

## A New Motto in Environmental Protection: Green Chemistry

A. Seda YÜCEL\*

### Suggested Citation:

Yücel. A. S. (2008). A new in environmental protection: Green chemistry. *Egitim Arastirmalari - Eurasian Journal of Educational Research*, 32, 145-154.

### Abstract

*Problem Statement:* Green Chemistry is perceived as a slogan that expresses the exploration, planning, and improvement of methods that would prevent the production of materials within chemical products and processes that are hazardous to the environment and human health. Green Chemistry aims to minimize the hazardous effects of chemical products and processes. The main aim here is to create awareness of the hazardous effects of chemical substances within many levels of society.

*Purpose of Study:* The purpose of this study is to devise an attitude scale to enable individuals to embrace conceptual processes included in the Green Chemistry motto. This scale should also be able to identify the attitudes of individuals in all interdisciplinary fields towards which Green Chemistry is aimed.

*Methods:* The population group of this study comprised 196 university students in the sciences and humanities. The KMO and Bartlett test was employed in order to evaluate the adequacy of the scale data for factor analysis. The result of the KMO Kaiser-Meyer-Olkin test was 77.8%. As 77.8 is greater than 0.5, it was concluded that the data set was appropriate for factor analysis. In addition, the same result was also obtained with the Bartlett test ( $p = 0.00 < 0.05$ ). This means that there are high correlations between the variables. In other words, the data set was adequate for factor analysis. Factor analysis found that the scale gained a 4-factor dimension.

*Findings and Results:* These 4 factors are examined and evaluated individually. Items comprising the first factor group include sentences that are related to laboratory applications and chemical processes and that state pre-definitions of Green Chemistry. Moreover, the first factor also includes the attitude items related to the content of Green Chemistry awareness. Apart from that, students believe that the teaching and activities in science lessons should carry an awareness of Green Chemistry. Items constituting the second factor group are sentences related to Green Chemistry applications processes. The third factor constitutes an attitude statement group related to the requirements of explaining the positive effects on the environment and human health in teaching and education, and choosing chemical reactions used in the industrial

---

\*Asst.Prof. Dr., Hacettepe University, Faculty of Education, a.seda@hacettepe.edu.tr

production and laboratories according to Green Chemistry principles. The fourth factor comprises items stressing the answer to the question "What should be the main aim of industrial institutions associated with environmental protection and Green Chemistry?"

*Conclusions and Recommendations:* By offering to future generations a more comprehensive perspective for environmental protection, it is possible to make a significant contribution to the green environment. Moreover, Green Chemistry could become a global watchword.

*Keywords:* Green Chemistry, chemistry curriculum, Green Chemistry courses, Green Chemistry attitude scale.