

Experiential Learning Approach to Improve Students' Common Competencies and Attitude towards Agricultural Crop Production

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ABSTRACT: This study focused on the effects of Experiential Learning Approach in improving the students' common competencies and attitudes towards agricultural activities, among Grade 8 students of Callejon National High School during the S.Y. 2022-2023. The respondents were purposively selected they are taking up Agri crop production as their elective in Technology and Livelihood Education subject. The researcher utilized the descriptive- correlational methods where it considers two entities: pretest and posttest of students the implementation of experiential learning in improving the common competencies students in agricultural crop production and attitude towards agricultural activities. The study utilized pretests/posttest and survey questionnaires as the main data-gathering instruments, t-test was used to determine a significant difference in student's pretest and posttest score after the implementation of experiential learning, Pearson Product Moment Correlation Coefficient was used to determined relationship between student perception on experiential learning approach and their level of competencies and their attitude after the implementation of agricultural activities.

The study revealed that the implementation Experiential Learning helps improved the level of student's common competencies in agricultural crop production and attitude towards agricultural activities. Finally, it shows that there is significant relationship between students' attitude and the implementation of experiential learning and utilization of agricultural activities.

KEYWORDS: Agricultural activities, Common Competencies, Agricultural Crop Production Experiential Learning Approach, Attitude towards agricultural activities

INTRODUCTION

Education is the only way for a person to advance and contribute to the development of the country as a globally competitive individual, with the assistance of schools and teachers. Teachers confront difficulties in the current educational crises because students learn in different ways; therefore, selecting and executing various instructional methodologies is required to address this gap and challenge. To address this issue, instructional strategies must be used.

Technology and Livelihood Education is designed to be exploratory in grades 7 and 8, exposing students to a variety of topics of interest. These exploratory courses concentrate on four common competencies namely: use and maintenance of tools/equipment, estimation and basic calculation, interpretation of plan and drawing safety precautions in farm operations.

Among other learning fields, Technology and Livelihood Education distinguishes out because it is highly immersive, interactive, interdisciplinary, and promotes various values such as cultural, artistic, vocational, political-economic, and moral values. This learning area allows Filipino students to demonstrate their practical knowledge and life skills, particularly in vocational efficiency and empathy. Technology and Livelihood Education aims to provide pupils with the knowledge, skills, values, and attitudes required for future employment. This will assist them in comprehending and gaining experience in a variety of tasks relating to Home Economics, Agriculture Arts, Industrial Arts, and Entrepreneurship. As a TLE teacher it is critical to utilized teaching strategies that will help learners to participate, connect, and add excitement to the content being delivered, this means that teachers use strategies that would project information but also connect with learners and engage them.

Regional Memorandum No. 233, Section 1. R.A 2581-5792 194 mandated by R.A 10533 requires the application of instructional approaches in 2016. This memorandum requires the implementation of constructivist, inquiry-based, reflective, collaborative, and integrative educational approaches throughout the curriculum. This mandate's goal is to help all teachers facilitate learner-centered education, make the curriculum more relevant and effective, and improve the teaching and learning processes. Finally, the implementation of these pedagogical approaches is likely to result in improved performance by all learners in any Department of Education evaluation.

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Likewise, Schwartz (2015) suggests that experiential learning involves learning through action and reflection. Reflection is a critical aspect of the learning process and students must be able to analyze and question their experiences and think critically about future implications. Experiential learning allows for varied and unpredictable outcomes, encouraging students to take responsibility for their own learning. The teacher plays a facilitator or guide role, creating an environment for active participation and reflection. Experiential learning is increasingly popular in education, training, and development, offering a dynamic and engaging approach to learning.

Furthermore, Schreiber et al. (2016) advocate for experiential learning, which allows for natural and interest-driven learning and provides invaluable skills through hands-on experiences, in contrast to the traditional teaching method that produces students lacking in experience and skills expected by employers.

In connection, educators are left with the challenge about how to improve students' knowledge and attitude towards agricultural crop production among Grade 8 students, the researcher has chosen to implement the Experiential Learning Approach that will focus on the Kolb's Learning Cycle that is aligned with the learning by doing.

The study discovered that students struggled and performed poorly in identifying appropriate garden tool use, failing to maintain garden tools, estimating and calculating, recognizing farm layout, and promoting safety procedures when working in the garden area. Furthermore, their interest and attitude toward agricultural activities are affected since they spend time on their device, and their transition from modular to face-to-face instruction has an impact on students' academic progress. Similarly, most students nowadays prioritize watching video-CDs, listening to audio-CDs, watching television and various pointless things on television and movies (Issa et al., 2012).

As a result, the researcher was motivated to carry out this study to address the gaps in the performance of Grade 8 students in Agricultural Crop Production and to promote the implementation of the Experiential Learning Approach to assist students in improving their knowledge and attitude toward the subject. This may help learners obtain new regards on their interactions, adjust their activities, and commit to action, all of which will deepen and sharpen their comprehension of various subject topics.

OBJECTIVES OF THE STUDY

This study is designed to evaluate the effects of the implementation of Experiential Learning Approach in improving student's common competencies and attitude towards agricultural crop production activities among Grade 8 students of Callejon National High School for

S. Y 2022-2023.

Specifically, it sought answers to the following questions.

1. What is the student's perception on Experiential Learning Approach in terms of:
 - 1.1 Concrete Experience;
 - 1.2 Reflective Observation;
 - 1.3 Abstract Conceptualization; and
 - 1.4 Active Experimentation?
2. What is the level of students' common competencies in agricultural crop production before and after the implementation of Experiential Learning Approach in terms of:
 - 2.1 use and maintenance of tools/equipment;
 - 2.2 estimation and basic calculation;
 - 2.3 interpretation of plan and drawing;
 - 2.4 safety precautions in farm operations?
3. What is the students' attitude towards agricultural crop production activities before and after the implementation of Experiential Learning Approach in terms of:
 - 3.1 Leisure Belief;
 - 3.2 Psychological Benefit;
 - 3.3 Physiological Benefit;
 - 3.4 Social Benefit;
 - 3.5 Educational Benefit;
 - 3.6 Aesthetic Value;
 - 3.7 Environmental Value?
4. Is there a significant difference between students' competencies in agricultural crop production before and after the implementation of Experiential Learning Approach?

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5. Is there a significant relationship between the perception of the respondents on Experiential Learning Approach to their attitude towards agricultural crop production activities after the implementation?

LITERATURE REVIEW

Experiential learning is not a new concept in the classroom, but it is a more effective means of learning through experience than traditional methods of learning such as lectures or reading. Kolb (2014) defined a significant learning occurrence as knowledge acquisition through sharing experience or learning by doing which involves a critical process that allows students to actively participate.

The work of Kolb and Kolb (2009) created a four-stage learning cycle that students can obtain and use at any time. The four steps of the learning cycle define a learning mode. Two stages deal with information acquisition and comprehension through experience (Concrete Experience (CE) and Abstract Conceptualization (AC)), while the other two deal with transformation through reflection and application of what they have learned (Reflective Observation (RO) and Active Experimentation (AE)). Although a learner can begin wherever they feel most comfortable, Kolb's suggests that all stages be experienced for the most effective learning to happen. For transformation and knowledge to be grounded and integrated, information must be applied.

Exploring nature and engaging with green space is now associated with health and well-being benefits (Cameron et al., 2020; Pritchard et al., 2020; Roslund et al., 2020; van den Bosch & Sang, 2017). Taylor et al. (2017) argue that school gardens can potentially improve children's engagement with nature, positively impact their behavior and environmental and social attitudes, alleviate tension, foster teamwork, and increase parental support and encouragement.

It is also based on Albert Bandura's Social Cognitive Theory, which attempts to explain the role and functions of human cognition in social settings, as well as how people learn from certain situations or through interaction with other people and the environment (Lee, Park, Lee, Kim, & Park, 2018).

Concrete Experience: Kolb's cycle of learning begins with a real-world experience. This can be a completely new experience or a redesigned version of an existing experience. Each student participates in an activity or assignment during a specific experience. Kolb believed that participation was the key to learning. It's not adequate for students to just read about it or look at it in action. Students must actively participate in the work to acquire new knowledge.

Reflective Observation: After the concrete experience, the student needs to step back to realize the work. At this stage of the learning cycle, the learner can ask questions and share their experiences with others. Communication is preeminent at this stage as it allows the learner to see any gap between their understanding and the experience itself. A strong vocabulary also allows for a comprehensive study of the events that occurred.

Abstract Conceptualization: Making sense of these events is the next phase in the learning cycle. The learner strives to arrive at conclusions from their experience by reflecting on prior information, applying ideas with which they are familiar, or discussing different theories with peers. When the learner begins to organize concepts and develop conclusions about what has happened, they progress from reflective observation to abstract conceptualization. This involves evaluating the event and comparing it to their present understanding of the subject. Concepts do not have to be "new"; learners can assess new information and adjust their findings based on previously established notions.

Active Experimentation: This is the assessment step of the cycle. Learners return to a task, this time with the purpose of applying their results to new experiences. They may develop predictions, assess tasks, and plan use of their learned information. Allowing learners to apply their knowledge and demonstrate how it applies to their life ensures that the content remains relevant in the future.

METHODOLOGY

The study utilized descriptive-correlational research design after implementation of experiential learning approach.

The respondents for this study were chosen using a purposive sample technique and used descriptive-correlational research design. The respondents were divided into three Grade 8 groups of forty-one (41) pupils each, for a total of one hundred twenty-three (123). The effectiveness of the Experiential Learning Approach was determined using a teacher-made pretest/posttest. The research focuses on all the common competences of Agricultural Crop Production 8. During the third quarter of the school year 2022-2023, the research was conducted at Callejon National High School Junior High School in San Antonio, Quezon. The researcher also employed an adapted and modified survey questionnaire to assess students' attitudes regarding agriculture crop production and respondent perceptions of the Experiential Learning Approach. Means and standard deviations were employed in the examination of the extent of respondents' perception on the implementation of the Experiential Learning Approach. Frequency and percentages were used to assess the student pretest and posttest scores in the use and maintenance of tools/equipment, estimate and basic calculation, interpreting plan and layout, and safety precautions on farm operations. In response to the perception respondents experience in their attitude towards agricultural activities as to the implementation of experiential learning approach, mean and standard deviations were used. Paired t-tests were performed to examine the significance of the difference between the pretest and posttest scores of the student-respondents' shared competencies. Finally, Pearson-Product Moment Correlation was used

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to examine the significant relationship between their attitude toward agricultural crop production activities following implementation.

RESULTS AND DISCUSSION

Table 1

Summary of the Respondents Perception towards Experiential Learning Approach

<i>Summary of the Respondents Perception towards Experiential Learning Approach</i>			
Indicators	Mean	SD	Interpretation
Concrete Experience	3.48	0.35	Agree
Reflective Observation	3.51	0.34	Strongly Agree
Abstract Conceptualization	3.46	0.32	Agree
Active Experimentation	3.54	0.33	Strongly Agree
Overall	3.5	0.33	Strongly Agree

Legend: 3.5-4.0 Strongly Agree; 2.5- 3.49 Agree; 1.5- 2.49 Disagree; 1-1.49 Strongly Disagree

The table shows the summary of the respondent's perception on the stages of Experiential Learning Approach with overall mean of 3.5 which was interpreted as "strongly agree". According to the table below, students evaluated the stages of the Experiential Learning Approach as a meaningful and effective teaching technique, because each phase contributes to their learning process. During the implementation of ELA, students were given opportunities to perform various learning activities, for example, in concrete experience prior to the lesson, activities are given to them to that will lead to participation and get involved in gaining knowledge, it is followed by reflective observations that allow students to reflect and share their experience and to examine the gap between their prior knowledge and the said concrete experience. The third stage is abstract conceptualization, in which students and learning facilitators have open communication throughout the implementation of ELA. Students are always given the opportunity to ask questions to their subject teachers to arrive at conclusions from their experience by reflecting on prior information, applying ideas with which they are familiar, or discussing different theories with peers.

Finally, active experimentation is used in this kind of teaching technique because when the three stages are completed, the application of theory into practice is used. The teaching technique made use of real-world performance tasks assigned to each student, specifically garden activities. Each level has been touched throughout the implementation of experiential learning, allowing students to perform and learn in the learning process.

Connectively, Macchiarella and Mirot (2018) defined experiential learning as a "process through which students develop knowledge, skills, and abilities from direct experiences."

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Table 2

Summary of Respondents Perception towards Agricultural Activities before and after the implementation of Experiential Learning Approach

Indicators	Pre		VI	Post		VI
	Mean	SD		Mean	SD	
Leisure belief	3	0.75	Manifested	3.46	0.39	Manifested
Psychological Benefit	3.07	0.55	Manifested	3.52	0.35	Highly Manifested
Physiological Benefit	3.21	0.78	Manifested	3.55	0.41	Highly Manifested
Social Benefit	3.05	0.55	Manifested	3.44	0.39	Manifested
Educational Benefit	3.16	0.56	Manifested	3.56	0.42	Highly Manifested
Aesthetic Value	3.08	0.54	Manifested	3.61	0.68	Highly Manifested
Environmental Value	3.08	0.61	Manifested	3.56	0.4	Highly Manifested
Overall	3.09	0.62	Manifested	3.53	0.43	Highly Manifested

Legend: 3.50-4.00- Strongly Agree/ Highly Manifested, 2.50-3.49- Agree/ Manifested, 1.50-2.49 – Disagree/ Some Manifested, 1.00-1.49 – Strongly Disagree/ Not Manifested

Table 2 shows the summary of the student attitude towards agricultural activities before and after the implementation of Experiential Learning Approach it shows that prior the implementation most of the students' attitudes towards agricultural activities is agree/manifested (mean= 3.09), meanwhile after the implementation the data shows that there is significant change into highly manifested (3.53).

Based on the table most of the students believed that performing agricultural activities that are part of experiential learning approach helps them improve their attitude. It also revealed that they highly manifested all the indicators in the table. Since students can experience and participate in the learning process it helps them improve their attitude towards agricultural activities. It is supported by the research of Ballantyne et al. (2002) it confirms that learning experiences that happened in the natural environment is necessary in developing students' environmental knowledge, attitudes, and responsible actions.

Similarly, Gilbert C. Magulod Jr. (2018) discovered to his conducted study "*The effectiveness of experience and nature-based learning activities in enhancing students environmental attitude*" that the use of various environmental-based learning activities significantly increased students' environmental attitude toward nature enjoyment, support for interventions and conservation policies, environmental movement activism, conservation motivated by anthropocentric concern, confidence in science and technology, environmental threat, altering nature, and personal conservation and environmental concern.

Table 3

Test of Difference in Students' Competencies in Agricultural Crop Production Before and After the Implementation of Experiential Learning Approach

Competencies in agricultural crop production	Pre-test		Post test		T	df	Sig. (2-tailed)	Interpretation
	Mean	SD	Mean	SD				
use and maintenance of tools/equipment	5.75	2.28	6.82	2.08	-4.973	110	0.000	Significant
estimation and basic calculation	6.38	2.10	7.85	1.35	-8.078	121	0.000	Significant
interpretation of plan and drawing	3.19	1.65	5.25	1.76	11.195	120	0.000	Significant
safety precautions in farm operations	4.70	1.74	7.02	1.45	12.523	121	0.000	Significant

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Table 3 shows the test of the difference between the pretest and posttests scores of the student in the common competencies in agricultural crop production. Based on the given table, it shows that there is significant difference between the pretest and posttest score performance of the student respondents before and after implementation of experiential learning approach from the significance value of 0.000 in all common competencies in agricultural crop production which is less than 0.05. It implies that there has been a significant improvement in their competencies in agricultural crop production, as students were able to achieve proficient level from being approaching proficiency in the use of maintenance of tools/equipment, and students were able to maintain proficient level during pretest and posttest for estimation and basic calculation. Meanwhile, students were able to reach approaching proficiency level from being only developing for interpretation and drawing and students met proficient level for safety precautions in agricultural operations from developing level.

Analyzing the data presented in the table, it only shows that Experiential Learning Approach helps the learner improve their competencies in agricultural crop production as shown in the increase in the level of proficiency and mean value.

Empirically, it is noteworthy that the implementation of influenced the performance of the students in their learning process and helped them improve the understanding and skills in use of maintenance of tools/equipment, estimation and basic calculations, interpretation of plan and drawing and safety precautions and farm operations and so the teacher may also take into considerations as a strategic way of improving their learning competencies. With the result, teachers in TLE 8- Agricultural Crop Production can now suggest the implementation of Experiential Learning Approach in other grade level teaching TLE subject.

Likewise, this finding is like the studies of Dollotallas and Nagtalon (2015), Alkan (2016), Moore (2016), Okafor (2014), Boggu (2016), Manolas & Kehagias (2016), and Gorghui and Santi (2016) which reveal that positive effects of experiential learning on academic achievement, meaningful learning, and learning outcomes.

Similarly, the findings of the study relate somehow with the idea professed by Alkan (2016) that experiential learning applications expand the course content and improve students' knowledge level through real life practice while encouraging students to think effectively and come to conclusions using the data through questioning. Teaching strategies that ensure active participation with the help of scientific research such as experiential learning improve conceptual learning.

Table 4

Test of Relationship between Respondent's Perception on implementation of Experiential Learning Approach and their Attitude towards agricultural activities

<i>Test of Relationship between Respondent's Perception on implementation of Experiential Learning Approach and their Attitude towards agricultural activities</i>							
Experiential Learning Approach	Leisure	Psychological	Physiological	Social	Educational	Aesthetic	Environmental
Concrete Experience	0.151	.249**	0.161	.276**	0.030	.222'	.281**
Reflective Observation	0.135	0.157	0.158	.238**	0.023	0.069	.188'
Abstract Conceptualization	.190'	.183'	.198'	.260**	0.093	0.118	.185'
Active Experimentation	0.147	0.111	0.128	.180'	0.032	0.072	0.124

** . Correlation is significant at the 0.01 level (2-tailed).
 * . Correlation is significant at the 0.05 level (2-tailed).

It is noted in Table 4 that there is a significant relationship between the perception in the implementation of Experiential Learning Approach and students' attitude towards agricultural crop production. The relationship exists between concrete experience and psychological benefits (r-value=.249), social benefits, (r-value=.276), and environmental value (.281). In the implementation of Experiential Learning Approach, the students were given opportunities to experience various activities that allow them to work with their classmates, have interaction and learn to socialize with others. Also, activities are done in the school garden area that help to develop their skills in improving the environment and discover its beauty.

Moreover, the result of the study is associated with Hughes, Luanne J et.al (2013), according to them, a garden can offer students the opportunity to engage in hands-on learning that teaches not only the intended subject, but also responsibility, teamwork, and respect for nature, others, and themselves.

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Moreover, a significant relationship also exists between reflective observation and social benefits (r -value=.238). A relationship exists between these two since during discussion learners can share personal experiences and interact with their classmates and others around them. A significant relationship exists between abstract conceptualization and social benefit. The table shows that social benefits have a significant relationship to the three stages of experiential learning.

CONCLUSION

Based on the findings of the study, the following conclusions are drawn:

1. There is no significant difference between students' competencies in agricultural crop production before and after the implementation of Experiential Learning Approach. Therefore, the null hypothesis stating that "there is no significant between students' competencies in agricultural crop production before and after the implementation of Experiential Learning Approach" is not sustained.
2. A significant relationship exists between the perception of the respondent's attitude after the implementation of Experiential Learning Approach. Therefore, the null hypothesis stating that "there is no significant relationship exists between the perception of the respondent's attitude after the implementation of Experiential Learning Approach" is not sustained.

RECOMMENDATION

Based on the results and conclusions posted in the study, the following recommendations are hereby formulated:

1. Through the findings of the study, student would be able to improve their common competencies in agriculture crop production and attitude towards agricultural activities by implementing Experiential Learning Approach.
2. Since the study revealed the effectiveness Experiential Learning Approach in improving students' common competencies and attitude, it is suggested that the study be conducted at a different grade level.
3. The school administrators and may support experiential activities for this can help to improve the mathematics learning outcome of the students in the school.
4. Since experiential learning has been shown to improve students' common competencies in agricultural crop production, teachers may be encouraged to adopt and modified as teaching strategies in all subject areas.
5. Future researchers may as well consider the use Experiential Learning and incorporate them into their studies to further validate the findings of the study.
6. Training and seminars on different teaching strategies that related to experiential learning are recommended to school administrators to train teachers on implementing and utilization various teaching strategies that can help learners improve their learning competencies.

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Strictly follow the numbered format of citation while observing the proper APA style of referencing.

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