



The Effect of Team Based Learning Strategy on the Practical Skills Acquisition of Students in Ramat Polytechnic Maiduguri Borno State

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Abstract: It is normally acknowledged that the criterion for judging whether employable skills is being acquired by students in polytechnics is for them to be able to demonstrate hand on learning in their various work places after graduation. However, the purpose of this study was to determine the effect of Team Based Learning Strategy on Practical Skills Acquisition of Students in Ramat Polytechnics Maiduguri Borno State. Three Null Hypotheses were tested at 0.05 level of significance, pre-test-post-test Quasi-experimental design was used for testing the effect of TBL strategy on practical skills acquisition of students. Hypotheses one indicated the mean scores of Experimental group (mean= 15.78 and S.D= 0.94) and Control group (mean= 15.48 and S.D= 0.89) and $P = 0.76$. The P value is greater than the confidence level, that is $P > 0.05$. Hypotheses two indicated pre-test (mean= 15.78 and S.D= 0.94) and post-test (mean= 25.44 and S.D= 0.61) in SAFA. The t (56) is 15.753. The P value, 0.00 which is less than the confidence level, that is $P < 0.05$. Hypotheses three indicated Experimental group (mean= 25.44 and S.D= 0.61) and Control group (mean= 19.38 and S.D= 0.73). The t (110) is 7.856. The P value, 0.00 which is less than the confidence level, that is $P < 0.05$. Existing intact classes of fifty seven (57) ND II Quantity Surveying Students and fifty five (55) NDII Building Technology Students of 2020/2021 Academic Session were used from Ramat Polytechnics Maiduguri. The students in the experimental group were taught using Team Based Learning (TBL) strategy, while the students in the control group were taught using traditional method. An adopted Sieve Analysis of Fine Aggregate Test (SAFAT) was employed as instruments for data collection Data were analyzed using Mean, Standard Deviation and t -test statistics. The findings revealed that performance of students taught sieve analysis of fine aggregate (SAFA) using Team Based Learning Strategy was significantly higher than the performance of students taught SAFA using traditional method of teaching. Based on the findings, it was concluded that TBL strategy had significant effect on teaching Sieve Analysis of Fine Aggregate. It was therefore suggested that lecturers, instructors, technologist and technical officers in school of environmental studies can adopt TBL strategy in teaching properties of materials and other related practical based courses in national diploma awarding institutions.

Keywords: Skill Acquisitions, Learning Strategy, Sieve Analysis, Practical Task, Self Reliant, Employable Skills.

1.0 Introduction

A skill according to Fategbe (2021) is a special ability acquired through training in order to perform a given task in a better way. He stretched that skill can also be defined as the ability to bring about some end result with maximum certainty and minimum outlay of time and energy. However, someone who has undergone training to acquire a skill is called a professional or an expert. Then the process of moving from being a trainee or inexperienced person to a skilled person is called skill

acquisition. Orishev and Burkhonov (2021) narrated that the increase or decrease of common opinion, experience and vision of future instructors and trainees of technological education and how logical their attitude to their profession is in many respects depends on the degree to which their professional skills and competencies are formed in the educational process both theoretically and practically. This raises the problem of the need to educate future professionals of technological education in the spirit of being knowledgeable in their profession with active participation in assigning tasks to boost and build the national economy. However, to improve the medium of imparting practical skills to learners in build and technological field of practice, there are currently several students centered learning approaches prevailing in medical and vocational education, including Problem-Based Learning (PBL), Case-Based Learning (CBL) and Team Based Learning (TBL), (Shen, 2020). According to Audu *et-al*; (2014) Technical Vocational Education (TVE) could be termed as that aspect of education which provides the recipients with the basic knowledge and practical skills necessary for entry into the world of work as employees or as self-employed. For practical skills acquisition, one-to-one human tutoring or group of small number of learners like team based has claimed to be significantly more effective than one-to-many instructional methods (e.g., traditional classroom instruction, (Robert, *et-al*; 2017). They further added that it is neither a realistic nor affordable solution in large organizations (e.g., academic, corporate, or military).

Team Based Learning Strategy (TBL) is an attempt to encourage effective group interaction by keeping students in the same group throughout the semester or a specified period of time and utilize collaborative activities in each period schedule throughout the study time. Team effectiveness in TBL strategy focused on team size and regular interaction which are the keys to team success. The Literature emphasized team sizes of 5 to 7 students to be engaged daily in-class interaction (Michaelsen *et-al*; 2002; Michaelsen and Sweet 2008). In such situation, “teams” become different and more effective than “groups.” Over time, as students begin to trust each other and develop a commitment to the group, the group becomes a team (Michaelsen *et-al*; 2002). In Nigeria, Polytechnics are established to impart practical and employable skills to youths in line with guide lines from National Board for Technical Education (NBTE) considering her educational system with a view to impart relevant and required trade skills in prospective students studying under a Vocational Training (Tajudeen, 2015). Okolie *et-al*; (2021) maintained that Collaborative learning and student engagement in practical skills acquisition is a set of teaching and learning strategies which allows students to work together to accomplish shared goals, seek outcomes that are beneficial to all, discuss materials with each other, help each other to understand concepts, and encourage each other to work hard.

However, the importance of equipping students undertaking practical based courses across the tertiary institutions in Nigeria with productive employable skills made it compulsory to pay proper attention to the processes of impacting practical skills acquisition during the course of study in various academic institutions (Pausits & Pellert, 2009). With the rapid increase in the rate of unemployment in the country, struggle to empower and up bring youths with self reliant and work ready skills cannot be over emphasize.

1.2 Objectives of the paper

In line with aim of this study on the effect of adequate strategy to impart practical skill acquisition in vocational studies, the objectives of this paper consequently are to review and reveal the effect of team based learning strategy on the practical skills acquisition

of students in Ramat Polytechnic Maiduguri Borno State and the following hypotheses were tested at 0.05 level of significance:

- H0₁:** There is no significant difference between the pre-test mean scores of students taught Sieve Analysis in Soil and Materials Laboratory using Team Based Learning strategy and Traditional method in Ramat Polytechnics Maiduguri Borno State.
- H0₂:** There is no significant difference between the pre-test and the post-test mean scores of students taught Sieve Analysis in Soil and Materials Laboratory using Team Based Learning strategy in Ramat Polytechnics Maiduguri Borno State.
- H0₃:** There is no significant difference between the post-test mean scores of students taught Sieve Analysis in Soil and Materials Laboratory using Team Based Learning strategy and Traditional method in Ramat Polytechnic Maiduguri Borno State.

2. Literature Review

One of the major factors in any skill acquisition is largely depend on strategy or medium to impart the practical skills. In Technical and vocational Training in tertiary Institutions where learners are expected to have work ready skill to prepare them to be self reliant, adequate strategy is required. According to George, (2016) Team learning and action learning are activities with the potential for overlap and synergy, with the subsequent potential for practitioners of each to learn from others. Most action learning may concern a group helping individual members to tackle their problems to get results at the end of the collaborative effort. Carson,(2017) reported that Larry Michaelsen began developing a teaching method based on assigned readings by individual, team tests and team discussions about applied scenarios. This method, called team based learning (TBL), offers a unique learning environment in which students are given opportunities to construct knowledge through multiple testing and open discussions. He further reported that Team-based learning (TBL) is a teaching and learning method established nearly forty years ago by Larry Michaelsen at the University of Oklahoma. Initially developed for Michaelsen's personal use, TBL is now used around the globe in a wide variety of educational settings and by many disciplines. From high schools to medical schools, TBL is successfully implemented by an ever-expanding group of educators with a growing amount of evidence supporting TBL as a student-preferred learning method with positive academic outcomes. In practice, Team Based Learning (TBL) strategy is one of reliable medium of impacting practical skills to learners in any practical based course during study. Team-based Learning is a prepared collaborative learning strategy developed by Larry K. Michaelsen in the early 1970's, the instructional strategy as reported by L. Dee Fink has been designed to support the development of high-performance learning teams and provide opportunities for these teams to engage in significant learning tasks (Alice, 2014). According to Molly, (2017) Constructive use of teams in the classroom, laboratory and workshops may enhance student success in that course and in a work environment. The National Association of Colleges and Employers' (NACE [n.d.](#)) during her annual survey of employers confirmed that teamwork strategy to acquire skills by trainees and the ability to work with others is among the top five qualities employers most desire in employees. However, it was emphasized that good teamwork requires effective communication, regular interaction, mutual respect, and trust. In addition, Successful use of teams in the classroom, laboratory and workshops can improve student motivation. The concept Team Base Learning according to Sweet and Michaelsen (2011) has four distinct practical out lines which is in place to support successful outcome of TBL when it is administer to team work, they are formation of Proper teams, the readiness assessment process, implementation of 4-S application exercises and consideration of student peer evaluations.

2.1 Proper teams

These are strategically formed by the instructor to provide a balance of resources across teams; this may be done by surveying students on the first day of class as regards to prior experience

relevant to the class, previous coursework, or any other features that may contribute to success in the specific course.

2.2 The readiness assessment process

This involves beginning-of-unit readiness assessment tests (RATs) by assigned task that is taken individually, then again by teams. This holds individuals accountable for doing the assigning task and teams accountable for working together to ensure that students understand the basic concepts well enough, to commence the class.

2.3 4-S application exercises

These covered significant activities identified, specific choices of task to be carried out, assigning the same problem to all students and requirement of simultaneous reporting. Significant activities engage students on actual examples so that they can understand the usefulness of the course concepts, while specific choices require teams to take a position, sometimes also requiring them to support that position with a short rationale of their choice, which will definitely force all students to confront the same problem, that will enable them to better engage with each other across teams, while simultaneous reporting precludes teams from simply agreeing with the majority of others, forcing them to decide before knowing what other groups will say.

2.4 Student peer evaluation

This refers to a situation where TBL strategy is adapted to a class and student grades were based on both individual work and teamwork. Graded teamwork includes both the team RATs and application exercises, although the number of graded against ungraded application will vary, with the weight given to each component of the grade. How peer evaluation is implemented across instructors also varies, but it will generally involve both quantitative and qualitative evaluation, be anonymous, and include a mid-semester formative assessment, as well as an end-of-semester summative assessment. This peer evaluation will either factor into student grades as a third component or be used to weight the team portion of the grade. TBL is designed to address many problems within the group and their works. Free-riding and social loafing can be minimized through effective use of mid-semester formative peer evaluations and end-of-semester summative peer evaluations. Personality or cultural differences and inexperience with conflict resolution can be mitigated over time, with team performance generally increasing with hours of interaction for at least 30 hours (Molly, 2017). This is close to the length of time students have to work together during a regular course. Nevertheless, demographic heterogeneity and differences in academic capabilities, attitudes, and effort may still play an important role in influencing cooperation and team performance.

2.5 Strategies for Imparting Practical Skill Acquisition

The use of appropriate strategies for practical skill acquisition is an essential factor in providing qualitative training in Vocational Technical Education for trainees self-reliant. The method to employ in any given situation, according to Udo (1997), as affirmed in (Ogbuzuru, 2011), may be determined by factors such as Nature of the course content and the expected learning outcome, Levels and Number of students involved in the training, Time allocated/ Course contact for all practical based courses, Facilities and materials available for training among others. Amaechi and Thomas (2016) suggested that there is no one method that is considered sufficient to ensure the acquisition of qualitative skill. They added that Lecturer/ Instructors should choose a combination of methods when lecturing so as to achieve the objectives of the course as required by the curriculum. Though, there is no one best method of teaching practical skills in Technical and Vocational Education, but a method or combination of different methods may be more desirable to use. There are already known strategies of teaching that can be adopted to facilitate the acquisition of practical skills in technical and vocational education programmes in Nigeria. This; according to the recommendation of Olarewaju (1994); STAN (1999); Ajibade (2009), Olokede and Olusanjo (2009) as reported in Amaechi *et-al* (2016) include: Demonstration method; Discussion method; Project method;

Discovery method; Lecture method ; Field-trip method ; Assignment method ; Electronic learning method; Enquiry method, Team Based Learning Strategy and Problem solving method. Thus the facilitators in practical based courses can select among those methods for used in impacting practical skills to students in Technical and Vocational Institutions in Nigeria.

2.6 Challenges of Practical Skills Acquisition in Trade Courses.

Throughout the world, particularly in Nigeria, government is making efforts to improve the economy status of the country through Technical and Vocational Education and training (TVET) with the hope that skill development will enhance productivity and sustain competitiveness in the nation's economy. According to Okorie & Onwumere, (2020) Economic growth and development are not possible through capital investment alone. They lamented that nations who invest in education can draw upon a combination of skilled workers, technicians, technologists, engineers, and research scientists to support and sustain their socioeconomic development efforts. They further that Vocational Training is one strategy to build human assets and capabilities, especially for the youths. Technical and vocational education and training (TVET) is identified to be a key instrument of any public policy aimed at socio- economic development, employment generation and poverty alleviation. Generally all forms of education or formal training received from schools will help people to improve themselves and get better jobs. Similarly, Carnoy (1993) noted that, in spite of the benefits of imparting job-related skills and the high level of unemployment amongst those with general education, the recognition and preference for general education by the youth in the Sub-Saharan Africa is high. He argued that the reason for this is that personnel in administrative and leadership roles are generally chosen from people with a general education background. Therefore, thinking about the importance of TVET, without any deliberate action to follow up with strategies to build workable skill and motivating student towards having self-reliant skill will not change its poor image and low status. Refer to the above argument; concerns have been raised about the effectiveness of practical skill acquisition among national diploma students in environmental studies. However, team-based learning (TBL) can be an effective and engaging strategy in teaching practical skills in vocational and technical education, it is important to acknowledge that there can also be some challenges associated with its implementation. In vocational and technical education, students often come with different levels of prior knowledge and skills. Team-based learning may not adequately address the diverse skill levels within a group, leading to frustration for some students and limiting their learning experience. (Parmelee, and Michaelsen, 2010). According to Burgess *etal*; (2014), some students might become overly reliant on their teammates to complete tasks, resulting in a diminished sense of individual responsibility and self-reliance. Likewise, Prince, (2004).articulated that Coordinating schedules and finding convenient times for team meetings and collaborative work can be challenging, especially in vocational and technical education where hands-on practice and lab work are important components. Other issues can be attributed to assessing individual contributions and learning outcomes within a team-based context can be complex because, if assessment criteria are not well-defined, students might feel that their grades are influenced by factors beyond their control (Michael, 2007). It's important to note that challenges of team-based learning strategy can often be mitigated or minimized through careful instructional design, clear communication of expectations, and constant support for both students and instructors. In addition, the effectiveness of TBL can vary based on the specific context and the way it is implemented.

3. Methodology

For this study, Quasi-experimental design was used. A quasi- experimental design according to Clark & Creswell (2015) is a type of experimental research which allows the researcher to test a treatment using intact groups of participants by assigning identified groups to different conditions,

and does not randomly assign participants because groups cannot be artificially subjected for the experiment. Randomly assigning students to groups may not be possible because it would disrupt classroom/ laboratory learning. As an alternative, the researcher introduced a task at the laboratory level by assigning each class on an actual condition (e.g. treatment or control). Because quasi-experiments make use of existing groups, then the researcher conducted the test on both groups and determines the effect of the TBL strategy. The study area is Borno state. Borno State is a state in the North-East geopolitical zone of Nigeria, bordered by Yobe to the west, Gombe to the southwest for 93 km, and Adamawa to the south while its eastern border forms part of the national border with Cameroon for about 426 km (265 miles, partly across the Ebedi and Kalia Rivers), its northern border forms part of the national border with Niger, mostly across the Komadougou-Yobe River, and its northeastern border forms all of the national border with Chad for 85 km (53 miles), being the only Nigerian state to border three foreign countries. It takes its name from the historic emirate of Borno, with the emirate's old capital of Maiduguri serving as the capital city of Borno State. The state was formed in 1976 when the former North-Eastern State was broken up. It originally included the area that is now Yobe State, which became a distinct state in 1991.(Aborisade: et-al, 2001).



Source: <https://www.researchgate.net/figure/Map-of-Borno-State>.

The research design was used to test whether the independent treatment variables (Team Based Learning Strategy) causes an effect on an outcome variable (Practical Skill Acquisition of Polytechnic Students) for the intact groups. The design was used to test the hypotheses using the following order as indicated in the table below:

Table 1: Pretest-Posttest in Quasi-Experimental Design (Research Frame Work)

Research Groups	Pretest	Treatment	Post test Gain Score	
G ₁	Y ₁₁	X	Y ₁₂	Y ₁₃
G ₂	Y ₂₁		Y ₂₂	Y ₂₃

Where:

G1- Experimental Group

G2- Control Group

Y11- Pre-test of the Experimental Group

Y21- Pre-test of the Control Group

X- Treatment

Y12- Post-test of the Experimental Group

Y22- Post-test of the Control Group

Y13- Mean Gain of the Experimental Group

Y23- Mean Gain of the Control Group

Table one above signifies the frame work for this study. The pretest and posttest make use of true experimental design for pure scientific experiment and quasi-experimental design for social experimental study (Sambo, 2005). He reiterate that with quasi-experiments, a pre-test and post-test comparison can be made to determine the difference between the experimental and control groups for the dependent variable which is attributed to the intervention.

However, the population for this study was obtained from two (2) different departments from school of environmental studies in Ramat Polytechnic Maiduguri. They comprise: Department of Quantity Surveying and Department of Building Technology both in Ramat Polytechnic, Maiduguri. The population was made up of one hundred and twelve (112) ND II Quantity Surveying and ND II Building Technology students offering Building Science and Properties of Materials respectively as indicated in the Table Two below.

Table 2: *Population of the study*

Institution	Departments	Students' Population
RAMAT POLY MAID.	QUANTITY SURVEYING	57
BORNO STATE	BUILDING TECHNOLOGY	55
Total		112

Source: Field Survey (2023).

Conversely, Quasi-experimental design is a type of experimental research which allows the researcher to test a treatment using intact groups of participants by assigning identified groups to the different conditions, (Clark & Creswell, 2015). Consequentially to the above assertion, the sample was the total one hundred and twelve (112) students from the two departments adopted for the study, 57 ND II Quantity Surveying students and 55 ND II Building Technology students all from Ramat Polytechnic Maiduguri, Borno State. Nevertheless, the instrument Grading Tests on Aggregates through experiment on Sieve Analysis of Fine Aggregates was used to obtained data for this study, which was adapted from Building Science and Properties of Materials practical manual by the researcher. The aim was to perform the sieve analysis on fine aggregates and its zones to reveal the impact of the applied treatment during the conduct of practical skill acquisition. The experiment majorly depends on sets of apparatus and procedures which were used to conduct pre-test and post-test on both experimental and control group. The data collected from the Sieve Analysis of Fine Aggregates Test (SAFAT) exercise were analyzed using t-test statistics at 0.05 level of significance to test the hypotheses outlined for the study.

4. RESULTS AND DISCUSSION

4.1 Results

The results obtained from the data collected were presented and analysis of data and discussion of findings were made with reference to the result of hypotheses formulated and tested for the study. Whilst the null hypotheses were tested at 0.05 level of significance by the means of T-test statistical tool.

4.1.1 Hypothesis One

H0₁: There is no significant difference between the pre-test mean scores of students taught Sieve Analysis in Soil and Materials Laboratory using Team Base Learning strategy and Traditional method in Ramat Polytechnic Maiduguri Borno State.

Table three below shows the independent samples test that was conducted to compare the pre-test mean scores of Experimental group and Control group in Sieve Analysis of Fine Aggregate (SAFA) test. The result from the table shows that there was no significant difference between the mean scores of Experimental group (mean= 15.78 and S.D= 0.94) and Control group (mean= 15.48 and S.D= 0.89) and P= 0.76. The P value is greater than the confidence level, that is P>0.05. The t (110) is 0.287. The null hypothesis which states that there is no significance difference between the pre-test mean scores of students in Sieve Analysis of Fine Aggregate (SAFA) in Experimental and Control group was accepted.

Table 3: Test of difference between the pre-test mean scores of students taught in Sieve Analysis of Fine Aggregate using Team Based Learning Strategy and Traditional method:

Group	N	Mean	S.D	Df	t	P	Decision
Experimental	57	15.78	0.94	110	0.287	0.78	H0₁ Accepted
Control	55	15.48	0.89				

Source: Field Study (2023)

4.1.2 Hypothesis Two

H0₂: There is no significant difference between the pre-test and the post-test mean scores of students taught Sieve Analysis in Soil and Materials Laboratory using Team Base Learning strategy in Ramat Polytechnic Maiduguri Borno State.

Table four shows the paired samples test that was conducted to compare the pre-test and post-test mean scores of Experimental group in SAFA. The result from the table shows that there was a significance difference between the mean scores of students in the pre-test (mean= 15.78 and S.D= 0.94) and post-test (mean= 25.44 and S.D= 0.61) in SAFA. The t (56) is 15.753. The P value, 0.00 which is less than the confidence level, that is P<0.05. The null hypothesis which states that there is no significance difference between the pre-test and post-test mean scores of students taught (SAFA) using Team Based Learning Strategy (TBL) was rejected.

Table 4: Test of difference between the pre-test and post-test mean scores of students taught in Sieve Analysis of Fine Aggregate using Team Based Learning Strategy:

Variables	N	Mean	S.D	Df	t	P	Decision
Pre-test Scores	57	15.78	0.94	56	15.753	0.00	H0₂ Rejected
Post-test Scores	57	25.44	0.61				

Source: Field Study (2023)

4.1.3 Hypothesis Three

H0₃: There is no significant difference between the post-test mean scores of students taught Sieve Analysis in Soil and Materials Laboratory using Team Based Learning strategy and Traditional method in Ramat Polytechnic Maiduguri Borno State.

Table five shows the independent samples test that was conducted to compare the post-test mean scores of students taught Sieve Analysis of Fine Aggregate SAFA using Team Based Learning Strategy TBL and those taught using Traditional method. The result from the table shows that there was a significant difference between the mean scores in Experimental group (mean= 25.44 and S.D= 0.61) and Control group (mean= 19.38 and S.D= 0.73). The t (110) is 7.856. The P value, 0.00 which is less than the confidence level, that is $P < 0.05$. The null hypothesis which states that there is no significance difference between the post-test mean scores of students taught (SAFA) using Team Base Learning strategy TBL and those taught using Traditional method was rejected.

Table 5: Test of difference between the post-test mean scores of students taught Sieve Analysis of Fine Aggregate (SAFA) using Team Based Learning Strategy and those taught using Traditional method:

Group	N	Mean	S.D	Df	t	P	Decision
Experimental	57	25.44	0.61	110	7.856	0.00	H0₃ Rejected
Control	55	19.38	0.73				

Source: Field Study (2023)

Where:

N –Number of Students

S.D –Standard Deviation

Df – Degree of Freedom

P - Probability value

4.2 Discussion

The finding reveals that there was no significant difference in the pre-test mean scores of students taught Sieve Analysis of fine aggregate (SAFA) using Team Base Learning strategy and those taught using Traditional method. This shows that both groups have equal entry behavior before the treatment was applied. The findings of this study are in line with that of Sisk (2011) and Vasan, DeFouw, and Compton (2011) who found no difference between the achievement of students in the experimental and control group in the pre-test which implies that both the experimental and the control groups were at the same entry behaviour before the treatment was applied.

The finding also reveals that there was a significance difference in the pre-test and post-test mean scores of students taught Sieve Analysis of fine aggregate (SAFA) using Team Base Learning strategy. That is the post-test mean score of students taught Sieve Analysis of fine aggregate (SAFA) using Team Base Learning strategy was significantly higher than the pre-test mean score of students after the treatment was administered. This definitely implies that the difference was as a result of the treatment that is the (TBL) strategy being applied. The findings is in line with Sisk (2011) and Vasan, DeFouw, and Compton (2011) who found out that there was a significance difference between the pre-test and post test scores of students in the experimental group. The conclusion of the findings was that the difference in the pre-test and the post-test scores can be attributed to the treatment offered. Treatment in this study was the TBL strategy introduced to carry out the SAFAT to determine level of effectiveness of practical skill acquisition among students.

5. Recommendations

In light of the findings and implications presented in the study regarding the effect of team-based learning strategies on the practical skills acquisition among students, some recommendations are proposed to enhance the effectiveness and implementation of TBL in educational settings:

1. Curriculum Integration

Educational institutions should consider integrating team-based learning strategies within the curriculum design for courses that involve practical skill development. This integration should be well-planned and aligned with the learning objectives of the course to ensure a seamless and purposeful incorporation of team-based activities.

2. Trainer Development

To facilitate the successful implementation of team-based learning, trainers should receive training and professional development workshops focused on designing, managing, and assessing team-based activities. This will equip educators with the necessary skills to effectively guide student teams and provide constructive feedback.

3. Diverse Group Formation

When forming teams, the need to consider creating diverse groups in terms of skills, backgrounds, and learning styles is important. This diversity can enrich the collaborative experience, promote peer learning, and enable students with exposure to different perspectives and problem-solving approaches.

4. Clear Guidelines and Expectations

Establish clear guidelines and expectations for both students and instructors regarding team dynamics, responsibilities, assessment criteria, and deadlines. Transparent communication helps prevent misunderstandings and ensures that all team members are aligned.

5. Regular Reflection and Feedback

Incorporate regular opportunities for team members to reflect on their collaborative experiences and provide feedback on the team-based learning process. This can help identify strengths, areas for improvement, and potential conflicts early on.

6. Conclusion

In conclusion, the findings revealed that Team Based Learning Strategy has an effect on the practical skill acquisition of students taught Sieve Analysis of fine aggregate (SAFA). However, Team Based Learning Strategy serves as an alternative to the Traditional method of imparting practical skills to the students, specifically in demonstrating Sieve Analysis of fine aggregate (SAFA) in soil and material laboratory. TBL strategy enables active participation of students in team in the process of teaching and learning and such gives rooms to students to, systematize, contribute and apply their ideas in acquiring new skills and developing their existing talents in solving real life problems. TBL

strategy also allows cooperative learning among students, which will go a long way to enhance practical experience acquisition than students introduced to Traditional method in vocational training. Hence, The Technologists and Technical officers in various vocational and technology workshops and laboratories in Polytechnics are advised to adopt TBL strategy in teaching practical based courses at National Diploma level in Polytechnics.

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