Teachers as designers and developers of computer-assisted learning materials

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Realizing the need to facilitate utilization of Information Technology (IT) to enhance teaching and learning, the Ministry of Education in Sri Lanka has taken several initiatives to augment IT education in schools. Successful integration of computer technology into education will depend on how well the teachers are provided with the competencies in utilizing this facility. This study explored the experiences of a group of teachers who designed and developed computer assisted learning (CAL) materials. The investigation focused on three research questions: What were the design processes adopted by teachers when developing CAL materials; what were the challenges faced by teachers in this process; and what were the supportive and hindering factors in the process? Case study method was employed to examine the process. Multiple data gathering techniques such as questionnaires, interviews and observations were used.

Except for one teacher, all the others were either with limited experience or no experience at all in developing CAL materials. Decision-making at the planning stage was greatly influenced by the teachers' existing competencies. Mapping out their ideas first on paper was found to be helpful for them to move from a simple to complex situation. The products ranged from simple information-providing multimedia presentations to more interactive multimedia learning packages. Whereas novices tended to be more product-oriented, more experienced persons were interested in making the learning approach interactive. Time consumption and skill limitations were the main hindering factors while skill development workshops, collaborative work and support from colleagues were the main supportive factors. Inadequacy of computers, technological problems and limited computer skills of students were some problems faced in implementation, yet very positive student feedback has been obtained.

The design and development of a CAL material was a highly challenging and motivating task for the teachers, which resulted in building up their self-confidence. Gradual building upon their existing competencies results in more productive outputs. Provision of opportunities, access, time, support and encouragement as well as recognition and appreciation of teachers' efforts is essential for effective integration of computer technology in classroom teaching and learning.