Effect Of Approaches To Learning And Studying On Academic Perfromance In The General Education Course (Gec) In Isabela State University Main Campus

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ABSTRACT
This study evaluated the students' methods for learning and studying as a foundation for the process of changing how OBE is taught and learned at the Isabela State University, Echague Campus. The results showed that while the students adopted a variety of learning strategies, they primarily chose the strategic method. The combined influence in the change of the Mathematics in the Modern World (MMW) GPA only contributes about 7.6% with significant regression weights and can be used as predictors when using the "Strategic Approach". Regarding the application of the "Surface Apathetic Approach," substantial regression weights show that it can also be a predictor even though it only accounts for around 3.5% of the overall variation in the GPA in MMW. This study suggests that student learning strategies can aid students in enhancing their learning outcomes. College students' exploratory learning and their MMW learning outcomes are mediated by their learning approaches.

Keywords: Approaches to learning, Deep approach, strategic Approach, Surface Apathetic approach, Academic Performance, GPA, Mathematics in the Modern World

INTRODUCTION

Education is a beacon pointing humanity in the proper way for growth. The goal of education is to provide students with information, critical thinking skills, and self-sufficiency in addition to literacy. There is potential for advancement in any subject when there is a willingness to change. It is possible to cultivate creativity, and both students and teachers gain from innovation (Andres, 2020).

The Outcomes Based Education (OBE) approach to curriculum design and classroom instruction should be adopted as soon as possible by Higher Educational Institutions (HEIs), according to the Commission on Higher Education (CHED). The strategy is founded on a certain educational process concept. It entails both reconsidering the overall curriculum for each academic major and the conception, implementation, and written presentation of each particular class we teach.

Those who are professionally involved in students' learning processes, such as teachers, counselors, or researchers, according to Bangayan-Manera (2020), make certain presumptions about the nature of learning. Then, in practice, such presumptions will serve as a guide. For instance, instructors make assumptions about how information might be given, how pupils may be inspired, how they might approach learning, and how learning ought to be most effectively assessed. In order to enhance practice and theory, researchers test the assumptions of all parties, including lecturers, counselors, and other researchers.

According to Bangayan-Manera (2019), process factors influence how students approach learning. The student's approach to learning is a combination of a goal and the right approach. Intrinsically driven students often get the most out of their education; they read extensively and connect new material to what they already know. Students with a want to excel academically are more likely to structure their work. Students who are learning just to pass their classes without aiming high are more likely to concentrate on the fundamentals and memorize them by heart.

Propounded by Andres (2022), the Philippine education system has issues from the primary grades up to the tertiary levels, and despite efforts by both the previous and current governments to change it, little progress has been made. Saquing (2023) also emphasized that more reforms are required to raise the caliber of education in the Philippines, according to the most recent "Economic Policy Monitor" of the Philippine Institute for Development Studies, which was published in April 2012. This is true despite the reforms that the Aquino administration tried to implement to address these failures. The same study discovered that even government-initiated reforms could make matters worse for the educational system.

In the context, adequately meeting the varying needs of students is a major challenge for the modern education system in the Philippines stated by Andres (2023). The ultimate outcome of instructional practice is effective student learning. Making sense of what an education means and understanding what motivates one in learning involve assessing their personal preferences and making choices. As choices are influenced by attitude towards learning, it is therefore important to adopt a positive attitude to enable one to stay motivated towards his studies and respond favorably to his learning experiences (Saquing, 2018). Hence, this study that will explore students' approaches to learning is deemed necessary for it will serve as a basis for the implementation of OBE in teacher education which is geared towards facilitating desired changes within the learners, by increasing knowledge, developing skills and/or positively influencing attitudes, values and judgment.

OBJECTIVES OF THE STUDY

This study assessed the learning and studying approaches of the students as a basis to facilitate the process of transformation of teaching and learning geared towards OBE in the Isabela State University, Echague Campus. Specifically, it attempts to:

1. Determine the students' approaches to learning in terms of the following categories:
    a. Deep Approach
    b. Strategic approach
    c. Surface Apathetic Approach
2. Analyze the difference in students' approaches to studying learning when grouped according to their GPA in Mathematics in the Modern World (MMW);
3. Examine the effect of students' approaches to learning and studying on their GPA in Mathematics in the Modern World (MMW);

METHODOLOGY

The study's participants were second- to fourth-year Isabela State University Echague Campus students enrolled for the 2020–2021 academic year. Using the formula made popular by Krejcie, R.V., a total of 363 samples were collected. with the 95% confidence level and 5% error margin of the Morgan, D.W. algorithm. The respondents were chosen at random from among those who have taken the study's subject matter.

This is a descriptive-causal study. The data were derived from Approaches and Study Skills Inventory for Students (ASSIST) by Noel Entwistle, Velda McCune (University of Edinburgh) and Hilary Tait (Napier University). A permission to use the questionnaire was granted by Dr. N. Enwistle via email. The instrument consisted of 48 items distributed to the three categories: The first is "Deep Approach" with subscales "Seeking Meaning", "Relating Ideas", "Use of Evidence", and "Interest in Ideas"; second is "Strategic Approach" with subscales "Organized Studying", "Time Management"' "Alertness to Assessment", "Achieving", and "Monitoring Effectiveness" and the third is "Surface Apathetic Approach"' "Lack of Purpose", "Unrelated Monitoring", and "Syllabus boundness", and "Fear of Failure". The students were asked to respond to items on a 1 - 5 scale (5 high). Sub-scale scores were formed by adding together the responses on the items in that sub-scale. Scores on the three main approaches were created by adding together the sub-scale scores which contribute to each approach.

Descriptive statistics such as frequency, percentage and means were used to illustrate the data gathered. Kruskall-Wallis H-Test was used to determine the difference between students' approaches to studying learning when grouped according to their GPA in the subjects considered in the . A Multiple comparison when significant differences exist will be done using Tukey's HSD.

To determine the effect of the students' approaches to teaching on the students' performance through their GPA in their professional and content courses, correlation and regression Analysis was used.

RESULTS AND DISCUSSION
GRADE-Point Average in Mathematics of the Modern World

Fig. 1
Distribution of Students by GPA in
Mathematics of the Modern Word (MMW)

18, 5.0%   14, 3.9%   16, 4.4%   33, 9.1%
16, 4.4%
48, 13.2%
101, 27.8%
117, 32.2%

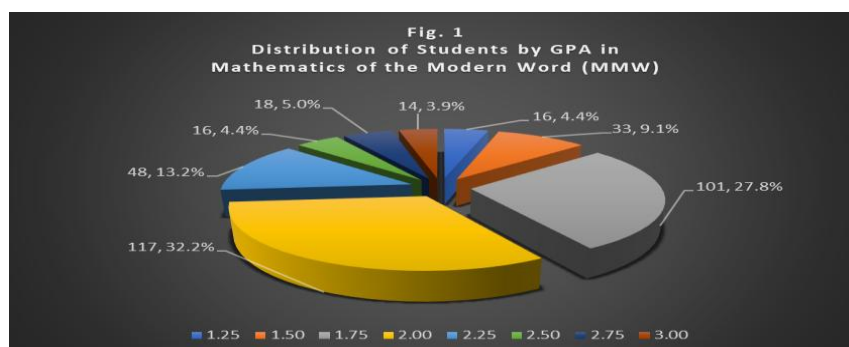■ 1.25 ■ 1.50 ■ 1.75 ■ 2.00 ■ 2.25 ■ 2.50 ■ 2.75 ■ 3.00

Figure 1 depicts the distribution of the student-respondents according to their Grade-Point Average (GPA) in Mathematics of the Modern World (MMW).

Out of the 363 students, majority obtained a grade of 2.00 (117, 32.2%), followed by a grade 1.75 (101,27.8%). The highest grade obtained by the students was 1.25 (16, 4.4%) while the lowest grade was 3.00 (14, 3.9%.)

Students' Deep Approaches to Learning and Studying by GPA in Mathematics of the Modern World

Fig.2
Deep Approach to learning and Studyung by GPA in Mathermatics of the Modern World.

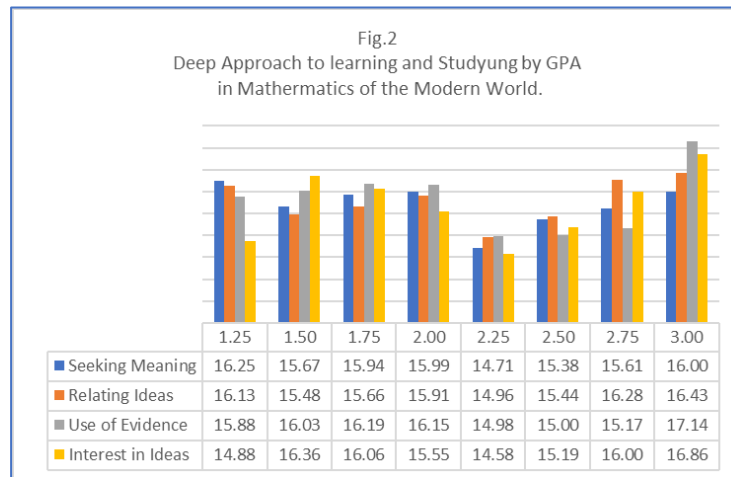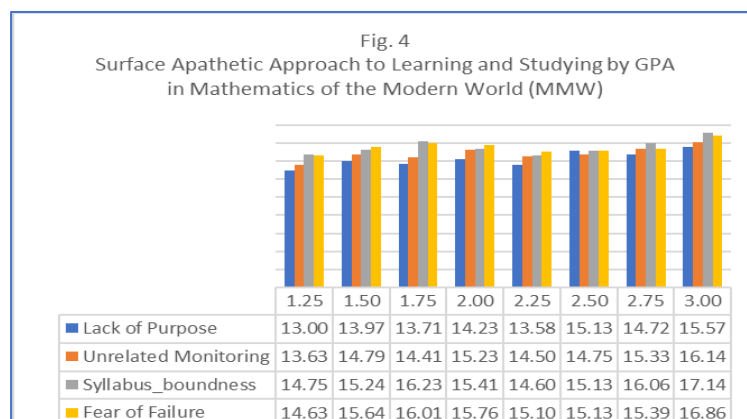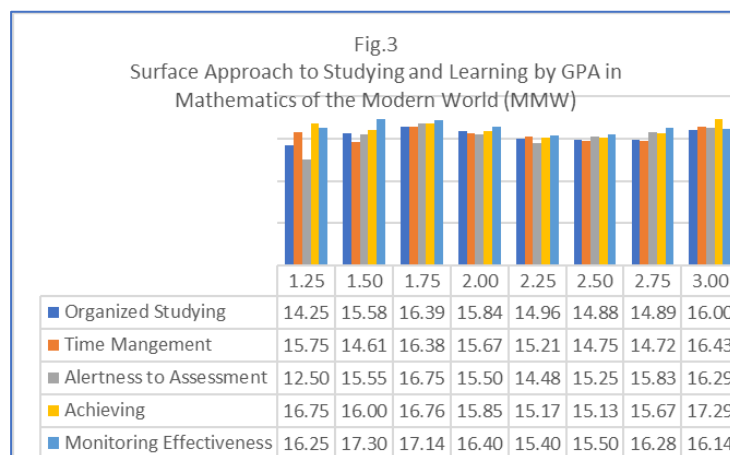|	1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.00
Seeking Meaning	16.25	15.67	15.94	15.99	14.71	15.38	15.61	16.00
Relating Ideas	16.13	15.48	15.66	15.91	14.96	15.44	16.28	16.43
Use of Evidence	15.88	16.03	16.19	16.15	14.98	15.00	15.17	17.14
Interest in Ideas	14.88	16.36	16.06	15.55	14.58	15.19	16.00	16.86

Figure 2 portrays the way the students carry out their learning studying tasks. As to "Deep Approaches" to learning and studying, It can be noted that the students who obtained the highest grade of 1.25, the most predominant approach was "Interest in ideas". Those who got the lowest GPA of 3.00 mostly carry out learning through "Use of evidence".

Moreover, "Use of Evidence" approach to learning and studying was mostly used by those who had grades of 1.75, 2.00 and 2.25 while "Relating Ideas" was predominant among those with grades of 2.50 and 2.75. "Interest in Ideas" was mostly used by the students who obtained the grade of 1.50.

Fig.3
Surface Approach to Studying and Learning by GPA in Mathematics of the Modern World (MMW)

	1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.00
Organized Studying	14.25	15.58	16.39	15.84	14.96	14.88	14.89	16.00
Time Mangement	15.75	14.61	16.38	15.67	15.21	14.75	14.72	16.43
Alertness to Assessment	12.50	15.55	16.75	15.50	14.48	15.25	15.83	16.29
Achieving	16.75	16.00	16.76	15.85	15.17	15.13	15.67	17.29
Monitoring Effectiveness	16.25	17.30	17.14	16.40	15.40	15.50	16.28	16.14

Fig. 4
Surface Apathetic Approach to Learning and Studying by GPA in Mathematics of the Modern World (MMW)

	1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.00
Lack of Purpose	13.00	13.97	13.71	14.23	13.58	15.13	14.72	15.57
Unrelated Monitoring	13.63	14.79	14.41	15.23	14.50	14.75	15.33	16.14
Syllabus_boundness	14.75	15.24	16.23	15.41	14.60	15.13	16.06	17.14
Fear of Failure	14.63	15.64	16.01	15.76	15.10	15.13	15.39	16.86

On "Strategic Approach" to learning and Studying, Figure 3 shows that "Achieving" was predominantly used by the students with the highest grade of 1.25 and the lowest grade of 3.00. The rest, with grades from 1.50 down to 2.75 were mostly inclined to use the "Monitoring effectiveness" in learning and studying.

Lastly, as to the "Surface Apathetic" approach, the students who obtained the highest grade of 1.25, 1.75, 2.75 and 3.00 were mostly inclined to "Syllabus-boundless" approach while those who had grades of 2.25 and 1.50 tend to be more om "Fear of Failure". "Fear of Failure" , "syllabus-boundness" and "Lack of Purpose" were apparent with the same extent among the a grade of 2.50.

Difference in the extent of learning and studying approach of the students by GPA in MMW

Table 1 shows the difference in the extent of learning and studying approach of the students by GPA in MMW. As indicated, the extent "Deep Approach" to learning and studying of the students did not vary significantly among the students in the four sub-scales: "Seeking Meaning" (χ=4.34; Sig.=0.74); "Relating Ideas" (χ=5.13; Sig.=0.64); "Use of Evidence" (χ=11.71; Sig.=0.11); and "Interest in Ideas" (χ=13.67; Sig.=0.06).

In terms of "Strategic Approach" to learning and studying, there is a significant difference among the students according to their GPA in MMW: "Organized Studying" (χ=17.06; Sig.=0.02); "Time Management" (χ=16.67; Sig.=0.02); "Alertness to Assessment" (χ=43.83; Sig.=0.00); "Achieving" (χ=16.69; Sig.=0.02) and "Monitoring Effectiveness" (χ=16.69; Sig.=0.02).

Lastly, as to Surface Apathetic Approach, "Syllabus Boundness" (χ=16.74; Sig.=0.02) was the only subscale where the students' varied significantly according to their GPA in MMW. The rest, "Lack of Purpose" (χ=9.76; Sig.=0.20); "Unrelated Monitoring" (χ=12.89; Sig.=0.07); and "Fear of Failure" (χ=6.33; Sig.=0.50) were found to be comparable among students regardless of their GPA in MMW.

Table 1: Difference in the Students' Approaches to Learning and Studying according to their GPA in Mathematics of the Modern World (MMW)

APPROACHES	Chi-Square	Sig.
Deep Approach		
Seeking Meaning	4.34 [ns]	0.74
Relating Ideas	5.13 [ns]	0.64
Use of Evidence	11.71 [ns]	0.11
Interest in Ideas	13.67 [ns]	0.06
Strategic Approach		
Organized Studying	17.06 *	0.02
Time Management	16.67 *	0.02
Alertness to Assessment	41.83 *	0.00
Achieving	16.69 *	0.02
Monitoring Effectiveness	17.06 *	0.02
Surface Apathetic Approach		
Lack of Purpose	9.76 [ns]	0.20
Unrelated Monitoring	12.89 [ns]	0.07
Syllabus boundness	16.74 *	0.02
Fear of Failure	6.33 [ns]	0.50

*Significant   [ns]Not Significant

Effect of Approaches in Studying and learning on the GPA in Mathematics of the Modern World

Correlation and multiple regression analyses were conducted to examine the relationship between the GPA in Mathematics of the Modern World and the approaches in studying and learning as potential predictors.

In terms of "Deep Approach", Table 2 summarizes the descriptive statistics and correlation analysis results. The mean GPA in MMW is 1.98 and the corresponding scores in the four subscales under "Deep Approach" were as follows" "Seeking Meaning", 15.66; "Relating Ideas", 15.70; "Use of Evidence", 15.65; and "Interest in Ideas", 15.62.

As can be seen none of the subscale scores significantly correlated with the GPA in MMW.

Table 2: Summary Statistics and Correlations Results on Deep Approach to Studying and Learning.

Variables	Mean	Correlation with GPA	
		r	Sig.
GPA in MMW	1.98		
Seeking Meaning	15.66	0.06 [ns]	0.26
Relating Ideas	15.70	-0.02 [ns]	0.74
Use of Evidence	15.65	0.05 [ns]	0.30
Interest in Ideas	15.62	0.02 [ns]	0.68

[ns] Not Significant

The summary results from the regression analysis revealed that the four subscales produced $R^2 = 0.022$, $F_{(4, 358)} = 1.99$, $p = 0.10$. Thus, the four subscales under "Deep Approach" had no significant regression weights and cannot serve as predictors of the GPA in MMW. Likewise, the combined effect inly brings about 2.2% in the variation of the GPA in MMW. Looking at the p-value of the t-test for each predictor, only "Relating Ideas" contributes to the model($t=2.33$, $p=0.02$).

Table 3: Summary Results from the Regression Analysis (Dependent Variable= GPA in Mathematics of the Modern World); Independent Variables = Deep Approach to Studying and Learning

Deep Approaches	Unstandardized Coefficients B	Standardized Coefficients b	t	Sig.	R	R-Square	F	p
(Constant)	2.035				0.129	0.022	1.99[ns]	0.10
Seeking Meaning	-0.026	-0.188	-1.78 [ns]	0.08				
Relating Ideas	0.037	0.247	2.33 *	0.02				
Use of Evidence	-0.020	-0.132	-1.17 [ns]	0.24				
Interest in Ideas	0.006	0.040	0.36 [ns]	0.72				
*Significant [ns] Not Significant								

As to "Strategic Approach", in Table 4 the mean GPA in MMW is 1.98 and the corresponding scores in the four subscales under were as follows" "Organized Studying", 15.70; "Time Management", 15.65; "Alertness to Assessment Demands", 15.62; "Achieving", 16.08; and "Monitoring Effectiveness",16.49. As indicated, out of these four subscales, only one "Monitoring Effectiveness" ($r=0.15$, $p=0.00$) is positively and significantly correlated with the GPA in MMW signifying that those with higher scores on "Monitoring Effectiveness" tend to have higher GPAs in MMW.

Table 4: Summary Statistics and Correlations Results on Strategic Approach to Studying and Learning.

Variables	Mean	Correlation with GPA	
		r	Sig.
GPA in MMW	1.98		
Organized Studying	15.70	0.05 [ns]	0.31
Time Management	15.65	0.04 [ns]	0.45
Alertness to Assessment Demands	15.62	-0.01 [ns]	0.79
Achieving	16.08	0.08 [ns]	0.12
Monitoring Effectiveness	16.49	0.15 *	0.00

*Significant [ns] Not Significant

As indicated in Table 5, the summary results from the regression analysis revealed that the five subscales produced $R^2 = 0.076$, $F_{(4, 358)} = 5.89$, $p = 0.00$. Thus, the combined effect of the five subscales under "Strategic Approach" contributes about 7.6 percent in the variation of the GPA in MMW and have significant

regression weights. Thus can serve as predictors of the GPA in MMW. Looking further at the p-value of the t-test for each predictor, "Alertness to Assessment Demands" (t=-3.49, p = 0.00) and "Monitoring Effectiveness" (t= 4.64, p = 0.00) contribute to the model. "Alertness to Assessment Demands" had a significant and negative weight indicating that after controlling for the other variables in the model, those students with higher scores in this subscale were expected to have lower GPA in MMW. In the same manner, those with higher scores in "Monitoring Effectiveness" were expected to have higher GPA in MMW.

Table 5: Summary Results from the Regression Analysis (Dependent Variable= GPA in Mathematics of the Modern World); Independent Variables = Strategic Approach to Studying and Learning

Strategic Approaches	Unstandardized Coefficients B	Standardized Coefficients b	t	p	R	R-Square	F	p
(Constant)	3.963				0.276	0.076	5.89**	0.00
Organized Studying	-0.031	-0.054	-0.54 ^{ns}	0.59				
Time Management	-0.094	-0.177	-1.70 ^{ns}	0.09				
Alertness to Assessment Demands	-0.166	-0.299	-3.49 **	0.00				
Achieving	0.054	0.093	0.92 ^{ns}	0.36				
Monitoring Effectiveness	0.291	0.493	4.64**	0.00				

**Significant at 1% level ^{ns} Not Significant

In terms of "Surface Apathetic Approach", Table 6 shows the following mean results: GPA in MMW, 1.98 and the corresponding scores in the four subscales were: "Lack of Purpose", 14.04; "Unrelated Memorizing", 14.81; "Syllabus-boundness", 15.57; and "Fear of Failure", 15.68. As can be seen, two subscale scores were indirectly and significantly correlated with the GPA in MMW indicating that those with higher scores on "Lack of Purpose" and "Unrelated Memorizing" tend to have lower GPAs in MMW.

Table 6: Summary Statistics and Correlations Results on Surface Apathetic to Studying and Learning.

Variables	Mean	Correlation with GPA	
		r	Sig.
GPA in MMW	1.98		
Lack of Purpose	14.04	-0.13 *	0.01
Unrelated Memorizing	14.81	-0.12 *	0.02
Syllabus-boundness	15.57	-0.03 ^{ns}	0.55
Fear of Failure	15.68	-0.02 ^{ns}	0.76

*Significant ^{ns} Not Significant

Finally, the summary results from the regression analysis revealed that the four subscales produced $R^2 = 0.035$, $F(4, 358) = 3.22$, $p = 0.01$. Thus, the four subscales under "Surface Apathetic Approach" had significant regression weights and they can serve as predictors of the GPA in MMW. Likewise, the combined effect brings about 3.5% in the total variation of the GPA in MMW. Looking at the p-value of the t-test for each predictor, none among the subscales taken separately can contribute to the model.

Table 7: Summary Results from the Regression Analysis (Dependent Variable= GPA in Mathematics of the Modern World); Independent Variables = Surface Apathetic Approach to Studying and Learning

Surface Apathetic Approaches	Unstandardized Coefficients B	Standardized Coefficients b	T	Sig.	R	R-Square	F	Sig
(Constant)	5.647				0.186	0.035	3.22**	0.01
Lack of	-0.075	-0.144	-1.89 ^{ns}	0.06				

Purpose								
Unrelated Memorizing	-0.097	-0.168	-1.93 [ns]	0.06				
Syllabus Boundness	0.059	0.103	1.29 [ns]	0.20				
Fear of Failure	0.063	0.111	1.48 [ns]	0.14				

**Significant at 1% level   [ns] Not Significant

SUMMARY

In learning and studying, students interpret and undertake tasks in different ways. The findings revealed that the students used the three categories of approaches to learning, "Deep", "Strategic" and "Surface-apathetic" approaches. Among these, the strategic approach to learning was mostly used. With the strategic approach, students were motivated to achieve the highest scores possible, hence, they tried to have good time management and organized their study well.   This is an achieving orientation, in which the student's ambition is to organize learning in an effective way to fulfill course requirements (Tait & Entwistle, 1996). As strategic learners, they readily accepted new facts and ideas as it is. Secondly, they also adopted the deep approach to learning wherein they critically examined new facts and ideas, related them to the existing cognitive structures and made numerous links between ideas. The least used approach was surface-apathetic which a syllabus bound superficial method of learning was.   The students geared towards rote memorization, with a lack of understanding and intention to only cope minimally with the course.

In terms of students' academic performance in MMW, their use of "Deep" approach to learning in all subscales were the same. Their use "Surface Apathetic" approaches to learning were also the same, except in one subscale which was "Syllabus-boundness". On the other hand, they significantly differed in their extent of use in all subscales under "Strategic" approach.

Correlation and multiple regression analyses were conducted to examine the relationship between the GPA in the students' general education subjects.

 In Mathematics of the Modern World (MMW), in terms of "Deep Approach", none of the subscale scores significantly correlated with the GPA in MMW. Results from the regression analysis revealed that the four subscales under "Deep Approach" had a combined effect of only about 2.2% in the variation of the GPA in MMW. Likewise, they had no significant regression weights and cannot serve as predictors of the GPA in MMW.

As to "Strategic Approach", out of these four subscales, only one "Monitoring Effectiveness" was positively and significantly correlated with the GPA in MMW signifying that those with higher scores on "Monitoring Effectiveness" tend to have higher GPAs in MMW. The summary results from the regression analysis revealed that the combined effect of the five subscales under "Strategic Approach" contributes about 7.6 percent in the variation of the GPA in MMW and have significant regression weights. Thus can serve as predictors of the GPA in MMW. Alertness to Assessment Demands" had a significant and negative weight indicating that after controlling for the other variables in the model, those students with higher scores in this subscale were expected to have lower GPA in MMW. On the other hand, "Monitoring Effectiveness" positively contribute to the model, that is, those with higher were expected to have higher GPA in MMW.

In terms of "Surface Apathetic Approach", two subscale scores were indirectly and significantly correlated with the GPA in MMW indicating that those with higher scores on "Lack of Purpose" and "Unrelated Memorizing" tend to have lower GPAs in MMW. The resulting summary from the regression analysis revealed that the four had significant regression weights and they can serve as predictors which brings about 3.5% in the total variation of the GPA in MMW GPA.

DISCUSSION

Effective teachers recognize learning, what it takes to learn, and know how to encourage and support students approaches to learning.

This study infers that student approaches to learning can help students improve their learning outcomes. Approaches to learning has a mediating effect between college students' explorative learning and student learning outcomes in Mathematics in the Modern World. The educators handling these subjects may not be able to significantly enhance students' learning outcomes by the explorative learning, but they can achieve learning outcomes by cultivating the learning traits and scenarios of students such as their use of learning mode, deep, strategic or surface apathetic approach.   As such, to be effective, they can formulate and implement creative and innovative strategies that are practical and meet the needs of students considering that they have different capabilities and personalities. The following measures are hereby recommended: (1) build collegiality with fellow teachers to gain some best practices in teaching; (2) listening to students for this can provide good

information concerning their learning approaches; (3) engaging with students to explore learning capabilities and experiences for your students; (4) combining an understanding of the subject content and the knowledge on how students learn; and (5) using inquiry-based instruction to encourage students' independent thinking such as giving thought-provoking questions, encouraging students to ask their questions and investigate ideas to enhance their problem-solving skills and have a deeper understanding of the academic concepts.

The learning preferences and styles of various students vary. Using visual aids may help certain children learn more effectively than using hands-on activities or abstract thought may be their preference. Teachers can meet the unique needs of each student and guarantee that they are properly grasping mathematical topics by employing a variety of strategies.

Sometimes, students may feel that mathematics is a difficult topic, which can cause disengagement and a lack of enthusiasm. Teachers can enhance the learning experience by using several strategies, such as interactive games, real-world applications, or technology-based activities (Taguba, 2022) . Students' motivation and interest in mathematics may consequently grow as a result of this. Math needs more than just rote memory; it also calls for creativity, critical thinking, and problem-solving abilities. Students are prompted to think critically and creatively through the use of various strategies, such as problem-based learning, group projects, or open-ended work, which results in a greater knowledge of mathematical ideas.

There are real-world applications for mathematics outside of the classroom. Teachers can assist students in understanding the relevance and significance of mathematics in their everyday lives by employing several strategies that place an emphasis on real-life scenarios and examples. Their understanding of the topic and its applications in a variety of industries, including science, technology, finance, and engineering, can grow as a result(Taguba, 2022).

Students' degrees of mathematical competence and specific difficulties vary. Some kids might want more help or different explanations to fully understand a concept. Teachers can differentiate instruction and accommodate students with varied needs by using a variety of strategies, ensuring that everyone has the chance to excel in mathematics.

A wide range of abilities are included in mathematics, such as computational proficiency, logical thinking, data analysis, and spatial awareness. Teachers can assist children in acquiring a broad range of mathematical skills by utilizing a variety of strategies that concentrate on particular competencies. For instance, manipulating or visualizing data can improve spatial reasoning, and investigating real-world data sets can strengthen data analytic abilities.

To sum it up, it is important to use a variety of approaches when teaching and learning mathematics in the modern age because they accommodate different learning styles, boost motivation and engagement, encourage critical and creative thinking, foster connections to real-world situations, attend to student needs and challenges, and help students develop well-rounded mathematical skills. A dynamic and inclusive learning environment that equips students for the demands of the modern world can be created by educators by embracing these methods.

CONCLUSIONS AND RECOMMENDATIONS

The result of the study, will certainly contribute to the body of knowledge pertaining learning approaches and their impact towards academic performance, specifically the students of Isabela State University at Echague Campus as it provides an understanding of how students can be supported to learn more effectively in higher education. Educators in each general education subject can use the results derived in this study to diagnose how their students can perform effectively using the different approaches to learning. They are also encouraged to teach and advise students about using productive study approaches when engaging with course and subject content, giving emphasis that they should seek meaning (study in order to understand more fully) and orient themselves toward achievement (study in order to do their best), rather than trying to avoid failure.

Lastly, for future study, other subjects may be included so as to provide further evidences concerning learning approaches and its impact on the students' academic performance.

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