

Contextualized Social Science Learning Activities from Upland Corn Farming Practices: A Literature Review

Allen A. Tubig

Associate Professor II, Central Bicol State University of Agriculture,

ABSTRACT

The agricultural landscape of the Philippines, characterized by its rich natural endowments and tropical climate, has emerged as a cornerstone of socio-economic development, driven largely by small-scale farming practices. Despite its significance, challenges such as soil erosion and unsustainable farming practices persist in upland regions, necessitating a shift towards sustainable resource management. This literature review explores the contextualization of social science learning activities within agricultural frameworks, focusing particularly on upland corn farming practices. Drawing from a multidisciplinary approach, this study examines the evolutionary trajectory of agriculture, traditional farming methods, and their contemporary relevance in shaping educational paradigms. Through an analysis of educational initiatives and cultural practices, the review highlights the importance of integrating indigenous knowledge and traditional farming methods into educational frameworks. Key findings underscore the critical role of social science in promoting sustainable agriculture, community empowerment, and cultural preservation within farming communities. The review concludes by emphasizing the need for further research to bridge the gap between social science education and agricultural practices, particularly in upland farming communities, to advance sustainable agricultural development and preserve cultural heritage.

Keywords: Education, agriculture, social science, contextualization, sustainable development, Indigenous knowledge, Traditional farming practices

INTRODUCTION

The agricultural landscape of the Philippines stands as a testament to its rich natural endowments, with a tropical climate fostering favorable conditions for farming practices. With approximately one-third of the population residing in upland areas by the turn of the millennium, agriculture emerged as a cornerstone of livelihoods, driving socio-economic development (Espiritu & Camacho, 2010; De Castro et al., 2019). This reliance on agriculture is further underscored by the dominance of small-scale farming, contributing significantly to the nation's agricultural output, encompassing a diverse range of crops, including rice, maize, vegetables, fruits, and root crops (Maghirang et al., 2013).

Upland regions, encompassing roughly half of the country's land surface, are pivotal in the agricultural landscape, yet face challenges such as soil erosion and nutrient leaching due to unsustainable farming practices (Fortenbacher & Alave, 2014; Jazouli et al., 2017). Against this backdrop, understanding the evolutionary trajectory of agriculture becomes imperative, tracing the transition from nomadic lifestyles

to settled agricultural practices, and its contemporary relevance in shaping social science learning activities (Lewin and Foley, 2004).

Incorporating agriculture into educational frameworks, particularly within the purview of social science, offers a nuanced lens through which learners can explore the intricate interplay of people, places, histories, and economies. The Department of Education underscores this integration through curriculum contextualization, emphasizing the need to equip learners with critical insights into societal dynamics and fostering responsible citizenship (DepEd Order no. 35, Series of 2016).

Traditional upland farming practices, deeply rooted in cultural heritage, underscore the importance of contextualizing learning activities. Studies reveal the resilience of these practices in optimizing land use, ensuring food security, and preserving crop diversity (Tejada C. Juarez et al., 2018; Qing-Xiong, 2018). However, the vulnerability of upland farms to environmental stressors necessitates a concerted effort towards sustainable resource management (Baliton et al., 2020).

Against this backdrop, this literature review aims to delve into the extent of contextualization in social science learning activities, with a specific focus on upland corn farming practices. By elucidating the nexus between agricultural evolution, traditional farming methods, and contemporary educational paradigms, this study seeks to inform pedagogical strategies conducive to holistic learning experiences and sustainable agricultural practices.

METHODOLOGY

This study employs a qualitative approach to investigate the contextualization of learning in social science activities, particularly focusing on upland corn farming practices, planting, agriculture, and related fields such as environmental studies. The literature utilized in this study was sourced from various scholarly databases, including Google Scholar publications, articles authored by state scholars, and other reputable online research repositories. These platforms were selected based on their widespread use and accessibility among researchers worldwide.

The process of literature selection involved several steps to ensure relevance and quality. Initially, articles were identified through keyword searches related to the contextualization of social science learning activities in agricultural contexts, with a specific emphasis on upland corn farming practices. Search terms included but were not limited to "contextualization," "social science learning," "upland agriculture," and "corn farming practices."

Following the identification phase, articles were screened based on their relevance to the research topic and objectives. Criteria for inclusion encompassed the alignment of the content with the focus on social science learning activities, contextualization in agricultural settings, and pertinence to upland corn farming practices. Articles that did not meet these criteria were excluded from the review.

While efforts were made to comprehensively search and select relevant literature, it is important to acknowledge potential limitations and biases in the literature search process. Firstly, the search strategy may have been influenced by language barriers, as the review was primarily conducted in English, potentially overlooking relevant studies published in other languages. Additionally, the reliance on online databases may have introduced selection bias, favoring articles published in indexed journals and overlooking gray literature or unpublished research. Moreover, the subjective interpretation of relevance during the screening process may have introduced bias, albeit efforts were made to mitigate this through consensus-based decisions among the research team.

Despite these limitations, the chosen methodology aimed to provide a comprehensive overview of the existing literature on the contextualization of social science learning activities in upland corn farming practices, thereby contributing to a nuanced understanding of this interdisciplinary field.

RESULTS

Contextualized parts of Social Science activities from upland corn farming practices

Social Science

Social science serves as a cornerstone for community empowerment and the socioeconomic advancement of farming communities. Its multidisciplinary approach delves into understanding people's needs, aspirations, and societal dynamics, thereby ensuring the relevance of scientific endeavors to human welfare (Krishna & Kumbhare, 2019). By organizing research and education around societal issues, social sciences facilitate the preservation of agricultural knowledge and practices, essential for educating learners about the intricacies of agriculture in the face of its declining prominence (Krishna & Kumbhare, 2019).

Contextualization of Teaching and Learning

The Philippines, blessed with favorable weather conditions, stands as an optimal location for agricultural endeavors. Leveraging the rich tapestry of cultural practices developed through traditional farming in the Philippines and Japan offers a pathway towards agricultural sustainability (Tejada et al., 2018). Contextualizing farming practices within educational frameworks not only fosters the development of twenty-first-century skills but also enhances teaching standards. This approach advocates for the appreciation of local cultures in education, urging educators, both locally and globally, to incorporate indigenous knowledge into pedagogical practices.

Aligned with the directives of DepEd Order no. 35, Series of 2016, which emphasizes curriculum contextualization in basic education, this study seeks to explore agricultural practices and instructional materials applicable to educational settings (DepEd Order no. 35, Series of 2016). By embedding contextual learning strategies, encompassing behavioral and social sciences, technology, mathematics, and the physical and natural sciences, educators can facilitate immersive learning experiences that resonate with students' lived environments (Balschweid and Thompson, 2000; Vandenbosch, 2002).

Practical initiatives such as slide presentations on the degradation of natural resources and demonstrations of conservation farming and agroforestry solutions are integral to this approach. These activities not only enrich students' understanding of environmental issues but also empower them to actively engage in sustainable resource management practices (Tejada et al., 2018). Moreover, the integration of agricultural themes into the curriculum offers unique opportunities for contextualizing teaching and learning experiences across diverse settings, including schools, homes, and communities.

Rural primary schools, often situated in agricultural landscapes, provide firsthand engagement with farming activities, fostering a deeper connection between students and their surroundings (Vandenbosch, 2002). By employing contextualized instruction that integrates theories and teaching-learning strategies from both Eastern and Western perspectives, educators can equip learners with the skills necessary to navigate global challenges while honoring traditional methods and practices (Tejada et al., 2018).

Traditional Farming for Sustainable Development

Traditional farming practices are deeply rooted in indigenous knowledge systems and prioritize sustainability and environmental stewardship over short-term profits (Horrigan, 2002). Sustainable

agriculture aims to mitigate environmental risks by focusing on long-term interests such as maintaining topsoil, preserving biodiversity, and supporting rural communities (Horrigan, 2002). In less-developed countries where access to farming technology is limited, hand labor remains prevalent due to financial constraints (Loremer, 1999). Organic farming, historically recognized for yielding better productions, has emerged as a key strategy for promoting sustainable food production and fostering a healthy lifestyle (Horrigan, 2002).

Farmers practicing traditional farming methods demonstrate remarkable intuitive abilities, enabling them to predict favorable harvests, weather conditions, crop behavior, and soil conditions, underscoring the importance of indigenous knowledge in sustainable agriculture (Badgley, 2006). In the Philippines, organic agriculture is gaining traction as a sustainable approach to food production, contributing to soil health, human health, and food security (Badgley, 2006). Chemical-free farming aims to enhance plant nutrition while safeguarding land integrity, offering a holistic approach to sustainable food production (Pimentel & David, 2005).

Conventional Farming Practices

Conventional farming, also known as industrial agriculture, relies heavily on the use of chemical inputs such as fertilizers, herbicides, pesticides, and genetically modified organisms (GMOs) (Ethan, 2016). While conventional farming methods have led to increased crop yields and labor efficiency, they pose significant threats to global biodiversity (Hole, 2004). Despite the short-term benefits, conventional farming practices can degrade soil health and compromise environmental sustainability (Reganold, 1986). The reliance on chemical fertilizers in conventional farming not only incurs high costs but also contributes to environmental pollution and human health risks (Sofia, 2006). In contrast, organic farming offers a more sustainable approach by utilizing natural fertilizers and fostering soil fertility without the negative environmental impacts associated with chemical inputs (Oehl, 2004). Studies have shown that organic farming methods enhance soil fertility and promote long-term agricultural sustainability (Oehl, 2004).

Developing countries often face challenges in adopting conventional farming practices due to factors such as limited access to agricultural technology, high costs of inputs, and unsuitability of modern methods for local environmental conditions (Loremer, 1999a). However, conventional farming practices can exacerbate disparities in agricultural development and perpetuate environmental degradation in these regions.

Plant breeding, as a method of developing crop varieties with desirable traits, offers a potential avenue for improving agricultural productivity in both conventional and organic farming systems (Loremer, 1999b). By selectively breeding plants for traits such as drought resistance, pest tolerance, and nutrient efficiency, farmers can enhance crop resilience and adaptability to diverse environmental conditions.

Farming Cultural Practices

Agricultural rituals are deeply rooted in the cultural fabric of societies, utilizing sacred symbols, acts, events, and relations to express emotions and metaphysical conceptions (Saavedra & Mantikayan, 2015). These rituals serve as a means of invoking forces deemed essential for ensuring agricultural prosperity and safeguarding against supernatural threats (Friedberg, 1989; Hussin, 2008). They are integral to the spiritual and practical aspects of farming, emphasizing the interconnectedness between humans, nature, and the divine.

In the Philippines, indigenous agricultural practices have often been overshadowed by the influence of Islamization and Christianization, which have introduced divergent cultural perspectives (Carating, 2004). Despite this, ethnic groups and rural farmers have preserved and transmitted agricultural knowledge through generations, integrating it into their lifestyles and belief systems.

However, research on the contextualization of social science activities within the framework of upland corn farming practices remains limited. While studies in other branches of science have explored contextualization, particularly in agricultural contexts, there is a notable gap in social science research in this area. Addressing this gap presents an opportunity for future research to delve into the intersection of social science education and agricultural practices, particularly in upland farming communities.

Key findings

Social science serves as a vital tool for understanding the needs and dynamics of farming communities, contributing to the relevance of scientific endeavors for human welfare. The multidisciplinary approach of social science facilitates the preservation of agricultural knowledge and practices, crucial for educating learners about agriculture in the context of its declining prominence.

Contextualizing farming practices within educational frameworks not only fosters the development of essential skills but also enhances teaching standards. By incorporating indigenous knowledge into pedagogical practices, educators can promote a deeper appreciation of local cultures in education. Practical initiatives, such as demonstrations of conservation farming, enrich students' understanding of environmental issues and empower them to engage in sustainable resource management practices.

Traditional farming practices prioritize sustainability and environmental stewardship over short-term profits. Organic agriculture, in particular, has gained traction in promoting soil health, human health, and food security in countries like the Philippines. Conversely, conventional farming methods, while initially increasing crop yields and labor efficiency, pose threats to global biodiversity and soil health.

Agricultural rituals are integral to the cultural fabric of societies, emphasizing the interconnectedness between humans, nature, and the divine. Despite the influence of Islamization and Christianization, indigenous agricultural practices have been preserved and transmitted through generations in the Philippines.

Conclusion

In conclusion, the literature review illuminates the critical role of social science in promoting sustainable agriculture, community empowerment, and cultural preservation within farming communities. It underscores the importance of contextualizing teaching and learning practices to incorporate indigenous knowledge and traditional farming methods into educational frameworks. By understanding the needs and dynamics of farming communities through social science research, educators can develop immersive learning experiences that resonate with students' lived environments. Practical initiatives, such as field demonstrations and community engagement, can enhance students' understanding of agricultural sustainability and empower them to become stewards of their environment.

Moreover, the review highlights the significance of traditional farming practices in promoting environmental stewardship and biodiversity conservation, contrasting with the potential drawbacks of conventional farming methods. Organic agriculture emerges as a sustainable approach to food production, contributing to soil health, human health, and food security. However, there remains a notable gap in research concerning the contextualization of social science activities within specific agricultural contexts,

such as upland corn farming practices. Addressing this gap presents an opportunity for future research to explore the intersection of social science education and agricultural practices, particularly in upland farming communities. Overall, integrating indigenous knowledge and traditional farming practices into educational practice and policy can foster a deeper appreciation of local cultures, promote sustainable agriculture, and empower farming communities to address global challenges while honoring their heritage. It is imperative for educators, policymakers, and researchers to collaborate in bridging this gap and advancing the integration of social science into agricultural education and practice.

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