This study examined the concept of academic tenacity in science among students at SCT, Tanjung, Indanan. It was observed that students generally possess a positive assertiveness. Moreover, the resilient students or academically tenacious students can demonstrate a strong work ethic, maintain a positive attitude towards the subject, and believe in their ability to flourish.

Recommendations

Finally, after successfully interpreting the data gathered, the following recommendations written below were drawn.

a) Faculty members of Sulu College of Technology should adopt flexible instructional approaches that accommodate diverse learning styles and levels of science proficiency among students;

b) The Sulu College of Technology administrator should incorporate goals and strategies related to promoting academic tenacity in sciences; and

c) Furthermore, future researchers in the field of science education are encouraged to conduct similar studies to contribute to ongoing research on improving academic tenacity in science among the students in the Southern Philippines. This will absolutely provide a foundation for continued advancements in the field of science.

Compliance with Ethical Standards

The researchers hereby declare that an informed consent was obtained. In accumulation, the researchers assure that the information gathered from respondents are kept intact and confidential. Ethical processes were strictly observed throughout the research process.

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