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Team Teaching and Collaborative Learning Strategies in Enhancing the Performance Level of Grade 7 TLE Students in Dressmaking

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Abstract

This study was undertaken to determine student respondents' perception of Team Teaching and Collaborative Learning Strategies in the enhancement of their cognitive and performance skills in TLE 7 (Dressmaking) as the basis for curriculum innovation. The descriptive method of research was utilized in this study with the use of a survey questionnaire for the responses. The Spearman tool was used to find out if there is a significant relationship between independent variables, Team Teaching and Collaborative Learning Strategies, the dependent variables such as students' Pre and Post-Test Results as well as Performance skills such as to Application, Creativity, Workmanship, and Safety in TLE. Respondents perceived Team teaching and Collaborative Learning Strategies with an overall mean of 4.49 and 4.56 as Very Highly Observed. The findings reveal that the cognitive and performance skills of the respondents in TLE 7 (Dressmaking) in terms of scores were outstanding after exposure to team teaching and collaborative learning strategies. This research concluded that the null hypothesis stating there is no significant difference between the level of respondent's performance in Pre and Post-Tests before and after the application of team teaching and collaborative learning strategies in teaching TLE is therefore not sustained. The hypothesis stating that the perception of respondents in Team Teaching and Collaborative Learning strategies are not significantly related to their cognitive and performance skills in TLE 7 is partially sustained. Since most of the findings were significant, it is recommended to keep the fire burning for teachers and improve Team Teaching and for students to continue and improve the scaffolding and online file sharing tool driveHQ strategies as well as be more resourceful in coping challenges in school.

Keywords: *Online Class Students, Team Teaching, Collaborative Learning Strategy, Scaffolding Strategy, Online File Sharing Tool DriveHQ, Pre-Test and Post-Test, Performance Skills*

Introduction

The COVID-19 pandemic has affected education, and teacher education, and in various ways. As a result of the closure of universities and schools, teachers and students had to rapidly adapt to remote teaching. Teacher education is no exception. The need to create learning environments for students, and teachers doing their teacher education preparation implied decisions, choices, and adaptations in order to meet not only the expectations of students but also the requirements of teacher education as well as the conditions in which both universities and schools had to operate (Flores and Gago 2020).

The 21st century presented educators with a lot of challenges, the most urgent of which was establishing a new set of skills indispensables for life in an information-based society. This set includes creativity, collaboration, metacognition, motivation, information and media literacy, leadership, and social and cross-cultural skills. Among those, however, scholars tend to pay particular attention to the development of critical thinking. Critical thinking has been defined by many psychologists and educators in different ways. J. Dewey, R. Ennis, R.F. West, M.E Toplak, and K. E. Stanovich, (n.d.)

Technology and Livelihood Education (TLE) equips learners with knowledge and information, skills and processes, the right work values, and life skills in the field of Home Economics, Industrial Arts, Agri-Fishery Arts, and Information Communication Technology (ICT). The 24 TLE courses can be categorized under any of these fields. It is integrative in approach. For instance, it integrates entrepreneurship with all the areas of TLE so students could later set up their businesses in any field of TLE. K to 12 Education Program offers Career Pathways or optional courses that students select from a number of choices. It offers opportunities for specialization in academic, technical-vocational, and entrepreneurship. At Grades 7 and 8, students will study exploratory subjects by taking four Technology and Livelihood Education (TLE) courses for each Grade. At Grades 9 and 10, TLE specializations are offered and to measure students' performance, written and hands-on skills tests are administered by the technology teacher.

Moreover, EDCOM (ret 2012,) reiterated the challenge to teachers of bringing out the best in their TLE students -- which is a very urgent call since "the quality of Philippine education is continuously declining." It can be noted that TLE subjects are not yet given so much importance by many. To date, only a few students take vocational courses, apparently those who do realize that these will lead them to opportunities for employment even if they do not get a college education. In the long run, TLE takers will realize that technical courses are opportunities for them to uplift their economic capabilities and thus improve their family's standard of living. TLE teachers should themselves also be convinced that TLE subjects are the practical and effective answers to the needs of an impoverished society like ours, and that teaching TLE subjects is essential in equipping our youth with knowledge, skills, and proper attitudes towards work and thus ensure the development and wise utilization of our country's resources. TLE is the answer to improve peoples' quality of life.

According to Hesse, et al. 2015, collaborative learning is a promising instructional technique for learning to solve complex problems (Hesse et al. 2015) Discrepancies may be due to a lack of knowledge about many different interacting variables involved in inter-individual activities (Hogg and Gaffney 2018). To reduce this gap, this paper first discusses the advantage of preparing groups to collaborate effectively and shows some existing knowledge gaps in the research. Second, cognitive load theory is used to suggest the advantages of preparing groups to collaborate because this would optimize the collaborative cognitive load, considering the effect of the distribution of task information among group members. Third, these theoretical considerations are followed by a report on an experiment that investigated the effect of prior collaborative experience and information distribution on collaborative learning and its outcomes (i.e., in short-term retention and delayed retention tests) (Kirschner et al. 2018; Sweller et al. 2011).

In addition, the online file-sharing tool DriveHQ was used to facilitate collaboration. Four classes of students used the learning environment to complete their final project in pairs.

Objectives of the Study

This research paper focused on the application of team teaching and collaborative learning strategies amidst the pandemic of Grade 7 TLE students in Dressmaking The purpose of this study is to enhance the cognitive and performance levels of Grade 7 TLE students at San Jose National High School for the School Year 2021-2022. Furthermore, this will also examine the relationship of team teaching and collaborative learning strategies to the enhancement of students' cognitive and performance skills.

1. Identify the student respondents' perception on Teachers' attitudes in Team Teaching and the application of Scaffolding and the Online File Sharing Tool DriveHQ.
2. Intensify the application of Team Teaching and Collaborative Learning Strategies in TLE 7(Dressmaking).
3. Enhance the performance level of Grade 7 TLE students at San Jose National High School (Academic such as Pre and Post-Tests; and Skills such as Application, Workmanship, Creativity and Safety)

Methodology

Research Design. The study used descriptive and correlational research methods in finding answers to the specific problems presented in this research which according to Creswell (2014) is used to describe and measure the degree of association or relationship between two or more variables or set of scores. Descriptive research is intended to characterize and analyze certain phenomena, it answers the question, of who, what, when, where and to what extent. (Loeb et al., 2017). Meanwhile, the main purpose of correlational research is to identify systematic relationships among variables, it involves measuring two or more variables that are relevant and an assessment of its relationship to other variables (Gravetter & Forzano, 2019).

Respondents of the Study. This study is intended to identify the respondents' perceptions of Team Teaching and Collaborative Learning Strategies, their application, and the enhancement of their cognitive and performance skills. It is also intended to prove whether there is a significant relationship between the enhancement of cognitive and performance skills of Grade 7 TLE students after the application of Team Teaching and Collaborative Learning Strategies. The respondents of the research study were 25 students in online classes at San Jose National High School for the School Year 2021-2022. The researcher determined the level of understanding of respondents of the exploratory lessons in TLE, and suggest learning strategies to enhance their cognitive and performance skills in TLE 7 (Dressmaking).

Population and Sampling Technique. A stratified sampling technique was employed in this study involving a total of twenty-five (25) actual respondents representing Grade 7 students at San Jose National High School, Division of Batangas.

Research Instrument. The study utilized a survey questionnaire as its main instrument. Pre and Post-tests were constructed to determine the enhancement of the cognitive skills of the respondents. After the validation of the instrument, the researcher incorporated suggestions, comments, and corrections given by the adviser and experts. The survey questionnaires were distributed or sent to respondents and were retrieved on the date agreed upon.

Research Procedure. After numerous consultations with the research adviser, the topic was conceptualized and submitted to Dean's office for approval. The manuscript was evaluated by several

panel experts to ensure the quality of the content and the relativeness of the research in our current situation. Suggestions and other modifications were applied and done before the actual implementation of the research moves.

After the validation of several experts on the research instrument, the researcher prepared a letter of approval and ask for the consent of administering the research to the principal and respondents. After the endorsement of the school principal, the researcher conducted the study by following different procedures.

The student-respondents received a set of learning materials that were conceptualized by teachers involved in team teaching. In the lesson exemplar, the researcher incorporated collaborative learning activities that will help to enhance their cognitive and performance skills in TLE.

This may be in the form of direct distribution, only if community quarantine is lifted, or thru the utilization of Google Forms and to be distributed online.

The researcher compiled all the gathered needed data. The data gathered from the survey questionnaire was summarized and forwarded to my statistician for statistical treatment. After the result had been obtained from the statistician, an analysis of the data was done, the researcher intended to use several figures to aid in the understanding of the information gathered.

The researcher promised to make sure the confidentiality of the respondents' results and information were the utmost priority.

TLE teachers joined forces to facilitate team teaching. Both TLE teachers brainstormed and discussed the lesson first as well as the execution of the lesson. They have shared their ideas, strategies, and techniques appropriate for the lesson. After the planning stage, they executed it well, one TLE teacher was teaching and the other one was observing. This strategy went well since the purpose of having an observer was not to stress the other one but rather to help them both analyze their SWOT (Strengths, Weaknesses, Opportunities, and Threats) in teaching that lesson. By having this, they were able to improve their strategy for the betterment of the teaching-learning process.

The observer/teacher last time also experienced teaching in front while the teacher/facilitator was the observer. So, this kind of strategy worked well since the result of their activities were enhanced.

Statistical Treatment of Data. The answer sheets were retrieved and tallied according to the variables of the study. The data obtained were presented in tabulated form, analyzed, and interpreted using the following statistical tools.

Mean, Frequency Distribution, and Standard Deviation was applied to find out the profile of the respondents, respondents' perception of Team Teaching and Collaborative Learning Strategies, their application, and the enhancement of their cognitive and performance skills after the application of the mentioned strategies.

Spearman statistical tool was used to find out if there is a significant relationship between independent variables which consists of respondents' perceptions of team teaching and collaborative learning strategies, the application and dependent variables consisting of the respondents' cognitive and performance skills in TLE 7 the school year 2021 – 2022.

On the other hand, Wilcoxon Signed Rank Test was used to measure if there is a significant difference between the pre-test scores and post-test scores of respondents before and after the application of team teaching and collaborative learning strategies in TLE.

Results and Discussion

1. Profile of Respondents

1.1. In terms of Age, Gender, and Family Income

Table 1
Distribution of the Respondents in terms of Age, Gender, and Family Income

	Frequency	Percentage
Age		
12	9	36.0
13	16	64.0
TOTAL	**25**	**100**
Gender		
Male	11	44.0
Female	14	56.0
TOTAL	**25**	**100**
Family Monthly Income		
10,001-15,000	4	16.0
15,001-20,000	15	60.0
20,001-25,000	3	12.0
25,001-30,000	1	4.0
40,001 and above	2	8.0
Total	**25**	**100.0**

Table 1 depicts the profile of the respondents in terms of age, gender, and family monthly income. The data reveals that the majority of the respondents were 13 years old or 64.0%, followed by 12 years old, or 36.0% of respondents. Fourteen (14) or 56.0% were female and Eleven (11) or 44.0% were male. This reveals that the majority of the respondents have a monthly family income of P15,001 to P20,000 with fifteen (15) or 60.0% of the respondents, followed by the least with 1 or 4.0% P25,001 to P30,000 of the respondents. This simply means that twenty-five (25) or 100% of the respondent's family monthly income is sufficient to finance their respective family amidst the pandemic and even with an online class for their children.

1.2. In terms of Parent's Educational Attainment and Employment Status

The 2nd table also depicts that the majority or 21 fathers 84.0% and 12 mothers or 48.0% of the respondents are high school graduates, 2 fathers, or 8.0% and 9 mothers 36.0% finished it to College level, a father, or 8.0% and 3 mothers or 12.0% are College graduates and a father or 4.0% and a mother or 4.0% are elementary graduates. The table also reveals that the majority of mothers or 12 (48.0%) of the respondents are self-employed or own a business while 9 or 36.0% of the fathers have a permanent job.

Table 2
Distribution of the Respondents Parent's Educational Attainment and Employment Status

Parent's Educational Attainment	**Father**		**Mother**	
	Frequency	**Percent**	**Frequency**	**Percentage**
College graduate	1	8.0	3	12.0
College level	2	8.0	9	36.0
High school graduate	21	84.0	12	48.0
High school level	1	4.0	-	-
Elementary Graduate	-	4.0	1	4.0
Total	**25**	**100.0**	**25**	**100.0**
Parent's Status of Employment	**Frequency**	**Percent**	**Frequency**	**Percentage**
Self-Employed	2	8.0	12	48.0
Contractual	6	24.0	5	20.0
Temporary/Casual	6	24.0	-	-
Part-time	-	-	4	16.0
Permanent	9	36.0	3	12.0
Not Employed	2	8.0	1	4.0
Total	**25**	**100.0**	**25**	**100.0**

2. Perception of Team Teaching

2.1. In terms of Teachers' Readiness and Willingness

Table 3
Perception of Team Teaching Teachers' Readiness and Willingness

Indicators	**Mean**	**SD**	**Verbal Interpretation**
In team teaching, my teachers…			
1. perform assigned roles, tasks, responsibilities, schedules, and context in delivering the lesson.	4.72	0.46	Very Highly Observed
2. professionally work in achieving desired objectives of the lesson.	4.52	0.65	Greatly Observed
3. give constructive criticisms for the betterment of our project.	4.40	0.65	Highly Observed
4. are open-minded enough with praise, setbacks, and criticism to improve our skills	4.36	0.70	Highly Observed
5. understand and balance views and beliefs to reach workable solutions on the problems	4.56	0.58	Very Highly Observed
Overall	**4.51**	**0.50**	**Very Highly Observed**

Table 3 reveals the perception of the respondents in Team teaching, Teachers' Readiness, and Willingness. Results provided the highest mean of 4.72 (Very Highly Observed) that the respondents perceived that TLE teachers performed assigned roles, tasks, responsibilities schedules, and the context in delivering the lesson.

With an overall mean of 4.51, the respondents very highly observed the TLE teachers' readiness and willingness in teaching. This implies that TLE teachers were ready and willing to implement team teaching and collaborative learning strategies for the betterment of the teaching-learning process amidst the pandemic.

TLE teachers performed their assigned roles, tasks, responsibilities, and planned schedules well for the betterment of delivering the lesson. These were felt and seen by learners. During TLE online classes, teachers never missed to send the link on time, which served as a reminder that there will be a class. Each TLE teacher performed well her assigned task by not failing to attend to her class, perform her role for that day, and deliver the lesson prepared and confident.

The results were also proven since DepEd also recognizes that the quality of learning is greatly influenced by the quality of teaching.

2.2. In terms of Teachers' Initiative and Self-direction

Table 4
Perception on Teachers' Initiative and Self-direction

Statements	Mean	SD	VI
1. set specific, measurable, attainable, researchable and time bound (SMART) objectives.	4.40	0.65	Highly Observed
2. utilized time and manage workload efficiently and work in a team.	4.60	0.58	Very Highly Observed
3. monitor, prioritize, assess, and complete the task on time	4.48	0.65	Highly Observed
4. improve and enhance my learning skill level.	4.44	0.58	Highly Observed
5. stay committed to teaching-learning as a lifelong process	4.40	0.58	Highly Observed
Overall	**4.46**	**0.49**	**Highly Observed**

Table 4 depicts the perception of the respondents in TLE teachers' initiative and self-direction. With the highest mean of 4.60, the respondents Very Highly Observed that TLE teachers utilized time and managed their workload efficiently, and work as a team which is vital in pursuing team-teaching strategies. While the lowest mean of 4.40 (Highly Observed) reveals that student, respondents perceived that staying committed to teaching-learning as a lifelong process is the least among the indicators.

This implies that teachers' coordination and working as a team are great factors that are also impactful in the smooth flow of the application of team teaching in TLE classes. This means that student respondents are pleased with TLE teachers' efforts showing their initiative and willingness in teaching. Time management was a great factor in the success of the online class. So, to utilize the time before the class, TLE teachers created a schedule for every topic in Dressmaking.

The Headteachers of TLE made sure that their workloads are fair and just. This added to their harmonious relationship. And of course, team teaching was evident since they both showed their support for each other.

This result can be implied by the study (Rytivaara & Kershner, 2012) stating that co-teaching offers a unique context for professional development and continuous practice for teachers' advanced collaboration, capabilities (Pratt, 2014) that are vital parts of 21st-century skills.

2.3. In terms of Scaffolding Strategy

Table 5
Perception on Collaborative Learning Strategy in terms of Scaffolding Strategy

Indicators	Mean	SD	Verbal Interpretation
My teachers …			
1. explained clearly for easy understanding	4.72	0.54	Very Highly Observed
2. guided us by different models and illustrations	4.64	0.49	Very Highly Observed
3. assigned activities that are challenging that could develop our critical thinking	4.56	0.58	Very Highly Observed
4. provided the different pointers to develop our creativity.	4.60	0.50	Very Highly Observed
5. starts the lessons from simple topics to complex.	4.52	0.51	Very Highly Observed
Overall	**4.61**	**0.39**	**Very Highly Observed**

Table 5 presents the perception of the respondents on the collaborative learning strategy specifically the Scaffolding strategy in the new normal. It depicts that all indicators of the variables are Very Highly Observed as perceived by the respondents and have an overall mean of 4.61.

The highest mean of 4.72, respondents commended their teachers because they explained their lessons clearly for easy understanding by using the Scaffolding strategy. This strategy encourages classmates or other students to be patient and participative in their studies. While with a mean of 4.52, the student-respondents perceived that the least among the indicators was starts the lesson from simple to complex. But it is also positive in a way that the mean still has a verbal interpretation of Very Highly Observed. Findings can be employed that sometimes students did not start their brainstorming or group discussion with simple to complex topics due to some factors in a pandemic that could affect their duties.

Learners believed and proved that teachers explained lessons as clearly as possible. Their scores in Post-Test and performance can speak a lot from that aspect. Teachers found ways in explaining lessons clearly by having activities such as brainstorming, sharing ideas, observing in the class, teaching in the class, and of course studying it well before the date of teaching.

2.4. In terms of Online File Sharing Tool DriveHQ

Respondents perceived the highest mean of 4.56 among the indicators was highly observed that sharing of files used in school to study and analyze ideas and opinions of others as well as this strategy supports learners to communicate effectively are evident.

Table 6
Perception on Collaborative Learning Strategy in terms of Online File Sharing Tool DriveHQ

Indicators	Mean	SD	Verbal Interpretation
My teachers…..			
1. communicate ideas effectively in different social media platforms (e.g., text, email, skype, chat, social media)	4.52	0.51	Very Highly Observed
2. Sharing of file used in school to study and analyze ideas and opinion of others are evident	4.56	0.51	Very Highly Observed
3. Support learners to communicate effectively	4.56	0.58	Very Highly Observed
4. Brainstorming is also evident.	4.40	0.58	Highly Observed
5. Collaborate effectively even in a distance learning set up.	4.44	0.51	Highly Observed
Overall	**4.50**	**0.42**	**Very Highly Observed**

While brainstorming is also evident, it got the lowest mean of 4.40. This implies that even if students are experiencing a hard time to collaborate with their classmates, their teachers still find ways for them to share and exchange ideas with their classmates.

Findings present that respondents perceived that Online File Sharing Tool Drive HQ is a helpful strategy when we talk about collaborative learning strategies that can enhance the performance of Grade 7 TLE students.

It simply means that respondents' perceptions agree that Online File Sharing Tool DriveHQ is helpful to enhance students' performance in TLE. It is because according to Michael Dunlop, Nov. 30, 2021, there are lots of advantages to using the online file-sharing tool such as, provides integrated technology and technical support, allows schools to operate smoothly, makes it possible for their educational facility, etc.

Respondents felt that they were not behind their classmates. Because of these, the communication skills of learners were improved, They learned how to use new social media platforms in communication. They also helped other learners understand complicated lessons through the Online File Sharing Tool DriveHQ.

3. Summary of the Perceptions of Team Teaching and Collaborative Learning Strategies

Table 7
Summary on the Perceptions of Team Teaching and Collaborative Learning Strategies

Team Teaching	Mean	SD	Verbal Interpretation
Teachers' Readiness and Willingness	4.51	0.50	Very Highly Observed
Teacher's Initiative and Self-direction	4.46	0.49	Highly Observed
Overall	**4.49**	**0.50**	**Very Highly Observed**
Collaborative Learning Strategies			
Scaffolding Strategy	4.61	0.39	Very Highly Observed
Online File Sharing Tool DriveHQ	4.50	0.42	Very Highly Observed
Overall	**4.56**	**0.41**	**Very Highly Observed**

Table 7 depicts the summary of the Perceptions of Team Teaching and Collaborative Learning. One of the most important things in the implementation of Team teaching and Collaborative learning strategies is the perception of students. So, from the day of the implementation up to the last, both teachers and students enjoyed the said journey. Students felt that teachers were always there to support and provide for their needs during trying times. The reasons why these became effective were teachers able to collaborate well first in creating plans, WHLP, DLL, and Lesson Exemplar. Then after that, they created a schedule that fits both teachers as well as learners, and there was no conflict. These helped in a way that teachers chose the best and least activities to include in every topic.

It proves that the Teacher's Readiness and Willingness had a 4.51 mean (*Very Highly Observed*) and the Teacher's Initiative and Self-Direction had a mean of 4.46 (Highly Observed). And had an overall mean of 4.49, *Very Highly Observed*, too. While Collaborative Learning Strategies have an overall mean of 4.56, both Scaffolding Strategy and Online file Sharing Tool DriveHQ were perceived as *Very Highly Observed* having a mean of 4.61 and 4.50.

All in all, it showed that throughout this journey, respondents Very Highly Observed the positive attitude of their TLE teachers as well as their participation in implementing Team teaching and Collaborative Learning Strategies at SJNHS.

4. Student's Performance in TLE-Dressmaking

Table 8
Student Respondents Cognitive Performance in TLE-Dressmaking

Cognitive Performance	Pretest		Posttest		Verbal Interpretation
	F	%	f	%	
90-100	-	-	17	68.0	*Outstanding*
85-89	3	12.0	7	28.0	*Very Satisfactory*
80-84	3	12.0	1	4.0	*Satisfactory*
75-79	8	32.0	-	-	*Fairly Satisfactory*
74 and below	11	44.0	-	-	*Did Not Meet Expectations*
Total	**25**	**100.0**	**25**	**100.0**	

Table 8 depicts the cognitive performance of the respondents in TLE 7 Dressmaking. The Pre-test results show that eleven (11) or 44% out of twenty-five (25) students got scores of 74 and below, eight (8), or 32% of the students got scores of 75-79, 3 got 80-84 and only 3 students out of 25 got the scores of 85-89. Unfortunately, no one got scores of 90-100. The Pre-Test was given before the start of the discussion. As a result, 44% got 74 and below or Did Not Meet Expectations.

The data manifested that the Post-test results somewhat proved that after the application of team teaching and collaborative learning strategies, there were enhancements/improvements. Seventeen (17) or 68% of 25 student-respondents got scores of 90-100 (Outstanding), 7 got 85-89(Very Satisfactory) and the only lowest score was 80-84 (Satisfactory) for only 1 respondent. The reasons behind these results were due to teaming strategies of TLE teachers, they had coordinated well in terms of creating DLL or Lesson Exemplar. There was a time when researchers needed to revise the DLL for the betterment of the delivery of the lesson online. Learners also had a Group chat or GC where they can share ideas on their

activities. Even though it's an online class, of course, there were times also when they needed to collaborate for a simple group activity for example there were videos to watch, and after watching, they shared their insights and explained in the class. There were videos to create, so it was easy for them to ask for some instructions, ideas, and tips on how to make it properly.

5. Level of Student's Performance Skills

5.1. In terms of Applying

Table 9
Level of Performance Skill as to Applying

Performance Level	*Post-Performance*		Verbal Interpretation
	Frequency	Percentage	
90-100	18	72.0	Outstanding
85-89	-	-	Very Satisfactory
80-84	1	4.0	Satisfactory
75-79	6	24.0	Fairly Satisfactory
74 and below	-	-	Did Not Meet Expectations
Total	**25**	**100.0**	

Table 9 provides the student-respondents post-performance task scores. Fortunately, eighteen or 72% out of 25 student-respondents got scores of 90-100(Outstanding) while 6 students 24% got scores of 75-79 (Fairly Satisfactory) and 1 got 80-84 4.0% (Satisfactory)

So, the overall result of the performance task in Applying Design and Color Harmonies shows that student-respondents' performances were Outstanding. It implies that the implementation of team teaching and collaborative learning strategies in teaching TLE was effective for the students to apply the knowledge and skills they learned.

For example, learners don't have complete sewing materials at home, and most of their family members cannot support them, so teachers searched and uploaded videos on how to apply design and color. They provided options such as creating their fashion show at home, wearing different clothes with different designs, engaging family members, and the least they did was draw their body shapes with different clothes and designs on bond paper. Learners felt that no one was left behind in this activity that's why most of them performed well.

Aside from giving activities, TLE teachers were able to provide rubrics and check learners' performances or activities together.

As a result, their scores were based on the opinions of both TLE teachers.

5.2. In terms of Creativity

The activity given was showing the maintenance of a sewing machine at home, but how about those who do not have that machine? So, TLE teachers planned very well giving some options, like for example, instead of finding a sewing machine outside, they were able to showcase their talent in a poster-making activity. They illustrated some ways of maintaining sewing machines and explained them in class. Another option was through a video presentation, so, learners had the privilege to choose their activity. While learners during these activities shared their posters to give ideas to others, some let their classmates

watch their own videos, and explained the step-by-step process to make thinks not complicated. (Scaffolding Strategy).

Table 10
Level of Performance Skill as to Creativity

Performance Level	*Post-Performance*		Verbal Interpretation
	Frequency	Percentage	
90-100	16	64.0	Outstanding
85-89	9	36.0	Very Satisfactory
80-84	-	-	Satisfactory
75-79	-	-	Fairly Satisfactory
74 and below	-	-	Did Not Meet Expectations
Total	**25**	**100.0**	

So, overall, the performance skill as to creativity of student-respondents was Outstanding and this is supported by the study of Finn & Zimmer, 2012 that collaborative learning gives students the support they need in an instructional environment, having a positive effect on their ability to learn. One study involving 2,141 eighth graders noted a significant positive correlation of 0.71 between social engagement and academic engagement.

5.3. In terms of Workmanship

Table 11
Level of Performance Skill as to Workmanship

Performance Level	*Post-Performance*		Verbal Interpretation
	Frequency	Percentage	
90-100	19	76.0	Outstanding
85-89	-	-	Very Satisfactory
80-84	-	-	Satisfactory
75-79	6	24.0	Fairly Satisfactory
74 and below	-	-	Did Not Meet Expectations
Total	**25**	**100.0**	

Table 11 depicts that there was an enhancement when it comes to students' performance skills in workmanship after the application of team teaching and collaborative learning strategies.

It is shown on the result that nineteen (19) out of twenty-five (25) or 76% of students got scores of 90-100 (Outstanding) only six (6) students or 24% got 75-79 scores (Fairly Satisfactory). Results imply that when team teaching and collaborative learning strategies were used in the present learning modality, the students can improve or enhance their workmanship skills in TLE.

These results were evident since learners shared their files with others for sharing ideas purposes or the Online File Sharing Tool Drive HQ. Because of this, they knew some things to remember and

include on the said activity, they were able to complete the activity through this and it made the activity easier.

TLE teachers showed their initiative and self-direction in a way that they were willing to meet learners halfway, especially those who were having a hard time cleaning the sewing machine.

5.4. In terms of Safety

Table 12
Level of Performance Skill as to Safety

Performance Level	*Post-Performance*		Verbal Interpretation
	Frequency	Percentage	
90-100	19	76.0	Outstanding
85-89	4	16.0	Very Satisfactory
80-84	2	8.0	Satisfactory
75-79	-	-	Fairly Satisfactory
74 and below	-	-	Did Not Meet Expectations
Total	25	100.0	

Since we are still experiencing trying times, student safety is still the top priority. Table 12 shows that 76% or nineteen (19) out of 25 student-respondents got scores of 90-100 (Outstanding), 16% or four (4) students got 85-89 (Very Satisfactory), and only two(2) students or 8.0% got 80-84 (Satisfactory).

It simply proves that the student respondents' performances were Outstanding through the help of the application of team teaching and collaborative learning strategies.

Teachers presented a video presentation, this was made available every time in Google Classroom, messenger, etc. Aside from that, teachers never forgot to mention safety protocols before and after the class. That was part of the routine every day.

Teachers also had a Group Chat with the parents of their learners. By having this, they kept them updated on the activity and gave reminders on how to support their child in performing at home. This GC helped a lot in the success of every activity.

6. Test of Relationship Between Team Teaching on Student's Performance in Grade 7 TLE

Table 13 shows the test of a significant relationship between the respondents' perception on Team Teaching and Collaborative Learning Strategies and their cognitive and performance skills in TLE 7 (Dressmaking).

Teachers' Readiness and willingness to team teaching have a significant relationship to the cognitive aspect, simply because teachers showed and performed their duties. For example, they planned well considering schedules, time management in finishing the task in dressmaking, and innovating activities for those who do not have a sewing machine at home. While Teachers' Initiative and Self-directions have significant relationships to cognitive and performance skills such as Application and Workmanship.

Teachers guided well learners in performing tasks through online platforms, they also initiated all forms of communication such as messenger, text messages, or even calls to keep the communication open answering queries of learners. Collaborative Learning strategies such as Scaffolding and Online File

Sharing Tool Drive HQ have significant relationships to all cognitive and performance skills (Application, Creativity, Workmanship, and Safety).

Table 13
Test of Relationship of Team Teaching and Collaborative Learning Strategies to Cognitive and Performance Skills of Grade 7 TLE Students in Dressmaking

Strategy	***Performance Level in TLE***				
	Cognitive	Performance Skills			
		Application	Creativity	Workmanship	Safety
Team Teaching					
Teachers' Readiness and Willingness	.683**	.368	.360	.371	.333
Teachers' Initiative and Self-Direction	.656**	.428*	.340	.410*	.381
Collaborative Learning					
Scaffolding Strategy	.724**	.529**	.533**	.572**	.543**
Online File Sharing Tool Drive HQ	.685**	.508**	.432*	.505*	.474*

*Legend: ** Correlation is significant at 0.01 level (two-tailed)*
** Correlation is significant at 0.05 level (two-tailed)*

These are proofs that learners enjoyed these strategies and at the same time, they improved their cognitive and performance skills. They were able to share ideas on their own Group Chat (GC), and they also made some files available to be downloaded by those who needed it, especially if parents are working and don't have enough support systems.

As proof, Teacher's Readiness and Willingness have a significant relationship to the cognitive of student-respondents, .683** at 0.01 significance level, and has no significant relationship to the Performance Skills as to Application, Creativity, and Workmanship with r-.368, .360, .371, and .333 respectively.

While, Teachers' Initiative and Self-Direction have a significant relationship to their cognitive, .656** at 0.01 significance level performance skills particularly to Application .428* and Workmanship .410*. But there is no significant relationship to creativity with r=.340 and safety r=.381.

In Collaborative Learning Strategies, Scaffolding Strategy has a significant relationship to all aspects, Cognitive .724*, and to Performance skills as to Application .529*, Creativity.533*, Workmanship.572* and Safety .543* all at 0.05 significance level.

These results were proven true and correct since the greatest number of student-respondents got scores of 90-100 and they didn't get 74 and below. Their scores played important roles in assessing the success of team teaching and collaborative learning strategies.

The event of the COVID-19 pandemic and the respective implementation of social distancing protocols resulted in a rapid transition to OTL (Online Teaching and Learning) between March and April 2020 for most higher education institutions around the world, independent of whether teachers were prepared (UNESCO IESALC, 2020). This rapid transition of all teaching consequently provides a unique opportunity to observe the extent to which teachers felt prepared for OTL (Brooks & Grajek, 2020). It is important to acknowledge that higher education teachers' perceptions of their readiness for OTL represent a multifaceted problem (Martin et al., 2019). Particularly in relation to the rapid transition to full online teaching, this shift constituted major changes in teaching practice. Such changes in practice, or the

willingness to engage in change at any level, is a complicated organization of individual, institutional, and cultural factors (Kukulska-Hulme, 2012). To understand teachers' readiness for OTL in more detail, examining its relations to these factors is critical (Hung, 2016).

Table 14
Test of Difference Between Pre and Post-Test Results of Grade 7 TLE Students in Dressmaking

Cognitive Pre-Post	Z	Sig. (2-tailed)
Cognitive Performance	4.383[a]	.000

Table 14 shows that there is a significant difference between the pre-test scores and post-test scores of the student respondents before and after the application of team teaching and collaborative learning strategies in teaching TLE. The Statistical tool used was Wilcoxon Signed Rank Test

It is somewhat a confirmation that team teaching and collaborative learning strategies worked well since Post-Test Results were higher than the Pre-Test Results or the cognitive performances of the respondents.

It was evident since during the conduct of the Pre-Test, most of the learners were puzzled and got scores of 74 and below with the verbal interpretation did not meet expectations.

The result of the Post-Test was far from the Pre-Test, and this was a good sign because it means that from a low of 74 and below, learners were able to have scores of 90-100 or Outstanding.

Conclusions

Since the results showed mostly significance, then there is a significant relationship between the respondents' perception of Team teaching and Teachers' Readiness and Willingness to the cognitive and performance skills such as Application, and Workmanship. All performance skills have no significant relationship to teachers' readiness and willingness, the same with safety and creativity they have no significant relationship to teachers' initiative and self-direction. In Collaborative Learning Strategy Scaffolding Strategy and Online File Sharing Tool DriveHQ have significant relationships in all aspects of cognitive and performance skills of the respondents. Therefore, the null hypothesis stating that there is no significant difference between the level of student respondents' performance before and after the application of team teaching and collaborative learning strategies in teaching TLE is not sustained. And, the hypothesis stating that the perception of respondents in Team Teaching and Collaborative Learning strategies are not significantly related to their cognitive and performance skills in TLE 7(Dressmaking) is partially sustained.

Recommendations

From the conclusion drawn, here are the researchers' recommendations.

1. In Collaborative Learning Strategies, Scaffolding Strategy and Online File Sharing Tool DriveHQ have significant relationships to all aspects, Cognitive and Performance skills, so,

students may also continue applying collaborative learning strategies, but with a strict following of safety protocols. This is to help them improve their cognitive and performance skills. Aside from that, their social health is improved by doing those things.

2. Most of the respondents were 13 years old or 64.0% and 12 years old, 36.0%. Aside from that, 9 out of 25 fathers 36.0% have permanent jobs, and 12 or 48.0% are self-employed or own a business.

Since most of the parents are working or owning a small business, they should also engage themselves in an online distance learning modality, they should keep monitoring their progress to be aware of their strengths, weaknesses, even opportunities, and threats. It is highly recommended that they must be familiar with their class schedules to see to it that they perform and finish tasks every day.

3. Team Teaching in terms of Teacher's Readiness and Willingness has a significant relationship to the cognitive skills of student-respondents and has no significant relationship to the Performance Skills Applying, Creativity, and Workmanship. In terms of Teachers' Initiative and Self-Direction, findings reveal that it has a significant relationship to their cognitive, and performance skills particularly to Application .428* and Workmanship .410* but not significant to creativity and safety. So, for teachers who are applying team teaching in online distance learning, keep the fire burning to perform their assigned tasks, improve motivation, and encourage activities to engage students more in performing well in the class. Innovation especially in technology is also a must since they are handling 21st-century learners.

4. Since the results showed mostly significance, then there is a significant relationship between the respondents' perception of Team teaching and to Teachers' Readiness and Willingness to the cognitive and performance skills as to Application, and Workmanship of teachers' initiative and self-direction. All the performance skills have no significant relationship to teachers' readiness and willingness, the same with safety and creativity has no significant relationship to teachers' initiative and self-direction. While in Collaborative Learning Strategy as to Scaffolding Strategy and Online File Sharing Tool DriveHQ have significant relationships in all aspects of cognitive and performance skills of the respondents. This study was solely on the student's perception of Team Teaching (Teachers' Readiness and Willingness) and collaborative learning strategies (Scaffolding Strategy and Online File Sharing Tool DriveHQ). Therefore, it is recommended that future researchers could conduct a comparative study using the same modifications to the instruments and procedures but in different locations, with larger samples, additional strategies, and at different grade levels.

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