Extent of Utilization of Teaching Strategies Among Technical Vocational Livelihood Teachers Across Demographic Profiles

Dexter R. Arnejo[a], Gemma G. Baguio[b]

[a] dexterarnejo@gmail.com, [b] gemmabaguio260@gmail.com

[1] Department of Education, Ceferino Sususco Memorial National High School,Agsuwao, Catmon, Cebu, 6006, Philippines

[2b] Department of Education Agusan del Sur National High School, San Francisco, Agusan del Sur, 8501, Philippines

Abstract

Teaching strategies are vital to the teaching-learning process because these help and guide the teachers to make students engage and learn the lesson. Teachers should carefully use and plan effective teaching tactics to boost active participation among learners. This study investigates the utilization of teaching strategies among Technical Vocational and Livelihood (TVL) Senior High School teachers in consideration of their various demographic profiles—such as position, length of teaching experience, field of specialization, current teaching level, and highest educational attainment. Utilizing descriptive and inferential statistical analyses, the study reveals key patterns and trends in teaching practices across different teacher demographics. The findings indicate that teaching strategies are employed with high frequency across most demographic profiles, with "Very Frequently" usage observed in areas such as Group Work and Oral Recitation. Despite this, the analysis shows no significant differences in the teaching strategy used by the teachers based on their demographic factors, such as position, experience, specialization, teaching level, and educational attainment. ANOVA results support the conclusion that teaching effectiveness is consistent across these variables, as all p-values exceed the 0.05 significance threshold. The study highlights that while TVL teachers use a range of teaching strategies, the demographic factors do not significantly impact their effectiveness. This suggests that variations in teaching strategy use are not strongly influenced by demographic characteristics, implying a uniform approach to strategy implementation among TVL educators. The insights gained can inform professional development programs and support systems to enhance teaching practices and ultimately improve student outcomes in TVL education. The study's implications suggest that targeted interventions may not need to vary widely based on demographic profiles but rather focus on broader educational enhancements.

Keywords: Teaching Strategies; Technical Vocational and Livelihood Education (TVL); Demographic Profiles

1. Introduction

Teaching Strategies are ways in which student can learn in the process of teaching and learning. This helps the students understand clearly the matters that teachers wants his/her students to learn. The teaching style should be in consonance to the learning style of the learners. Learners learn better when their interests are catered. The level of engagement of the students in the teaching-learning process signifies that the teaching strategies employed by the teacher catches the interests of the learners and the students are more likely to take part and to get engage in the process. Thus, students learn and the teaching strategies employed are effective.

Teaching strategies in TVL education and its effectiveness when employed to the teaching-learning process have been a common agenda of various research studies. TVL programs with a blend of traditional and innovative teaching methods to cater to diverse learning styles and industry requirements

produced a sound result (Smith & Jones, 2022). The good practice of hands-on, experiential learning and industry partnerships in Germany and Singapore contributed to their more developed vocational education systems (Brown & Green, 2021). In the Philippine, TVL is a significant component of the K-12 education system wherein K-12 graduates in TVL track are prepared to be job ready as one of the four exits of the Senior High School program. Proponents of recent studies advocated that teaching strategies used by TVL teachers differ widely depending on their demographic profiles (De Castro et al., 2023). There are several factors noted to have sound influence on positive impact of teaching strategies when employed to students in the classroom setting. These are the teacher training, professional development opportunities, and regional disparities of the TVL teachers (Salazar, 2022). Exposure of teachers to high-end available educational resources is a dominant factor. For example, teachers who are teaching in urban areas with access to more resources use more advanced teaching strategies than those in rural areas. Local research in the Philippines on specific regions or institutions proved that demographic factors such as age and tenure of teaching experience has influence on the use of recent teaching strategies (Gonzales, 2024). Teachers who adventurous and well accustomed in the use of digital tools in teaching students are young and neophyte teachers. They are eager to explore and integrate technology in delivering the lessons to their classes effectively than their older colleagues (Martinez, 2023). Furthermore, the professional development programs and support systems should be strengthened and made available to assist teachers to better play their crucial role in shaping teaching practices.

The primary objective of the research study is to examine how demographic profiles influence the utilization of teaching strategies among TVL teachers. There is substantial research on the effectiveness of various teaching methods; however, there is a gap in understanding how the demographic factors affect the teaching strategies employed in TVL settings.
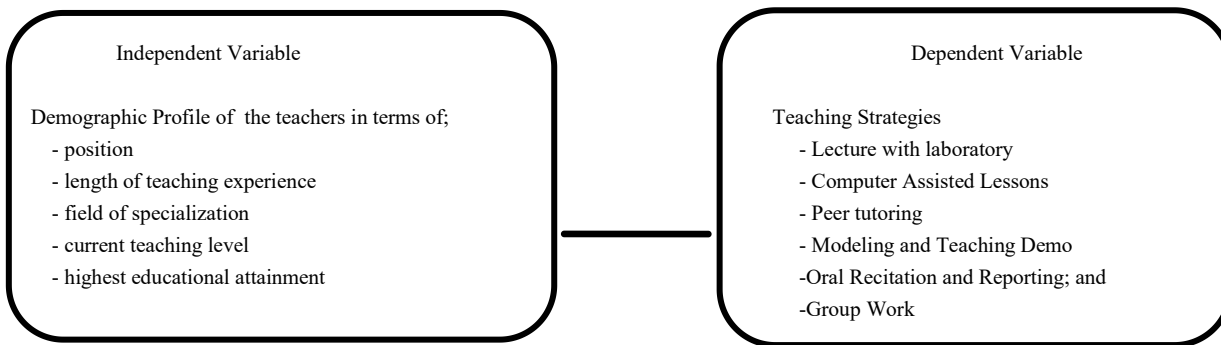
Understanding the factors that impact the effectiveness of TVL education is crucial in preparing students for the workforce. Identifying how demographic profiles influence teaching strategy utilization can help policymakers and educational institutions tailor professional development programs and support systems to better meet the needs of TVL teachers. Such targeted interventions have the potential to improve teaching practices, enhance student learning experiences, and ultimately lead to better career outcomes for students.

This study specifically examines Technical Vocational and Livelihood (TVL) senior high school teachers in the Philippine setting in consideration with their demographic profiles and its influence in the utilization of teaching strategies in TVL classes. It aims to provide insights into the varied approaches and challenges faced by these educators. However, the study may face some limitations, including potential biases in self-reported data and the possibility that certain regional or institutional variations might not be fully captured. Additionally, the rapidly evolving nature of educational technologies could affect the generalization of the findings over time.

Assessing the influence of the Senior High School TVL teachers' demographic profile in utilizing teaching strategies in their classes is vital for enhancing the quality of Technical-Vocational-Livelihood education. This research aimed to bridge the noted gaps in the literature and provided valuable insights for improving teaching practices of the TVL teachers in Agusan del Sur National High School, Caraga Region and Ceferino Sususco Memorial National High School, Central Visayas Region. The upcoming sections described the research methodology, presented the findings, and explored the implications for policy and practice in TVL education.

1.1. Conceptual Framework

To illustrate the relationship between the independent and dependent variables in this study, we use the following IV-DV model:

Independent Variable	Dependent Variable
Demographic Profile of the teachers in terms of; - position - length of teaching experience - field of specialization - current teaching level - highest educational attainment	Teaching Strategies - Lecture with laboratory - Computer Assisted Lessons - Peer tutoring - Modeling and Teaching Demo -Oral Recitation and Reporting; and -Group Work

The diagram above illustrates the study's independent and dependent variables. The independent variables reflect the demographic profile of the teachers at Agusan del Sur National High School in the Caraga Region and Ceferino Sususco Memorial National High School in the Central Visayas Region. These variables include position, length of teaching experience, field of specialization, current teaching level, and highest educational attainment.

The dependent variables encompassed various teaching strategies, including lectures with laboratory sessions, computer-assisted lessons, peer tutoring, modeling and teaching demonstrations, oral recitations and reporting, and group work.

1.2. Statement of the Problem

The main purpose of this study is to assess the extent of utilization of teaching strategies among Technical-Vocational Senior High School Teachers across demographic profiles.

Specifically, this aims to answer the following specific questions:

1. What is the demographic profile of the teachers in terms of:

1.1. position
1.2. length of teaching experience
1.3. field of specialization
1.4. current teaching level
1.5. highest educational attainment

2. How frequently do teachers use various teaching strategies in their teaching and learning in terms:

2.1. lecture with laboratory
2.2. computer-assisted lessons
2.3. peer tutoring
2.4. modeling and teaching demo
2.5. oral recitation and reporting, and
2.6. group work

3. Is there a significant difference in the frequency of employing the aforementioned various strategies when grouped according to the teachers' demographic profile?

II. Methodology

This chapter discussed the methods and procedures of the study, including the research design, data-gathering tools and techniques, sampling procedures, and data analysis scheme.

2.1 Research Design

The study utilized a descriptive-comparative research design to examine differences in the frequency with which TVL (Technical-Vocational-Livelihood) teachers employed various teaching strategies based on their demographic profiles. Data were collected and analyzed through a modified survey questionnaire administered to TVL senior high school teachers. This methodology facilitated a thorough survey of the educators' experiences and perspectives with a comprehensive understanding of the teaching strategies utilized within the TVL classes.

2.2 Respondents of the Study

The study involved all Technical-Vocational-Livelihood Track Senior High School Teachers from two schools: Agusan Del Sur National High School in the Caraga Region and Ceferino Sususco Memorial National High School in the Central Visayas Region for the school year 2024-2025. The participant group included 10 male teachers and 15 female teachers from these schools who were actively teaching during the study.

2.3 Research Instrument

The school heads of Agusan Del Sur National High School in the Caraga Region and Ceferino Sususco Memorial National High School in the Central Visayas Region were contacted using a letter request asking permission to conduct the study.

The research instrument was a modified version of a survey questionnaire initially developed by Mr. Sergia B. Pangan for his 2022 study published in the International Journal of Research and Practice (IJRP).

This modified questionnaire was the primary tool for gathering responses to the current study's research questions and was specifically tailored to meet the study's objectives.

Two distinct questionnaires were used to collect the required data. The first questionnaire gathered demographic information from the respondents, while the second focused on the teaching strategies employed by technical-vocational-livelihood (TVL) education teachers. After modifications and validations, the second questionnaire was administered using a Five-Point Likert Scale, which ranged from five (5), representing "Very Frequently" (VF), to one (1), representing "Not at All" (NA).

2.4 Data Gathering Procedure

The instrument used for data collection in this study consisted of a set of a modified research instrument divided into two parts. The researcher initially sought permission from the school heads to conduct the study.

Part one of the instrument gathered professional and demographic information from participants. TVL track teachers provided details on various demographic variables, including their position/role, teaching experience, field of specialization, current teaching level, and educational attainment.

Part two of the questionnaire examined the frequency with which TVL track teachers utilized different teaching strategies. This section also included survey questions directed at TVL teachers, offering valuable insights.

The researcher analyzed the responses from the survey questionnaires which served as a foundation for drawing conclusions and identifying key findings.

2.5 Data Analysis

The collected data are presented in tables. To ensure accuracy and reliability in analyzing and interpreting the data, various statistical tools were employed.

The data obtained from Research Question 1 were summarized and analyzed using frequency and percentage, while the data obtained in Research Question 2 utilized the mean to determine its central tendency, and the data from Research Question 3 were analyzed using One-Way Analysis of Variance (ANOVA) to determine the significant differences among groups.

The task of the researcher was to interpret and synthesize the data into clear, logical, and reliable information, providing direct answers to the research questions.

III. Results and Discussion

This chapter provides a detailed presentation, analysis, and interpretation of the data collected, along with the results of the statistical methods used to explore the relationship between Technical-Vocational-Livelihood (TVL) track senior high school teachers and the frequency of employing teaching strategies.

3.1 Senior High School TVL Teachers' Combined Demographic Profile

Table 1. Demographic Profile Survey for TVL Teachers as to Position/Role, Teaching Experiences, Field of Specialization, Current Teaching Level and Educational Attainment

Demographic Profile	Category	Frequency	% of Total
Position	Master Teacher	1	
	Teacher	23	
Length of Teaching Experience	Less than 1 year	3	12.5%
	1 to 3 years	6	25.0%
	4 to 6 years	5	20.8%
	7 to 10 years	7	29.2%
	More than 10 years	2	8.3%
	More than 11 years	1	4.2%
Field of Specialization	BPP	1	4.2%
	CSS	3	12.5%
	Culinary Arts	12	50.0%
	Carpentry	2	8.3%
	DM	2	8.3%
	Dressmaking	3	12.5%
	SMAW	1	4.2%
Current Teaching Level	Grade 11	14	58.3%
	Grade 12	10	41.7%
Highest Educational Attainment	Bachelor's Degree	20	83.3%
	Master's Degree	4	16.7%

Figure 1. Demographic Profile Survey for TVL Teachers as to Position/role, Teaching Experiences, Field of Specialization, Current Teaching Level and Educational Attainment

The demographic profile analysis reveals insightful patterns about the distribution of teachers across various categories, including their positions, length of teaching experience, field of specialization, current teaching level, and highest educational attainment.

This reveals several key trends. The majority are Teachers 1-3 (23), with only 1 Master Teacher, indicating a predominance of Teachers 1-3 and limited representation of Master Teacher. In terms of experience, teachers with 7 to 10 years' experience form the largest group at 29.2%, followed by those with 1 to 3 years (25.0%) and 4 to 6 years (20.8%). Together, these groups make up 75% of the respondents, reflecting a balance of early to mid-career professionals. Teachers with less than 1-year experience represent 2.5%, while those with more than 10 years and more than 11 years make up smaller proportions (8.3% and 4.2%, respectively), indicating fewer experienced teachers. In terms of specialization, Culinary Arts is the most represented, with 50.0% of teachers, CSS and Dressmaking each account for 12.5%, showing moderate emphasis. Carpentry and DM each make up 8.3%, while BPP and SMAW are the least represented at 4.2%, reflecting a smaller number of teachers in these fields. Regarding current teaching levels, 58.3% of teachers is teaching Grade 11, with the remaining 41.7% teaching Grade 12, indicating a smaller number of TVL

teachers on Grade 12. Finally, a majority of teachers hold a Bachelor's Degree (83.3%), with a smaller proportion holding a Master's Degree (16.7%). This highlights that while most meet the basic qualification for teaching, fewer have pursued advanced degrees.

Table 1 shows the frequency of teaching strategy use across different demographic profiles reveals several key patterns. For position, both Teachers and Master Teachers show high engagement with teaching strategies, generally falling in the "Very Frequently" range (4.13 – 4.33) for Teachers, and ranging from "Regularly" to "Very Frequently" (3.80 – 4.80) for Master Teachers, with particularly higher usage noted for Strategies 5 and 6. When examining the length of teaching experience, teachers with less than 1 year and those with 1 to 3 years of experience use strategies "Very Frequently" (3.67 – 4.37). However, for teachers with 4 to 6 years of experience, strategy use drops to the "Regularly" range (3.64 – 4.08). Teachers with 7 to 10 years of experience use strategies "Very Frequently" (4.14 – 4.66), and those with more than 10 and more than 11 years of experience also fall into the "Very Frequently" range (4.13 – 4.60), indicating a consistent and sustained use of strategies over time.

Looking at the field of specialization, certain groups such as AFA, DM, and SMAW show the highest frequency of strategy use, with ratings ranging from "Very Frequently" to the maximum possible rating (4.20 – 5.00). In contrast, the BPP specialization demonstrates the lowest frequency of strategy use, falling mostly in the "Regularly" range (3.00 – 4.00). Specializations like CSS, Culinary Arts, Carpentry, and Dressmaking show moderate usage levels, spanning from "Regularly" to "Very Frequently" (3.87 – 4.60). For current teaching levels, both Grade 11 and Grade 12 teachers exhibit "Very Frequently" use of strategies (4.00 – 4.42), with only slight variations across different strategies. Regarding highest educational attainment, teachers with a Bachelor's Degree use strategies "Very Frequently" (4.04 – 4.28), whereas those with a Master's Degree demonstrate a more consistent and even higher frequency of strategy use, with some values nearing the maximum rating (4.25 – 4.70). This suggests that higher educational attainment is associated with greater engagement in a variety of teaching strategies.

These findings indicate that the use of teaching strategies is influenced by position, experience, specialization, teaching level, and educational attainment, with some demographic groups demonstrating more frequent and diverse use of strategies than others.

3.2 Mean Frequency Level of Teaching Strategy Use

Table 2. Mean Frequency Level of Teaching Strategy Use by TVL Teachers Based on Demographic Profile

Demographic Profile	$\bar{x}1$	QD	$\bar{X}2$	QD	$\bar{X}3$	QD	$\bar{X}4$	QD	$\bar{X}5$	QD	$\bar{X}6$	QD
Position Teacher	4.13	R	4.13	R	4.09	R	4.28	VF	4.12	R	4.33	VF
Master Teacher	4.00	R	3.80	R	4.00	R	4.00	R	4.80	VF	4.80	VF
Length of Teaching Experience												
1 to 3 yrs	4.07	R	4.23	VF	4.13	R	4.37	VF	4.20	VF	4.23	VF
4 to 6 years	3.84	R	3.64	R	3.80	R	3.92	R	3.96	R	4.08	R
7 to 10 yrs	4.31	VF	4.26	VF	4.14	R	4.40	VF	4.40	VF	4.66	VF
LESS THAN 1 YR	4.07	R	4.00	R	4.00	R	4.13	R	3.67	R	4.20	VF
more than 10 yrs	4.20	VF	4.40	VF	4.33	VF	4.40	VF	4.13	R	4.33	VF
more than 11 yrs	4.40	VF	4.20	VF	4.40	VF	4.60	VF	4.40	VF	4.60	VF
Field of Specialization												
AFA	4.20	VF	4.40	VF	5.00	VF	5.00	VF	4.60	VF	5.00	VF
BPP	3.00	VF	3.40	R	3.80	R	3.80	R	4.00	R	3.60	R
CSS	4.07	R	4.13	R	3.87	R	4.27	VF	4.40	VF	4.60	VF
CULINARY ARTS	4.03	R	3.95	R	3.95	R	4.17	R	3.88	R	4.20	VF
Carpentry	4.00	R	4.30	VF	4.00	R	4.20	VF	4.20	VF	4.00	VF
DM	5.00	VF	4.80	VF	4.70	VF	5.00	VF	4.70	VF	5.00	VF
Dressmaking	4.20	VF	4.33	VF	4.20	VF	4.20	VF	4.27	VF	4.40	VF
SMAW	4.60	VF	4.00	R	4.40	VF	4.20	VF	4.60	VF	4.60	VF
Current Teaching Level												
GRADE 11	4.05	R	4.00	R	4.01	R	4.21	VF	4.15	R	4.29	VF
GRADE 12	4.22	VF	4.28	VF	4.20	VF	4.36	VF	4.14	R	4.42	VF
Highest Educational Attainment												
Bachelor's Degree	4.04	R	4.09	R	4.06	R	4.25	VF	4.10	R	4.28	VF
Master's Degree	4.55	VF	4.25	VF	4.25	VF	4.40	VF	4.35	VF	4.70	VF

Legend: 5.00-4.20 (Very Frequently), 4.19-3.50 (Regularly), 3.49-2.60(Periodically), 2.59-1.80 (Occasionally), 1.79-1.0 (Not at All) Lecture with Laboratory (X1); Computer Assisted Lesson (X2); Peer Tutoring (X3), Modeling and Teaching Demo (X4), Oral Recitation and Reporting (X5), Group Work (X6)

Table 3. ANOVA Results for Differences in Teaching Strategy Use of TVL Teachers Based on Demographic Profile

Demographic Profile	Teaching Strategy	p-value	Decision	Conclusion
Position				
	Lecture with Laboratory	0.843	Fail to Reject	Not Significant
Teacher	Computer Assisted Lesson	0.606	Null	
Master Teacher	Peer Tutoring	0.866	Hypothesis	
	Modeling and Teaching Demo	0.584		
	Oral Recitation and Reporting	0.241		
	Group Work	0.380		
Length of Teaching Experience				
< 1 year	Lecture with Laboratory	0.647		Not Significant
1-3 years	Computer Assisted Lesson	0.469	Fail to Reject	
4-6 years	Peer Tutoring	0.651	Null	
7-10 years	Modeling and Teaching Demo	0.501	Hypothesis	
More than 10 years	Oral Recitation and Reporting	0.518		
	Group Work	0.499		
Field of Specialization				
Electrical Installation and	Lecture with Laboratory	0.357	Fail to Reject	Not Significant
Maintenance	Computer Assisted Lesson	0.520	Null	
DomRac	Peer Tutoring	0.322	Hypothesis	
Culinary Arts	Modeling and Teaching Demo	0.385		
Shielded Metal Arc Welding	Oral Recitation and Reporting	0.322		
Dressmaking NC II	Group Work	0.192		
Carpentry NC II				
Plumbing				
Other (please specify)				
Current Teaching Level				
Grade 11	Lecture with Laboratory	0.508	Fail to Reject	Not Significant
Grade 12	Computer Assisted Lesson	0.262	Null	
	Peer Tutoring	0.388	Hypothesis	
	Modeling and Teaching Demo	0.478		
	Oral Recitation and Reporting	0.978		
	Group Work	0.560		
Highest Educational Attainment				
Bachelor's Degree	Lecture with Laboratory	0.120		
Master's Degree Doctoral Degree	Computer Assisted Lesson	0.626	Fail to Reject	
Technical Vocational	Peer Tutoring	0.505	Null	Not Significant
Certification	Modeling and Teaching Demo	0.582	Hypothesis	
Others (please specify	Oral Recitation and Reporting	0.435		

Group Work	0.137

Table 3 shows the significance of different teaching strategies across various demographic profiles of educators. The key demographic profiles considered are Position, Length of Teaching Experience, Field of Specialization, Current Teaching Level, and Highest Educational Attainment. For each demographic, several teaching strategies were evaluated using p-values to determine their statistical significance. For both Teachers and Master Teachers, none of the teaching strategies—such as Lecture with Laboratory, Computer-Assisted Lessons, Peer Tutoring, Modeling and Teaching Demo, Oral Recitation and Reporting, and Group Work— showed significant differences ($p > 0.05$). This suggests that the effectiveness of teaching strategies is similar regardless of the position. Educators with varying lengths of teaching experience (<1 year to more than 10 years) showed no significant differences in the effectiveness of all teaching strategies (all p-values > 0.05). This indicates that experience does not significantly impact the perceived effectiveness of different strategies. Across various specializations (e.g., Electrical Installation, Culinary Arts, Dressmaking, etc.), none of the teaching strategies showed significant differences ($p > 0.05$). This implies that the effectiveness of teaching methods is not significantly influenced by the field of specialization. For both Grade 11 and Grade 12 teachers, all teaching strategies showed no significant differences (all p-values > 0.05). This suggests that the effectiveness of strategies is consistent across different teaching levels. Teachers with different levels of educational attainment (Bachelor's to Doctoral Degree, Technical Vocational Certification, etc.) also showed no significant differences in the effectiveness of the Lecture with Laboratory strategy ($p = 0.120$), and by extension, this may imply similar results for other strategies.

IV. Findings

- Majority of the TVL teachers are Teachers I-III, with only 1 Master Teacher with 7 to 10 years of experience, 12.5% having less than 1 year and a few with over 10 years. Culinary Arts is the leading specialization at 50%, followed by CSS and Dressmaking at 12.5% each. Carpentry and DM are at 8.3%, and BPP and SMAW at 4.2% each. Most teach Grade 11 (58.3%), with the rest in Grade 12. Educationally, 83.3% have a Bachelor's Degree, and 16.7% have a Master's Degree.

- Teachers use all strategies regularly, with Group Work and Oral Recitation being most frequent (4.28 and 4.33). Master Teachers use these strategies even more (4.80). Teachers with 1 to 3 years and 7 to 10 years of experience use strategies "Very Frequently" (4.37 to 4.66). AFA and DM show the highest usage (4.20 to 5.00), while BPP shows the lowest (3.00 and 3.60). Grade 11 teachers use strategies "Regularly" to "Very Frequently" (4.21 and 4.29), and Grade 12 teachers use them more (4.36 and 4.42). Bachelor's Degree holders use strategies "Regularly" to "Very Frequently," while Master's Degree holders use them more frequently (4.40 and 4.70).

- P-values for teaching strategies, including Lecture with Laboratory (0.843), Computer-Assisted Lesson (0.606), Peer Tutoring (0.866), and Group Work (0.380), all exceed 0.05, indicating no significant differences between Teachers and Master Teachers. Similarly, p-values for different teaching experience levels, specializations, and teaching levels show no significant variations. Educational attainment also does not significantly impact strategy use, with p-values for strategies like Lecture with Laboratory (0.120) and Group Work (0.137) above 0.05.

V. Conclusions

- TVL teachers were mainly Teachers I-III with 7 to 10 years of experience, had concentration on Culinary Arts and taught Grade 11 learners. High number of teacher with Bachelor's Degree holder highlighted the need for further professional development.

- TVL teachers use a variety of teaching strategies frequently, regardless of demographic factors. While some specializations and higher educational levels are linked to more frequent use of strategies like Group Work and Oral Recitation, overall usage remains consistent across different experiences and levels.

- Teaching strategies are consistent across different teacher demographics, with no significant influence from position, experience, specialization, teaching level, or educational attainment.

VI. Recommendations

1. Professional development should focus on enhancing teaching strategies broadly rather than targeting specific demographics.

Acknowledgement

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