Student satisfaction and regenerative futures in the context of new normal education: learnings from a Philippine State University

Satisfação do aluno e futuros regenerativos no contexto do novo normal na educação: aprendizados de uma Universidade Estadual das Filipinas

Satisfacción de los estudiantes y futuro regenerativo en el contexto del nuevo normal educativo: enseñanzas de una Universidad Estatal Filipina

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ABSTRACT

The COVID-19 pandemic disrupted the global educational system, necessitating the adoption of new learning modalities and paradigm shifts. In the Philippines, this move has prompted questions regarding the effectiveness of the new normal education system and its influence on student satisfaction. This research sought to investigate student satisfaction toward higher education services and regenerative futures positioning in the context of new normal education at a government university in Davao Oriental, Philippines. A multiple linear regression model involving 600 respondents was developed to show the influence of 17 impact factors on student satisfaction. Teaching methods and initiatives, student organization engagement, research, extension and innovation strategy, access to inclusive education, and the quality of graduates and education are all significant predictors of student satisfaction. However, students are concerned about internet connectivity, as the absence of free and reliable Wi-Fi services in the university incurs additional expenses on their part. In addition, regenerative futures positioning is not fully understood by the students but is seen to be relevant to student satisfaction. Along this line, there should be a continuing effort to mainstream Regenerative Futures (RgF) across disciplines to ensure that students develop awareness, appreciation, and engagement. Educational institutions should integrate RgF principles into curricula, pedagogy, and institutional policies, fostering a learning environment that promotes long-term sustainability, innovation, and social responsibility. Future studies are recommended to regularly evaluate student satisfaction to provide fundamental information for institutional planning and development.

Keywords: COVID-19; higher education; new normal education; Philippines; regenerative futures; student satisfaction.

RESUMO

A pandemia da COVID-19 perturbou o sistema educacional global, exigindo a adoção de novas modalidades de aprendizagem e mudanças de paradigma. Nas Filipinas, essa mudança gerou dúvidas sobre a eficácia do novo sistema educacional normal e sua influência na satisfação dos alunos. Esta pesquisa procurou investigar a satisfação dos alunos em relação aos serviços de ensino superior e o posicionamento regenerativo do futuro no contexto da nova educação normal em uma universidade pública em Davao Oriental, Filipinas. Um modelo de regressão linear múltipla envolvendo 600 respondentes foi desenvolvido para mostrar a influência de 17 fatores de impacto na satisfação dos alunos. Os métodos e as iniciativas de ensino, o envolvimento da organização estudantil, a estratégia de pesquisa, extensão e inovação, o acesso à educação inclusiva e a qualidade dos formandos e da educação são preditores significativos da satisfação dos alunos. No entanto, os alunos estão preocupados com a conectividade com a Internet, pois a ausência de serviços Wi-Fi gratuitos e confiáveis na universidade acarreta despesas adicionais para eles. Além disso, o posicionamento regenerativo do futuro não é totalmente compreendido pelos alunos, mas é visto como relevante para a satisfação dos alunos. Nessa linha, deve haver um esforço contínuo para integrar os futuros regenerativos (RgF) em todas as disciplinas para garantir que os alunos desenvolvam consciência, apreciação e engajamento. As instituições educacionais devem integrar os princípios do RgF aos currículos, à pedagogia e às instituições.

Palavras-chave: COVID-19; ensino superior; nova educação normal; Filipinas; futuros regenerativos; satisfação do aluno.

RESUMEN

La pandemia de COVID-19 trastornó el sistema educativo mundial, haciendo necesaria la adopción de nuevas modalidades de aprendizaje y cambios de paradigma. En Filipinas, este cambio ha suscitado interrogantes sobre la eficacia del nuevo sistema educativo normal y su influencia en la satisfacción de los estudiantes. El objetivo de esta investigación era estudiar la satisfacción de los estudiantes con los servicios de educación superior y el posicionamiento futuro regenerativo en el contexto de la nueva educación normal en una universidad pública de Davao Oriental (Filipinas). Se desarrolló un modelo de regresión lineal múltiple con 600 encuestados para mostrar la influencia de 17 factores de impacto en la satisfacción de los estudiantes. Los métodos e iniciativas de enseñanza, el compromiso de la organización estudiantil, la estrategia de investigación, extensión e innovación, el acceso a la educación inclusiva y la calidad de los graduados y de la educación son predictores significativos de la satisfacción de los estudiantes. Sin embargo, a los estudiantes les preocupa la conectividad a Internet, ya que la ausencia de servicios Wi-Fi gratuitos y fiables en la universidad les ocasiona gastos adicionales. Además, el posicionamiento de futuro regenerativo no es del todo comprendido por los estudiantes, pero se considera relevante para su satisfacción. En esta línea, debería haber un esfuerzo continuo por integrar los Futuros Regenerativos (Freg) en todas las disciplinas para garantizar que los estudiantes desarrollen conciencia, apreciación y compromiso. Las instituciones educativas deben integrar los principios de los FpR en los planes de estudio, la pedagogía y las políticas institucionales.

Palabras clave: inteligencia artificial; dependencia; autoeficacia académica; estudiantes universitarios; tecnologías de la información y comunicación.

INTRODUCTION

The COVID-19 pandemic has precipitated substantial transformations in the global educational landscape. During this period, countries and cities enforced closures to facilitate physical distancing and curb the spread of COVID-19 (Di Renzo et al., 2020). Consequently, universities were compelled to adapt to a new paradigm, wherein remote and hybrid learning modes became prevalent. Most educational institutions have embraced remote and hybrid education, replacing traditional face-to-face theoretical and practical lessons (Moser et al., 2021; Aristovnik et al., 2020; Murphy, 2020; Shim & Lee, 2020). This shift has introduced a myriad of challenges for educators, students, and their families, encompassing issues such as limited access to technology, lack of training in technological tools, social isolation, and concerns related to mental health. These challenges have raised apprehensions regarding the effectiveness of this new educational model and its impact on student satisfaction.

The emerging educational paradigm is referred to as the "new normal" (Wang, 2020), where digitization reshapes how we work and learn, consequently pushing education further into technology-driven methods (Pacheco, 2021). Daniel (2020) also notes that "many institutions had planned to gradually integrate technology into teaching, the COVID-19 outbreak accelerated this shift, forcing changes that were meant to unfold over months or years to be implemented within days". This shift is visible in the United States, with more than 30% of students, totaling over six million, being enrolled in at least one online course (Palvia et al., 2018). Likewise, a study comparing students in China and Australia revealed that while Australian students preferred remote learning due to its convenience and the availability of recorded sessions, Chinese students showed a strong preference for face-to-face interactions. This preference was influenced by their limited prior experience in English-speaking environments and challenges in engaging with lecturers during online sessions (Chen et al., 2022). Similarly, a study conducted at a Japanese university found that online education was effective for students who were already engaged in learning outside the classroom. Consistent with previous research, these students were primarily from high-ranking universities. As a result, the study concluded that while online education was successful in top-tier institutions, it was less effective in others (Pan Qiujing, 2023).

In the Philippines, the higher education sector faced unprecedented challenges in 2020, prompting a significant shift in teaching and learning methods. To navigate this transition, the Commission on Higher Education (CHED) introduced various policies and guidelines, which universities had to adopt while also addressing the unique difficulties brought about by the pandemic (Cuaton, 2020). One significant example is that Filipino students faced various online learning challenges, with their home learning environments being a primary concern. The quality of the learning experience and students' mental health were notably affected, leading to anxiety and issues with study habits (Barrot et al., 2021). Despite these challenges, some students reported positive perceptions, indicating that the pandemic fostered adaptive and creative skills that helped them cope with new learning modalities (Villegas et al., 2024). These challenges have also empowered educators to simultaneously adapt and monitor the progress of students during the pandemic. It has also potentially narrowed the gap between face-to-face and online programs in terms of learning quality, outcomes, and effectiveness due to teacher and student adjustment (Sun et al., 2020).

The transition to the new normal education in the Philippines has brought various challenges for both educators and students. These challenges include limited access to technology and internet connectivity, reduced social interactions and support, and concerns about mental health. These difficulties have raised questions about the effectiveness of the Philippines' new normal education system and its impact on student satisfaction. As such, it is critical to assess student satisfaction during the COVID-19 pandemic and examine how introducing a regenerative futures agenda might enhance their overall university experience.

Student satisfaction in higher education is a multifaceted construct and is considered a critical measure of the quality of educational experiences and the effectiveness of learning programs. It is significantly affected by the quality of interpersonal interactions, including those between students and their peers, as well as between students and instructors (Wong & Chapman, 2023). Different forms of interaction, such as formal and informal student-student interactions and student-instructor engagement, have been shown to correlate with various aspects of satisfaction, including satisfaction with the program, teaching quality, and overall university experience. Additionally, it has been emphasized that student satisfaction is not solely dependent on academic factors but is also influenced by the broader educational environment and the quality of services provided by institutions. Engaging students in their educational experiences and fostering a supportive learning environment are essential for enhancing satisfaction levels (Ameyaw & Khumalo, 2024). Given the context of the new normal education system, understanding the factors influencing student satisfaction is crucial. This understanding can aid educators and policymakers in developing effective strategies to enhance student's educational experiences while addressing contemporary educational challenges.

The term "regenerative futures positioning" refers to the university's strategic approach to development based on the

principles of regenerative futures (Gibbons, 2020; Camrass, 2023; Thomas, 2025a). Regenerative development is a concept that goes beyond sustainability by actively restoring and improving natural, social, and economic systems rather than merely minimizing harm and maintaining balance (Gibbons, 2020; Camrass, 2023). On the other hand, future thinking is a strategic and innovative approach that anticipates multiple possible futures, enabling institutions and individuals to navigate uncertainty and proactively shape long-term outcomes (Canina et al., 2021). Regenerative Futures (RgF) lies at the intersection of regenerative development and futures thinking, two complementary fields that inform and enhance one another. By positioning itself within this framework, a university aims to challenge traditional sustainability discourses and advocate for transformative solutions that foster resilience, renewal, and long-term well-being (Ponce & Villegas, 2022; Villegas & Ponce, 2024). However, the application of regenerative futures in higher education remains in its embryonic stages.

In this study, an extensive array of factors was meticulously examined, including regenerative futures positioning, school facilities, teaching methods, curriculum competency, safety and security, internet accessibility, student services, learning environment, school performance, student organization involvement, school discipline, university's overall image, research, extension, and innovation approach, quality of graduates, access to inclusive education, university's quality education, and students' overall health. This research endeavor aims to provide educational administrators with essential baseline information, enabling them to make informed decisions and improve university services, especially in the challenging context of the COVID-19 pandemic. By addressing the concerns outlined in this study, educational institutions can create a more conducive learning environment, enhancing student engagement and overall learning outcomes. Engaged and satisfied students serve as ambassadors, positively contributing to the vision and mission of the university.

METHODS

Study area

This study used a descriptive-correlational quantitative design utilizing the 17 explanatory variables to explain student satisfaction. The research was carried out at the main campus of Davao Oriental State University (DOrSU) in the City of Mati, Davao Oriental, Philippines. The campus is located on Mindanao's south-eastern coast at 6°56′54′′ N, 126°13′ 38′′ E. The survey was conducted at strategic venues, including the school library, canteen, student center, classrooms, and other areas. Respondents were categorized into five strata based on their faculty affiliation: the Faculty of Computing, Data Science, Engineering, and Technology (FCDSET), the Faculty of Teacher Education (FTED), the Faculty of Governance, Business, and Management (FGBM), the Faculty of Agriculture and Life Sciences (FALS), and the Faculty of Nursing and Allied Health Science (FNAHS).

Sampling

For the first semester of 2022-2023, the total population of target respondents at the university was 10,216. A sample size of 600 was recommended based on these criteria. The 600 samples were then drawn at random from the five (5) strata using proportional simple random sampling. To ensure the representativeness of the sample, the researcher divided the population into five strata based on their respective faculty affiliation.

The researcher employed an electronic random generator to aid in the sampling procedure. The research team then invited them to take part in the study. The sample selection method was thorough and rigorous, ensuring that the sample was representative of the target population. In-person surveys were conducted by a team of interviewers. They are the senior students of the Bachelor of Science in Mathematics (BS Math) program enrolled in Stat128 or Multivariate Analysis. They collected data from participants using a researcher-made questionnaire. The researcher ensured that all interviewers used the same methodologies and criteria to prevent interviewer bias.

Research instrument

There are difficulties in designing an appropriate survey for assessing student satisfaction, such as appropriately controlling the number of predictors and dependent variables and selecting relevant question items that fit the experiment and environment (Yawson & Yamoah, 2020). The survey must be carefully designed to accommodate all of these difficulties. Before sending the questionnaire to students, a working committee comprised of teaching faculty and researchers was organized to finalize the question items. A researcher-made survey questionnaire with two sections was used. The first section aimed to determine the respondent's socio-demographic profile: gender, age, senior high school strand, residence, family income, and parental education. The second section consisted of 93 items from 18 constructs, including a) Regenerative Futures Positioning (RFP); b); School Facilities (SF); c) Teaching Method Initiatives (TMI); d) Curriculum Competency (CC); e) Safety and Security (SASE); f) Internet Accessibility; g) Student Service (STSE); h) Learning Environment (LE); i) School Performance; j) School Organization Involvement (SOI); k) School Discipline (SD); l) University's Overall Image (UOI); m) Research, Extension, and Innovation Approach (REIA); n) Quality of Graduates; o) Access to Inclusive Education (AIE); p) University Quality Education; q) Student's Overall Health (SOH) and r) Student Satisfaction (STSA) as the dependent

variable.

Participants rated their level of agreement on all items using a 10-point Likert scale, where 1 = Strongly Disagree, 2 = Disagree, 3 = Somewhat Disagree, 4 = Slightly Disagree, 5 = Neutral (Neither Agree nor Disagree), 6 = Slightly Agree, 7 = Somewhat Agree, 8 = Agree, 9 = Strongly Agree, and 10 = Completely Agree. A pilot study was carried out to facilitate the validation of the research questionnaire. Before giving the questionnaire to the target sample, the construct validity of the questionnaire was tested using principal component analysis (PCA). Based on the analysis, regenerative futures positioning (RFPQ1-RFPQ7), teaching methods (Q35-Q39), curriculum competency (Q45-Q49), safety and security (Q50-Q54), internet accessibility (Q55-Q59), graduate quality (Q96-Q100), and access to inclusive education (Q103-Q106) all have high positive loadings on each of the 18 eighteen components. It is worth noting that one's physical health (Q111-Q115) and mental health (Q116-Q120) have a strong positive loading in component 1, implying that these components can be integrated as one factor and designated as "Student's Overall Health." Internal consistency and reliability of the questionnaire were tested using Cronbach's test (see Table 1), and the survey scale is considered credible since Cronbach's alpha values for all constructs exceed 0.70. Through an in-person survey, the survey form was administered to 600 target respondents who are currently enrolled students at the Davao Oriental State University. The data collection procedure lasted one week, from March 7 to 10, 2023.

Table 1. Internal reliability of survey constructs

Construct	Operational Definition	Cronbach's alpha (95%) confidence limit	Classification
Regenerative Futures Positioning (RFP)	The extent to which the university integrates regenerative development and futures thinking principles into its vision, policies, and academic programs.	.891	Good
School Facilities (SF)	This refers to the adequacy, accessibility, and maintenance of classrooms, laboratories, libraries, and recreational spaces.	.905	Good
Teaching Method Initiatives (TMI)	The effectiveness of teaching approaches aimed at improving student learning outcomes.	.766	Acceptable
Curriculum Competency (CC)	The perceived relevance and applicability of the curriculum to students' career readiness.	.901	Good
Safety and Security (SASE)	The university's safety policies, security personnel, and emergency preparedness.	.915	Good
Internet Accessibility (IA)	This refers to Wi-Fi stability, accessibility, and effectiveness in supporting online learning.	.905	Good
Student Services (STSE)	The perceived quality and accessibility of guidance counseling, career services, and scholarship grants.	.925	Good
Learning Environment (LE)	The overall classroom dynamics, faculty support, and peer interactions.	.717	Acceptable
School Performance (SP)	This refers to academic excellence, faculty expertise, and institutional reputation.	.908	Good
Student Organization Involvement (SOI)	The level of engagement in student-led activities and leadership roles.	.899	Good
School Discipline (SD)	Student perceptions of fairness and effectiveness of disciplinary measures.	.718	Acceptable
University's Overall Image (UOI)	The university's perceived prestige, credibility, and public perception in the national and international outlook.	.920	Good
Research, Extension and Innovation Approach (REIA)	The availability and impact of research programs, extension services, and technological advancements.	.882	Good
Quality of Graduates (QOG)	The perceived competency, critical thinking, and adaptability of graduates in the workforce.	.900	Good
Access to Inclusive Education (AIE)	The extent to which the university accommodates students with diverse needs, including scholarships and support for marginalized groups such people with disabilities.	.702	Acceptable
University's Quality Education (UQE)	The perceived quality of faculty, curriculum, and instructional delivery.	.898	Good
Student's Overall Health (SOH)	The availability of health services, wellness programs, and mental health support.	.894	Good
Outcome: Student Satisfaction (STSA)	Students' general assessment of academic, social, and institutional support, influencing their engagement and retention.	.889	Good

Note. Authors' development with the research data

Data analysis

The hypothesized paths of the analysis were tested using the data acquired. The model-building process includes a data preprocessing stage, a modeling phase, and a model assessment phase. Microsoft Excel was used to pre-process all of the data being utilized. The data preparation procedures include missing value imputation, data cleaning, non-linear data transformation, and data normalization. To support multiple linear regression modeling, one-hot encoding was used to transform features with multiple category values to multiple numerical representations.

During the data preparation stage, unstructured data is replaced and converted into structured data. Statistical software was utilized to evaluate assumptions for Multiple Linear Regression analysis, such as linearity, observation

independence, homoscedasticity, and outliers. Because the range of different data might be exceedingly broad, the normalization technique is employed as part of the MLR assumptions to redefine the range of data in a more exact range. The researchers standardized the anticipated 93 items ranging from 1 to 10 for predictors and response variables.

In the modeling phase, the conventional multiple linear regression (MLR) analysis, ANOVA, and independent samples t-tests were performed. For descriptive analysis of the total sample distribution, ANOVA and the independent sample t-test were used. The MLR prediction modeling was used but Pearson r correlation was first employed to confirm the linear relationship between the seventeen (17) predictors concerning the student satisfaction level (response). Correlation analysis was performed using IBM SPSS version 26. The MLR-generated model was developed using MATLAB r2018 (version 9.4.0.802882). To minimize overfitting and exaggerated findings when model complexity was raised, the dataset was divided into 5 distinct sets of observations (K=5) and cross-validated using K-folds.

For the model evaluation phase, the researchers analyzed the model's performance by comparing the projected values of the model with the actual values using several criteria. In this scenario, four (4) criteria were employed to evaluate the model's performance: mean-square error (MSE), mean absolute error (MAE), root means square error (RMSE), and coefficient of determination (R^2). A lower MSE, MAE, and RMSE value implies a higher goodness of fit, and an R^2 score close to 1.0 shows that the model has a good fit, which means that the model is better at predicting the intended construct. Diagnostic checking with residuals was also performed to determine whether a linear model is appropriate for the data, to identify any patterns or trends in the residuals that may indicate that the model is not capturing all the variability in the data, and to check for violations of the model's assumptions.

Ethics

The researchers obtained Free Prior and Informed Consent (FPIC) from all respondents. All of them were fully aware of the nature of the study and agreed to participate voluntarily. The researchers excluded those who chose not to respond to the survey's questions to protect their privacy and liberty. The data confidentiality provision of the Philippine Data Privacy Act of 2012 was also observed in this study. Several steps were taken to ensure that the study followed ethical procedures, and that the respondents' privacy was maintained, including securing a permit from the Office of the University President of the Davao Oriental State University.

RESULTS AND DISCUSSION

Student Satisfaction and Socio-demographic Profile

Six hundred students responded to the survey, with demographic information presented in Tables 2 and 3. The gender distribution of respondents includes 211 males (35.2%) and 389 females (64.8%). Samples were categorized into four age groups: 20–21 years old have the highest number of respondents with 314 (52.3%), followed by 18–19 years old with 134 (22.3%), 22–23 years old with 127 (21.2%), and 24 and above with 25 (4.2%). A total of 206 (34.3%), 47 (7.8%), 119 (19.8%), 92 (15.3%), and 136 (22.7%) respondents were from the science and technology, engineering, and mathematics (STEM) fields, accountancy and business management (ABM), general academic strand (GAS), and technical-vocational livelihood education (TVL), respectively.

Most students were living inside Davao Oriental, at 443 (73.8%), whereas 157 (26.2%) of the respondents resided outside the province. In terms of family income, most of the respondent's household income falls under P10000 below with 386 (64.3%), followed by P10001-P20000 with 102 (17%), P20001-P30000 with 59 (9.8%), P30001-P50000 with 30 (5%), and P50000 above with 23 (3.8%) students. Most of the mothers and fathers have attended at least High School, indicating a relatively high educational background among the students' parents.

Meanwhile, Tables 2 and 3 indicate the mean variances in respondents' perceptions of socio-demographic variables influencing overall student satisfaction levels. The age groups are the variables that differentiate the mean scores of all 17 constructs: regenerative futures positioning, school facilities, teaching methods and initiatives, curriculum competency, safety and security, student services, learning environment, school performance, student organization involvement, research extension, and innovation approach, quality of graduates, access to inclusive education, university's quality education, student's overall health, and student's overall health. According to the findings, various age groups have varied perceptions regarding their overall satisfaction with school experience. This finding is backed by a study conducted in Chile where younger students in 7th and 8th grades reported higher levels of satisfaction with their education and relationships compared to their older counterparts. This suggests that as students age, their satisfaction with these aspects tends to decline, particularly among migrant students, who exhibited a statistically significant decrease in satisfaction as they grew older (Céspedes et al., 2024).

Table 2. Student Satisfaction and Socio-demographic Profile of University Students in Davao Oriental, Philippines.

Independent Variables		n	Mean								
			RFP	SF	TMI	CC	SASE	IA	STSE	LE	SP
Gender	Male	211	8.15	7.87	8.05	8.13	8.17	4.57	7.93	8.10	8.21
	Female	389	8.37	7.99	8.19	8.21	8.34	4.75	8.17	8.37	8.38
			p=.05						p=.040	p=.030	
			t=-1.908						t=-2.063	t=-2.180	
Age	18-19 yrs. old	134	8.04	7.85	7.92	7.97	8.21	4.53	7.82	8.25	8.22
	20-21 yrs. old	314	8.49	8.08	8.34	8.30	8.48	4.66	8.20	8.42	8.40
	22-23 yrs. old	127	8.18	7.95	8.09	8.20	7.98	5.07	8.18	8.16	8.39
	24 and above	25	7.73	6.86	7.18	7.55	7.71	4.06	7.38	7.38	7.67
			p=.001	p=.001	p=.001	p=.013	p=.001		p=.002	p=.004	p=.027
			F=5.852	F=5.837	F=5.620	F=3.621	F=5.527		F=5.007	F=4.452	F=3.082
SHS Strand	STEM	206	8.21	7.84	8.03	8.01	8.23	5.17	7.95	8.17	8.14
	ABM	47	8.14	7.95	8.24	7.97	7.84	4.10	7.72	7.97	8.08
	GAS	119	8.21	7.75	7.98	8.20	8.26	3.79	7.96	8.32	8.34
	HUMMS	92	8.19	7.88	7.99	8.06	8.02	4.92	8.06	8.24	8.27
	TVL	136	8.61	8.34	8.53	8.56	8.71	4.81	8.50	8.56	8.72
			p=2.553	p=.008	p=.021	p=.003	p=.000	p=.000	p=.001		p=.001
			F=2.553	F=3.460	F=2.917	F=4.011	F=5.276	F=6.599	F=5.016		F=5.012
Residence	Outside Davao Oriental	157	8.19	7.90	8.07	8.05	8.19	4.69	8.01	8.20	8.27
	Inside Davao Oriental	443	8.56	8.08	8.34	8.51	8.53	4.66	8.26	8.52	8.48
			p=.002		p=.035	p=.000	p=.008		p=.049	p=.008	
			t=-3.128		t=-2.110	t=-3.654	t=-2.679		t=-1.979	t=-2.650	
Family Income	P10000 below	386	8.22	7.88	8.03	8.07	8.19	4.72	7.99	8.16	8.23
	P10001-P20000	102	8.38	8.12	8.29	8.40	8.34	4.97	8.33	8.47	8.38
	P20001-P30000	59	8.76	8.17	8.47	8.48	8.70	4.22	8.17	8.63	8.70
	P30001-P50000	30	8.07	7.87	8.34	7.88	8.23	4.06	8.36	8.48	8.54
	P50000 above	23	8.22	7.96	8.32	8.45	8.55	5.035	7.86	8.26	8.41
			p=.042			p=.038					
			F=2.491			F=2.551					
Mother's Education Background	No Education	6	8.36	8.70	9.03	8.67	8.83	4.37	8.43	8.47	8.80
	Elementary	149	8.86	8.21	8.79	8.79	8.72	5.18	8.36	8.79	8.70
	High School	209	8.31	8.06	8.16	8.19	8.25	5.31	8.25	8.26	8.36
	College	185	8.07	7.67	7.98	8.07	8.22	5.15	7.88	8.12	8.20
	Post Graduate	51	8.34	8.03	8.06	8.06	8.24	4.34	7.98	8.33	8.28
			p=.006	p=.018	p=.013	p=.010		p=.000	p=.023		
			F=3.632	F=3.001	F=3.209	F=3.363		F=6.565	F=2.862		
Father's Education Background	No Education	9	8.27	8.33	9.00	8.48	8.38	3.85	7.95	7.93	8.18
	Elementary	135	8.63	8.22	8.52	8.63	8.54	5.03	8.31	8.72	8.58
	High School	233	8.23	8.07	8.25	8.10	8.23	5.44	8.25	8.30	8.32
	College	152	8.33	7.80	7.94	8.23	8.35	3.77	7.89	8.05	8.23
	Post Graduate	71	8.16	7.75	7.94	7.99	8.14	4.37	7.88	8.29	8.33
					p=.017	p=.021		p=.000	p=.020	p=.032	
					F=3.042	F=2.913		F=12.72	F=2.952	F=2.658	

Note. Authors' development with the research data

Table 3. Student Satisfaction and Socio-demographic Profile of University Students in Davao Oriental, Philippines.

Independent Variables		n	Mean								Student Satisfaction
			SOI	SD	UOI	REIA	QOG	AIE	UQE	SOH	
Gender	Male	211	8.17	8.33	8.34	8.29	8.25	8.17	8.15	7.96	8.2365
	Female	389	8.34	8.55	8.61	8.37	8.47	8.37	8.34	7.95	8.4355
				p=.05	p=.007		p=.036				p=.05
				t=-1.888	t=-2.695		t=-2.100				t=-1.890
Age	18-19 yrs. old	134	8.05	8.30	8.33	8.24	8.26	8.20	7.97	7.86	8.22
	20-21 yrs. old	314	8.37	8.56	8.59	8.49	8.51	8.45	8.47	7.99	8.47
	22-23 yrs. old	127	8.36	8.43	8.55	8.18	8.35	8.25	8.33	8.11	8.45
	24 and above	25	7.94	8.42	8.30	7.96	7.74	7.30	6.90	7.18	7.43
			p=.041			p=.012	p=.007	p=.003	p=.000	p=.012	p=.000
			F=2.772			F=3.705	F=4.073	F=4.755	F=15.505	F=3.690	F=6.524
SHS Strand	STEM	206	8.33	8.42	8.42	8.29	8.29	8.16	8.10	7.93	8.32
	ABM	47	7.97	8.20	8.45	8.16	8.25	7.97	8.20	7.88	8.29
	GAS	119	8.11	8.39	8.51	8.29	8.28	8.26	8.18	7.69	8.17
	HUMMS	92	8.04	8.33	8.28	8.23	8.38	8.22	8.04	7.71	8.11
	TVL	136	8.63	8.81	8.82	8.63	8.67	8.73	8.74	8.40	8.81
			p=.001	p=.019	p=.009	p= .031	p=.034	p=.006	p=.000	p=.000	p=.000
			F=4.600	F=2.956	F=3.408	F=2.678	F=2.621	F=3.694	F=6.533	F=6.048	F=6.525
Residence	Outside Davao Oriental	445	8.21	8.40	8.45	8.29	8.34	8.20	8.20	7.96	8.28
	Inside Davao Oriental	155	8.46	8.67	8.67	8.50	8.50	8.57	8.42	7.91	8.60
			p=.039	p=.020	p=.048			p=.004			p=.004
			t=-2.070	t=-2.332	t=-1.981			t=-2.920			t=-2.868
Family Income	P10000 below	386	8.18	8.36	8.41	8.26	8.36	8.28	8.23	7.91	8.34
	P10001-P20000	102	8.49	8.69	8.72	8.46	8.44	8.20	8.31	7.97	8.35
	P20001-P30000	59	8.64	8.67	8.79	8.68	8.62	8.77	8.48	7.79	8.52
	P30001-P50000	30	8.17	8.59	8.46	8.49	8.49	8.41	8.25	8.55	8.67
	P50000 above	23	8.34	8.60	8.70	8.19	7.84	7.80	8.08	8.18	8.07
			p=.041		p=.040						
			F=2.510		F=2.527						
Mother's Education Background	No Education	6	7.80	8.57	8.67	8.93	8.53	8.67	8.87	8.62	8.97
	Elementary	149	8.71	9.02	8.84	8.60	8.70	9.10	8.64	8.13	8.83
	High School	209	8.33	8.53	8.51	8.28	8.39	8.16	8.27	8.14	8.30
	College	185	8.06	8.24	8.49	8.32	8.28	8.20	8.16	7.80	8.24
	Post Graduate	51	8.35	8.48	8.42	8.36	8.38	8.34	8.22	7.79	8.41
			p=.015	p=.011				p=.002		p=.025	p=.023
			F=3.132	F=3.279				F=4.187		F=2.818	F=2.858
Father's Education Background	No Education	9	7.30	7.78	8.31	8.45	8.75	8.13	8.38	8.19	8.78
	Elementary	135	8.69	8.70	8.77	8.62	8.65	8.72	8.63	8.07	8.78
	High School	233	8.34	8.54	8.51	8.31	8.37	8.32	8.28	8.20	8.33
	College	152	8.08	8.39	8.50	8.23	8.32	8.13	8.12	7.58	8.15
	Post Graduate	71	8.22	8.36	8.39	8.37	8.31	8.26	8.18	7.87	8.42
			p=.003							p=.000	p=.006
			F=4.134							F=5.436	F=3.640

Note. Authors' development with the research data

Furthermore, the senior high school strand significantly influences student satisfaction. This study adds to the understanding of the factors that influence student satisfaction and suggests that the respondent's choice of strand throughout their senior high school years may have an impact on their evaluation of several constructs connected to student satisfaction. The study reveals that there may be disparities in student satisfaction levels among SHS strands, which might have ramifications for educational policy and program development. One significant aspect is the alignment between students' high school experiences and their chosen college programs. A qualitative study indicated that students often question their previous strand selections when they encounter difficulties in college due to misalignment with their high school education. This misalignment can lead to dissatisfaction as students grapple with the challenges of pursuing courses that do not correspond to their initial interests or strengths (Lao et al., 2023).

Gender, residence, and parental educational background, on the other hand, did not show any significant differences in the mean scores of most of the constructs. These demographic factors had little to no influence on the degree of student satisfaction experienced by students during their time at the institution. Several researchers have looked at the influence of demographic factors on student satisfaction. In a study conducted in the government colleges of Punjab, India, it was found that gender differences impacted student satisfaction regarding infrastructure facilities, extracurricular activities, financial administration, and placement services. Male and female students exhibited varying levels of satisfaction across these dimensions, suggesting that demographic characteristics play a crucial role in shaping student experiences and expectations (Kaur & Bhalla, 2018). Similarly, a study focusing on postgraduate built environment students in the UK revealed that gender was the only demographic factor with a statistically significant influence on overall student satisfaction. The research highlighted that factors related to teaching and learning were paramount in determining satisfaction levels, indicating that demographic factors may interact with educational quality to affect student experiences (Poon, 2019).

As to the regenerative futures positioning, the respondents recognized the capacity of the university to implement strong sustainability initiatives and policies, as well as its commitment to diversity, equity, and inclusion. Regarding school facilities, students agreed on the availability and modernization of common facilities such as classrooms, libraries, residence halls, and athletic, recreational, and dining facilities within the university, where there is a much more comfortable living space for students to support academic learning. State-of-the-art facilities have been erected in recent years, branding the university as a modern educational space in the Davao Region. For teaching methods and initiatives, there is an evident integration of computer-aided instruction (CAI) as well as instruction and assessment responsive to student feedback based on the favorable response from the respondents. The students also favorably assessed the curriculum competency of the university, where the course content is relevant to the industrial standard and the courses have a reasonable workload and a balance of academic rigor and practical application. It is noted, however, that the concepts of regenerative futures are not yet well-integrated into the curriculum, demanding urgent resolve from the academic affairs division. The students also looked at the decent level of safety and security within and outside the institution, where security measures, policies, and emergency preparedness necessary to enhance the safety and security of all the stakeholders on the campus are being prioritized.

However, respondents are unsatisfied in terms of the accessibility of the internet within the school premises, where the availability of reliable and high-speed internet connections is inadequate and less responsive to the needs of students during the new normal of education. In the absence of free and reliable Wi-Fi services, the students have to rely on their mobile internet, incurring additional expenses for them. This contributes to student absenteeism, especially during online learning sessions. For student services, the respondents recognized the institution's ability to provide a wide range of student services, such as academic advising, counseling, and career services. In terms of the learning environment, respondents agreed upon the ability of the institutions to provide conducive, welcoming, well-maintained, clean, and comfortable learning spaces. Regarding school performance, the respondents favored the high-quality academic programs provided by the school and the school's commitment to evaluating and improving academic programs responsive to the highest standard of quality. The respondents also positively assessed student organization involvement, particularly the establishment of a diverse range of student organizations and clubs within the campus for students to get involved in, as well as the institutional support for student involvement in extracurricular activities and clubs.

Moreover, the study examined the level of discipline within the campus, where students believed that the institution exhibited a clear and consistent policy and procedures for maintaining discipline and enforcing the rules. This includes the policy to ban the use of single-use plastics within the university premises. For the university's overall image, the respondents have a positive response in terms of the reputation of the school within the local and international higher education community. The students have interacted with international professors and students and participated in cross-border learning activities, although global rankings are yet to be achieved by the university. Regarding research, extension, and innovation approaches, the university's strong commitment to research, extension, and innovation initiatives responsive to the needs of the community and society can be observed within the university setting. There has been a notable rise in research productivity among faculty researchers, particularly in the description of new Coleoptera species, one named after the university – *Gauromaia dorsu* (Medina et al., 2023). The study also included the quality of graduates, where students

recognized the ability of the university to prepare graduates for their future careers by helping them become effective problem solvers, critical thinkers, and socially responsible citizens. The accessibility of inclusive education within the institution can be observed, and it emphasizes how accommodating the university's facilities and resources are among students with disabilities, as well as the ability of the university to handle diverse groups of students, including BIPOC (Black, Indigenous, and People of Color), LGBTQIA+ (Lesbian, Gay, Bisexual, Transgender, Queer, Intersex, Asexual, and others), and low-income individuals.

The respondents also favorably assessed the university's quality education and positively evaluated how effective the university is at providing hands-on, practical experience to students in their respective fields of study, as well as the ability of professors to communicate complex ideas and theories to students. They also favorably examined the student's overall health and believed that the school prioritizes health concerns. The students believe they could maintain a healthy diet while attending the university. They have noted that the university is successful in providing resources and support for students who are dealing with mental health issues or disorders. This is seen in the various mental health programs during the pandemic to assist struggling students cope with the difficulties in transitioning to a new normal educational paradigm.

Factors Influencing Student Satisfaction

Table 4 reveals that, despite a favorable student satisfaction level (8.36), in the hopes of regenerative futures positioning (8.29), school facilities (7.95), teaching method and initiatives (8.14), curriculum competency (8.17), safety and security (8.28), student services (8.08), learning environment (8.28), school performance (8.33), student organization involvement (8.28), level of discipline (8.47), university's overall image (8.51), research, extension, and innovation approaches (8.34), quality of graduates (8.38), accessibility of inclusive education (8.30), university's quality education (8.26), and student's overall health (7.95), students are concerned about internet accessibility (4.69).

Table 4. Factors Influencing Student Satisfaction among University Students in Davao Oriental, Philippines.

Indicator	Mean
Student Satisfaction (STSA)	8.36
Regenerative Futures Positioning (RFP)	8.29
School Facilities (SF)	7.95
Teaching Method and Initiatives (TMI)	8.14
Curriculum Competency (CC)	8.17
Safety and Security (SASE)	8.28
Internet Accessibility (IA)	4.69
Student Services (STSE)	8.08
Learning Environment (LE)	8.28
School Performance (SP)	8.33
Student Organization Involvement (SOI)	8.28
School Discipline (SD)	8.47
University's Overall Image (UOI)	8.51
Research, Extension and Innovation Approach (REIA)	8.34
Quality of Graduates (QOG)	8.38
Access to Inclusive Education (AIE)	8.30
University's Quality Education (UQE)	8.26
Student's Overall Health (SOH)	7.95

Note. Authors' development with the research data

While students are usually content with several aspects of their academic experience, they are quite concerned about internet availability. This might be attributed to the growing relevance of digital technology in higher education, as well as the necessity for institutions to emphasize access to a stable and fast internet connection as a basic prerequisite for student satisfaction. A study involving 894 international students in China revealed that both access devices and internet stability significantly impacted students' satisfaction with synchronous online learning and their overall performance. The research indicated that while access devices primarily affected satisfaction through adaptability to online pedagogy, internet stability influenced both satisfaction and performance through interaction and adaptability (Ren et al., 2024). Similarly, a study identified health, inclusive access, and internet accessibility as principal determinants influencing student satisfaction with the performance and services in a Philippine public university (Dela Gente et al., 2024). Furthermore, the COVID-19 pandemic has made internet access and connection a vital aspect of maintaining students' continuity of learning, making it an issue that colleges must address even more urgently (van Deursen & Helsper, 2015; Li & Lalani, 2020).

MLR predicts the values of dependent variables by utilizing several explanatory independent factors. While selecting relevant predictors that might best explain how well students reported academic satisfaction during the new normal education, the causal relationship between independent and dependent variables must be studied. Table 5 shows that, except for regenerative futures positioning (-0.023), curricular competency (-0.034), internet accessibility (-0.007), and school discipline (-0.027), the majority of constructs have a positive linear correlation with the dependent variable. This means that the regenerative futures positioning is not popular and well understood among the students, which could be addressed by education dissemination strategies. These construct's negative standardized beta coefficients indicate that they negatively impact the level of student satisfaction. Curriculum competency's negative influence on student satisfaction is also noteworthy, as it suggests that students may be dissatisfied with the curriculum offered by the university. Measures should be undertaken to improve higher education services on this note.

Table 5. Standardized coefficients beta of the multiple linear regression model 1.1

Model 1.1				
Constructs	**Student Satisfaction**	**Standard Error**	**t**	**p-value**
(Constant)	**0.864**	**0.309**	**2.792**	**0.005**
Regenerative Futures Positioning (RFP)	-0.023	0.041	-0.559	0.577
School Facilities (SF)	0.001	0.037	0.021	0.983
Teaching Method and Initiatives (TMI)	**0.071**	**0.033**	**2.140**	**0.033**
Curriculum Competency (CC)	-0.034	0.042	-0.807	0.420
Safety and Security (SASE)	0.048	0.036	1.341	0.181
Internet Accessibility (IA)	-0.007	0.017	-0.423	0.672
Student Services (STSE)	0.016	0.038	0.427	0.670
Learning Environment (LE)	0.034	0.034	0.989	0.323
School Performance (SP)	0.075	0.044	1.713	0.087
Student Organization Involvement (SOI)	**0.080**	**0.040**	**2.000**	**0.046**
School Discipline (SD)	-0.027	0.033	-0.816	0.415
University's Overall Image (UOI)	0.005	0.040	0.115	0.909
Research, Extension and Innovation Approach (REIA)	**0.188**	**0.043**	**4.343**	**0.000**
Quality of Graduates (QOG)	**0.257**	**0.044**	**5.884**	**0.000**
Access to Inclusive Education (AIE)	**0.084**	**0.031**	**2.722**	**0.007**
University's Quality Education (UQE)	**0.113**	**0.043**	**2.616**	**0.009**
Student's Overall Health (SOH)	0.022	0.036	0.608	0.544

Note. Authors' development with the research data

Additionally, the negative impact of internet access on student satisfaction may reflect the growing relevance of technology and digital learning materials in higher education. It is also worth noting that standardized beta coefficients give information on the relative relevance of the predictors in the model. A bigger standardized beta coefficient means a greater influence of the predictor variable on the dependent variable. The constructs with the highest positive standardized beta coefficients (research, extension, and innovation approach, graduate quality, and university quality education) are likely to be the best predictors of student satisfaction.

In the case of school discipline, students may be dissatisfied with the school policy that has been adopted. Recently, a regulation prohibiting the use of single-use plastic on school grounds may have contributed to this detrimental impact on student satisfaction. This study positions that the institution should carefully assess the potential influence of its policies on student satisfaction. While the purpose of the school discipline policy is to promote a more sustainable and regenerative educational framework, it is critical to ensure that such policies do not have unintended negative consequences for student satisfaction. Promoting a more regenerative educational framework requires the implementation of policies related to sustainability and environmental stewardship. However, it is equally important to ensure that such policies are implemented in a way that students perceive to be fair and reasonable, which stems from their robust understanding of the concept of regenerative futures.

Based on Table 5 and Figure 1, the observed overall model built with the training data set demonstrated six (6) predictors of interaction such as teaching methods and initiatives (β = 0.071, p = 0.033), student organization involvement (β = 0.080, p = 0.046), research, extension and innovation approach (β = 0.188, p = 0.000), quality of graduates (β = 0.257, p = 0.000), access to inclusive education (β = 0.084, p = 0.007), and university's quality education (β = 0.113, p = 0.009) significantly predicted student satisfaction in the new normal educational context. The model also shows that a one-unit increase in teaching method and initiative score will mean an increase of 0.071 in the level of student satisfaction based on a certain scale, the same findings may apply to the five other constructs.

Teaching methods play a critical role in shaping student satisfaction. Research highlights that core educational services such as teaching quality, faculty expertise, and course offerings strongly influence students' perceptions of their academic experience. Effective teaching fosters student engagement and satisfaction (Kanduri & Radha, 2023). With this, the university must endeavor to offer academic programs or courses that are directly relevant to its regenerative futures agenda.

Additionally, extracurricular involvement, particularly in student organizations, has been linked to higher levels of well-being and satisfaction, as students who participate actively report greater happiness than their less-involved peers (Naorem & Meitei, 2023). On this note, the university participates in various sports and socio-cultural competitions, particularly those organized by the Mindanao Association of State Tertiary Schools (MASTS) and the Philippine Association of State Universities and Colleges (PASUC). The university also spearheads *Siglakas*, coined from the terms "Sigla" (Vigor) and "Lakas" (Strength). This pertains to the university intramurals, featuring various sports and socio-cultural events aimed at developing camaraderie and solidarity among the students.

In medical education, structured research opportunities and mentorship significantly impact student satisfaction. A national study on intercalated medical research programs found that adequate supervision and support contributed to maintaining students' motivation for advanced studies, reinforcing the importance of research engagement in fostering academic fulfillment (Sandvei et al., 2022). In this regard, the university has established its University Research Complex (UResCom), housing various research laboratories, as a key strategy to boost research productivity and position the university as a regional leader in regenerative futures. Graduate quality also emerges as a crucial factor of student satisfaction. Anent this, the university envisions producing global regenerative leaders and thinkers equipped with regenerative futures knowledge and skills. A study of higher education institutions in India found that graduate outcomes were the only institutional performance metric positively correlated with student satisfaction, highlighting the importance of career success in shaping student perceptions of educational effectiveness (Thomas, 2025b).

Similarly, access to inclusive education plays a vital role in fostering student satisfaction. Studies suggest that inclusive learning environments enhance students' sense of belonging and engagement. Research on flexible and inclusive education in Australia underscores the importance of relational and interest-based pedagogies, along with personalized socio-emotional support, in creating learner-centered communities that enhance satisfaction (Bateson & Casley, 2025). As such, the university champions a multicultural curriculum and engages with Indigenous communities, particularly the Mandaya and Kalagan people of Davao Oriental. This ensures that the university's regenerative futures agenda resonates with and optimizes benefits for the Indigenous and Local Communities (ILCs) of the province and beyond. Finally, the quality of university education significantly impacts student satisfaction. A study in Ethiopian public universities found a strong positive correlation between overall educational service quality and student satisfaction, suggesting that improvements in service delivery contribute to higher academic performance and fulfillment (Oliso et al., 2024).

Figure 1. Proposed Face Mask Path Model for Student Satisfaction and Regenerative Futures in the Context of New Normal Education in Davao Oriental, Philippines.
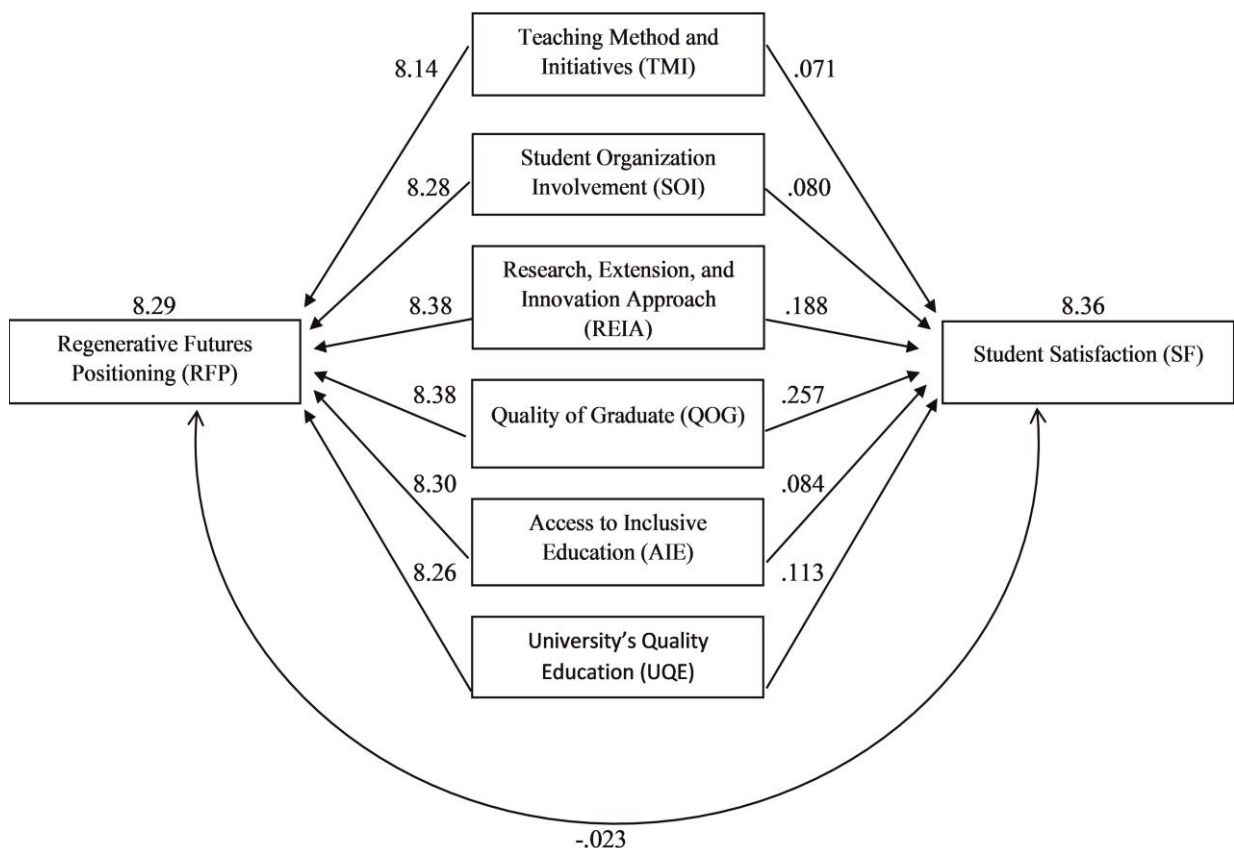
Note. Authors' development with the research data

In the proposed multiple linear regression model 1.1, the level of student satisfaction (8.36) is the predicted dependent variable. The regression equation for this model is reflected in Figure 1 and can be represented as follows:

Y (Student Satisfaction) = 0.864 + 0.071 (Teaching Method and Initiatives) + 0.080 (Student Organization Involvement) + 0.188 (Research, Extension, and Innovation Approach) + 0.257 (Quality of Graduates) + 0.084 (Access to Inclusive Education) + 0.113 (University's Quality Education).

Table 6. Performance of the Hypothesized Regression Model (Model 1.1)

Model	RMSE	MSE	MAE	R^2
Model 1.1	0.845	0.714	0.628	0.541

Note. Authors' development with the research data

The goodness of fit of regression models is demonstrated by the R^2, MSE, MAE, and RMSE. In this study, the mean square error (MSE) value obtained relative to the standardized regression model 1.1 is 0.714, with a root mean square error (RMSE) value of 0.845, and a mean absolute error (MAE) value of 0.628. These results indicate that the model fits the data rather well, with minor discrepancies between the predicted and actual values of the dependent variable. Based on Table 6, the R^2 is 0.541, Adjusted R^2 (R^{2adj}) = 0.527. This means that the model could explain 54.1% of the variance. However, when this model was used to predict unseen testing data, the R^2 value decreased to 0.47 (7.1% decrement). The model's R^2 value during the validation set at cross-validation using 5-folds was 0.47.

Specifically, an R^2 score of 0.541 indicates that the independent variables in the model can explain 54.1% of the variability in the dependent variable. This suggests that the model has some predictive value, but there is still a considerable amount of unaccounted-for volatility. An R^{2adj} score of 0.527 shows that the model is still a decent match for the data, although some overfitting may be present. Furthermore, the fact that the R^2 value fell to 0.47 when the model was applied to the testing dataset indicates that the model is not as good at predicting new data as it is at explaining variation in the training data. This fall in R^2 indicates that the model may be overfitting, in which the model is fitting the noise in the training data rather than the underlying connections between the variables.

Generally, a regression model with an R^2 value of 0.5 or greater is considered a satisfactory fit. However, this threshold might vary based on the field of study and the individual research issue. When applied to a new set of data, a decline in R^2 is unusual, but it is vital to examine if the drop-in performance is severe enough to compromise the model's validity.

Implications to Regenerative Futures

Figure 1 visualizes the concept that teaching methods and initiatives, student organization engagement, research, extension, and innovative approach, quality of graduates, access to inclusive education, and university quality education are significant predictors of student satisfaction and critical to the university's regenerative futures positioning. These indicators are consistent with regenerative education concepts, which highlight the value of a collaborative and inclusive learning environment, fostering student participation and encouraging innovation and creativity. According to McIntyre-Mills (2022), the concept of regenerative higher education is particularly significant, as it seeks to create educational frameworks that support humanity in living within ecological boundaries. It advocates for a transformative and collaborative approach in education that integrates systemic ethics and diverse ways of knowing, thereby encouraging learners to engage with both human and non-human relationships. This approach is aligned with the United Nations' Agenda 2030, which emphasizes a whole school approach (WSA), particularly the interconnectedness of global citizenship, sustainable development, and the health and well-being of the educational community (Gericke et al., 2024).

The mean score for teaching methods and initiatives is 8.14, indicating that participants agreed on average that the teaching methods and initiatives utilized at the university were effective. Ideally, teaching methods and interventions are critical in fostering a healthy learning environment. Teaching in regenerative education should be structured to promote critical thinking and creativity, student participation, and a feeling of community. Instructors who use a student-centered approach can inspire students to become active participants in the learning process, increasing their feeling of agency and self-efficacy. Moreover, participation in student organizations is another important aspect of regenerative education. The mean score for student organization participation is 8.28, indicating that students were very involved in student clubs and valued them. Encouraging student leaders and members to participate in extracurricular activities can help them develop social cohesiveness, community, and leadership skills. Educators may assist students in developing a sense of purpose and responsibility for their communities by allowing them to participate in service-learning projects, civic participation, and social justice efforts.

The research, extension, and innovation method stress the value of multidisciplinary and experiential learning in fostering innovation and creativity. Research and innovation in regenerative education should be motivated by a desire to alleviate social and environmental concerns. Students can get a better knowledge of difficult challenges, and the skills needed to produce new solutions by developing an interdisciplinary approach to learning. Also, graduate quality is a major determinant of student satisfaction. The focus of regenerative education should be on creating graduates with the skills and knowledge required to address social and environmental concerns. Educators may prepare graduates to be responsible and active citizens of their communities by emphasizing the significance of ethics, empathy, and sustainability.

Another critical component of regenerative education is access to inclusive education. The mean score for access to inclusive education is 8.30, suggesting that students considered the institution provided equal opportunity for all its stakeholders, regardless of their orientation, to attend education. Inclusive education seeks to promote equality and social justice by ensuring that all students, regardless of their background, talents, or socioeconomic situation, have equal access to education. Educators may build a feeling of community and belonging by establishing inclusive learning settings, which is critical for increasing student satisfaction.

Finally, the educational quality of the university and its graduates is an important indicator of student satisfaction aligned with regenerative education. The average score for university quality education is 8.26, indicating that respondents thought the institution delivered high-quality education. Furthermore, the mean score for graduate quality is 8.38, indicating that participants believed the university generated high-quality graduates who were well-prepared for their future careers. The focus of regenerative futures should be on providing a learning environment that promotes student achievement. This involves fostering a healthy and inclusive campus culture, offering access to high-quality resources, and encouraging student involvement and creativity.

Model Evaluation

Figure 2(a) depicts the response plot for the 600 respondents, which indicates the relationship between the expected and real response. The plot also shows the prediction errors, which are represented by vertical lines connecting the predicted and real responses. Furthermore, the distance between the expected and actual values is closer, indicating a good prediction. This is supported by the projected mean square error of 0.714, which is almost as close to zero as possible, given the scaling used in the analysis. This could be due to a variety of factors, including the distribution of the data, the presence of outliers, or the limitations of the statistical model. It is also possible that the outlier is a result of measurement error or other sources of variability that the researchers are unaware of.

Figure 2. Plots for Model Evaluation Phase: (a) Response plot for the hypothesized model using MLR, (b) Residual plot for the hypothesized model using MLR, and (c) Predicted vs. Actual Response plot for the hypothesized model using MLR.
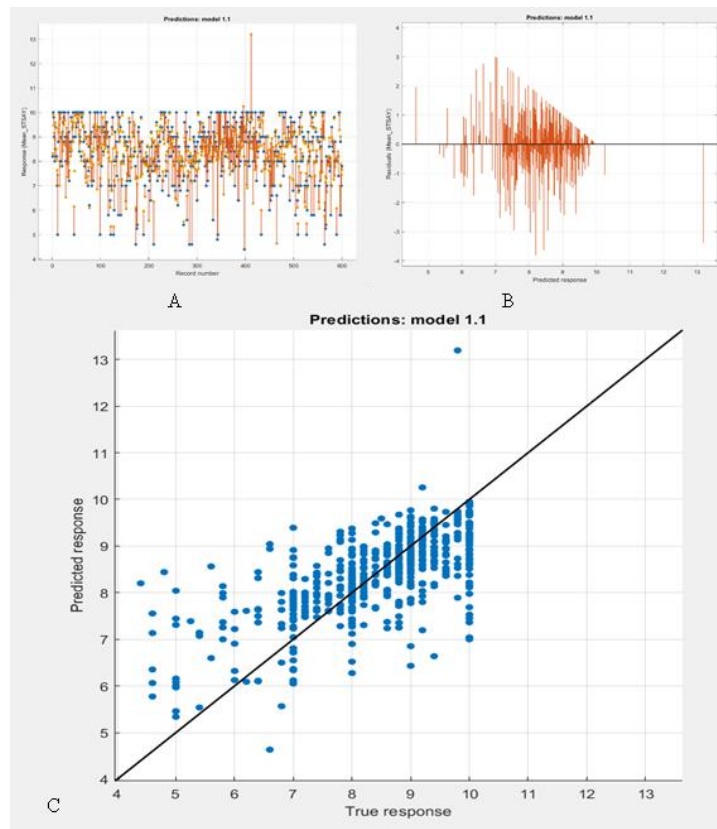
Note. Authors' development with the research data

Moreover, the residuals plot, shown in Figure 2(b), shows the difference between the expected and real responses. The residuals appear to be symmetrically distributed around 0, indicating that the prediction model is not significantly biased toward overestimating or underestimating the true responses based on the pattern. Additionally, the residuals show a clear linear pattern, indicating that the predictive model captures the underlying linear connection between the predictor and response variables. Outliers, or residuals that are substantially larger and further out from the rest of the residuals, are also visible in the residuals plot. Outliers may indicate the presence of influential data items that have not been adequately accounted for in the forecast model or data-gathering process.

Finally, the scatter plot in Figure 2(c) reveals a positive linear association between expected and actual response value, with a regression value of 0.735 suggesting a moderate to strong link between the two variables. The bulk of points is on a 45-degree diagonal line, suggesting that the model predicts the response variable with high accuracy and precision. However, an outlier is identified among the projected values larger than 13, as also shown in Figure 1(a). This shows that the predictive model may have difficulties reliably anticipating extreme values, or that other variables may be contributing to the data's unpredictability. Similarly, the presence of an outlier suggests that the model may require more analysis and refining to improve its prediction accuracy.

FINAL REMARKS

This study investigated student satisfaction and regenerative futures in the context of new normal education in a Philippine state university. The findings reveal that teaching methods, student organization involvement, research, extension, and innovation (RIE) approaches, graduate quality, access to inclusive education, and overall university quality are significant predictors of student satisfaction. Graduate quality emerged as the most influential factor, followed by RIE strategies. However, slow internet connectivity was a key challenge during the transition to online learning amid the COVID-19 pandemic, affecting students' educational experiences. To enhance student satisfaction in the new normal, universities should integrate these variables into a regenerative education framework. This approach aims to boost student engagement, creativity, and social and environmental responsibility. The study recommends mainstreaming Regenerative Futures (RgF) across disciplines to foster awareness, appreciation, and engagement.

Educational institutions should embed RgF principles into curricula, pedagogy, and policies, promoting sustainability, innovation, and social responsibility. Incorporating RgF-related themes in courses across various fields, such as Mathematics, Science, Social Sciences, and Engineering, will enable students to apply regenerative thinking in diverse contexts. Universities should also adopt project-based learning, community engagement initiatives, and interdisciplinary collaborations to expose students to real-world regenerative practices. Faculty development programs should train educators on integrating RgF principles into their teaching methodologies, empowering students to contribute to sustainable solutions in their future careers. While this study provides valuable insights, several limitations must be acknowledged. The findings are context-specific, as the sample was drawn from a particular educational setting.

Factors such as institutional policies, regional practices, and socio-economic conditions may limit generalizability. Future studies should consider cross-institutional comparisons to enhance validity. Perception data may be subject to biases and influenced by transient emotions or external factors. Triangulating findings through qualitative methods or longitudinal studies could provide a more comprehensive understanding. Advanced statistical techniques, such as structural equation modeling (SEM) or machine learning, could capture complex relationships between variables. Expanding the scope of investigated variables and integrating qualitative approaches could refine the model and its predictive power. Further research is needed to confirm these findings in other contexts and demographics. These initiatives provide additional data to inform the university's regenerative futures positioning and design concrete strategies to navigate a dynamic educational landscape in the post-pandemic era.

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Contribution of each author to the manuscript:

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B. data research and statistical analysis:	30%	30%	10%	10%	20%
C. elaboration of figures and tables:	20%	20%	20%	20%	20%
D. drafting, reviewing and writing of the text:	30%	30%	10%	10%	20%
E. selection of bibliographical references	30%	30%	10%	10%	20%
F. Other (please indicate)	-	-	-	-	-