# **SUBJECT INDEX, VOLUME 5, 2004**

### 0. GENERAL ISSUES IN SCIENCE/CHEMISTRY EDUCATION

- Has educational research made any difference to chemsitry teaching (Editorial). *G. Tsaparlis*: (1) 3-10.
- Securing a future for chemical education. *J.K. Gilbert, R. Justi, J.H.Van Driel, O. De Jong, & D.F. Treagust:* (1) 5-14.
- Pedagogical content knowledge as a way forward: Applied research in chemistry education. *R. Bucat*: (3) 215-228.
- The future shape of chemistry education. *P. Mahaffy*: (3) 229-245.
- Group discussions as a tool for investigating students' concepts. H. Eybe & H.-J. Schmidt: (3) 265-280.

### 1. METHODS AND ISSUES OF TEACHING AND LEARNING

- What research tells us about using analogies to teach chemistry. M. Orgill & G. Bodner: (1) 15-32.
- Analogies in chemistry teaching as a means of attainment of cognitive and affective objectives: A longitudinal study in a naturalistic setting, using analogies with a strong social content. *P. Sarantopoulos & G. Tsaparlis*: (1) 33-50.

## 2. CONCEPTS

- A historical approach to the development of chemical equilibrium through the evolution of the affinity concept: Some educational suggestions. *J. Quilez*: (1) 69-87.
- Changes in concentration and in partial pressure in chemical equilibria: Students' and teachers' misunderstandings. *J. Quilez*: (3) 281-300.

# 3. CONCEPT TEACHING AND LEARNING

- L' équation de réaction: Un nœud d'obstacles difficilement franchissable *A. Laugier & A. Dumon*: (1) 51-68.
- The chemical equation: A cluster of problems which are difficult to overcome. A. Laugier & A. Dumon: (3) 327-342.

# 4. PROBLEM SOLVING AND OTHER HIGHER-ORDER COGNITIVE SKILLS (HOCS)

• HOCS-promoting assessment of students' performance on environment-related undergraduate chemistry. A. Lubezky, Y.J. Dori, and U. Zoller: (2) 175-184.

#### 5. ASSESSMENT

- HOCS-promoting assessment of students' performance on environment-related undergraduate chemistry. A. Lubezky, Y.J. Dori, and U. Zoller: (2) 175-184.
- Can final examinations amplify students' misconceptions in chemistry? *T.L. Nahum, A. Hofstein, R. Mamlok-Naaman, & N. Bar-Dov*: (3) 301-325.

# 6. SCIENCE-TECHNOLOGY-ENVIRONMENT-SOCIETY (STES)

- Chemistry and environmental education (Editorial) . *U. Zoller*: (2) 95-97.
- The influence of computer-assisted education on environmental knowledge and environmental awareness. *İ. Morgil, S. Arda, N. Seçken, S. Yavuz, & Ö. Özyalçin Oskay*: (2) 99-110.
- Learning beyond school: Establishing a laboratory for sustainable education. *M. Schallies & C. Eysel*: (2) 111-126.
- Using a field trip to a wetland as a guide for conceptual understanding in environmental education A case study of a pre-service teacher's research. R.T. Tal: (2) 127-142.
- An interdisciplinary model for teaching the topic "foods": A contribution to modern chemical education. A. *Mavropoulos, M. Roulia, and A.L. Petrou*: (2) 143-155.
- Development of cognitive conducts during a computer simulated environmental analysis. *M.L. Eichler, J.C. Del Pino, & L.Da C. Fagundes*: (2) 157-174.
- HOCS-promoting assessment of students' performance on environment-related undergraduate chemistry. A. Lubezky, Y.J. Dori, and U. Zoller: (2) 175-184.
- The methodological framework of the development of the educational package "Water in the Mediterranean". M. Scoullos, A. Alampei, & V. Malotidi: (2) 185-206.

## **7. NET**

- The influence of computer-assisted education on environmental knowledge and environmental awareness. *İ. Morgil, S. Arda, N. Seçken, S. Yavuz, & Ö. Özyalçin Oskay*: (2) 99-110.
- Development of cognitive conducts during a computer simulated environmental analysis. *M.L. Eichler, J.C. Del Pino, & L.Da C. Fagundes*: (2) 157-174.

### 8. ATTITUDES

• An investigation of Irish students' attitudes to chemistry; The Promotion of Chemistry in Schools Project. *E. Regan & P.E. Childs*: (1) 45-53.

### 9. CURRICULA AND POLICIES

• The methodological framework of the development of the educational package "Water in the Mediterranean". M. Scoullos, A. Alampei, & V. Malotidi: (2) 185-206.

#### 10. TEACHER TRAINING

• Using a field trip to a wetland as a guide for conceptual understanding in environmental education – A case study of a pre-service teacher's research. R.T. Tal: (2) 127-142.

### 11. EXPERIMENTS AND PRACTICAL WORK

• The laboratory in chemistry education: Thirty years of experience with developments, implementation, and research. *A. Hofstein: (3)* 247-264.

# 12. HISTORY AN PHILOSOPHY OF SCIENCE/CHEMISTRY

- L' équation de réaction: Un nœud d'obstacles difficilement franchissable A. Laugier & A. Dumon: (1) 51-68.
- A historical approach to the development of chemical equilibrium through the evolution of the affinity concept: Some educational suggestions. *J. Quilez*: (1) 69-87.
- The chemical equation: A cluster of problems which are difficult to overcome. A. Laugier & A. Dumon: (3) 327-342.