Innovating Science and Chemistry Education Curricula by Integrating Indigenous Knowledge

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Abstract

Bringing tradition and indigenous knowledge into science education serves to integrate scientific knowledge and the life experiences of indigenous students. This makes science relevant, inclusive, and culturally responsive. This summary of research papers highlight some author's studies on how indigenous knowledge can innovate science and chemistry education curricula that allow students to be inspired by indigenous practices that have made sustainability a foundational ethos in their communities, meanings that would primarily refer to principles of green chemistry and sustainability education that lean toward a more long-term ecological balance and preservation of natural resources. There are some methodological approaches that was used in the study of integrating indigenous knowledge into science curricula. The methods provide a theoretical framework and empirical proof of the effectiveness of such integration in the improvement of science education. The methodology is arranged in terms of literature reviews, case studies, and qualitative and quantitative research techniques. Integration of indigenous knowledge and ethnoscience into science curricula, further into chemistry education, yielded a number of key results: case studies, student feedback, and curriculum evaluations highlighting how such integration can facilitate learning, promote engagement, and enable better educational outcomes. The results are discussed below in view of the impact on students' engagement, cultural relevance of the material and concepts of science, besides real-world relevance of the curriculum. The inclusion of Indigenous Knowledge in science education has the potential to enrich the curriculum and broaden the perspectives of students. However, in addition to counting all of the anticipated benefits of this endeavor, educators, policymakers, and communities will need to address a variety of challenges in order to realize the full potential of these efforts. Discussion, conclusions and recommendations also provided for the future research direction.

Keywords : *Indigenous Knowledge, Ethnoscience, Science and Chemistry Education, Sustainability*