

**A Meta-analysis of Effects of the Advance Organizers on  
Acknowledgment and Retention of Senior Secondary School (SSS)  
Chemistry**

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**ABSTRACT** An investigation into the effect of pictorial and written advance organizers on students' achievement in Senior Secondary School chemistry was carried out with 138 senior secondary school two (SS2) chemistry students on the concept of energy change. The results showed that advance organizers enhance the achievement and retention of the learning materials in chemistry by the students. On the whole, pictorial organizer was found to be more effective in facilitating students' achievement and retention in chemistry than written organizer. There was no significant difference between the achievement of male and female chemistry students taught with pictorial and written organizers. It was recommended that chemistry teachers should be encouraged to adopt pictorial advance organizers in teaching the concept of energy change in chemistry.