

Home > Journal > Social Sciences & Humanities > CE

[Indexing](#) [View Papers](#) [Aims & Scope](#) [Editorial Board](#) [Guideline](#) [Article Processing Charges](#)

CE > Vol.3 No.8, December 2012

OPEN ACCESS

Effects of Science Process Skills Mastery Learning Approach on Students' Acquisition of Selected Chemistry Practical Skills in School

PDF (Size: 129KB) PP. 1291-1296 DOI: 10.4236/ce.2012.38188

Author(s)

Roselyn Chebii, Samwuel Wachanga, Joel Kiboss

ABSTRACT

The study investigated the effectiveness of Science Process Skills Mastery Learning Approach (SPROSMALEA) on students' acquisition of Chemistry practical skills. The Solomon Four Group, Non-equivalent Control Group Design was employed in the study. The study was carried out in Koibatek District, Kenya where there has been persistent low achievement in the subject. 160 form two students from four co-educational schools, purposively selected from the District were taught the same course content on salts for a period of four weeks. The experimental group received their instructions through use of SPROSMALEA approach and control groups using the conventional teaching method. The researcher trained the teachers in the experimental groups on the technique of SPROSMALEA before the treatment. Science Process Skills Performance Test (SPSPT) and Classroom Observaion Schedule (COS) were used for data collection. The results of the study indicated that students in the experimental groups outperformed the control groups in the acquisition of selected Chemistry practical skills. It was concluded that SPROSMALEA enhanced better performance in Chemistry than the conventional teaching method. Chemistry teachers should be encouraged to incorporate this method in teaching and should be included in regular in-serving of teachers in Kenya.

KEYWORDS

Science Process Mastery Learning Approach (SPROSMALEA); Acquisition of Selected Chemistry Practical Skills; Conventional Teaching Method

Cite this paper

Chebii, R. , Wachanga, S. & Kiboss, J. (2012). Effects of Science Process Skills Mastery Learning Approach on Students' Acquisition of Selected Chemistry Practical Skills in School. *Creative Education*, 3, 1291-1296. doi: 10.4236/ce.2012.38188.

References

- [1] Ajaja, O. P. (2007). Teaching methods across disciplines. Agbor: Allwell Publishers.
- [2] Allsops, T., & Woolnough, B. (1985). Practical work in science. Cambridge: Cambridge University Press.
- [3] Bizar, M., & Hyde, A. A. (1989). Thinking in context: Teaching cognitive processes across the elementary school curriculum. White Plains, NY: Longman.
- [4] Borg, W. R., & Gall, M. D. (1989). Educational research. An introduction (5th ed.). White Plains, NY: Longman.
- [5] Das, R. S. (1985). Science teaching in school. New Delhi: Sterling Publishers.
- [6] Dirks, C., & Cunningham, M. (2006). Enhancing diversity in science: Is teaching science Process skills the answer? *Life Science Education*, 5, 218-226.
- [7] Fraenkel, R. J., & Wallen, E. N. (2000). How to design and evaluate research in education (4th ed.). San Francisco: McGraw-Hill.

- [Open Special Issues](#)
- [Published Special Issues](#)
- [Special Issues Guideline](#)

[CE Subscription](#)

[Most popular papers in CE](#)

[About CE News](#)

[Frequently Asked Questions](#)

[Recommend to Peers](#)

[Recommend to Library](#)

[Contact Us](#)

Downloads: 195,613

Visits: 429,580

Sponsors, Associates, and Links >>

- [The Conference on Information Technology in Education \(CITE 2012\)](#)

- [8] Galyam & Lecrange (2003). Teaching thinking skills in science to learners with special needs. *International Journal of Special Education*, 18, 84-94.
- [9] Gavora, M. J., & Hannafin, M. J. (1995). Perspectives on the design on human-computer interactions. Issues and implications. *Instructional Science*, 22, 445-447.
- [10] Hodson, D. (1990). A critical look at practical work in school science. *School Science Review*, 71, 33-40.
- [11] Kenya Institute of Education (2002). Teacher' s preparation guide. The New Secondary Education Curriculum. Nairobi: Self.
- [12] Kenya Institute of Education (2006). Secondary Chemistry Teachers Handbook. Nairobi: Self.
- [13] Mugenda, O., & Mugenda, A. (2003). Research methods quantitative and qualitative approaches. Nairobi: Act Press.
- [14] Mutai, K. B. (2000). How to write quality research proposals (1st ed.). New Delhi: Thellery Publications.
- [15] National Research Council (2005). How students Learn Science in the Classroom. Washington DC: The National Academy Press.
- [16] Ohodo, G. C. (2005). Principles and practice of chemistry education in Nigeria. Enugu: Enugu State University of Science and Technology.