

LEARNERS' PROFICIENCY AND CHALLENGES IN TECHNOLOGY AND LIVELIHOOD EDUCATION (TLE): BASIS FOR A CONTEXTUALIZED LESSON EXEMPLAR

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Abstract: This study examined the level of proficiency of Grade 7 learners in agricultural practices and entrepreneurial knowledge under the Revised K to 12 Curriculum and developed a contextualized lesson exemplar to enhance instruction. Using a descriptive research design, data were gathered and analyzed through average weighted mean (AWM) to determine learners' competencies across key domains.

Findings revealed an uneven level of proficiency among learners, ranging from proficient to not proficient. Learners demonstrated proficiency in foundational agricultural knowledge (AWM = 2.64) and safety procedures in farm operations (AWM = 3.12). However, they were less proficient in the use of agricultural tools, implements, and equipment (AWM = 1.85) and crop production practices (AWM = 1.93), and not proficient in harvesting and post-harvesting practices (AWM = 1.60). Overall, agricultural and entrepreneurial competencies were rated not proficient (AWM = 2.23). The results further indicated that learners face significant challenges in applying agri-entrepreneurship concepts due to limited hands-on experiences and insufficient exposure to real-life agricultural activities.

Despite these gaps, the study identified strong opportunities for contextualized and experiential learning through the use of local resources and community practices. Learners' existing strengths in agricultural awareness and safety provide a foundation for community-based engagement. In response, a contextualized lesson exemplar was developed to improve instructional effectiveness by integrating practical, localized, and experience-based activities.

The study concludes that enhancing experiential learning and strengthening school-community partnerships are essential to improving learners' agricultural competencies and entrepreneurial readiness. It recommends the adoption and continuous refinement of contextualized instructional materials to support meaningful and sustainable learning outcomes.

Keywords: Agriculture, Competency, Contextualized Lesson Exemplar.

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Chapter 1

The Problem

Introduction

Agriculture is the backbone of the Philippine economy since it provides food, jobs and livelihood to millions of Filipinos. But young people typically see farming as hard work with little reward. This is a major issue, especially in rural and remote areas where people mostly depend on agriculture to live. To solve the issue, educational institutions should develop ways to make farming a viable and profitable career. Agri-entrepreneurship, the combination of agricultural practices and entrepreneurial concepts, is a potential option to help learners see agriculture as a sustainable source of living, not just a subsistence occupation.

Technology and livelihood Education is an important aspect of the secondary curriculum that prepares learners with the required technical and vocational skills. TLE offers students practical

learning experience in ICT, Agri-Fishery Arts, Consumer Science and Industrial Arts. "By blending agricultural with entrepreneurial applications, students learn about production techniques, but also the commercial side of farming, such as marketing, product creation and financial management."

This study mainly promotes SDG 4: Quality Education by using a contextualized lesson plan that makes learning more meaningful and relevant to students' everyday experiences. At the same time, it supports SDG 8: Decent Work and Economic Growth by helping learners develop practical skills, financial awareness, and an entrepreneurial mindset they can use in the future.

The study also contributes to SDG 2: Zero Hunger by teaching students the value of agriculture and food production, and to SDG 12: Responsible Consumption and Production by encouraging responsible and sustainable farming practices.

Agri-entrepreneurship is very essential to the students in the upland schools. Such students are commonly exposed to farming practices in their local communities but often lack proper training in entrepreneurship and exposure to modern agricultural advancements. In TLE, agri-entrepreneurship gives students with an agricultural background the knowledge and skills to put up sustainable businesses that will contribute to the benefit of their families and communities.

This study is conducted based on the Enhanced Basic Education Act of 2013 (R. A 10533) that aims to produce a learner-centred curriculum that is relevant, contextualized and responsive to community needs. The law asserts that subject like TLE equip students with the information and skills needed for higher education, employment and entrepreneurship. The Philippine Agriculture and Fisheries Modernization Act of 1997 (RA 8435) provides for the modernization of agriculture and fisheries sectors through entrepreneurship, human resource development and science and technology. "This law recognizes the need to allow the youth to participate in competitive, sustainable agriculture companies

Tinalmud is a Barangay in the municipality of Pasacao, Camarines Sur with a population of 2, 435 as of the 2020 census. It has an elevation of 95 meters above sea level approximately. The community is situated in the uplands and relies mostly on agriculture for its existence. The main crops produced in the municipality and its surrounding areas are corn, banana (saba), coconut and root crops. Majority of the barangay families are dependent on these farming operations for their living. Limited access to markets and little income from conventional methods can keep families dependent on subsistence farming. Despite the fact that they are familiar with agricultural work, many students at Tinalmud National High School do not intend to look farming as a career of choice. These students lack the possibilities to approach agriculture from an entrepreneurial point of view, which could enhance the profitability and sustainability of farming as a livelihood.

Majority of students from Tinalmud National High School do not consider farming to be a desirable career, even though they are familiar with farm work. They don't have the chance to see agriculture through the perspective of entrepreneurship, which could make farming a more profitable and sustainable job.

Tinalmud National High School (Formerly an annex of Dalupaon NHS), which was founded as an independent public secondary school by Republic Act No. 10334 provides education to the residents of the area. Due to a lack of funding, outdated farming equipment and an insufficient integration of entrepreneurial concepts, this school like many upland schools find it difficult to teach Agri-Fishery Arts (AFA) as a specialization in TLE subject. These facts emphasize the necessity of educational interventions which take into consideration of the learner's socio-economic background.

The high poverty rate in Pasacao which has been reported to be over 40% in recent years highlights the urgency of this study, Farming is not only a livelihood for many upland communities, but also their source of income. However, families are unable to fully utilize agriculture as a source of income due to traditional practices and lack of entrepreneurial skills.

By incorporating agri-entrepreneurship into TLE, learners can develop both agricultural and entrepreneurial skills that will equip

them to manage sustainable farming operations. With this strategy they can enhance agricultural products, spot market opportunities and create innovations that solve local issues, additionally it supports the Department of Education's purpose of developing learners who are equipped and prepared for both life and livelihood.

By focusing on the integration of agri-entrepreneurship into the TLE Curriculum at Tinalmud National High School, it seeks to bring information on how education can enable upland learners to turn framing into viable, sustainable and profitable livelihood. As a result, this study is both necessary and timely.

Theoretical Framework

This study is primarily anchored on David Kolb's Experiential Learning Theory, which posits that learning is a process of transforming experiences into knowledge. The theory outlines four stages: concrete experience, reflective observation, abstract conceptualization, and active experimentation. This approach encourages students to actively participate, reflect on their learning, comprehend concepts, and apply them in real-world contexts.

This theoretical foundation was selected because Technology and Livelihood Education (TLE), particularly in Agri-Fishery Arts, is inherently experiential. Students are expected to participate in agricultural activities such as cultivation, harvesting, and processing of agricultural products. **The Human Capital Theory by Theodore Schultz** further supports this framework, asserting that education and training are critical investments that enhance individual productivity and economic value. This theory complements Experiential Learning Theory by emphasizing the outcome of learning: equipping learners to contribute effectively to economic growth.

The **Entrepreneurial Event Theory by Shapero and Sokol** also supports this study. This theory posits that an individual's decision to pursue entrepreneurship is influenced by perceived desirability, feasibility, and propensity to act. It aligns with Experiential Learning Theory by illustrating how real-life learning experiences can shape attitudes and intentions toward entrepreneurship. In the context of this study, students who engage in authentic agricultural practices are more likely to perceive farming as a viable and attractive livelihood. TLE provides these relevant experiences, thereby enhancing students' confidence and interest in agriculture.

Drawing from these three theories, the study proposes the **Agri-Entrepreneurial Integration Theory** as its central framework. This theory posits that integrating experiential learning into agricultural education cultivates learners capable of sustaining and innovating farming enterprises. It emphasizes that engagement in practical agricultural activities, combined with entrepreneurial knowledge, fosters not only technical proficiency but also creativity, decision-making abilities, and an entrepreneurial mindset.

The proposed theory is directly linked to the primary and supporting theoretical frameworks. Experiential Learning Theory underscores the value of learning through experience, Human Capital Theory highlights the role of education in economic productivity, and Entrepreneurial Event Theory addresses the development of entrepreneurial intention and behavior. Collectively, these theories support the integration of agri-entrepreneurship within TLE as a means to enable Grade 7 learners

to achieve self-sufficiency and transform agriculture into a sustainable and profitable livelihood.

This study is grounded in **Kolb's Experiential Learning Theory**, **Schultz's Human Capital Theory**, and **Shapero and Sokol's Entrepreneurial Event Theory**. The research, titled "Agri-Entrepreneurship into Technology and Livelihood Education (TLE) for Grade 7 Learners: A Contextualized Lesson Plan Exemplar," synthesizes these theories to illustrate how students' entrepreneurial competencies are developed through experiential agricultural education.

According to Kolb's Experiential Learning Theory, learning occurs when experience is transformed into knowledge. The theory's four-

stage cycle includes concrete experience, reflective observation, abstract conceptualization, and active experimentation. In this study, TLE learners gain valuable insights through practical agricultural and entrepreneurial activities such as planting, processing, marketing, and managing small-scale agri-enterprises. This hands-on approach enhances both understanding and the application of theoretical concepts to real-world situations.

The economic and developmental perspective of the study is informed by Schultz's Human Capital Theory, which asserts that training and education are essential investments that enhance individuals' economic value and productivity.



Figure 1: Theoretical Paradigm

This perspective enables learners to become resilient and productive contributors to sustainable livelihoods and rural development.

Shapero and Sokol's Entrepreneurial Event Theory explains the behavioral and motivational dimensions of entrepreneurship. The theory posits that an individual's perceptions of desirability, feasibility, and personal agency influence the decision to pursue an entrepreneurial career. In this study, exposure to agricultural enterprise opportunities is expected to enhance TLE students'

confidence, creativity, and motivation to engage in agribusiness ventures.

By synthesizing these three theories, the Agri-Entrepreneurial Integration Paradigm is developed. This paradigm posits that students who receive experiential learning in conjunction with agricultural and entrepreneurial education become independent, creative, and sustainability oriented. Within this framework, TLE is positioned as a transformative tool that empowers upland learners to actively contribute to their communities' agricultural and economic development

Conceptual Framework

Figure 2 presents the conceptual paradigm of the present study, based on a systems approach, which shows the interplay among three essential elements: **Input, Process, and Output**. This paradigm emphasizes how each component contributes to the overall effectiveness of integrating Agri-Entrepreneurship into the TLE curriculum, ensuring that grade 7 students are equipped with both agricultural and entrepreneurial competencies that promote sustainability and self-reliance.

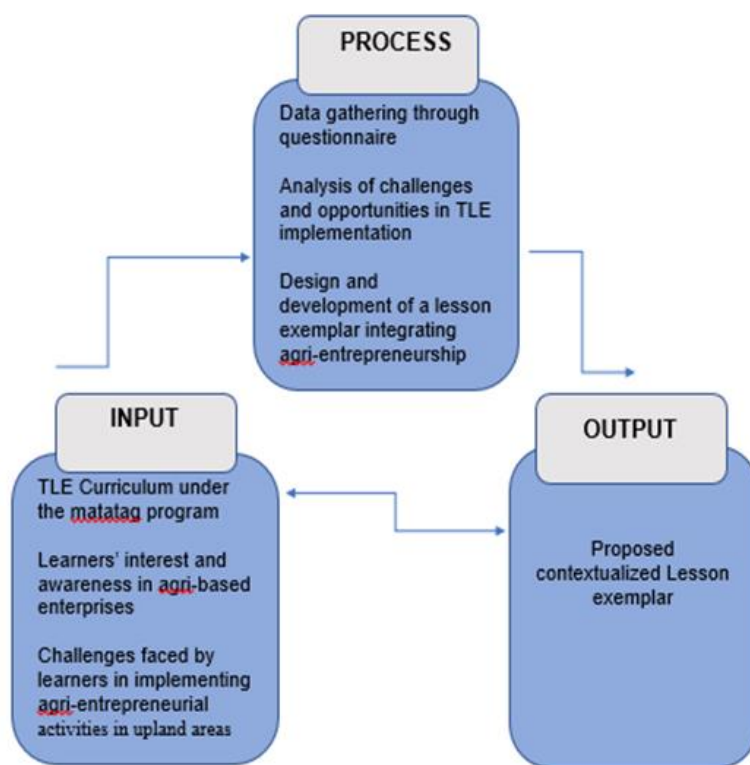
Input. This includes the existing TLE curriculum under the Matatag Program, the current teaching strategies of TLE teachers at Tinalmud National High School, available agricultural resources and school gardens, and learners’ levels of awareness and interest in agri-based enterprises.

Process. This involves gathering and analyzing data through interviews and surveys to identify gaps and opportunities in integrating Agri-Entrepreneurship into the TLE subject. The

process includes designing a lesson to enhance students’ practical farming and business skills. Moreover, the process emphasizes expert validation to ensure the contextual relevance and effectiveness of the developed instructional material.

Output. The expected output of this study is a **Proposed Lesson Exemplar in Agri-Entrepreneurship** tailored for grade 7 learners. This instructional material aims to enhance sustainable farming practices, entrepreneurial mindset, and self-sufficiency among students. The developed exemplar will serve as a guide for TLE teachers in promoting hands-on learning experiences that merge agricultural productivity with entrepreneurial innovation.

Feedback Loop. The feedback mechanism provides essential information to improve and refine the lesson exemplar and teaching approaches based on evaluation results. This continuous feedback ensures that instructional materials remain relevant, adaptable, and responsive to the needs of upland learners and the changing educational landscape, fostering long-term sustainability and improvement in TLE instruction.



Conceptual Paradigm

Figure 2

Statement of the problem

The study aimed to determine the Integration of Agri-Entrepreneurship into Technology and Livelihood Education (TLE) among Grade 7 learners for a contextualized lesson plan exemplar.

Specifically, it seeks to answer the following questions:

1. What is the level of agricultural practices and entrepreneurial knowledge among grade 7 learners?

2. What challenges and constraints do learners faces in implementing Agri-Entrepreneurship lessons under revise K to 12 curriculum?
3. What opportunities, local resources, and community practices can support the integration of Agri-entrepreneurship?
4. What lesson plan exemplar can be proposed based from the finding of the study.

Assumptions

This study will be premised on the following assumptions:

1. The level of agricultural practices and entrepreneurial skills among grade 7 learners varies based on how much they have done farming, what they have learned before, and how easy it is for them to get agricultural resources in their community.
2. Both learners and teachers encounter challenges in the implementation of agri-entrepreneurship lessons, including inadequate instructional resources, insufficient training in entrepreneurial concepts, time limitations, and a deficiency of agricultural facilities.
3. Availability of local resources, community farming practices, and support from local farmers may significantly contribute to the effective integration of agri-entrepreneurship into the TLE curriculum.
4. The data gathered from students and local farmers is accurate and trustworthy, and the people who answered the questions were honest and accurate.
5. Based on the study's results, a contextualized lesson plan exemplifying agri-entrepreneurship can be made. This can be a useful teaching tool for TLE teachers for grade 7 learners.

Significance of the Study

Students (Grade 7 learners). This study provides grade 7 learners enrolled in the TLE program an opportunity to gain both agricultural and entrepreneurial competencies that will prepare them for sustainable livelihood ventures. Through exposure to Agri-Entrepreneurship, students can develop self-sufficiency, creativity, and a sense of responsibility toward environmental stewardship and community development.

TLE Teachers (Handling AFA). The findings of this study can serve as a reference for TLE teachers in developing and implementing effective instructional materials and strategies for teaching Agri-Entrepreneurship. It can also enhance teachers' capacity to integrate practical farming experiences with entrepreneurial education, thereby improving the overall quality of TLE instruction under the matatag curriculum.

School Administrators. School administrators may find this study useful for organizing and supporting agri-based learning projects. It can help administrators determine which training courses, community connections, and other resources are needed to improve TLE instruction in upland schools.

Community. Integrating Agri-Entrepreneurship into school-based farming projects may encourage cooperation and community involvement. It can empower local farmers in the community to share knowledge with students, creating collaborations that support community food security and sustainable development.

Future Research. This study can be used as a basis for further research on improving TLE instruction, especially in creating entrepreneurial programs and context-based lesson exemplars that are appropriate for upland and rural school environments.

Scope and Delimitation

This study aims to determine the scope and limitations of the research, which focuses on Integrating Agri-Entrepreneurship into the Technology and Livelihood Education (TLE) curriculum for grade 7 learners at Tinalmud National High School. The study involves Grade 7 learners and Local Farmers. These groups were selected because they are directly engaged in learning and in the actual practice of agriculture in an upland setting. The study was

conducted at Tinalmud National High School in Barangay Tinalmud, Pasacao, Camarines Sur. This is a highland area where farming is the main source of livelihood. The data collection was carried out during the academic year 2025–2026.

This study did not include other subject areas aside from TLE and was limited only to the agricultural and entrepreneurial components of the curriculum. It did not involve other grade levels or secondary schools outside Tinalmud National High School for the learner respondents. Likewise, the study did not implement or evaluate the proposed lesson exemplar, as it was limited to development.

The research is specifically confined to the public-school and community setting to provide a focused analysis of how agri-entrepreneurship can be integrated into TLE and how it may help prepare upland learners for sustainable farming enterprises.

Definition of Terms.

Agri-Entrepreneurship. Refers to the integration of agricultural production with business and entrepreneurial practices. It focuses on developing learners' skills in both farming and enterprise creation. In this study, agri-entrepreneurship serves as the central concept, emphasizing how TLE can prepare upland learners to become self-sustaining through profitable farming ventures.

Action Research is a systematic and reflective process conducted by educators to identify issues within their teaching practice and implement changes to improve outcomes. In this study, action research is used to identify challenges and propose solutions for integrating agri-entrepreneurship into the TLE program in an upland school setting.

Challenges and constraints. Refers to the problems that students and teachers face in implementing agri-entrepreneurship, such as lacking sufficient resources, limited training, and not having enough time.

Community Practices. Refers to the existing farming methods, traditions, and livelihood activities practiced by local farmers in the community, which can support the integration of agri-entrepreneurship in TLE.

Contextualized Lesson Plan Exemplar. Refers to the instructional material developed in this study that integrates agri-entrepreneurship concepts into TLE lessons, tailored to the needs and local context of upland learners. **Entrepreneurial Skills** are the competencies necessary to identify opportunities, make decisions, take risks, and manage resources efficiently in business undertakings. Within this study, these skills are developed through TLE instruction that integrates agri-entrepreneurship concepts, helping students turn agricultural knowledge into viable income-generating activities.

Instructional Strategies are the methods and techniques teachers use to facilitate effective learning. In this research, these strategies include hands-on activities, project-based learning, and contextualized lessons that support agri-entrepreneurship development among Grade 7 learners.

Learner Engagement. Refers to the interest, motivation, and participation of students in learning activities. For this study, it reflects how actively Grade 7 students at Tinalmud National High School participate in agri-entrepreneurship lessons within the TLE curriculum.

The Matatag Curriculum. A restructured version of the K to 10 Basic Education Curriculum introduced by the Department of Education. It emphasizes foundational skills, relevance, and contextual learning. This study aligns with its goal by promoting agricultural literacy and entrepreneurial competence through TLE instruction in upland areas.

Resource Availability. Pertains to the adequacy of teaching and learning materials, tools, and facilities required for effective TLE instruction. In this study, it includes agricultural tools, equipment, and learning modules necessary to implement agri-entrepreneurship lessons successfully.

Sustainable Farming. Refers to agricultural practices that meet present food and income needs without compromising environmental and resource sustainability for future generations. The study views sustainable farming as a key outcome of integrating agri-entrepreneurship in TLE, especially for upland learners who rely on agriculture for livelihood.

Teacher Preparedness. Denotes the readiness, competence, and confidence of educators in implementing curriculum innovations. In this research, it specifically refers to how well-equipped the Grade 7 TLE teacher is in teaching agri-entrepreneurship concepts under the Matatag Curriculum framework

Review of Related Literature

This section outlines relevant concepts, theories, and empirical findings that guided the study's development, specifically regarding the integration of agri-entrepreneurship into Technology and Livelihood Education (TLE) through a contextually relevant lesson plan exemplar. There has been a growing recognition in recent years of the need to integrate entrepreneurship in agricultural education so that students can learn how to turn farming into a profitable and long-term business.

Entrepreneurship and Agricultural Education

The gap in foundational agricultural knowledge refers to the clear mismatch between what learners are expected to know and what they actually understand and can perform in real-life situations. Many students struggle not only with basic agricultural concepts but also with applying practical skills and understanding current issues in agriculture. This gap is often rooted in limitations within the curriculum, where essential topics such as soil management, crop production, pest control, and sustainable farming are not fully emphasized.

It is further aggravated by the lack of adequate learning resources, including updated materials, tools, and facilities, as well as insufficient specialized training among teachers. As a result, students tend to lose interest and engagement, and they may find it difficult to make informed decisions in farming or agribusiness or respond effectively to pressing global concerns such as climate change, food security, and sustainability (Jaime K. Manning, 2025).

The Organisation for Economic Co-operation and Development (2019) emphasized that today's education systems need to teach skills like creativity, problem-solving, and innovation, which are important for both farming and starting a business. The United Nations Educational, Scientific and Cultural Organization (2021) indicated that education should give students the skills they need to deal with real-world problems, especially those related to sustainability and making a living.

In the same way, the World Bank (2022) pointed out that education plays a crucial role in reducing poverty, particularly in rural areas where many people depend on agriculture for their livelihood. Supporting this idea, the Food and Agriculture Organization (2022) emphasized that encouraging young people to engage in agri-entrepreneurship is important in ensuring food security and sustaining agricultural development in the long run.

Experiential Learning and Teaching Approaches

The way lessons are delivered plays a significant role in improving students' understanding of agricultural and entrepreneurial concepts. Several studies suggest that learners respond better to hands-on and experience-based learning. Syaukat et al. (2022) found that agricultural entrepreneurship becomes more effective when students are actively involved through hands-on or experiential learning. Isyanto et al. (2024) also found that students are more interested in lessons when they are related to real-life situations and are taught in an interactive way. Heryadi et al. (2025) also said that agripreneurship education helps students become more creative and independent, which are two important traits for future business owners.

Agricultural Skills Development and knowledge

Preparing learners for real life applications and future livelihood opportunities requires the development of agricultural skills. Additionally, research on agricultural skill development stresses the importance of equipping learners with a complete set of competencies needed for sustainable agricultural practices. These include skills in pre-planting (such as site selection and planning), planting (proper spacing and irrigation), post-planting (crop maintenance, pest control, and fertilization), harvesting, and marketing. The study emphasizes that both agricultural experts and practitioners share similar views on the importance of these skills, reinforcing the need to integrate them into the curriculum. Doing so can enhance students' employability, self-reliance, and ability to contribute to sustainable agricultural development (K. A. Nwobi, 2024).

Lastly, larger studies of institutions also support the idea of adding agri-entrepreneurship to agricultural education. Chirinda et al. (2024) used lessons learned from eight universities in Africa to argue that agricultural programs should include agri-entrepreneurship education to make agricultural education systems more relevant to the needs of the job market. Even though the study was done at a university, it is still important because it shows that adding entrepreneurship to agriculture is becoming more and more important for making education more responsive and making the sector more competitive.

Contextualized Teaching and Local Educational Support

Within the Philippine context, education reforms significantly advocate for entrepreneurship that goes along TLE tracts. The MATATAG Curriculum, which aims at contextualized and competency-based education has been launched by the Department of Education (2023). Herein lies the demand to promote agri-entrepreneurship in local community.

The Department of Agriculture (2022) has actively encouraged youth involvement in agribusiness, notably through the Young Farmers Challenge (YFC) Program, which provides startup capital, grants, and training to young Filipinos aged 18-30 to turn agricultural ideas into sustainable enterprises. This initiative aims to modernize farming, combat an aging farmer demographic, and

foster innovation. The Technical Education and Skills Development Authority (2022) also stressed the importance of including business skills in technical education. In addition, the Philippine Statistics Authority (2022) said that agriculture remains the primary livelihood source for rural households, with the number of agricultural households increasing by 32.0 percent over the past decade. The Commission on Higher Education (2021) emphasized that entrepreneurship development is important for innovation and self-reliance. This focus is part of broader educational reforms, including the implementation of the K to 12 program and the promotion of a smart, innovation-driven economy. The National Economic and Development Authority (2023) also notes that the best ways to improve rural economies and create jobs is to enhance education and skill development.

Several studies show that integrating entrepreneurship into agricultural education becomes more effective when learners are actively involved in meaningful learning experiences. Syaukat et al. (2022) pointed out that training, early exposure, and real-world agribusiness activities help develop strong entrepreneurial skills among young learners. This indicates that students acquire knowledge more effectively when provided opportunities to see and engage with agriculture, both as a practice and a means of livelihood. Likewise, Adeyanju et al. (2021) stated that structured agricultural training can help improve the performance of young agripreneurs, observed. It clearly indicates that activity-based and guided practices are key to gaining insight into agriculture as well as business.

Other studies also examine the impact of learning experiences on student's interest in agribusiness. Lediana et al. (2023) discussed the impact of entrepreneurship education on students' intentions to engage in agricultural business. Kaki et al. (2023) also stressed how important it is to have a good learning environment for students to be interested in entrepreneurship.

Challenges and Constraints in Implementation

A similar concern is highlighted in a study conducted in Botswana, which examined the causes of poor academic performance in agriculture among primary school students. The findings revealed that key challenges include the lack of tools and equipment, absence of libraries and laboratories, limited exposure to agricultural activities outside the classroom, ineffective teaching methods, insufficient practical work, and negative student attitudes toward learning. To address these issues, the study recommends increasing hands-on activities, providing additional academic support, improving access to internet and updated learning materials, and strengthening agricultural clubs. It also noted that factors affecting performance may vary based on gender and location, suggesting the need for context-specific interventions (Baliyan, 2021).

Furthermore, Isyanto et al. (2024) examined the factors influencing students' desires to pursue jobs in agriculture. Their research indicates that students' interest in agricultural entrepreneurship is significantly affected by curriculum relevance, community engagement, and interactive teaching techniques. Schools that paired entrepreneurial modules with hands-on farming activities reported higher levels of student engagement and interest in agricultural careers.

Soam et al. (2023) investigated at how agricultural students in India felt about entrepreneurship. They said that the study was meant to find out how interested students were in entrepreneurship so that

decisions could be made and programs could be developed. This substantiates the perspective that learners' agricultural and entrepreneurial knowledge must be evaluated prior to the formulation of interventions or the development of contextualized instructional materials.

Several recent studies in the Philippines have examined at how agricultural and entrepreneurial ideas can be combined in Technology and Livelihood Education (TLE). For instance, studies by Del Rosario (2022), and Lopez (2024) show that students learn better and become more engaged when they are exposed to hands-on and real-life agricultural activities. However, this positive outcome is often challenged by practical constraints. As noted by Dy (2021), Domingo and Aguilar (2021), teachers frequently encounter difficulties such as lack of materials, limited facilities, and insufficient training in entrepreneurship, which affect how these strategies are applied in the classroom.

Challenges in actual classroom implementation are further emphasized in a study conducted in Guinobatan, Albay, which explored the difficulties faced by agriculture teachers in TLE. The study revealed that while teachers commonly use strategies such as recitation, written tests, and group activities, practical applications remain limited. For instance, activities like soil sampling and hands-on demonstrations in animal production are often not conducted.

Teachers face multiple constraints, including lack of resources, insufficient time, financial limitations, and inadequate facilities such as land, tools, and equipment. Despite these challenges, teachers attempt to cope by adapting teaching strategies, seeking administrative support, and extending time for practical activities to help learners better understand the lessons (V. M. Dy, 2021).

In addition to the use of experiential learning strategies, it has also been found that contextualized instructional materials improve learning outcomes. Carreon et al. (2021) conducted a study on the validation and use of a developed contextualized learning module in teaching entrepreneurship in Technology and Livelihood Education (TLE). Results showed that the module was rated as valid by teachers and education experts in terms of content, learning activities and compliance with curricular standards. Furthermore, the students that used the module obtained greater scores in the posttest than in the pretest, which indicates that the contextualized information helped to improve the learning results. This means that when lessons are constructed around the context of the learners and their real-life experiences, learners can understand concepts better.

Synthesis of the State-of-the-Art

The literature and studies reviewed in this study indicate an agreement among many authors regarding the significance of integrating agriculture and entrepreneurship in education. Most of them state that students learn better when they are taught more than just how to grow crops but also how to earn money from them. A major similarity across the studies is the recognition that entrepreneurship education strengthens agricultural competencies and promotes self-reliance among learners (Adeyanju et al., 2021). Likewise, many authors highlight the effectiveness of experiential and hands-on learning approaches, which significantly improve students' engagement and understanding (Syaukat et al., 2022; Isyanto et al., 2021). Another common finding is that early exposure to agribusiness concepts increases learners' interest in agriculture as a career (Lediana et al., 2023; Kaki et al., 2023).

Furthermore, several studies agree that teacher preparedness, training, and availability of resources are critical factors influencing the success of agri-entrepreneurship integration (Dy, 2021; Domingo & Aguilar, 2021). Additionally, global organizations such as OECD (2019), UNESCO (2021), and FAO (2022) emphasize the need for education systems to develop innovation, sustainability, and livelihood skills, which align with agri-entrepreneurship goals.

Despite the similarities, notable differences exist among the reviewed studies. Many foreign studies focus on higher education students or young agripreneurs, while the present study centers on Grade 7 learners in junior high school. Previous research often examines the effectiveness of training programs and entrepreneurial outcomes, whereas this study focuses on assessing competency levels and developing a contextualized lesson exemplar.

In terms of setting, most studies were conducted in urban or well-resourced environments, while the present research is situated in an upland school with limited facilities and resources. Additionally, previous research has mostly focused on large scale initiatives and putting policies into action. This study, on the other hand, focuses on how the MATATAG Curriculum is integrated into the classroom level. There are also differences in the methods used, many studies use experimental or correlational designs, while this one uses a descriptive-developmental approach. Also, while earlier studies have mainly looked at entrepreneurial motivation and purpose, this one looks at both agricultural practices and entrepreneurial knowledge as basic skills.

When literature and studies are grouped by theme, they show important topics like: (1) entrepreneurship education and developing skills, (2) experiential and contextualized learning approaches, (3) agricultural competency development, (4) preparing teachers and dealing with challenges in the classroom, and (5) the role of education in rural development and sustainability. These themes suggest that incorporating agri-entrepreneurship into TLE can enhance learning by making it more relevant, practical, and responsive to community needs, especially in agricultural settings.

However, there is still a clear study gap. Although many studies support the significance of agri-entrepreneurship education, there is limited research concentrating on its implementation at the junior high school level. Additionally, few studies have developed contextualized lesson plan exemplar that are based on the MATATAG Curriculum, which directly respond to the learner's needs, local resources and community practices.

In conclusion, the reviewed literature and studies strongly support for the integration of agri-entrepreneurship into agricultural education to enhance learners' competencies, engagement, and preparedness for livelihoods. But the gaps that were found show that the current study is needed. Its goal is to determine the competency level of Grade 7 learners and develop a contextualized lesson plan exemplar that is tailored to an upland school setting. This makes sure that the study contributes not only to existing knowledge but also to practical and context-responsive educational innovation.

Researcher Gap

Although many studies have already discussed the importance of integrating entrepreneurship into agricultural education, several gaps are still evident. Most existing studies focus on college students, young agripreneurs, or training programs, while only a few look at junior high school learners, especially those in Grade 7. This shows

that there is limited understanding of how agri-entrepreneurship can be introduced at an early stage of learning.

Many studies look of how effectively entrepreneurship programs work, but only a few of them examine the actual level of learners in terms of their agricultural practices and entrepreneurial skills before designing interventions. This creates a gap in identifying the real needs of learners, particularly in terms of their basic skills and understanding.

Another important gap is the lack of contextualized instructional materials. While several researchers highlight the value of agri-entrepreneurship, only a few have developed concrete lesson plan exemplars that teachers can directly use in the classroom. This is especially true in upland and resource-limited schools, where teaching strategies need to be adapted to the local environment, available materials, and community practices. There is also limited research that combines both agricultural practices and entrepreneurial knowledge as a basis for developing instructional materials.

Therefore, this study was conducted to address these gaps by looking into the current level of agricultural practices and entrepreneurial knowledge of Grade 7 learners, and by developing a contextualized lesson plan that fits the actual situation of an upland school. Through this, the study hopes to help improve teaching practices and make agricultural education more meaningful and useful for the learners

Notes

1. Adeyanju, A. A., Ojo, S. O., & Adepoju, A. O. (2021). Effects of agricultural training on youth agripreneurship development in Nigeria. *Journal of Agricultural Extension*, 25(2), 45–56. <https://doi.org/10.4314/jae.v25i2.5>
2. Baliyan, S. P. (2021). Poor academic performance of students in agriculture at primary schools in Botswana: Analysis of causes and ways to improve. *International Journal of Learning, Teaching and Educational Research*, 20(9), 120–138. <https://doi.org/10.26803/ijlter.20.9.8>
3. Carreon, R. J., et al. (2021). *Validation and utilization of a developed contextualized learning module in teaching entrepreneurship in TLE* [Unpublished manuscript]. ResearchGate <https://www.researchgate.net/publication/354209906>
4. Chirinda, N., Sinyolo, S., & Mudhara, M. (2024). Integrating agripreneurship in higher education: Lessons for improving agricultural education systems in Africa. *Sustainability*, 16(3), 1125. <https://doi.org/10.3390/su16031125>
5. Commission on Higher Education. (2021). *Entrepreneurship development in higher education*. <https://ched.gov.ph/>
6. Del Rosario, A. M. (2022). Experiential learning and the development of entrepreneurial competencies among junior high school students in TLE. *Asia Pacific Journal of Education, Arts and Sciences*, 9(3), 88–98. <https://www.apjeas.apjmr.com/>
7. Department of Agriculture. (2022). *Young farmers challenge program*. <https://www.da.gov.ph/>
8. Department of Education. (2023). *Matatag curriculum framework*. <https://www.deped.gov.ph/>

9. Dy, V. M. (2021). Teaching strategies and challenges in agriculture instruction in secondary schools in Albay, Philippines. *International Journal of Advanced Research*, 9(6), 1020–1028. <https://doi.org/10.21474/IJAR01/13426>
10. Food and Agriculture Organization. (2022). *Youth engagement in agriculture*. <https://www.fao.org/>
11. Heryadi, A., Widarawati, D. A., & Suprpto, T. (2025). Youth agribusiness and rural resilience in Indonesia's agribusiness systems. *Journal of Agricultural Extension and Rural Development*, 17(4), 52–65. <https://doi.org/10.5897/JAERD2025.1351>
12. Isyanto, A. Y., Fatimah, A. T., & Amalia, L. N. (2024). Factors influencing agricultural vocational high school students' interest in working in the agricultural sector. *Agric*, 36(1), 131–140.
13. Kaki, A., Rahman, M., & Hossain, M. (2023). Entrepreneurial intention among students: The role of learning environment and education. *Journal of Entrepreneurship Education*, 26(2), 1–12.
14. Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development*. Prentice Hall.
15. Lediana, R., Suryani, N., & Wibowo, A. (2023). The influence of entrepreneurship education on students' agribusiness intentions. *International Journal of Instruction*, 16(2), 233–248. <https://doi.org/10.29333/iji.2023.16213a>
16. Lopez, M. A. (2024). Enhancing student engagement in agricultural education through experiential learning approaches. *Philippine Journal of Educational Research*, 13(1), 55–68.
17. Manning, J. K. (2025). Exploring agricultural knowledge among secondary students. *Education Sciences*, 15(2), 210–225. <https://doi.org/10.3390/educsci15020210>
18. National Economic and Development Authority. (2023). *Philippine development plan 2023–2028*. <https://neda.gov.ph/>
19. Nwobi, K. A. (2024). Skills needed by agricultural education students for sustainable vegetable production in Enugu State. *British Journal of Education*, 12(7), 45–58. <https://doi.org/10.37745/bje.2013/vol12n76884>
20. Organisation for Economic Co-operation and Development. (2019). *Future of education and skills 2030*. <https://www.oecd.org/>
21. Philippine Statistics Authority. (2022). *Agricultural household statistics*. <https://psa.gov.ph/>
22. Republic Act No. 10533. (2013). *Enhanced basic education act of 2013*. <https://www.officialgazette.gov.ph/2013/05/15/republic-act-no-10533/>
23. Republic Act No. 8435. (1997). *Agriculture and fisheries modernization act of 1997*. <https://www.officialgazette.gov.ph/1997/12/22/republic-act-no-8435/>
24. Schultz, T. W. (1961). Investment in human capital. *The American Economic Review*, 51(1), 1–17. <https://www.jstor.org/stable/1818907>
25. Shapero, A., & Sokol, L. (1982). The social dimensions of entrepreneurship. In C. Kent et al. (Eds.), *The encyclopedia of entrepreneurship* (pp. 72–90). Prentice Hall.
26. Soam, S., Sharma, P., & Kumar, R. (2023). Attitudes of agricultural students toward entrepreneurship: Implications for curriculum development. *Journal of Agricultural Education and Extension*, 29(3), 345–360. <https://doi.org/10.1080/1389224X.2023.2176543>
27. Syaukat, F. I., Hatanaka, K., Shimoguchi, N. N., & Saville, R. (2022). Agriculture entrepreneurship on youth: A systematic literature review. *International Journal of Environmental and Rural Development*, 13(2), 127–136. https://doi.org/10.32115/ijerd.13.2_127
28. Technical Education and Skills Development Authority. (2022). *TVET framework*. <https://www.tesda.gov.ph/>
29. United Nations Educational, Scientific and Cultural Organization. (2021). *Education for sustainable development*. <https://www.unesco.org/>
30. World Bank. (2022). *Education and poverty reduction*. <https://www.worldbank.org/>

Chapter 2

Research Methodology

This chapter is a presentation of the research methodology, detail of the researcher design, the respondent, data gathering tools, and the statistical treatment used in this study. This comprehensive approach ensures that the study is conducted systematically, providing reliable and valid results that address the research objectives effectively.

Research Design

This study used a descriptive–developmental research design, which is appropriate for examining the current level of agricultural and entrepreneurial knowledge of grade 7 learners of Tinalmud National High Schhol and for developing a lesson exemplar based on the gathered data. The descriptive part of the research focuses on identifying what Grade 7 learners already know about agriculture and entrepreneurship, and what learning gaps exist. It also describes the available resources and agricultural practices in the community, based on insights from local farmers.

The developmental aspect of the design involves using these descriptive findings to create a contextualized lesson exemplar in agri-entrepreneurship for Grade 7 TLE. The exemplar will be shaped by the learners' needs, and the agricultural context of the community.

This design is most suitable for the study because it allows the researcher to first understand the real learning conditions of the grade 7 learners and then use this information to create instructional material that is practical, relevant, and responsive to the Matatag Curriculum.

Respondents

The respondents of this study include 50 Grade 7 learners from Tinalmud National High School and selected Local Farmers from the barangay. This research will be carried out during the Academic Year 2025–2026.

For the learners, they were included because they are the main beneficiaries of the proposed agri-entrepreneurship lesson exemplar and represent the real needs and interests of upland learners who are just beginning to explore agriculture through the TLE curriculum.

In addition, local farmers will also be part of the study as community resource persons. They were chosen because they have real-life knowledge of farming practices, local crops, and traditional techniques that are essential in grounding the lesson exemplar in the actual agricultural environment of the community.

By focusing on these groups—learners, and farmers—the study hopes to gain a clearer and more personal understanding of how agri-entrepreneurship can be integrated into TLE in a way that fits the realities of upland education. Their combined experiences are expected to guide the development of a lesson exemplar that is practical, relevant, and truly supportive of sustainable farming practices for upland learners.

Data Gathering Tools

The main tools used in this study were a learner assessment questionnaire, and a semi-structured interview guide. These instruments were created to gather both numerical information and personal insights that would help the researcher understand how agri-entrepreneurship can be integrated into the TLE curriculum, especially in an upland school setting.

The Learner Assessment Questionnaire was designed for Grade 7 students of Tinalmud National High School. It asked about their experiences in farming, what agricultural tasks they already know, and how much they understand basic ideas about entrepreneurship. The questionnaire included simple knowledge questions, and rating scales so that the researcher could clearly see the learners' current skills and areas where they still need support.

To better understand the community's actual farming situation, a semi-structured interview guide was used when talking to local farmers. The interview asked about their usual farming methods, the crops they grow, the difficulties they encounter, and how they earn from their produce. These interviews provided real-life stories and practical knowledge that helped enrich the findings from the questionnaires.

By using these tools together, the study was able to gather complete and meaningful information—both measurable data and personal experiences. This helped the researcher understand the needs and realities of upland learners and teachers, which will guide the development of a practical and relevant lesson exemplar in agri-entrepreneurship.

Preparation of the Questionnaire.

The questionnaire for this study was carefully prepared by the researcher using the criteria defined by Fox (2000): clarity of language, specificity of content, singleness of purpose, linguistic completeness, grammatical consistency, freedom from assumptions, freedom from leading suggestions, and reasonable time required for respondents to complete the instrument. The development of the instrument was based on the study's objectives and the identified learning competencies within the MATATAG Curriculum. Specifically, the questionnaire was designed to assess learners' knowledge and skills in key areas such as career and business opportunities in agriculture, agricultural tools, implements and equipment, safety procedures in farm operations, agricultural practices in crop production, and harvesting and post-harvesting practices.

Administration and Retrieval

A permit to distribute the questionnaire was sought from the Dean of the School of Graduate Studies and Research. The researcher

personally administered the questionnaire to clearly explain the purpose and objective of the study to ensure that the respondents do not have any inhibition in answering the questionnaire and at the same time retrieved the said questionnaires. The gathered data were tabulated, organized, analyzed and interpreted.

Dry Run/Validation of Questionnaire

The questionnaire used in this study has undergone expert validation and a dry run to confirm its clarity, suitability, and alignment with the research objectives. The instrument is a structured assessment survey that aims to evaluate the proficiency level of Grade 7 students in Agriculture and Fishery Arts, specifically in the competencies of Career and business opportunities, Agricultural tools and equipment, Safety protocols, Crop production techniques, and harvesting and Post-harvesting procedures. The answers to the questionnaire will be used as baseline data to create a contextualized agri-entrepreneurship lesson exemplar.

For content validation, the questionnaire was evaluated by selected Master Teachers in the Pasacao District who are handling Technology and Livelihood Education (TLE) subjects. These experts reviewed the instrument to ensure that the items were aligned with the MATATAG Curriculum competencies and were appropriate for Grade 7 learners. A dry run was done after the expert validation to test the instrument's usability.

Ethical Consideration. The researcher ensured adherence to ethical aspects of educational research throughout the study. Before the data gathering, authorization was obtained from the Office of Public Schools District Supervisor and School Head of Tinalmud National High School. The participants were explained about the rationale, duration and goal of the study, and consent was voluntary. A consent form was handed out, which explicitly stated that teachers knew they had the right to withdraw from the study at any time, with no penalty or consequence.

Statistical Tools

The statistical tool used in the analysis and interpretation of data were the following:

Frequency and Percentage Distribution. This were used to describe how many respondents selected a particular answer or belong to a certain category. This is helpful in showing the distribution of learners responses.

The formula is:

$$P = \frac{f}{N} \times 100$$

Where:

P = percentage

f = frequency of response

N = Total number of respondents

Mean. This was used to determine the average responses of the participants to certain items in the questionnaire. It provides a simple summary of how the group generally feels or performs in relation to specific indicators. According to Calmorin (2007), the mean is useful for identifying the central tendency of a set of scores, helping the researcher understand whether respondents lean toward high, moderate, or low levels of knowledge, agreement, or experience. This tool helped the study identify the overall readiness and learning needs of the students, as well as the general perceptions of teachers regarding agri-entrepreneurship.

Then formula is:

$$Mean = \frac{\sum X}{N}$$

Where:

$\sum X$ = sum of all responses

N = number of respondents

Weighted Mean. The weighted mean was used in this study to interpret the responses to Likert-scale items found in the questionnaires. This statistical tool helps determine the average response by giving each answer a specific weight, such as 5 for “Strongly Agree” down to 1 for “Strongly Disagree.” According to Calmorin (2007), the weighted mean provides a more accurate measure of respondents’ perceptions because it considers both the value of each response and how often it appears.

The formula is:

$$\bar{X} = \frac{\sum fx}{N}$$

Where:

\bar{X} = Weighted mean

f = Frequency of responses

x = Weight assigned to each response

N = Total number of respondents

Notes

1. Calmorin, L. P. (2007). *Research methods and thesis writing* (2nd ed.). Rex Bookstore.
2. Fox, W. (2000). *Designing research instruments for data collection*. Sage Publications.

Chapter 3

AGRI – ENTREPRENEURSHIP IN TECHNOLOGY AND LIVELIHOOD EDUCATION (TLE) FOR GRADE 7 LEARNERS: A CONTEXTUALIZED LESSON PLAN EXEMPLAR

This chapter presents the results and discusses the data gathered considering the research problems and hypotheses for this study. The information follows the sequence of the statement of problems presented in Chapter I.

The Level of Agricultural Practices and Entrepreneurial Knowledge Among Grade 7 Learners

This section examines the level of agricultural practices and entrepreneurial knowledge among Grade 7 learners, focusing on their skills, understanding, and application of basic agriculture and entrepreneurship concepts in practical and community-based contexts.

Table 1A presents the result indicating that the highest-ranked competency is learners’ awareness of the importance of agriculture to daily life having a weighted mean of 3.12 and interpreted as proficient, while the lowest-ranked competency is their ability to explain simple farming concepts with a weighted mean of 2.12, with verbal interpretation of less proficient, and the overall result for Foundational Agricultural Knowledge is 2.64 and interpreted as proficient.

The findings suggest that learners possess a general awareness and appreciation of the importance of agriculture in daily life, as reflected in the highest mean score. However, their lower performance in explaining simple farming concepts indicates a gap between awareness and deeper conceptual understanding. Although the overall mean falls within the proficient level, this proficiency appears to be more surface level rather than indicative of strong foundational knowledge.

Table 1A: Foundational Agricultural Knowledge

Indicators	Mean	Interpretation	Ranks
1 Identifies basic agricultural tools, inputs, and materials.	2.64	Proficient	3
2 Explains simple farming concepts (soil, water, crops, livestock).	2.12	Less Proficient	4
3 Recognizes common crops and animals in the local community.	3.06	Proficient	2
4 Understands basic plant growth and care requirements.	2.24	Less Proficient	4
5 Demonstrates awareness of the importance of agriculture to daily life.	3.12	Proficient	1
Average Weighted Mean	2.64	Proficient	

Legend: Very Much Proficient (4.20-5.00), Very Proficient (3.40-4.19), Proficient (2.60-3.39), Less Proficient (1.80-2.59), Not Proficient (1.00-1.79)

These results imply the need for instructional strategies that go beyond awareness-building and focus more on strengthening learners’ conceptual understanding of basic agricultural principles. Teachers should integrate more hands-on, experiential, and contextualized learning activities such as demonstrations, school gardening, and practical applications to enhance comprehension of farming concepts. Additionally, targeted interventions and scaffolded instruction may be necessary to bridge the gap between

knowing the importance of agriculture and being able to explain its fundamental processes effectively.

The findings is similar with the result in the study of Manning et al. (2025) that The gap in foundational agricultural knowledge refers to the mismatch between what learners are expected to know and what they actually understand and can perform. Many students lack essential agricultural concepts, practical skills, and awareness of current issues in the field. It is often caused by a limited

curriculum that does not fully cover key topics such as soil management, crop production, pest control, and sustainable farming. It is also influenced by insufficient learning resources, including updated materials, tools, and facilities, as well as teachers' limited specialized training in agriculture.

As a result, students may become less interested and engaged in agriculture. They may also struggle to make informed decisions in farming or agribusiness and face difficulties in addressing real-world challenges like climate change, food security, and sustainability

Table 1B the results indicate that learners are least proficient overall in handling agricultural tools and equipment with an average weighted mean of 1.85, verbally interpreted as Less

Proficient, with their strongest ability in differentiating tools, implements, and equipment ranked the highest with an mean of 1.92, interpreted as less proficient and the lowest is in knowing how to choose the right tool for a task with a mean of 1.74, not proficient.

Based on the above findings it could be infer that learners have overall limited practical skills in handling agricultural tools and equipment, as reflected in the low overall mean. While they can somewhat differentiate tools, implements, and equipment, their inability to select the right tool for a specific task features a significant gap in applied agricultural skills. This suggests that their understanding is mostly theoretical and lacks practical competence necessary for effective farming tasks.

Table 1B: Agricultural Tools, Implements, And Equipment

Indicators	Mean	Interpretation	Ranks
1 I can differentiate tools, implements, and equipment.	1.92	Less Proficient	1
2 I can identify different farm tools and equipment	1.94	Less Proficient	2
3 I understand the uses of farm tools and equipment.	1.76	Not Proficient	4
4 I know how to choose the right tool for a task.	1.74	Not Proficient	5
5 I understand proper care and storage of tools.	1.90	Less Proficient	3
Average Weighted Mean	1.85	Less Proficient	

These results imply an urgent need for hands-on, skill-focused instruction in agricultural tools and equipment. Educators should provide guided practice, demonstrations, and real-life simulations that allow learners to select and use tools correctly for specific tasks. Strengthening practical competencies will not only enhance learners' confidence and proficiency but also improve their readiness to apply foundational agricultural knowledge in real-world situations.

The above result is similar with the study of Baliyan et al. (2025) where it was found that poor student performance in agriculture is mainly due to lack of resources, limited hands-on experience, ineffective teaching methods, and negative attitudes toward the

subject. It was suggested that in order to improve performance, it recommends increasing practical activities, providing extra academic support, improving access to learning resources and the internet, and promoting agricultural clubs.

Table 1C shows that learners are generally proficient in farm safety practices with an average weighted mean of 3.12 and verbal interpretation of proficient, with the highest competence in understanding safety procedures in farm operations obtain the highest mean of 3.48, with verbal interpretation as very proficient and the lowest in knowing the importance of wearing protective gear obtain a mean of 2.70, proficient.

Table 1C: Safety Procedures In Farm Operations

Indicators	Mean	Interpretation	Ranks
1 I understand safety procedures in farm operations.	3.48	Very Proficient	1
2 I can identify hazards and risk in the farm.	3.04	Proficient	3
3 I know the importance of wearing protective gear.	2.70	Proficient	5
4 I can follow safety rules in farm activities.	3.00	Proficient	4
5 I know how to prevent farm accidents.	3.36	Proficient	2
Average Weighted Mean	3.12	Proficient	

The results suggests that learners have a generally strong understanding of farm safety, with the highest competency in understanding safety procedures and accident prevention. While they are proficient in identifying hazards, following safety rules, and recognizing the importance of protective gear there is a slight variation in mastery, suggesting that practical application of safety knowledge may not be as strong as theoretical understanding.

Therefore, based on the overall verbal interpretation learners demonstrate a competent awareness and practice of farm safety.

Consequently, these results also imply that while learners are generally competent in farm safety, targeted reinforcement is needed in areas such as the consistent use of protective gear and hazard identification. Teachers should provide hands-on safety drills, demonstrations, and scenario-based training to ensure that

learners can effectively apply safety rules in real farm operations. Strengthening these skills will reduce the risk of accidents and build learners' confidence in safe farming practices.

This study is related to the study of Peden et al. (2025) that while these students recognize the inherent risks of farm work, they often prioritize task completion over safety, leading to commonplace injuries that are frequently downplayed. It was emphasized the critical role of schools in providing safety education, especially when family guidance is minimal or inconsistent. Students expressed a preference for engaging and realistic educational resources, such as gamified learning tools, to better understand safety risks and consequences.

Table 1D shows that learners are generally less proficient in crop production practices with an average weighted mean of 1.93, and verbal interpretation of less proficient, with their strongest ability in performing basic agricultural practices obtain the highest mean of 2.08, with interpretation as less proficient and the lowest which is in caring for and maintaining crops obtain a mean of 1.66 verbally interpreted as not proficient.

Based on the finding it could be inferred that learners have limited competence in crop production practices, as indicated by the overall mean. While they can perform basic agricultural practices to some extent, they struggle significantly with caring for and maintaining crops. This indicates a gap between performing simple tasks and applying consistent, sustained practices needed for effective crop management.

Table 1D: Agricultural Practices in Crop Production

Indicators	Mean	Interpretation	Ranks
1 I understand the steps in crop production.	1.96	Less Proficient	3
2 I can perform basic agricultural practices in crop production.	2.08	Less Proficient	1
3 I can prepare land for planting.	2.02	Less Proficient	2
4 I understand proper fertilizer use.	1.94	Less Proficient	4
5 I understand how to care for and maintain crops.	1.66	Not Proficient	5
Average Weighted Mean	1.93	Less Proficient	

These results imply a need for focused, hands-on instruction in crop care and maintenance. Educators should provide guided practice, demonstrations, and routine monitoring exercises that teach learners how to nurture crops over time. Emphasizing both skill development and consistent application will help improve learners' overall proficiency in crop production, leading to better outcomes in practical agricultural learning.

The above study is similar with the study of Estacio 2025 that before the workbook was introduced, learners had a 45% proficiency level showing they were only nearing mastery of agricultural crop production skills. After the workbook was

introduced and implemented, learners' proficiency significantly increased to 75%, indicating a clear improvement in their knowledge and abilities. This present study also aims to develop an instructional tool to enhance learners' proficiency in agriculture and integrate entrepreneurship

Table 1E The findings reveal that learners are generally not proficient in harvesting and post-harvest practices with an average weighted mean of 1.60, verbally interpreted as not proficient, with the highest competence in understanding post-harvest handling obtain the highest mean of 1.66, not proficient and the lowest mean 1.52, not proficient is knowing the right time to harvest crops.

Table 1E: Harvesting And Post-Harvesting Practices

Indicators	Mean	Interpretation	Ranks
1 I understand proper harvesting practices.	1.64	Not Proficient	2
2 I know the right time to harvest crop.	1.52	Not Proficient	5
3 I understand post-harvest handling.	1.66	Not Proficient	1
4 I know ways to keep harvested crops fresh.	1.62	Not Proficient	3
5 I understand storage of farm produce.	1.58	Not Proficient	4
Average Weighted Mean	1.60	Not Proficient	

The findings indicate that learners lack proficiency in harvesting and post-harvest practices, as reflected in the overall mean. Although they show slightly better understanding of post-harvest handling, their weakest area is identifying the correct time to harvest crops. This demonstrates a critical gap in practical agricultural skills, particularly in timing, handling, and preserving crops, which are essential for minimizing losses and ensuring quality produce.

These results imply an urgent need for targeted, hands-on training in harvesting and post-harvest practices. Educators should implement activities such as supervised harvesting, crop storage simulations, and demonstrations of preservation techniques to build learners' skills. Strengthening these competencies will enhance learners' practical readiness, reduce post-harvest losses, and promote effective application of agricultural knowledge in real-world farming.

The present study aligns with the study of Nwobi (2025) that the key skills in agricultural education that the students need for sustainable vegetable production. These include competencies in pre-planting (such as site selection and planning), planting (proper spacing and irrigation), post-planting (crop care, pest control, and fertilization), harvesting (identifying maturity and proper handling), and marketing. It was found that both extension agents and farmers share similar views on these essential skills, showing a strong agreement on what students need to learn. The study highlights the importance of integrating these skills into the curriculum to better prepare students for employment and self-reliance, while also promoting sustainable agriculture and addressing unemployment.

Similarly, the study of Dy (2021) in relation to harvesting and other practical agricultural tasks, teachers faced significant constraints that limited meaningful implementation. These included lack of resources, insufficient time allocation, financial limitations, and students’ difficulty in understanding lessons.

Specifically for harvesting-related activities, the absence of adequate land, tools, equipment, and facilities prevented students from experiencing proper hands-on practices such as crop gathering, post-harvest handling, and other essential field activities.

Table 1F The results show that Foundational Agricultural Knowledge obtained an Average Weighted Mean of 2.64, interpreted as Proficient, and ranked 2nd. Agricultural Tools, Implements, and Equipment obtained a mean of 1.85, interpreted as Less Proficient, and ranked 4th. Safety Procedures in Farm Operations obtained the highest mean of 3.12, interpreted as Proficient, and ranked 1st. Agricultural Practices in Crop Production obtained a mean of 1.93, interpreted as Less Proficient, and ranked 3rd. Harvesting and Post-Harvesting Practices obtained the lowest mean of 1.60, interpreted as Not Proficient, and ranked 5th. Overall, the Average Weighted Mean is 2.23, interpreted as Not Proficient, indicating that learners generally have low proficiency in agricultural competencies.

Table 1F Summary of Level of Agricultural Practices and Entrepreneurial Knowledge Among Grade 7 Learners Challenges and Constraints in Implementing Agri-Entrepreneurship Lessons under the Revised K to 12 Curriculum

Indicators	AWM	Interpretation	Ranks
1 Foundational Agricultural Knowledge	2.64	Proficient	2
2 Agricultural Tools, Implements, And Equipment	1.85	Less Proficient	4
3 Safety Procedures In Farm Operations	3.12	Proficient	1
4 Agricultural Practices In Crop Production	1.93	Less Proficient	3
5 Harvesting and Post-Harvesting Practices	1.60	Not Proficient	5
Average Weighted Mean	2.23	Not Proficient	

The findings indicate that learners demonstrate generally low proficiency in overall agricultural competencies, while they show relative strength in understanding safety procedures in farm operations, they significantly lack competence in harvesting and post-harvesting practices. This suggests that learners’ agricultural skills are uneven, with stronger performance in theoretical or safety-related aspects but weak performance in critical hands-on production and post-production processes.

These results imply a need for a more balanced and practice-oriented agricultural curriculum that strengthens weak areas, particularly harvesting and post-harvesting skills. Instruction should emphasize experiential learning through demonstrations, simulations, and actual farm-based activities to develop practical competencies. Additionally, integrating continuous skills assessment and targeted remediation will help ensure that learners not only understand agricultural concepts but can also effectively apply them across all stages of farm operations.

Challenges and Constraints in Implementing Agri-Entrepreneurship Lessons under the Revised K to 12 Curriculum

Integrating agri-entrepreneurship lessons into the Revised K to 12 Curriculum is designed to help learners gain hands-on skills in both agriculture and business. By doing so, it prepares them to become more self-reliant while also contributing to the long-term sustainability and development of their communities. Hands-on

activities facilitate acquiring competencies in crop production, resource management, and business planning, this approach embodies the Department of Education’s commitment to strengthening technical vocational education and preparing productive members of society.

Although these goals are clear, many learners still face challenges that make it difficult to fully implement agri-entrepreneurship lessons because of insufficient number of resources, inadequate facilities, limited technical support, insufficient funding, and even environmental concerns. Due to these obstacles, learners may feel less motivated, participate less actively, and struggle to perform well. Identifying these challenges is v ital so that schools can improve teaching strategies, provide better resources, and strengthen program implementation, ultimately making agri-entrepreneurship education under the Revised K to 12 Curriculum more effective.

The results on agricultural competency levels indicate that learners face major challenges in implementing agri-entrepreneurship lessons, especially regarding the practical competencies required by the Revised K to 12 Curriculum. Learners show low proficiency in handling agricultural tools and equipment, with an average weighted mean of 1.85, indicating difficulty selecting and properly using tools for specific farming tasks. Proficiency in crop production practices is also limited, with an average weighted mean of 1.93 and the lowest mean of 1.66 in caring for and maintaining crops, classified as not proficient. Another most

crucial constraint is in harvesting and post-harvest practices, where learners are not proficient overall (average weighted mean of 1.60), including difficulty determining the correct time to harvest crops. Now, these results shows that while learners recognize agriculture's importance, their practical skills and sustained application of agricultural processes are limited, impeding effective implementation of agri-entrepreneurship activities.

The low levels of proficiency in key agricultural skills suggest that learners are facing several challenges. Many of them lack enough hands-on experience, have not fully developed technical farming skills, and find it difficult to connect what they learn in theory to actual practice. While they may understand basic agricultural concepts, they often struggle with essential tasks in agri-entrepreneurship, such as managing crops, using tools properly, and handling post-harvest operations.

However, these challenges become even more difficult because learners have limited exposure to actual farming situations and few structured opportunities to develop their skills. As a result, they may feel unprepared and lack the confidence to actively engage in agricultural entrepreneurship. Their ability to turn classroom knowledge into practical, income-generating activities is affected, making it harder for them to meet the expectations of the curriculum.

In conclusion, there is a need for stronger instructional support and resource supply to address constraints in implementing agri-entrepreneurship lessons. Schools should improve and focus on experiential learning through school gardens, supervised farm projects, and competency-based training that emphasize continuous practice in crop production, tool handling, and post-harvest management. Curriculum planners and school administrators should provide adequate agricultural facilities, instructional materials, and encourage community or industry partnerships to support practical learning. Addressing these constraints will improve learners' competency development, facilitate more effective implementation of agri-entrepreneurship education under the Revised K to 12 Curriculum, and better prepare learners for sustainable agro-based productivity and entrepreneurial engagement.

Opportunities, Local Resources, and Community Practices Supporting Agri-Entrepreneurship Integration

The study's results, together with the contextualized lesson plan exemplar, demonstrate that despite notable constraints in agricultural competencies, substantial opportunities exist through local resources and community practices to support the embedding of agri-entrepreneurship in Technology and Livelihood Education (TLE). Learners are generally proficient in appreciating the importance of agriculture in daily life (AWM = 2.64, Proficient), particularly in demonstrating awareness of its value (M = 3.12, Proficient) and identifying common crops and animals within their locality (M = 3.06, Proficient). These results indicate that learners are situated in an agriculturally rich environment, which can serve as a core platform for experiential and contextualized learning. These challenges are made even tougher by the fact that learners rarely get to experience real farming situations and have limited opportunities to practice and strengthen their skills. Because of this, they may feel unready and less confident when it comes to engaging in agricultural entrepreneurship.

Furthermore, strong proficiency in farm safety practices (AWM = 3.12, Proficient), specifically in understanding safety procedures

(M = 3.48, Very Proficient) and preventing farm accidents (M = 3.36, Proficient), indicates that learners possess essential foundational behaviors. These skills can be strengthened through community-based agricultural activities. This opens opportunities for teachers to provide guided, real-life learning experiences such as school gardening, visits to local farms, and collaborative projects with community partners. Although proficiency remains low in areas such as tool utilization (AWM = 1.85, Less Proficient), crop production (AWM = 1.93, Less Proficient), and harvesting and post-harvest practices (AWM = 1.60, Not Proficient), these gaps can be addressed through leveraging community expertise. Local farmers and practitioners can serve as mentors, offering hands-on demonstrations and practical guidance to strengthen learners' technical skills and entrepreneurial understanding.

In terms of agricultural practices, farmers commonly use traditional as well as modern methods for farming. These include crop rotation, using organic fertilizers such as compost and animal manure, and irrigation during dry seasons. Farmers in the community still use traditional methods like manual planting and harvesting, the use of planting calendars, and natural pest control method. These practices highlight how strong the local agricultural foundation is, which can be used in classroom instruction.

The community has a variety of agricultural products, like bananas (saba), coconut and different kinds of vegetables. Farmers also use materials that are easy to find in their area for composting and organic farming.

When it comes to entrepreneurial practices, farmers sell their products at local public markets, small stores, and sometimes even directly to their neighbors. The price is based on the cost of making the product and market demand. Farmers also emphasized that keeping the quality of their products, charging fair prices, and having good relationships with customers are essential in attracting buyers and increase their income. These practices show how entrepreneurship can be used in farming.

Farmers also emphasized how important it is for learners to learn new skills, such as how to grow crops, soil management and sustainable farming practices. They also talked about how important it is to have entrepreneurial skills like budgeting, marketing, good customer service, record-keeping, and solving problems. Farmers advised learners to start small, learn about the market, and develop patience and dedication when managing agricultural business.

Lastly, farmers suggested that schools could help agri-entrepreneurship by setting up school gardens, having learners visit farms, inviting local farmers to speak as resource speakers, and including hands-on farming activities in class. These chances can help learners get hands-on experience and learn how to appreciate farming as a way to make a livelihood.

Moreover, the contextualized lesson plan exemplar highlights the embedding of entrepreneurial competencies through localized, pragmatic applications, including simple budgeting, product marketing, and environmentally sustainable resource management. These opportunities can be easily carried out within the community, where learners can take part in small-scale agricultural projects using readily available materials and resources. Practices such as crop sharing, backyard gardening, and local market activities further deepen their understanding of agri-

entrepreneurship by giving them real-life exposure to how economic activities actually work.

Strengthening school–community partnerships is therefore essential, because it facilitates access to resources, promotes collaborative learning, and assures that instruction is consistent with real-world agriculture. In general, the study shows that effective integration of agri-entrepreneurship relies not only on formal school resources but can also be considerably enhanced through the planned use of local resources and community practices. When teachers adapt lessons to the local context and build strong connections with the community, they can turn everyday opportunities into meaningful learning experiences. This approach helps address gaps in learners’ competencies, strengthens their practical skills, and nurtures an entrepreneurial mindset. This approach supports the objectives of the Revised K to 12 Curriculum and contributes to sustainable community development by preparing learners to become productive, innovative, and self-reliant individuals in agricultural entrepreneurship.

Agri-Entrepreneurship in Technology and Livelihood Education (TLE) for Grade 7: Contextualized Lesson Plan Exemplar

Agriculture plays a central role in ensuring food security, economic security, and sustainable livelihoods, making it a key focus in the Philippine educational system. Integrating agri-entrepreneurship into Technology and Livelihood Education (TLE) for Grade 7 aims to prepare learners with basic knowledge in crop production, resource management, and business skills, thereby fostering practical competencies and an entrepreneurial mindset from an early age. However, despite the curriculum’s priority on experiential learning, learners commonly encounter difficulties, including limited access to resources, insufficient hands-on opportunities, and a lack of localized instructional materials, which hinder the full implementation of agri-entrepreneurship lessons.

This study's output, a contextualized lesson plan exemplar established based on the results of this study, can serve as a practical, community-aligned guide for teachers. It helps bridge what learners’ study in the classroom with what actually happens in real agricultural work, allowing them to develop better decision-making skills and apply simple entrepreneurial ideas like budgeting, marketing, and using renewable resources. In addition, this method supports the creation of learning materials grounded in the local context, encourages ongoing professional development for teachers, and strengthens collaboration between schools and the community. As a result, learners gain more hands-on and meaningful agricultural experiences. Lastly, in grounding instruction in real community settings and addressing classroom challenges, the exemplary enhances student engagement and builds essential skills, helping learners become more creative, responsible, and productive members of their communities.

Notes

1. Dy, V. M. (2021). Difficulties Encountered In Teaching Agriculture As A Core Part Of T.L.E. In The Public Secondary Schools in Guinobatan, Albay. *International Journal of Advanced Research*. doi:<https://dx.doi.org/10.21474/IJAR01/13426>
2. Estacio, R. D. (2025). Learners, Agri-Crop Production Workbook and Competency Level of. *Journal of Emerging Technologies and Innovative Research*.

Retrieved from

<https://www.jetir.org/papers/JETIR2505A69.pdf>

3. Jaime K. Manning, P. M. (2025). Exploring Agricultural Knowledge Among Secondary Students. *Education Sciences*. doi:<https://doi.org/>
4. Nwobi, K. A. (2024). Skills Needed by Agricultural Education Students for Sustainable Vegetable Production in Enugu State. *Publication of the European Centre for Research Training and Development-UK*. doi:<https://doi.org/10.37745/bje.2013/vol12n76884>
5. Som Pal Baliyan, K. M. (2021). Poor Academic Performance of Students in Agriculture at Primary Schools in Botswana: Analysis of Causes and Ways to Improve. *International Journal of Learning, Teaching and Educational Research*. doi:<https://doi.org/10.26803/ijlter.20.9.8>

Chapter 4

SUMMARY, FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

This chapter presents a summary of findings on how the study was conducted and the results obtained. Conclusions were drawn from these outcomes, from which recommendations were proposed.

Findings

The following findings were drawn up based on the statistical treatment, analysis and interpretation of the gathered data:

1. The study reveals that Grade 7 learners exhibit a varied level of proficiency in agricultural practices and entrepreneurial knowledge, ranging from proficient to not proficient across different domains, indicating an uneven development of both theoretical understanding and practical skills. Foundational agricultural knowledge reveal that learners are generally proficient, with an average weighted mean of 2.64, agricultural tools, implements, and equipment, the findings show that learners are less proficient, with an average weighted mean of 1.85, safety procedures in farm operations, the learners are generally proficient, as reflected in an average weighted mean of 3.12, agricultural practices in crop production, the results indicate that learners are less proficient, with an average weighted mean of 1.93, harvesting and post-harvesting practices, learners are found to be not proficient, with an average weighted mean of 1.60. In summary the agricultural practices and entrepreneurial knowledge shows that learners are not proficient, with an average weighted mean of 2.23.
2. The findings indicate that learners face significant challenges in implementing agri-entrepreneurship lessons under the Revised K to 12 Curriculum, as shown by low proficiency in key areas such as tool handling (AWM = 1.85), crop production (AWM = 1.93), and harvesting and post-harvesting practices (AWM = 1.60). These results suggest limited development of essential hands-on agricultural skills despite the program’s goal of promoting practical competence. These challenges are mainly attributed to insufficient hands-on experience, limited exposure to actual farming activities, and difficulty applying theoretical knowledge in real situations. As a result, learners struggle with core

agricultural tasks and show reduced confidence in performing agri-entrepreneurial activities. Therefore, the implementation of agri-entrepreneurship lessons is constrained by inadequate practical training and limited learning opportunities.

3. There are strong opportunities for supporting agri-entrepreneurship integration through local resources and community practices under the TLE curriculum. Learners demonstrate a proficient appreciation of agriculture (AWM = 2.64), particularly in recognizing its importance in daily life (M = 3.12) and identifying local crops and animals (M = 3.06), indicating that they are situated in an agriculturally rich environment that can be effectively used for contextualized and experiential learning. In addition, learners show proficiency in farm safety practices (AWM = 3.12), especially in understanding safety procedures (M = 3.48) and preventing farm accidents (M = 3.36). These strengths is an opportunity provide a foundation for community-based agricultural engagement that can be enhanced through real-life learning opportunities. Although learners have low proficiency in technical skills such as tool utilization (AWM = 1.85), crop production (AWM = 1.93), and harvesting and post-harvest practices (AWM = 1.60), these gaps highlight the need and opportunity to maximize community involvement. Local farmers, backyard gardens, crop sharing, and market participation can serve as practical platforms for mentoring and skill development. In summary the findings show that the integration of agri-entrepreneurship is an opportunity that will strongly supported by local resources and community practices. Through school community partnerships and contextualized learning activities, learners can gain meaningful hands-on experiences that address skill gaps, enhance entrepreneurial competencies, and promote sustainable, community-based agricultural development aligned with the Revised K to 12 Curriculum.
4. There is a contextualized lesson exemplar that was established to improve the effectiveness of agri-entrepreneurship instruction under the Revised K to 12 Curriculum by making learning more practical, localized, and meaningful. Also, the lesson exemplar can ultimately help develop learners' agricultural competencies, entrepreneurial mindset, and readiness for real life agricultural and livelihood activities.

Conclusions

In the light of the findings, the following conclusions were drawn:

1. Grade 7 learners demonstrate an uneven level of proficiency in agricultural practices and entrepreneurial knowledge, ranging from proficient to not proficient across different domains. While they show relative strength in safety procedures (AWM = 3.12, Proficient) and foundational agricultural knowledge (AWM = 2.64, Proficient), significant weaknesses are evident in agricultural tools and equipment (AWM = 1.85, Less Proficient), crop production (AWM = 1.93, Less Proficient), and harvesting and post-harvesting practices (AWM = 1.60, Not Proficient). Overall, the combined result (AWM = 2.23, Not Proficient) indicates that learners generally lack adequate mastery of essential agricultural and entrepreneurial competencies.
2. Learners experience substantial difficulty in acquiring and applying agri-entrepreneurship competencies under the Revised K to

12 Curriculum. Low proficiency in key practical areas such as tool handling (AWM = 1.85), crop production (AWM = 1.93), and harvesting and post-harvesting practices (AWM = 1.60) reflects limited hands-on exposure and insufficient opportunities to translate theoretical knowledge into practice. These deficiencies hinder the development of confidence and competence in agricultural tasks.

3. There are strong contextual opportunities for enhancing agri-entrepreneurship integration through local resources and community practices. Learners demonstrate foundational strengths in agricultural appreciation (AWM = 2.64) and safety awareness (AWM = 3.12), which can serve as entry points for experiential learning. Although technical skills remain weak, these gaps highlight the importance of maximizing community engagement, partnerships with local farmers, and real-life agricultural experiences to support meaningful skill development and strengthen curriculum implementation.

4. The development of a contextualized lesson exemplar is a strategic approach to improving agri-entrepreneurship instruction under the Revised K to 12 Curriculum. By making learning more practical, localized, and experience-based, the lesson exemplar enhances learners' agricultural competencies and entrepreneurial mindset, ultimately preparing them for real-life agricultural and livelihood applications.

Recommendations

In the light of the findings and conclusions, the following recommendations were formulated:

1. Teachers should design differentiated and competency-based instruction to address the uneven development of learners' agricultural and entrepreneurial skills. Since learners are only proficient in foundational knowledge and safety procedures but less proficient to not proficient in technical areas such as tool usage, crop production, and post-harvesting practices, schools should intensify hands-on, performance-based activities. This may include structured farm simulations, school gardening projects, and step-by-step skills demonstration to strengthen weak areas. Furthermore, continuous formative assessment and remedial sessions should be implemented to ensure mastery of all agricultural competencies, particularly in the most underdeveloped domains.
2. The implementation of agri-entrepreneurship lessons be strengthened through increased experiential and community-based learning opportunities. Schools should establish partnerships with local farmers, agricultural agencies, and community gardens to provide learners with actual field exposure and supervised farm practice. Teachers should also integrate more hands-on activities and simulation-based learning to bridge the gap between theory and practice. In addition, the Department of Education and school administrators should provide adequate agricultural tools, learning materials, and training support to teachers to improve instructional delivery and learner engagement in practical tasks.
3. Schools should maximize community-based agricultural resources and local practices as learning platforms for agri-entrepreneurship integration. Collaboration with local farmers, backyard gardeners, and market vendors should be formalized to serve as learning partners and mentors for students. Schools may also initiate programs such as school-community farming projects, crop-sharing activities, and local market immersion, allowing learners

to apply their knowledge in real-life settings. Strengthening school-community partnerships will enhance contextualized learning, improve learners' technical skills, and promote sustainable agricultural practices aligned with the Revised K to 12 Curriculum.

The developed contextualized lesson exemplar should be institutionalized and continuously refined as an instructional guide in Teaching Technology and Livelihood Education (TLE). Teachers should be trained on its effective implementation to ensure that lessons remain localized, practical, and learner centered. School administrators should support its integration through regular monitoring, evaluation, and provision of necessary teaching resources. Furthermore, the exemplar should be expanded to include more performance-based tasks and entrepreneurial activities to further strengthen learners' agricultural competencies and readiness for real-life livelihood applications.

Bibliography

1. Adeyanju, A. A., Ojo, S. O., & Adepoju, A. O. (2021). Effects of agricultural training on youth agripreneurship development in Nigeria. *Journal of Agricultural Extension*, 25(2), 45–56. <https://doi.org/10.4314/jae.v25i2.5>
2. Baliyan, S. P. (2021). Poor academic performance of students in agriculture at primary schools in Botswana: Analysis of causes and ways to improve. *International Journal of Learning, Teaching and Educational Research*, 20(9), 120–138. <https://doi.org/10.26803/ijlter.20.9.8>
3. Calmorer, L. P. (2007). *Research methods and thesis writing* (2nd ed.). Rex Bookstore.
4. Carreon, R. J., et al. (2021). *Validation and utilization of a developed contextualized learning module in teaching entrepreneurship in TLE* [Unpublished manuscript]. ResearchGate. <https://www.researchgate.net/publication/354209906>
5. Chirinda, N., Sinyolo, S., & Mudhara, M. (2024). Integrating agripreneurship in higher education: Lessons for improving agricultural education systems in Africa. *Sustainability*, 16(3), 1125. <https://doi.org/10.3390/su16031125>
6. Commission on Higher Education. (2021). *Entrepreneurship development in higher education*. <https://ched.gov.ph/>
7. Del Rosario, A. M. (2022). Experiential learning and the development of entrepreneurial competencies among junior high school students in TLE. *Asia Pacific Journal of Education, Arts and Sciences*, 9(3), 88–98.
8. Department of Agriculture. (2022). *Young farmers challenge program*. <https://www.da.gov.ph/>
9. Department of Education. (2023). *MATATAG curriculum framework*. <https://www.deped.gov.ph/>
10. Dy, V. M. (2021). Teaching strategies and challenges in agriculture instruction in secondary schools in Albay, Philippines. *International Journal of Advanced Research*, 9(6), 1020–1028. <https://doi.org/10.21474/IJAR01/13426>
11. Estacio, R. D. (2025). Learners' agri-crop production workbook and competency level. *Journal of Emerging Technologies and Innovative Research*. <https://www.jetir.org/papers/JETIR2505A69.pdf>
12. Food and Agriculture Organization. (2022). *Youth engagement in agriculture*. <https://www.fao.org/>
13. Fox, W. (2000). *Designing research instruments for data collection*. Sage Publications.
14. Heryadi, A., Widarawati, D. A., & Suprpto, T. (2025). Youth agripreneurship and rural resilience in Indonesia's agribusiness systems. *Journal of Agricultural Extension and Rural Development*, 17(4), 52–65. <https://doi.org/10.5897/JAERD2025.1351>
15. Isyanto, A. Y., Fatimah, A. T., & Amalia, L. N. (2024). Factors influencing agricultural vocational high school students' interest in working in the agricultural sector. *Agric*, 36(1), 131–140.
16. Kaki, A., Rahman, M., & Hossain, M. (2023). Entrepreneurial intention among students: The role of learning environment and education. *Journal of Entrepreneurship Education*, 26(2), 1–12.
17. Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development*. Prentice Hall.
18. Ledian, R., Suryani, N., & Wibowo, A. (2023). The influence of entrepreneurship education on students' agribusiness intentions. *International Journal of Instruction*, 16(2), 233–248. <https://doi.org/10.29333/iji.2023.16213a>
19. Lopez, M. A. (2024). Enhancing student engagement in agricultural education through experiential learning approaches. *Philippine Journal of Educational Research*, 13(1), 55–68.
20. Manning, J. K. (2025). Exploring agricultural knowledge among secondary students. *Education Sciences*, 15(2), 210–225. <https://doi.org/10.3390/educsci15020210>
21. National Economic and Development Authority. (2023). *Philippine development plan 2023–2028*. <https://neda.gov.ph/>
22. Nwobi, K. A. (2024). Skills needed by agricultural education students for sustainable vegetable production in Enugu State. *British Journal of Education*, 12(7), 45–58. <https://doi.org/10.37745/bje.2013/vol12n76884>
23. Organisation for Economic Co-operation and Development. (2019). *Future of education and skills 2030*. <https://www.oecd.org/>
24. Philippine Statistics Authority. (2022). *Agricultural household statistics*. <https://psa.gov.ph/>
25. Republic Act No. 10533. (2013). *Enhanced basic education act of 2013*. <https://www.officialgazette.gov.ph/2013/05/15/republic-act-no-10533/>
26. Republic Act No. 8435. (1997). *Agriculture and fisheries modernization act of 1997*.

<https://www.officialgazette.gov.ph/1997/12/22/republic-act-no-8435/>

27. Schultz, T. W. (1961). Investment in human capital. *The American Economic Review*, 51(1), 1–17.
28. Shapero, A., & Sokol, L. (1982). The social dimensions of entrepreneurship. In C. Kent et al. (Eds.), *The encyclopedia of entrepreneurship* (pp. 72–90). Prentice Hall.
29. Soam, S., Sharma, P., & Kumar, R. (2023). Attitudes of agricultural students toward entrepreneurship: Implications for curriculum development. *Journal of Agricultural Education and Extension*, 29(3), 345–360. <https://doi.org/10.1080/1389224X.2023.2176543>
30. Syaukat, F. I., Hatanaka, K., Shimoguchi, N. N., & Saville, R. (2022). Agriculture entrepreneurship on youth: A systematic literature review. *International Journal of Environmental and Rural Development*, 13(2), 127–136.
31. Technical Education and Skills Development Authority. (2022). *TVET framework*. <https://www.tesda.gov.ph/>
32. United Nations Educational, Scientific and Cultural Organization. (2021). *Education for sustainable development*. <https://www.unesco.org/>
33. World Bank. (2022). *Education and poverty reduction*. <https://www.worldbank.org/>
34. Hussein, I. O., Osman, M. H., Aden, A. H. & Ahmed, N. I. (2026). Staff Satisfaction at a Private Hospital in Mogadishu, Somalia: A Cross-Sectional Survey. *IRASS Journal of Multidisciplinary Studies*, 3(5), 47-55.