RESEARCH ARTICLE: Teaching strategies among secondary school teachers at Maimbung Technical Vocational High School, Ministry of Basic, Higher, and Technical Education – Sulu: Lens of perception from students

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Abstract. This descriptive-correlational study determined the extent of teaching strategies among secondary school teachers at Maimbung Technical Vocational High School, Ministry of Basic, Higher, and Technical Education – Sulu, as perceived by the Junior High School students during the School Year 2023-2024. With 100 samples taken through non-probability sampling method via purposive sampling, this study reveals the following findings: 1) Student-respondents involved in this study are mostly female, within the range of 16 years & above, mostly enrolled as Grade 10, whose parents with high school level of education, and with monthly earnings of 5,000 & below; 2) On the average, there is a high extent on the use of teaching strategies among secondary school teachers of Maimbung Technical Vocational High School in terms of Collaborative Learning Approach, Activity-Based Learning Approach, Problem-Based Learning Approach, and Hands-on Learning Approach; 3) Generally, except age and grade level, other variables such as gender, parent's educational attainment, and parent's average monthly income do not significantly mediate in ways how junior high school students assessed the teaching strategies among secondary school teachers of Maimbung Technical Vocational High School; 4) Generally, the group of junior high school students who perceived the teaching strategies employed by teachers of Maimbung Technical Vocational High School in terms of Collaborative Learning Approach as Agree or with High Extent is most likely the same group of junior high school students who perceived Activity-Based Learning Approach, Problem-Based Learning, and Hands-on Learning Approach as Agree or with High Extent, respectively.

Keywords: Teaching Strategies, Activity-Based Learning Approach, Hands-on Learning, Collaboration, Social Interaction

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Introduction

What is permanent in this world is change? There is nothing wrong with change for as long as it is for the betterment of learning. Innovation teaching strategies is not a new phenomenon but rather it continually evolves the purpose of which to ensure effective teaching and learning process.

As evidenced by the education research literature, education is constantly being innovated. There are new proposals, teaching sequences and strategies that are being tested, and their results published, for However, innovations that may be successful in one country cannot simply be transferred to another country without adaptations to the new context. To secure further development it is essential to find strategies for innovating the teaching and learning in mainstream schools, as is in the process of analyzing and comparing strategies for innovating curricula, teaching and learning in different partner countries. This analysis seeks to facilitate educationalists at different positions in the educational system to operate more creatively within the system and to help generate changes toward more active learning systems (Aleixandre and Santamaria, 2010). Teachers are very crucial in the translation of educational objectives into practice. Education provides a more effective preparation for citizenship and in order to achieve this, qualified and experienced teachers who are well aware of global demands of teaching with a view to engendering scientific and technological values in learners are required. The persistent poor performance in subjects has given rise to an assumption that most teachers in secondary schools in do not make use of varied forms of teaching strategies to be able to cope with some specific difficulties associated with the teaching and learning of by both the teachers and the students respectively. Nwosu (2014) submitted that most teachers do not possess the prerequisite knowledge needed for activity based learning and as a result, the most prevalent method of teaching has been the talk and chalk or the lecture method. Ajaja (2013) identified the 'method adopted for teaching and learning as one of the factors contributing to this low interest hence expressed the need for a search for alternative instructional strategies that could stimulate students' interest and enhance their achievement. The use of various innovative teaching strategies is borne out of the fact that there are different topics to be taught and skills intended to be developed. Many innovative strategies have been developed by educators with a view to involving learners more in the teaching learning process. This is considered very important and there is the need get these strategies into the classrooms.

Collaborative learning emphasizes the social constructivist perspective, as posited by Vygotsky, which underscores the role of social interaction in cognitive development. Working in groups fosters a sense of community and shared responsibility among students, enhancing their communication skills and promoting a deeper understanding of the subject matter (Vygotsky, 1978).

Rooted in the experiential learning theory by Kolb, activity-based learning engages students in direct experiences, linking theory to practice. This approach acknowledges the significance of hands-on activities, experiments, and projects in facilitating a holistic understanding of concepts, catering to diverse learning styles (Kolb, 1984).

The problem-solving approach aligns with the constructivist theory, notably advocated by Piaget. Presenting students with authentic problems and guiding them through the process of resolution stimulates critical thinking, encouraging learners to actively construct knowledge through analysis and reflection (Piaget, 1972).

Grounded in the principle of active learning, hands-on learning recognizes that students learn best when they are directly engaged with the subject matter. The incorporation of physical manipulation and practical application not only enhances retention but also provides a tangible and experiential understanding of concepts (Bonwell & Eison, 1991).

In order to ensure effective learning, it is important that teachers should be innovative and creative in coming up with new ideas in order to facilitate effective teaching.

Research Questions

The study aimed to determine the teaching strategies among secondary school teachers at Maimbung Technical Vocational High School, Ministry of Basic, Higher, and Technical Education – Sulu, as perceived by the Junior High School students during the school year 2023-2024. Specifically, it sought to answer the following queries upon its very completion:

1. What is the demographic profile of Junior High School student-respondents in terms of (a) gender, (b) age, (c) parent's educational attainment, (d) parent's average monthly income, and (e) grade level?
2. What is the extent of teaching strategies among secondary school teachers at Maimbung Technical Vocational High School, Ministry of Basic, Higher, and Technical Education – Sulu, as perceived by the Junior High School students, in the context of Collaborative Learning Approach, Activity-Based Learning Approach, Problem-Based Learning Approach, and Hands-on Learning Approach?
3. Is there a significant difference in the extent of teaching strategies among secondary school teachers at Maimbung Technical Vocational High School, Ministry of Basic, Higher, and Technical Education – Sulu, as perceived by the Junior High School students, when data are grouped according to their demographic profile in terms of (a) gender, (b) age, (c) parent's educational attainment, (d) parent's average monthly income, and (e) grade level?
4. Is there a significant correlation among the sub-categories subsumed under the extent of teaching strategies among secondary school teachers at Maimbung Technical Vocational High School, Ministry of Basic, Higher, and Technical Education – Sulu, as perceived by the Junior High School students, in the context of Collaborative Learning Approach, Activity-Based Learning Approach, Problem-Based Learning Approach, and Hands-on Learning Approach?

Literature

Foreign Literature

Innovative methods of teaching are a goal of many educators. Teaching students in ways that keep them engaged and interested in the material can sometimes be a challenge. In the short-attention span world we live in, it can be harder than ever to keep high school students excited and engrossed in learning. Finding new and innovative methods of teaching is a crucial skill for high school teachers. Brain research has shown that certain methods and approaches can truly enhance the learning process. Applying innovative learning and attention-management techniques to classes is a win-win for both students and teachers. A list of disconnected facts will not lead to a deep understanding in students or an integration of knowledge from one situation to another. Knowledge that is organized and connected to concepts with a goal of mastery, including the ability to visualize the concepts, can lead to the ability to transfer knowledge and lead to a deeper, longer-term understanding of what is taught (Smith, 2012).

Visualization is an especially good teaching strategy for reading and literacy teachers. Here's a lesson in how to use visualization to help students illustrate mental images from a portion of text that is read aloud. Computers, tablets, digital cameras, videoconferencing technology and GPS devices can enhance a student's learning experience. Possible uses of classroom technology include using video games to teach math and foreign languages, leveraging Skype to communicate with classrooms or guest speakers from around the world, or multimedia projects that allow students to explore subject matter using film, audio and even software they create. However, tech devices in the high school classroom require teachers to add a component to their classroom management. Giving students laptops or tablets means teaching them to use devices respectfully and preventing damage to the equipment (Smith, 2012).

Omosewo (2010) contributed that teacher academic qualification was a necessity for students' performance in physics. Khurshid and Zahur (2013) reported that teachers with more professional qualifications were more aware of the innovative teaching methodologies than teachers with less professional qualifications. The search for highly qualified teachers has resulted

in ever increasing demands for certification in both subject matter and pedagogy but equating teacher quality with teacher qualifications has not had the predicted results. Teachers have a great influence on students during the process of transferring knowledge and enhancing students' cognitive growth that is why it becomes necessary for a teacher to try to comport himself well at all times since there is a strong chance of his student trying to emulate his behaviour, speech and attitude to life. Fullan (2015) contributed that teachers' professional development in a climate of educational reform must address the total challenge of implementing educational standards, working with diverse population and changing forms of student assessment. Professional development cannot be over-emphasized because it plays an essential role in successful educational reform. It serves as a bridge between where prospective and experienced educators are now and where they will need to be to meet new challenge of guiding all students in achieving higher standards of learning and development. Teachers should have a solid foundation in their subject area and training in learning theories and effective practices. Teaching experience is vital in a teaching and learning situation. Experience can be said to be those attitudes, skills or knowledge acquired by the teacher through his participation in instructional programmes. The experience of the teacher may help him to cope and adapt to changes in educational programmes. Teacher's years of experience is a measure of their quality and thus becomes imperative in the achievement of student's academic performance (Akinsolu, 2010). Teachers are said to gain extensive experience of successful and unsuccessful performances throughout their years of teaching, this assumption generated an in-depth research into how teachers who have been involved in teaching for different period of time perceive their teaching (Fives, 2010).

Related Studies

The study of Zuljan and Vorinc (2010) on facilitating effective student learning through teacher research and innovation as related to the present undertaking. The aim of this paper is to introduce different aspects of innovation in the teaching/learning process and teacher's research work in different countries. It sheds light on ways of encouraging teacher and student innovation in different educational systems, pedagogical innovations in different subject fields, research into teacher-motivation factors such as teachers' views on innovation and the role of the principal and the school climate.

The study of Gladys (2010) on innovative and effective science teaching for quality assurance was related to the present undertaking. This study introduces some new teaching strategies for science classrooms in Nigerian secondary schools to ensure quality in teaching and learning. The purpose of this study is to improve science teaching by combining selected new teaching strategies with traditional teaching methods to improve the quality standard in science classrooms and to enhance students' performance in the basic science subjects. These teaching strategies include student-centered learning; problem-based learning, conceptual change teaching, case studies and cooperative learning.

The study of Kuda-Malwathumullage (2015) on the impact of technology infused interaction learning environment on college professors instructional decisions and practices is related to the present study. Recent advancements in instructional technology and interactive learning space designs have transformed how undergraduate classrooms are envisioned and conducted today. Large number of research studies have documented the impact of instructional technology and interactive learning spaces on elevated student learning gains, positive attitudes, and increased student engagement in undergraduate classrooms across nation.

The study of Lehesvouri (2013) on towards dialogic teaching in Science is related to the present undertaking. The aim of this study was to explore dialogic teaching in school classroom

and teacher education contexts. Despite moves towards more socially-oriented and student-centred curricula, science classroom communication remains prevailingly authoritative and monologic. In order to address the dialogic gap existing in the field, within this study an intervention was developed and executed to increase student teachers' awareness of the dialogic aspect and its role in science classroom communication. Drawing on previous scholarly work in the field of dialogic teaching and teacher education, an interventional teaching programme focusing on teacher talk was designed.

The study of Elson (2010) on using active learning instructional strategies to create excitement and enhance learning is related to the present study. Active learning instructional strategies include a wide range of activities that share the common elements of involving students in doing things and thinking about the things they are doing. Active learning instructional strategies can be created and used to engage students in thinking critically or creatively, speaking with a partner or in a small group, or with the entire class and expressing ideas through writing, exploring personal attitudes and values and giving and receiving feedback and reflecting upon the learning process. It should also be noted that active learning instructional strategies can be completed by students either in class or out of class and be done by students working either as individuals or group and be done either with or without the use of technology tools.

The study of Khurshid and Ansari (2012) on innovative teaching strategies on students' performance is related to the present undertaking. The purpose of this experiment was to investigate the effects of innovative teaching strategies on the performance of students of grade 1. The experiment was done on the teaching of science subject to the students of grade 1. A sample of 50 students (boys and girls) was selected randomly out of the population of 100 students in grade 1 from an English medium school of Islamabad. Two groups of 25 students each were made. Pre-test of General Science was given to both the groups and the results were recorded. One group was taken as a control group which was taught science by the teacher who used conventional method of teaching while the other i.e the experimental group was taught by the teacher who used innovative teaching techniques. After one month's time of teaching, a post-test was conducted.

The study of Mendoza (2015) dealt on the effectiveness of video presentation to students' learning is related to the present study but the difference is its focus and emphasis. This study was conducted to identify the effectiveness of video presentation to students' learning. This was derived due to the changes and updates the world has to offer on enhancing student's wisdom. Instructors and even students rely or use educative videos to learn, compare and understand concepts. The use of video is only beginning to meet the needs of today's and tomorrow's learners. Using videos in teaching is not new. It was proposed that videos are effective when used to develop information literacy, using a student survey to measure the effectiveness of video lectures. Video based materials boost students' creativity and cooperation. Access to video can help motivate students and create a distinctive context for their learning experience. Questionnaires were administered to 224 students of Benguet State University to measure effectiveness of video presentation to student's learning. From the outcomes, it was found out that there is no significant difference on students' perceptions of the effectiveness of video presentation to students' learning when grouped according to sex. Moreover, results revealed that a significant difference exists among students' perceptions of the effectiveness of video presentation when grouped according to their academic level. Furthermore, it is revealed that the level of effectiveness of video presentation to students learning is highly effective.

The study of Guido (2014) dealt on the evaluation of a modular teaching approach in Material Science and Engineering related to the present undertaking. Material Science is an applied

science concerned with the relationship between the structure and properties of materials. It is a discipline that enables the creation and application of materials in society. The challenge of this study is the use of the modular teaching approach in engineering materials. A standardized faculty - student instructional module evaluation checklist that sought for the assessment of the learning objectives, evaluation of acceptability, effectiveness and the acquired skills in the module. The study shows that the instructional module in materials science and engineering are effective for students' knowledge adaptation and shows suitability to the level of the students and acceptability to the faculty evaluators. This reveals that the evaluators trusted that the module is very valuable to the course which makes students learning experience well stimulated.

These studies supported the content of the present undertaking which make the study enriching and substantial.

Methods

Research Design

The researcher utilized the descriptive correlational method of research. Correlational research attempts to determine the extent of a relationship between two or more variables using statistical data. It is considered a type of descriptive research and not as its own type as no variables are manipulated (Polit and Beck, 2003). Owing that there were hypotheses to be validated in this study, the research was designed for a descriptive-exploratory study describing and analyzing the teaching strategies among secondary school teacher at Maimbung Techncial Vocational High School, Ministry of Basic, Higher, and Technical Education - Sulu, through Collaborative Learning Approach, Activity-Based Learning Approach, Problem-Based Learning Approach, and Hands-on Learning Approach. As aptly defined by Venson (2004): Descriptive research design interprets and reveals condition that exists or do not exist and explanatorily supplies the needed knowledge and experiences that will aid in setting a more detailed study.

Participants and Sampling

This study was conducted among the four (4) Grade Levels at Maimbung Technical Vocational High School of the Ministry of Basic, Higher, and Technical Education in the province of Sulu. The respondents of the study were the one hundred (100) Junior High School students of four (4) Grade Levels at Maimbung Technical Vocational High School of the Ministry of Basic, Higher, and Technical Education in the province of Sulu.

Table 1. Distribution of respondents according to grade level

GRADE LEVEL	Number of Teacher-Respondents
Grade 7	25
Grade 8	25
Grade 9	25
Grade 10	25
TOTAL	100

The sampling technique that used in this particular study was a purposive sampling technique in drawing the one hundred (100) Junior High School student-respondents of the study. The researcher purposively chose them and ensured equal representation by choosing twenty-five (25) public elementary schools students at Maimbung Technical Vocational High School. The time frame for this study covered School Year 2023-2024.

Research Instrument

The instrument that was utilized in this particular study is a questionnaire-checklist adopted from the study of Ruel (1982) and Jammahari, A, A, (2005) which consisted of two parts. The first part

dealt with the profile of the respondents in terms of age, gender, grade level, parent's educational attainment, and parent's monthly income. The second part was adopted from John, D.W., and Johnson R.T. (2009) – A educational psychology success story: social interdependence theory and teaching strategies. Educational Researcher.

Data Gathering Procedure

A formal letter of permission to launch the study from the Office of the Dean of the Graduate Studies was addressed to the Schools Division Superintendent and District Supervisor was sought. Once permission was granted, letters of requests to School Principal of Maimbung Technical Vocation High School were then forwarded. The researcher personally launched and retrieved the questionnaire checklist among the respondents in the aforesaid district. The researcher conducted the survey herself. Data and responses obtained and gathered were coded accordingly and were subjected to the expertise of a statistician for appropriate statistical treatment and analysis. Subsequently, the final draft was written.

Statistical Analysis

In generating the primary empirical data for this study, the following statistical tools was be employed; 1. Frequency and Percentage. The frequency and percentage were the statistical tools used to determine the profile of the respondents as to age, gender, grade level, parent's educational attainment and parent's monthy income. 2. Weighted Mean and Standard Deviation. The weighted mean and standard deviation were used to determine the extent of teaching strategies among secondary school teachers at Maimbung Technical Vocational High School, Ministry of Basic, Higher, and Technical Education (MBHTE) – Sulu in terms of collaborative learning approach, activity-based learning approach, problem-based learning approach, and hands-on leaning approach. 3. T-test and One-way Analysis of Variance (ANOVA). T-test for independent variable was employed to determine the significant differences in the teaching strategies among secondary school teachers at Maimbung Technical Vocational High School, Ministry of Basic, Higher, and Technical Education (MBHTE) – Sulu when data are grouped according gender; and One-way Analysis of Variance (ANOVA) was employed to determine the significant differences in the extent of teaching strategies among secondary school teachers at Maimbung Technical Vocational High School, Ministry of Basic, Higher, and Technical Education (MBHTE) – Sulu when data are grouped according to age, gender, parent's educational attainment, and parent's monthly income. 4. Pearson Product-Moment Correlation. Pearson product-moment correlation was used to determine the significant correlation among the sub-categories subsumed under the extent of teaching strategies among secondary school teachers at Maimbung Technical Vocational High School, Ministry of Basic, Higher, and Technical Education (MBHTE) – Sulu in terms of collaborative learning approach, activity-based learning approach, problem-based learning approach, and hands-on leaning approach.

Table 2. Scale used

Point	Scale Value	Interpretation
5	4.50 – 5.00	Strongly Agree
4	3.50 – 4.49	Agree
3	2.50 – 3.49	Moderately Agree
2	1.50 – 2.49	Disagree
1	1.00 – 1.49	Strongly Disagree

Results

Based on the proper scoring and statistical treatments of data gathered for this study, the following are the presentations, analyses and interpretations of results which correspond to each of the research questions:

1. What is the demographic profile of Junior High School student-respondents in terms of: 1.1 Age; 1.2 Gender; 1.3 Grade Level; 1.4 Parent's Educational Attainment; and 1.5 Parent's Monthly Income?

1.1 In terms of Age

Table 1.1 In this study, more than three-fourth or great majority of the junior high school students at Maimbung Technical Vocational High School for the School Year 2023-2024 are within the age ranges of 14-15 years old and 16 years old & above.

Age	Number of Students	Percent
13 years old & below	28	28.0%
14-15 years old	38	38.0%
16 years old & above	34	34.0%
Total	100	100%

1.2 In terms of Gender

Table 1.2 this study, more than one-half of the student-respondents are female which is a bit higher in number than the male students.

Gender	Number of Students	Percent
Male	46	46.0%
Female	54	54.0%
Total	100	100%

1.3 In terms of Grade Level

Table 1.3 This study shows that though with little discrepancy, student-respondents are nearly represented by nearly the same number of students from different year levels.

Grade Level	Number of Students	Percent
Grade 7	23	23.0%
Grade 8	26	26.0%
Grade 9	28	28.0%
Grade 10	23	23.0%
Total	100	100%

1.4 In terms of Parents' Educational Attainment

Table 1.4 In this study, more than one-half of the student-respondents' are whose parent's with high school level of education.

Parent's Educational Attainment	Number of Students	Percent
No formal education	21	21.0%
Elementary level	12	12.0%
High school level	59	59.0%
College level	8	8.0%
Total	100	100%

1.5 In terms of Parents' Average Monthly Income

Table 1.5 In this study, student-respondents involved in this study are children of families whose income within the lowest ladder as categorized in this study which implies that most of these

students could hardly avail of sufficient financial support for education due to their parents' meager income.

Parent's Average Monthly Income	Number of Students	Percent
5,000 & below	87	87.0%
5,001 to 10,000	10	10.0%
10,001-15,000	0	0
15,001 & above	3	3.0%
Total	100	100%

2. *What is the extent of teaching strategies among secondary school teachers at Maimbung Technical Vocational High School, Ministry of Basic, Higher, and Technical Education – Sulu, as perceived by the Junior High School students, in the context of: 2.1 Collaborative Learning Approach; 2.2 Activity-Based Learning Approach; 2.3 Problem-Based Learning Approach; and 2.4 Hands-on Learning Approach?*

2.1 In the context of Collaborative Learning Approach

Table 2.1 This result indicates that student-respondents involved in this study agree that there is a high extent of the Collaborative Learning Approach employed by the teachers that involves students working together in groups to achieve a common goal. This approach emphasizes interaction, communication, and shared responsibility among group members, fostering a sense of community and promoting mutual understanding.

	Statements	Mean	S.D.	Rating
1	Students cooperate and work together to accomplish a common task.	4.4400	.65628	Agree
2	Students interact rather than compete with each other to accomplish a common task.	4.5100	.64346	Strongly Agree
3	The teacher acts as a "facilitator" or guide to support student's learning rather than the source of learning.	4.3900	.69479	Agree
4	Collaborative learning promotes a sense of community and belonging among students.	4.2100	.75605	Agree
5	I noticed a big difference in the effectiveness of teaching-learning process through the collaborative learning approach.	4.2100	.80773	Agree
Total Weighted Mean		4.3520	.39911	Agree

Legend: (5) 4.50-5.00=Strongly Agree (Very High); (4) 3.50–4.49=Agree (High); (3) 2.50–3.49=Moderately Agree (Moderate); (2) 1.50–2.49=Disagree (Low); (1) 1.00–1.49=Strongly Disagree (Very Low)

2.2 In the context of Activity-Based Learning Approach

Table 2.2 This result indicates that student-respondents involved in this study agree that there is a high extent of the Activity-Based Learning Approach employed by the teachers that centers on engaging students in hands-on activities or tasks. Instead of passively receiving information, students actively participate in exercises, experiments, or projects. This approach aims to enhance understanding through practical experience and application of knowledge.

	Statements	Mean	S.D.	Rating
1	Activity-based learning enhances my comprehension of course materials	4.2400	.74019	Agree
2	I find activity-based learning activities to be engaging and enjoyable.	4.1400	.66697	Agree
3	Activity-based learning encourages active participation and interaction with classmates.	4.2100	.74257	Agree

4	I believe that activity-based learning helps me apply theoretical knowledge to practical situations.	4.1900	.77453	Agree
5	Activity-based learning has a positive impact on my over-all understanding and retention of the subject matter.	4.0600	.78907	Agree
Total Weighted Mean		4.1680	.44287	Agree

Legend: (5) 4.50-5.00=Strongly Agree (Very High); (4) 3.50–4.49=Agree (High); (3) 2.50–3.49=Moderately Agree (Moderate); (2) 1.50–2.49=Disagree (Low); (1) 1.00–1.49=Strongly Disagree (Very Low)

2.3 In the context of Problem-Based Learning Approach

Table 2.3 This result indicates that student-respondents involved in this study agree that there is a high extent of the Problem-Based Learning Approach employed by the teachers that focuses on teaching students how to solve real-world problems. It encourages critical thinking, analytical skills, and the ability to apply knowledge to address challenges. This approach often involves presenting students with authentic problems and guiding them through the process of finding solutions.

	Statements	Mean	S.D.	Rating
1	Learning is driven by challenging, open-ended problems.	4.1200	.83218	Agree
2	Problem-based learning enhances my critical thinking skills.	4.0700	.87911	Agree
3	Problem-based learning encourages active participation and engagement in the learning process.	3.8900	1.18828	Agree
4	Problem-based learning promotes collaboration and teamwork among students.	4.2000	.87617	Agree
5	Problem-based learning can be challenging, but it has a positive impact on my overall learning experience.	4.1600	.76171	Agree
Total Weighted Mean		4.0880	.68715	Agree

Legend: (5) 4.50-5.00=Strongly Agree (Very High); (4) 3.50–4.49=Agree (High); (3) 2.50–3.49=Moderately Agree (Moderate); (2) 1.50–2.49=Disagree (Low); (1) 1.00–1.49=Strongly Disagree (Very Low)

2.4 In the context of Hands-on Learning Approach

Table 2.4 This result indicates that student-respondents involved in this study agree that there is a high extent of the Hands-on Learning Approach employed by the teachers that emphasizes direct experience and physical involvement. It allows students to touch, manipulate, and explore objects or concepts. This approach is particularly effective in fields where practical skills are essential, as it provides a tangible understanding of the subject matter through active participation.

	Statements	Mean	S.D.	Rating
1	Students learn psychomotor skills in a safe and controlled setting.	4.2323	.73994	Agree
2	Learners apply the principles and theories they have learned.	4.1300	.69129	Agree
3	Hands-on learning activities enhance my understanding of complex concepts.	4.1900	.77453	Agree
4	Hands-on learning helps me retain information better compared to traditional classroom methods.	4.0700	.84393	Agree
5	Hands-on learning experiences have a positive impact on my overall learning and academic performance.	4.1300	.71992	Agree

Total Weighted Mean	4.1510	.51099	Agree

Legend: (5) 4.50-5.00=Strongly Agree (Very High); (4) 3.50–4.49=Agree (High); (3) 2.50–3.49=Moderately Agree (Moderate); (2) 1.50–2.49=Disagree (Low); (1) 1.00–1.49=Strongly Disagree (Very Low)

3. Is there a significant difference in the extent of teaching strategies among secondary school teachers at Maimbung Technical Vocational High School, Ministry of Basic, Higher, and Technical Education – Sulu, as perceived by the Junior High School students, when data are grouped according to their demographic profile in terms of: 3.1 Age; 3.2 Gender; 3.3 Grade Level; 3.4 Parent's Educational Attainment; and 3.5 Parent's Monthly Income?

3.1 According to Age

Table 3.1 This result implies that being older or within 16 years old & above may probably put a student in a vantage point towards perceiving the extent of teaching strategies among secondary school teachers at Maimbung Technical Vocational High School than those who are within 13 years old & below, and those within 14-15 years old, or vice versa.

SOURCES OF VARIATION		Sum of Squares	df	Mean Square	F	Sig.	Description
Collaborative Learning Approach	Between Groups	1.124	2	.562	3.723	.028	Significant
	Within Groups	14.645	97	.151			
	Total	15.770	99				
Activity-Based Learning Approach	Between Groups	.424	2	.212	1.082	.343	Not Significant
	Within Groups	18.994	97	.196			
	Total	19.418	99				
Problem-Based Learning Approach	Between Groups	4.401	2	2.200	5.040	.008	Significant
	Within Groups	42.345	97	.437			
	Total	46.746	99				
Hands-on Learning Approach	Between Groups	2.095	2	1.047	4.277	.017	Significant
	Within Groups	23.755	97	.245			
	Total	25.850	99				

*Significant alpha .05

On Collaborative Learning Approach: Under this sub-category, no other group of student-respondents are supposed to have better ways of assessing the extent of teaching strategies among secondary school teachers at Maimbung Technical Vocational High School in terms of Collaborative Learning Approach than those student-respondents within 16 years old & above.

On Problem-Based Learning Approach: Under this sub-category, no other group of student-respondents are supposed to have better ways of assessing the extent of teaching strategies among secondary school teachers at Maimbung Technical Vocational High School in terms of Problem-Based Learning Approach than those student-respondents within 16 years old & above.

On Hands-on Learning Approach: Under this sub-category, no other group of student-respondents are supposed to have better ways of assessing the extent of teaching strategies among secondary school teachers at Maimbung Technical Vocational High School in terms of Hands-on Learning Approach than those student-respondents within 16 years old & above.

Dependent Variables	(I) Grouping by Age	(J) Grouping by Age	Mean Difference (I-J)	Std. Error	Sig.
Collaborative Leaning Approach	13 years old & below	14-15 years old	.14737	.09678	.285
		16 years old & above	.27059*	.09916	.020
Problem-Based Learning Approach	13 years old & below	14-15 years old	.17068	.16456	.555
		16 years old & above	.51681*	.16861	.008
Hands-on Learning Approach	13 years old & below	14-15 years old	.25564	.12325	.101
		16 years old & above	.36261*	.12629	.014

* The mean difference is significant at the 0.05 level.

3.2 According to Gender

Table 3.2 This table means that male and female student-respondents do not differ in their perceptions towards the extent of teaching strategies among secondary school teachers at Maimbung Technical Vocational High School.

VARIABLES	Grouping	Mean	S. D.	Mean Difference	*t*	Sig.	Description
Collaborative Learning Approach	Male	4.3391	.44993	-.03779	-.470	.640	Not Significant
	Female	4.3769	.34449				
Activity-Based Learning Approach	Male	4.1522	.49743	-.04013	-.445	.657	Not Significant
	Female	4.1923	.39400				
Problem-Based Learning Approach	Male	4.0478	.83712	-.10602	-.785	.435	Not Significant
	Female	4.1538	.46965				
Hands-on Learning Approach	Male	4.1957	.49078	.08219	.788	.433	Not Significant
	Female	4.1135	.53616				

*Significant at alpha 0.05

3.3According to Grade Level

Table 3.3 This table means that, the fact that student-respondents vary in grade level, still they indeed differ in their perceptions towards the extent of teaching strategies among secondary school teachers at Maimbung Technical Vocational High School.

SOURCES OF VARIATION		Sum of Squares	df	Mean Square	F	Sig.	Description
Collaborative Learning Approach	Between Groups	1.692	3	.564	3.846*	.012	Significant
	Within Groups	14.078	96	.147			
	Total	15.770	99				
Activity-Based Learning Approach	Between Groups	1.305	3	.435	2.305	.082	Not Significant
	Within Groups	18.113	96	.189			
	Total	19.418	99				
Problem-Based Learning Approach	Between Groups	4.111	3	1.370	3.086*	.031	Significant
	Within Groups	42.634	96	.444			

	Total	46.746	99				
Hands-on Learning Approach	Between Groups	2.841	3	.947	3.951*	.011	Significant
	Within Groups	23.009	96	.240			
	Total	25.850	99				

*Significant alpha .05

On Collaborative Learning Approach: Under this sub-category, no other group of student-respondents are supposed to have better ways of assessing the extent of teaching strategies among secondary school teachers at Maimbung Technical Vocational High School in terms of Collaborative Learning Approach than those student-respondents enrolled as Grade 9.

On Problem-Based Learning Approach: Under this sub-category, no other group of student-respondents are supposed to have better ways of assessing the extent of teaching strategies among secondary school teachers at Maimbung Technical Vocational High School in terms of Problem-Based Learning Approach than those student-respondents enrolled as Grade 9.

On Hands-on Learning Approach: Under this sub-category, no other group of student-respondents are supposed to have better ways of assessing the extent of teaching strategies among secondary school teachers at Maimbung Technical Vocational High School in terms of Hands-on Learning Approach than those student-respondents enrolled as Grade 9.

Dependent Variables	(I) Grouping by Grade Level	(J) Grouping by Grade Level	Mean Difference (I-J)	Std. Error	Sig.
Collaborative Leaning Approach	Grade 7	Grade 8	.08227	.10962	.876
		Grade 9	.34161*	.10776	.011
		Grade 10	.19130	.11292	.332
Problem-Based Learning Approach	Grade 7	Grade 8	.14013	.19076	.883
		Grade 9	.53354*	.18754	.027
		Grade 10	.32174	.19652	.363
Hands-on Learning Approach	Grade 7	Grade 8	.21338	.14014	.428
		Grade 9	.46832*	.13777	.005
		Grade 10	.19565	.14437	.530

* The mean difference is significant at the 0.05 level.

3.4 According to Parent's Educational Attainment

Table 3.4 It can be gleaned from this table that, except for "Collaborative Learning Approach" the values of F-ratios and *P*-values of all other sub-categories subsumed under the extent of teaching strategies among secondary school teachers at Maimbung Technical Vocational High School are not significant at alpha .05. This means that although student-respondents vary in parent's educational attainment, yet they do not differ in their perceptions towards the extent of teaching strategies among secondary school teachers at Maimbung Technical Vocational High School.

SOURCES OF VARIATION		Sum of Squares	df	Mean Square	F	Sig.	Description
Collaborative Learning Approach	Between Groups	1.314	3	.438	2.910*	.038	Significant
	Within Groups	14.455	96	.151			
	Total	15.770	99				

Activity-Based Learning Approach	Between Groups	.583	3	.194	.991	.401	Not Significant
	Within Groups	18.835	96	.196			
	Total	19.418	99				
Problem-Based Learning Approach	Between Groups	1.638	3	.546	1.162	.328	Not Significant
	Within Groups	45.107	96	.470			
	Total	46.746	99				
Hands-on Learning Approach	Between Groups	.251	3	.084	.313	.816	Not Significant
	Within Groups	25.599	96	.267			
	Total	25.850	99				

*Significant alpha .05

3.5 By Parent's Average Monthly Income

Table 3.5 It can be gleaned from this table that the values of F-ratios and *P*-values of all the sub-categories subsumed under the extent of teaching strategies among secondary school teachers at Maimbung Technical Vocational High School are not significant at alpha .05. This means that although student-respondents vary in parent's average monthly income, yet they do not differ in their perceptions towards the extent of teaching strategies among secondary school teachers at Maimbung Technical Vocational High School.

SOURCES OF VARIATION		Sum of Squares	df	Mean Square	F	Sig.	Description
Collaborative Learning Approach	Between Groups	.052	2	.026	.160	.853	Not Significant
	Within Groups	15.718	97	.162			
	Total	15.770	99				
Activity-Based Learning Approach	Between Groups	.693	2	.346	1.794	.172	Not Significant
	Within Groups	18.725	97	.193			
	Total	19.418	99				
Problem-Based Learning Approach	Between Groups	.102	2	.051	.106	.899	Not Significant
	Within Groups	46.643	97	.481			
	Total	46.746	99				
Hands-on Learning Approach	Between Groups	1.304	2	.652	2.577	.081	Not Significant
	Within Groups	24.546	97	.253			
	Total	25.850	99				

*Significant alpha .05

4. Is there a significant correlation among the sub-categories subsumed under the extent of teaching strategies among secondary school teachers at Maimbung Technical Vocational High School, Ministry of Basic, Higher, and Technical Education – Sulu, as perceived by the Junior High School students, in the context of Collaborative Learning Approach, Activity-Based Learning Approach, Problem-Based Learning Approach, and Hands-on Learning Approach?

Table 4. It can be gleaned from this table that the computed Pearson Correlation Coefficients (Pearson r) between these variables are indeed significant at alpha .05. These results indicate that the group of junior high school students who perceived the teaching strategies employed by

teachers of Maimbung Technical Vocational High School in terms of Collaborative Learning Approach as Agree or with High Extent is most likely the same group of junior high school students who perceived Activity-Based Learning Approach, Problem-Based Learning, and Hands-on Learning Approach as Agree or with High Extent, respectively.

Variables					
Dependent	Independent	Pearson *r*	Sig	N	Description
Collaborative Learning Approach	Activity-Based Learning Approach	.613**	.000	100	High
	Problem-Based Learning Approach	.704**	.000	100	Very High
	Hands-on Learning Approach	.400**	.000	100	Moderate

*Correlation Coefficient is significant at alpha .05
Correlation Coefficient Scales Adopted from Hopkins, Will (2002):
0.0-0.1=Nearly Zero; 0.1-0.30=Low; .3-0.5 0=Moderate; .5-0.7-0=High; .7-0.9= Very High; 0.9-1=Nearly Perfect

Discussion

This study revealed the following findings:

On demographic profile student-respondents:

1.1 In terms of Age. In this study, more than three-fourth or great majority of the junior high school students at Maimbung Technical Vocational High School for the School Year 2023-2024 are within the age ranges of 14-15 years old and 16 years old & above.

1.2 In terms of Gender. This study implies that female student-respondents at Maimbung Technical Vocational High School constitute the majority in number than their female counterpart for the school year 2023-2024.

1.3 In terms of Grade Level. Though with little discrepancy, this study revealed that student-respondents are nearly represented by nearly the same number of students from different year levels.

1.4 In terms of Parents' Educational Attainment. More than one-half of the student-respondents' are whose parent's with high school level of education. This result implies that majority of these learners have a bit of chances of availing the academic support from their parents in terms of academic knowledge and technical skills due to their parents' level of education.

1.5 In terms of Parents' Average Monthly Income. Student-respondents involved in this study are children of families whose income within the lowest ladder as categorized in this study which implies that most of these students could hardly avail of sufficient financial support for education due to their parents' meager income.

On the extent of teaching strategies among secondary school teachers at Maimbung Technical Vocational High School:

2.1 Collaborative Learning Approach is rated as Agree or with High Extent

2.2 Activity-Based Learning Approach is rated as Agree or with High Extent

2.3 Problem-Based Learning Approach is rated as Agree or with High Extent; and

2.4 Hands-on Learning approach is rated as Agree or with High Extent.

On the average, teachers of Maimbung Technical Vocational High School are involving students to work together in groups to achieve a common goal through interaction, communication, and shared responsibility among group members, fostering a sense of community and promoting mutual understanding. Valames (2023) points out that cooperative learning approach involves learners working together on activities or learning tasks in a group small enough to ensure that everyone participate. Learners in the group may work on separate tasks contributing to a common overall outcome, or work together on a share task.

3) On Differences in the extent of teaching strategies among secondary school teachers at Maimbung Technical Vocational High School

3.1 According to Age. There is indeed a significant difference in the extent of teaching strategies among secondary school teachers at Maimbung Technical Vocational High School, Ministry of Basic, Higher, and Technical Education – Sulu, as perceived by the Junior High School students, when data are grouped according to their demographic profile in terms of age" is rejected. Student-respondents within the age range of 16 years & above are better perceivers of the extent of teaching strategies among secondary school teachers in terms of Collaborative Learning Approach, Problem-Based Learning Approach, and Hands-on Learning Approach.

3.2 According to Gender. There is no significant difference in the extent of teaching strategies among secondary school teachers at Maimbung Technical Vocational High School, Ministry of Basic, Higher, and Technical Education – Sulu, as perceived by the Junior High School students, when data are grouped according to their demographic profile in terms of gender.

3.3 According to Grade Level. There is indeed a significant difference in the extent of teaching strategies among secondary school teachers at Maimbung Technical Vocational High School, Ministry of Basic, Higher, and Technical Education – Sulu, as perceived by the Junior High School students, when data are grouped according to their demographic profile in terms of grade level. Student-respondents enrolled as Grade 9 are better perceivers of the extent of teaching strategies among secondary school teachers in terms of Collaborative Learning Approach, Problem-Based Learning Approach, and Hands-on Learning Approach.

3.4 According to Parents' Educational Attainment. There is no significant difference in the extent of teaching strategies among secondary school teachers at Maimbung Technical Vocational High School, Ministry of Basic, Higher, and Technical Education – Sulu, as perceived by the Junior High School students, when data are grouped according to their demographic profile in terms of parent's educational attainment.

3.5 According to Parents' Average Monthly Income. There is no significant difference in the extent of teaching strategies among secondary school teachers at Maimbung Technical Vocational High School, Ministry of Basic, Higher, and Technical Education – Sulu, as perceived by the Junior High School students, when data are grouped according to their demographic profile in terms of parent's average monthly income.

The result implies that some profiles of teachers tend to show difference in the extent of teaching strategies used. Khurshid and Zahur (2013) reported that teachers with more professional qualifications were more aware of the innovative teaching methodologies. Teacher's years of experience is a measure of their quality and thus become imperative in the achievement of academic performance (Akinsolu, 2010). The result of the study supports the different theories on which the study was anchored on; Social Constructivism Approach (Vygotsky, 1978); Experiential Learning Theory (Kolb, 1984); Problem-Based Learning (Barrows and Tamblyn, 1980); and Problem-Based Learning (Piaget, 1954).

4) On the Correlation between the sub-categories subsumed under the extent of teaching strategies among secondary school teachers at Maimbung Technical Vocational High School

There is indeed a high positive correlation among the sub-categories subsumed under the extent of teaching strategies among secondary school teachers at Maimbung Technical Vocational High School, Ministry of Basic, Higher, and Technical Education – Sulu, as perceived by the Junior High School students, in the context of Collaborative Learning Approach, Activity-Based Learning Approach, Problem-Based Learning Approach, and Hands-on Learning Approach" is rejected.

The result implies that the different teaching strategies are interrelated. It is quite difficult to separate one strategy from another strategy. Teachers tend to use the different strategies depending on the type of class and the topic discussed. Giordano (2020), the different learning strategies are methods that help students, improve and their learning and academic success. They are conscious, intentional techniques that allow students to adapt how they learn based on the purpose and requirements of an academic task in a specific learning situation.

Limitations

The study suggests the need for further research to establish further a mathematical model connecting various demographic variables and analyzing the students' overall perspective. Future studies could explore additional factors such as job satisfaction, teachers' work engagement, teachers' work commitment, students' learning anxiety, and students' learning strategies in some other settings.

Conclusions

The following are the conclusions made based of the findings of this study:

1) Junior high school students involved in this study are adequately represented in terms of age, gender, grade level, parent's educational attainment, and parent's average monthly income.

2) On the average, there is a high extent on the use of teaching strategies among secondary school teachers of Maimbung Technical Vocational High School in terms of Collaborative Learning Approach, Activity-Based Learning Approach, Problem-Based Learning Approach, and Hands-on Learning Approach.

3) Generally, except age and grade level, other variables such as gender, parent's educational attainment, and parent's average monthly income do not significantly mediate in ways how junior high school students assessed the teaching strategies among secondary school teachers of Maimbung Technical Vocational High School.

4) Generally, the group of junior high school students who perceived the teaching strategies employed by teachers of Maimbung Technical Vocational High School in terms of Collaborative Learning Approach as Agree or with High Extent is most likely the same group of junior high school students who perceived Activity-Based Learning Approach, Problem-Based Learning, and Hands-on Learning Approach as Agree or with High Extent, respectively.

5) This study seems to support Social Constructivism developed by Lev Vygotsky (1978) which emphasizes the importance of social interaction and collaboration in learning. It is aligned with Vygotsky's ideas about the Zone of Proximal Development.

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