

A Systematic Literature Review on Contextualizing Physics Instruction to Agriculture and Related Fields: Insights for the Philippines

The promotion and integration of agriculture concepts can be strengthened by teaching physics in the context of agriculture. This is a study of the literature on contextualization of physics education on agriculture and related fields was conducted to determine the agriculture and related fields used to contextualize physics instruction, to determine the parts of physics instruction were contextualized to agriculture and related fields, and to determine the areas of physics in which instruction is contextualized to agriculture and related fields. After reviewing published research articles from ScienceDirect, PubMed, ISI Web of Science, Google Scholar publications, ResearchGate, and other online research repositories used for scholarly literature, results showed that very few studies were conducted that contextualized physics instruction using agriculture and related fields. On the available literatures, 5.26% used farming as context of their physics instruction, another 5.26% used fishing practices as context, 31.58% used environmental context, 15.79% used Indigenous/Cultural Practices as context, and 42.11% used other contexts such as household chores, biking, and other recreational activities. Of the different fields of physics, mechanics is the most contextualized to agriculture with 52.63% of the available studies, while no study contextualized Modern Physics to agriculture and related fields. The teaching-learning/instruction and learning activities are the part of a lesson often contextualized to agriculture and no available study that contextualized the motivation part of the lesson. Most publicly available scholarly works contextualizing physics lessons to agriculture are foreign, thus, efforts in this area should be pushed forward in the Philippines.

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