



A Comparative Study of Leaving Certificate and Advanced Placement Chemistry Programmes

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Abstract

This research aimed to compare two second level programmes so that recommendations can be made to establish best practice for international high school chemistry education. To do this, the project examined the curriculum design, assessment and examination criteria for both, with special consideration for the objectives in Bloom's Taxonomy. The methodology was aligned with the comparative education method which is used in other international studies of this kind. A specific sub-study of exam papers was conducted using Bloom's Taxonomy. Each question was analysed for the presence of the taxonomy's six cognitive objectives, and an average result across all the papers was produced. This research has shown that aspects from both programmes are favourable to a prospective second level chemistry course design. The Leaving Certificate coursework is better aligned with corresponding international chemistry programmes, both in curriculum layout and subject content. The Advanced Placement course has six key ideas and places a focus on delivering depth rather than breadth. The curriculum is not prescriptive and so enables all learners their learning through "it's flexible" approach. However, the Leaving Certificate exam relies heavily on the lower order objectives, and by design, leads to issues with rote-learning and memorization. The Advanced Placement curriculum does not place the same emphasis on organic chemistry as other equivalent international chemistry programmes. Although the quality of the students produced by the programme is unquestionable, the omission of such a fundamental topic is concerning, given the importance of science education in the current global climate.

Keywords: *Comparative study, second level science education, chemistry, Leaving Certificate, Advanced Placement, Bloom's Taxonomy, Ireland, United States;*

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