
Effectiveness of Practical Agriculture to the Performance Task of the Grade 8 Junior High School Students in Technology and Livelihood Education (TLE): Basis for Instructional Supervision

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ABSTRACT

Agricultural education is essential for agricultural development as it provides an avenue for the development of knowledge and skills to the manpower for the agricultural sector. It plays an important role in developing the youth to fit into the current and future needs of the changing and challenging global environment. Thus, involving the students in hands-on activities for practical agriculture is essential in the application of theories learned in Technology and Livelihood Education (TLE) and for lifelong learning. With this premise, the researcher decided to conduct this study to evaluate the effectiveness of practical agriculture to the performance task of the grade 8 Junior High School students in Technology and Livelihood Education (TLE). A quasi-experimental research design employing pre-test and post-test to evaluate the performance tasks of the Grade 8 students through the integration of practical agriculture. Simple percentage and t-test of mean difference were the statistical tools used to interpret the result of the study. The study revealed a significant difference in the performance of the Grade 8 students in Technology and Livelihood Education (TLE) before and after the integration of practical agriculture as performance tasks of the students. The hands-on activities and experiences related to farming and cultivation and the engagement of students in planting, tending crop, understanding soil composition, learning about agricultural equipment, and gaining practical knowledge for farming techniques greatly improve their performance making them engaged in both technical and practical way of managing the land. The integration of practical agriculture facilitates the process of acquisition of the vocational and practical skills that prepares students for careers in the agricultural sector.

Keywords — *Effectiveness, Practical Agriculture, Performance Task, Grade 8 Students, Technology and Livelihood Education, Instructional Supervision*

I. INTRODUCTION

Provision of sufficient, safe, and nutritious foods in every family is one of the basic and essential goal of every Filipino individual in a society. As one of the basic needs of every person, food is needed to continue to live. In the Philippines, the government has provided different technologies and farm inputs to increase production and be able to sufficiently provide the needs of the people in terms of food.

Agriculture being included in the curriculum as core subject in Technology and Livelihood Education (TLE) has provided the technical know-how and hands-on knowledge on farming and other agricultural technology. Agricultural education is essential for agricultural development as it provides an avenue for the development of knowledge and skills to the manpower for the agricultural sector. It also provides the knowledge and skills to practically involve in practical agriculture and in farming in school.

Unfortunately, only a few students are pursuing agriculture as a degree. In fact, it is observed during TLE time that only a few students engaged in practical agriculture. Some of the students are lazy in doing hands-on activities in the subject knowing that most of them come from a family whose means of livelihood is farming. As an agriculture teacher, the researcher is looking forward to encouraging and motivating the students to engage in farming for it is one of the essential or basic needs of the people. Teaching technical skills in agriculture to the students is one of the basic goals of inclusion of Technology and Livelihood Education (TLE) in the K to 12 curricula. In fact, teachers are required to provide an area where hands on activities of the students in shown as part of the grading criteria for the subject. Aside from this, teachers also must provide the students with the technical know-how on farming that is why teachers must be knowledgeable enough in imparting knowledge to the students, the knowledge, and skills they will use to live not just to pass the subject but to apply it in their day-to-day activities.

Practical agriculture is one of the technical know-hows embodied in teaching Technology and Livelihood (TLE) education. Practical agriculture involves hands-on activities and experiences of the students related to farming and cultivation. Students may engage in activities such as planting, tending to crop, understanding soil composition, learning about agricultural equipment, and gaining practical knowledge for farming techniques which is essential in providing the skills needed to combat poverty. This hands-on approach aims to supplement theoretical knowledge with real-world skills, fostering a better understanding of agriculture and preparing students for potential career in agricultural sectors and in attaining food security and sustainability of the country.

Agriculture is a practical oriented subject and therefore requires practical activities and experiences in the field. Practical can be considered as a physical activity an individual engages in, to master a specific skill or to attain a specific objective. Okoli (2011) affirmed the importance of involvement of the students in practical exercise by stating that the training of would-be farmers today is the duty of the teacher. Nlebem and Raji (2019) asserted that teaching of agricultural science was accompanied with practical work on the school farm. Practical can be considered as a physical activity an individual engages in, to master a specific skill or to attend a specific objective. With these objectives in mind, the education industry is expected to provide effective and adequate practical training in Agricultural science to students to enable schools and colleges provide qualified and competent graduates that can ensure food sufficiency in the country.

The success of a learner is generally determined by academic performance which is generally defined in terms of scores and grades obtained. Academic performance is the ability of a student to do something and is considered as the key factor in judging the students' success, potential and capacities. Thus, the scores and grades that a student obtains measure the degree of students' academic performance.

On the other hand, Technology and Livelihood Education (TLE) provides the biggest percentage in the grading system for the subject the practical output or performance tasks of the students. Thus, it is essential for the students to engage in practical agriculture for them to pass the subject. Hence, this study is formulated to evaluate the effectiveness of practical agriculture in achieving higher performance outcome in Technology and Livelihood Education (TLE) for grade 8 Junior High School students. Further, it is also the aim of this study to motivate students and involve themselves in agricultural activities to provide sufficient food for their own family and society as well. A proposed instructional

supervision plan was formulated based on the findings of the study to guide the school heads in conducting instructional supervision and to provide appropriate technical assistance to the teachers to make practical agriculture an essential performance task to the learners to achieve the goals in Technology and Livelihood Education (TLE).

It is in the rationale that the researcher who is currently a grade 8 teacher in the above mentioned local, would like to delve worthy research undertaking that will benefit herself, the school she is currently teaching and that of her Graduate Program she is enrolled at.

This study evaluates the effectiveness of practical agriculture to the performance task of the grade 8 Junior High School students in Technology and Livelihood Education (TLE) of Gaas Integrated School, Ormoc District 8, Ormoc City Division for School Year 2022-2023. The findings of the study will be the basis for the proposed instructional supervision plan.

Specifically, this study sought to answer the following questions:

1. What is the performance of the grade 8 Junior High School students in Technology and Livelihood Education (TLE) before the integration of practical agriculture?
2. What is the performance of the grade 8 Junior High School students in Technology and Livelihood Education (TLE) after the integration of practical agriculture?
3. Is there a significant difference in the performance of the grade 8 Junior High School students in Technology and Livelihood Education (TLE) before and after the integration of practical agriculture?
4. What instructional supervision plan can be proposed based on the findings of this study?

II. METHODOLOGY

Design. This study employed the quasi-experimental research design utilizing the pre-test and post-test to evaluate the effectiveness of practical agriculture to the performance task of the grade 8 Junior High School students in Technology and Livelihood Education (TLE) for School Year 2023-2024. Gaas Integrated School, Ormoc District 8, Ormoc City Division is the main locale of the study. The 24 Grade 8 Junior High School students enrolled in the said locale for School Year 2023-2024 are the main respondents of the study. This study utilized the researcher-made tests in Technology and Livelihood Education (TLE) for grade 8 in both technical and practical skills. A researcher-made rubrics in assessing the performance tasks presented by the students in practical agriculture was formulated. The rubrics assessed the students on how they used and took care of the farm tools and equipment, performed basic estimation and calculation on the mixtures of soil and farm inputs to be applied in the garden, prepared project proposals, interpreted farm plans, and prepared lay out for the garden and the output and yield they produced from the garden. The test was conducted before and after the integration of practical agriculture activities in teaching Technology and Livelihood Education (TLE). Moreover, the researcher prepared lesson plans for teaching TLE based on the competencies for the second quarter implementing practical agriculture lessons. Students were involved in the hands-on activities, and they cultivated the garden and prepared to plant vegetables which gave basis on the performance tasks of the students. Meaning, students performed all the hands-on activities to get the grade on performance task. The materials crafted were submitted to the District Coordinator and Quality Assurance Team for evaluation, validation, and adjustments before it was utilized by the learners in the classroom. A matrix of activities was crafted to guide the teacher-researcher the flow of her study. This research focused on evaluating the effectiveness of practical agriculture to the performance task of the grade 8 Junior High School

students in Technology and Livelihood Education (TLE) through the pre-test and post-test and its significant difference. A Proposed Instructional Supervision Plan based on the findings of the study was the output.

Sampling. There are 24 Grade 8 Junior High School students who were involved in this study. The research instruments were administered face-to-face with consent from the Local IATF and strictly following the prescribed Health Protocol during the face-to-face classes.

Research Procedure. The researcher prepared the research design and tools utilized in the study. Approval and recommendation from the Panel of Examiner of the Graduate Studies was sought. A letter request to conduct this study was forwarded to the Office of the Schools Division Superintendent. Upon approval, permission from the District Supervisor and School Head was secured before the actual gathering of data. Orientation of the participants and administration of the pre-test was done face-to-face after the approval of the permit from the parents of the respondents. Data privacy was emphasized also in the meeting. After accomplishing the pre-test, intervention was given within four weeks. The implementation of hands-on activities in doing the practical agriculture like on how they used and took care of the farm tools and equipment, performed basic estimation and calculation on the mixtures of soil and farm inputs to be applied in the garden, prepared project proposals, interpreted farm plans, and prepared lay out for the garden and the output and yield they produced from the garden by the grade 8 Junior High School students were emphasized in the study. After the four-week intervention, the post-test was administered. Results of the tests were collected. Data were tallied and submitted for statistical treatment. Analysis and Interpretation of Data. Making of Proposed Instructional Supervision Plan followed.

Ethical Issues. The researcher properly secured the permission to conduct the study from the authorities through written communication. In the formulation of the intervention materials that was used in the study, the use of offensive, discriminatory, or other unacceptable language was avoided. The respondents' names and other personal data were not included in this study to protect their privacy. Participation of the respondents was also voluntary. Orientation was conducted for the respondents with their parents. In the orientation, issues and concerns were addressed and consent to be included in the study were signed. The researcher-maintained objectivity in analyzing and discussing the results. All authors whose works were mentioned in this study were properly quoted and were acknowledged in the reference.

Treatment of Data. Simple Percentage was employed to evaluate the pre-test and post-test performances of the Grade 8 Junior High School students before and after the integration of practical agriculture in evaluating the performance task required from them. **t-Test of Mean Difference** was used to determine the significant difference in the pre-test and post-test performances of the Grade 8 Junior High School students in practical agriculture.

III. RESULTS AND DISCUSSION

TABLE 1

PRE-TEST PERFORMANCE OF GRADE 8 STUDENTS IN TLE

Score Range	Description	PRETEST	
		Frequency	%
41-50	Excellent	0	0
31-40	Very Good	0	0
21-30	Good	0	0
11-20	Fair	9	37
1-10	Poor	15	63
Total		24	100
Weighted Mean		8.04	Poor

Table 1 presents the pre-test performance of the Grade 8 Junior High School students in Technology and Livelihood Education (TLE) before the integration of practical agriculture as part of the performance task in learning the subject. It was revealed on the table that among the 24 Grade 8 Junior High School students, 9 or 37% got a score of 11-20 which is interpreted as fair. This means that they lack the technical know-how in doing practical agriculture. In fact, the knowledge they learned from the theories taught to them is insufficient, so they need hands-on activities to practice the theories learned. Moreover, it was also shown on the table that there are 15 or 63% got a score of 1-10 which is interpreted as poor. This means that poor performance in Technology and Livelihood Education (TLE) before the integration of practical agriculture as a performance task could be attributed to various factors. The students might lack interest, insufficient understanding of theoretical concepts, or challenges in applying knowledge to real-world scenarios. The inclusion of practical agriculture tasks aims to enhance hands-on learning, potentially improving students' engagement and comprehension in TLE. This implies that students lack practical application as they are struggling to apply theoretical knowledge to real-world situations, indicating a gap in understanding and practical skills, thus, students must engage themselves in practical activities to improve their understanding the concepts of the subject. Agriculture is a practically oriented subject and therefore requires practical activities and experiences in the field. Practical can be considered as a physical activity an individual engages in, to master a specific skill or to attain a specific objective. Okoli (2011) affirmed the importance of involvement of the students in practical exercise by stating that the training of would-be farmers today is the duty of the teacher. Nlebem and Raji (2019) asserted that teaching of agricultural science was accompanied with practical work on the school farm. Practical can be considered as a physical activity an individual engages in, to master a specific skill or to attend a specific objective. With these objectives in mind, the education industry is expected to provide effective and adequate practical training in Agricultural science to students to enable schools and colleges provide qualified and competent graduates that can ensure food sufficiency in the country.

TABLE 2
POST-TEST PERFORMANCE OF GRADE 8 STUDENTS IN TLE

Score Range	Description	POST TEST	
		Frequency	%
33-40	Excellent	20	83
25-32	Very Good	4	17
17-24	Good	0	0
9-16	Fair	0	0
1-8	Poor	0	0
Total		24	100
Weighted Mean		35.83	Excellent

Table 2 presents the post-test performance of the Grade 8 Junior High School students in Technology and Livelihood Education (TLE) after the integration of practical agriculture as part of the performance task in learning the subject. It was revealed on the table that among the 24 Grade 8 Junior High School students, 4 or 17% got a score of 25-32 which is interpreted as very good while 20 or 83% got a score of 33-40 which is interpreted as excellent. Further, the data shows a weighted mean of 35.83 which is interpreted as excellent. This means that practical agriculture as part of the performance task for the subject Technology and Livelihood Education (TLE) has contributed to understanding the concepts conveyed in every lesson. Through the hands-on activities prepared by the teacher and the willingness and cooperation to finish the performance tasks with excellence was achieved. This implies that teaching technical skills in agriculture to the students is one of the basic goals of inclusion of Technology and Livelihood Education (TLE) in the K to 12 curricula. In fact, teachers are required to provide an area where hands on activities of the students in shown as part of the grading criteria for the subject. Aside from this, teachers also must provide the students with the technical know-how on farming that is why teachers must be knowledgeable enough in imparting knowledge to the students, the knowledge, and skills they will use to live not just to pass the subject but to apply it in their day-to-day activities. Practical agriculture is one of the technical know-hows embodied in teaching Technology and Livelihood (TLE) education. Practical agriculture involves hands-on activities and experiences of the students related to farming and cultivation. Students may engage in activities such as planting, tending to crop, understanding soil composition, learning about agricultural equipment, and gaining practical knowledge for farming techniques which is essential in providing the skills needed to combat poverty. This hands-on approach aims to supplement theoretical knowledge with real-world skills, fostering a better understanding of agriculture and preparing students for potential career in agricultural sectors and in attaining food security and sustainability of the country. Through these hands-on activities, students were able to translate the theories learned in the classroom. Moreover, positive values in agriculture were achieved.

TABLE 3
TEST OF DIFFERENCE BETWEEN THE SCORES IN THE PRE-TEST AND POST-TEST PERFORMANCE OF GRADE 8 STUDENTS IN TLE

Aspects	Test Scores		Computed T	Critical T	Decision	Interpretation
Grade 8 Students in TLE	Pre	8.04	4.654	1.221	Reject H_0	Significant
	Post	35.83				

Table 3 presents the test of difference between the scores in the pre-test and post-test performances of the Grade 8 students in Technology and Livelihood Education (TLE) based on performance task in practical agriculture. It was revealed on the table that the pre-test performance of 8.04 before the integration of practical agriculture has increased to 35.83 after the post-test which resulted to computed value or t of 4.654 which is greater than the critical value of t of 1.221, so null hypothesis is rejected. This means that there is a significant difference in the pre-test and post-test performances of the Grade 8 students in Technology and Livelihood Education (TLE) before and after the integration of practical agriculture as part of the performance task of the students. This implies that the hands-on activities and experiences related to farming and cultivation and the engagement of students in planting, tending crop, understanding soil composition, learning about agricultural equipment, and gaining practical knowledge for farming techniques greatly improve their performance in the post-test. The hands-on activities provided by the teachers in applying the theories learned in Technology and Livelihood Education (TLE) had created an enormous and great impact on the students. According to Balhag (2013), Technology and Livelihood Education equips learners with knowledge and information, skills and processes, right work values, and life skills in the field of Home Economics, Industrial Arts, Agri-Fishery Arts, Information Communication Technology and Entrepreneurship). In addition, TLE aids in the development of work ethics, knowledge, skills, and values that are essential to economically productive endeavors. It also brings about students' awareness in engaging themselves in income-generating activities and other livelihood projects that eventually improve their lives and lessen their dependence on employment as the only source of income (Cabanig, 2013).

Moreover, agricultural education is essential for agricultural development as it provides an avenue for the development of knowledge and skills to the manpower for the agricultural sector. It plays an important role in developing the youth to fit into the current and future needs of the changing and challenging global environment (Hurst et al., 2015; Davis & Jayaratne, 2015). It also plays a vital role in the development of a country, particularly in the rural areas where most people depend on agriculture for their livelihood (Macatta, 2016; Talathi et al., 2014). It is crucial for a country to have substantial investment in human capital for achieving sustainable economic development.

IV. CONCLUSIONS

The study revealed a significant difference in the performance of the Grade 8 students in Technology and Livelihood Education (TLE) before and after the integration of practical agriculture as performance tasks of the students. The hands-on activities and experiences related to farming and cultivation and the engagement of students in planting, tending crop, understanding soil composition, learning about agricultural equipment, and gaining practical knowledge for farming techniques greatly improve their performance making them engaged in both technical and practical way of

managing the land. The integration of practical agriculture facilitates the process of acquisition of the vocational and practical skills that prepares students for careers in the agricultural sector.

V. RECOMMENDATIONS

1. Utilize the proposed instructional supervision plan formulated to monitor the teachers and students for the proper implementation of the intervention.
2. School heads must provide the appropriate technical assistance to teachers to make them effective instructional leaders who will impart the necessary skills to the students for lifelong learning.
3. School heads must support the teachers through the provision of farm materials and equipment for the proper implementation of practical agriculture.
4. School heads must coordinate with other agricultural agencies for support in terms of technology and farm inputs.
5. Teachers must encourage the students to make their hands-on activities relevant and engaging for lifelong learning, and
6. Future researchers should replicate this study to include different locales and include different variables aside from the mentioned in this study.

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