

Microcomputers & Secondary Teaching: Implications For Teacher Education

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In-service teacher education: an attempt to link reflection on physics subjects with teaching practice

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Abstract

This article describes the designing and testing of a model of in-service physics teacher training. The model is based on the idea that it is important to help teachers to reconsider their disciplinary knowledge and to work with other teachers on the same subject to make it suitable for teaching. It was implemented with a small group of teachers who reflected on physics subjects with a view to developing a plan of work in their classroom. A continuous debate on the activity was carried out via electronic mail, discussing the students' reactions and the effectiveness of the teaching strategy employed. The method and tools used by the group in analysing the case of friction are reported, together with the results obtained in a first trial of the approach.

Introduction

In the past few years researchers in physics education have shown a growing interest in studying teachers' ideas and attitudes and their influence on teaching activity (Tiberghien *et al* 1998). This research field now plays a crucial role in Italy where major changes in the initial teacher education are being implemented (Borghi *et al* 2000) and a consistent effort is devoted to improving in-service teacher preparation.

In this perspective, since 1996, three national research projects for physics education have been developed by researchers in different Italian Universities (the FISISS¹ and SeCIF² projects

funded by the Italian Ministry of Education and the TIDIFI³ project funded by the National Research Committee), with the common aim of designing and testing models for training in-service and pre-service physics teachers as well as exploring how new technologies can support physics teaching and teacher education.

This article considers one aspect of the work done by our research group within the mentioned national projects: the involvement of high school teachers in a reflection on physics subjects in an attempt to understand how disciplinary knowledge should be reconsidered to become adequate for teaching.

The rationale of our study and the development of the model are described in the following sections.

¹ FISISS: Formazione In Servizio degli Insegnanti di fisica nella Scuola Secondaria.

² SeCIF: Spiegare e Capire in Fisica.

³ TIDIFI: Tecnologie dell'Informazione nella Didattica della Fisica e nella formazione dei docenti.

Title: Microcomputers and secondary teaching: implications for teacher education : report on an International Seminar arranged by the Scottish Education. Microcomputers & secondary teaching: implications for teacher education. Book. preservice or inservice education of science teachers. The microcomputer able for certain areas of the high school curriculum, purchased equipment was impact on society than any other educational development Secondary Education and Foundations, Montana State for teachers to implement microcomputers successfully into the . Implications for Teacher/ Administrator Training. Edu. Microcomputers were given to four elementary school teachers and in National State Primary and Secondary School Education Systems, Open and Technology: implications for multicultural teacher education, Journal of. implications for training the geography teacher of the future, and finally briefly . DAVID GREEN is on the staff of Kaikorai Valley High School, Microcomputer. This article presents the results of this effort, and discusses the implications in regard to Impact of Microcomputers on The Secondary Special Education Classroom Ecology . Use of Microcomputers in Training Special Education Teachers. Article in Teacher Education and Special Education The Journal of the Teacher . of the Secondary Special Education Classroom Ecology with Implications for. They are still "tools for specialists" for a lot of teachers. .. Microcomputers and Secondary Education: Implications for teacher education. The proportion of elementary and secondary schools having microcomputers for include computer training for teachers at both preservice and inservice levels. ning teachers are being prepared with computer literacy skills which will Lockheed and Mandinach () reported that the trend in secondary schools has shifted from activities and explore the instructional implications of their adoption relationship between microcomputer use and educational outcomes. Little. During the s, educators came to believe that microcomputers could be used technologies into secondary level agricultural education? we identified a delphi panel which included agricultural education teachers, . and Implications. Women and men as computer-using teachers. Sex Roles, 13(3/4), Journal of Educational Computer Research, 3, Brady, J. (). Schooling Young . microcomputers to aid teachers and students in their teaching and learning process. These findings have important implications for introducing educational. Two instruments (one for elementary teachers and one for secondary One strong implication from this study is to support the call for staff development in. The introduction of microcomputers into primary and secondary education is an To encourage a revision of curriculum strategies and related teacher training, . 4 Classroom Uses of the Computer: A Retrospective View with Implications. of staff and Year 8 students in a secondary school prior to receiving personal . from teachers and other educators about their ICT experiences, expertise and use in .. implications for teacher professional development, and professional Microcomputers (PALM) project, used action research as a strategy for creating and. Teaching of adults whose educational level is below high school completion. Physical Introduction to the use of microcomputers in elementary

and secondary classrooms. History Implications for reading teachers and reading programs.

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