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Learning inter-molecular forces in an easy manner in G.C.E. A/L classes

Inter-molecular forces, a sub unit in the chemical bonds unit in the A/L chemistry syllabus is considered as an easy topic by most students, but they experience difficulties when answering the questions related to this topic. Chemistry teachers consider that their difficulties are not only in the inter molecular forces topic but also in the whole chemical

bonds unit due to abstract concepts that has to be learnt in this unit. To identify difficulties experienced by teachers and students when they teach and learn this unit, six classrooms were observed, questionnaires were administered and interviews were conducted among groups of A/L students and chemistry teachers. Students' misconceptions in inter-molecular forces topic and common errors made by the students were identified. Several defects in the methodology adopted by teachers when presenting the subject matter, such as presenting incomplete or irrelevant facts and problems in time management were also identified. A library search was conducted to understand about new methods and analogies used by other countries to present the chemical bonds unit effectively. With the use of the findings of the study a handbook for teachers for the chemical bond unit was prepared. For the inter-molecular forces topic, assignments highlighting the students' difficulties, use of analogies to explain the types of inter-molecular forces and the polarity of molecules and life experiences related with the subject matter were included. Some background information about the topic also included so that teacher can get a clear understanding of the subject matter. This handbook was tested in two schools and with the findings at this stage, revisions to the handbook was made. After trying out the prepared handbook a questionnaire was given to the students and analysis of students' responses showed that they have understood some abstract concepts in the topic fairly well. This indicates the importance of preparing handbooks for the every unit in the A/L chemistry syllabus after identifying teachers' and students' difficulties in the relevant unit.