



An enquiry into the common difficulties
that the Advanced subsidiary Level and
Advanced Level students face in
understanding the concepts and
principles of organic chemistry of the
Cambridge curriculum

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Abstract

It has been understood that there are some problems encountered among the students those who follow the Advanced Subsidiary Level and the Advanced Level of the General Certificate of Secondary Education of the Cambridge Curriculum in the understanding and application of basic concepts and principles of organic chemistry. This includes the sections like hybridization and geometry, steric hindrance, electro negativity, polarity and chemical bonding, resonance effect, bond energies, acid base chemistry and chemical kinetics. The student has to assimilate a large amount of information during the process of learning. The misconception of understanding of the above related areas seriously affects the correct perception of learning Organic Chemistry. This do not create a favorable background for the learning facts like development of critical thinking and problem solving skills. The final outcome will be a low grade for the subject as there is a large contribution of marks in the papers from the sections of organic chemistry. These results generally coincide for the idea of higher studies specially those related to the advanced researches. A contextual survey, pertaining to the relevant curriculum area is done. During the entire case of study the specific complicated areas and the nature of the problems with its cause were clearly investigated. According to the responses obtained from the attainment tests given to the target groups each section of the entire content of the GCSE Cambridge Curriculum of the Organic Chemistry was analyzed separately to identify the actual existence, nature and the reason of such problems. Many studies have been conducted before to increase the quality of the subject area and further suggestions were recommended which is more practicable to apply for the International School systems in Sri Lanka. Most of the problems have arisen from the reaction mechanisms and poor application skills of them for the questions and there is a high tendency in retardation of memory of the subject facts as it is not properly recalled and revised. To increase the intrinsic motivation of the student, divergent type of problems should be done in a way that they have to connect all pieces of information. There are effective ways which can be used to minimize the associated problems like using lot of IT methods but practically in some cases it is not possible. Even though practical work also is essential to increase in the school level there are some limitations. Including all those facts the learning and the teaching process of organic chemistry should be followed to make a perfect learner who sees the beauty and the importance of the subject to stimulate interest in organic chemistry with promoted awareness of applications and developed attitudes.