Editorial

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Education and Information Technologies is the official journal of IFIP's Technical Committee on Education (called TC3). IFIP (International Federation for Information Processing) is an international organization which has one member from each country; usually the national professional computer society. Each IFIP Technical Committee has a place for one representative from each member society and normally TC3 meets once a year. The role of TC3 members has a two-way function: they are asked to provide information to the Technical Committee about latest developments and concerns in their country/society in order to ensure an international focus for TC3 activities; and they are asked to provide information to educators in their country about TC3. In addition, all Technical Committees set up Working Groups and each Working Group member is invited for their expertise in the particular area of the Group, independent of the country.

IFIP Technical Group 3 (Education) currently has six Working Groups and through these it brings together professionals in many different domains of education: in teacher education, in curriculum and instruction for elementary and secondary education, in administration and policy making, in computer science education at the secondary and higher-education levels, in research, and in the application domain of distance education. IFIP, more than any other professional association, brings together professionals at all levels of education, from teacher to educational software developer, from national policy maker to informatics instructor, in a collegial interactive relationship. Membership in IFIP Working Groups is restricted; only those meeting high standards of experience and professionalism as well as having an international orientation can meet the various qualification requirements.

While the broad spectrum of highly experienced educational representation is one major characteristic of IFIP TC3, its second characteristic is its internationalism. IFIP is not a national association of any one country making provision for some international membership; IFIP is international in its every aspect. Those in IFIP are keenly aware of the value of learning from the experience of colleagues in other countries and cultures; of not seeing the world through the optic of any one setting or orientation; of respecting the options chosen by others; and of continually being struck by the universality of key educational issues and insights even while making note of the difference in approaches within cultures and systems.

After the highly successful international conference, in July 1995 in Birmingham, UK (for which all videos and the post-conference report have now been published and dispatched) it became clear that a mandate existed for IFIP TC3 to extend its professional service to a broader audience, through an international journal. And thus the history, the domain, the goals, and the distinguishing features of this journal are all related to those of IFIP TC3. Another aspect of the journal *Education and Information Technologies* is that it will be not only in paper form but also available as an Internet variant. The optimal design of this parallel electronic version of the journal is now on-line and can be accessed through the Chapman & Hall journals pages at <http://www.thomson.com/itpjournals.html>.

The articles in this second issue of *Education and Information Technologies* are, like the first issue, directly reflective of the broad range of IFIP TC3's professional domain and its position at the leading edge of the field. The articles relate to applications of information technology from the micro-level, in terms of specific software applications and environments, to the macro-level, in terms of national implementations and experience. They describe applications relating to elementary school, secondary school, and higher education. They reflect the perspectives of decision makers and administrators in the school sector as well as software designers and researchers. While such a mix may seem overly ambitious, it is, in fact, no larger than the field and the technology under examination.

The following listing shows the articles, their country of origin, a brief note about their content, and an indication of the relationship of the article to the various working groups of IFIP TC3:

- (1) Martin, C.D., Huff, M., Gotterbarn, D. and Miller, K. *A framework for implementing and teaching the social and ethical impact of computing*, USA.

This paper relates to curriculum development: development of content and pedagogical objectives for integrating social impact and ethics into the computer science curriculum. While based in the USA, the framework and issues are international in application.

This article is most directly relevant to IFIP TC3 Working Group 3.2, (Higher Education), but also applicable to the teaching of informatics in the secondary school (WG 3.1).

- (2) Pohjolainen, S., Multisilta, J. and Antchev, K. *Matrix algebra with hypermedia*, Finland.

This paper reports on a pilot hypermedia-based course on matrix algebra at Tampere University of Technology. Different learning strategies, based on concept, theorem and problem databases are discussed, together with a report on classroom experiences.

This article is most directly relevant to IFIP TC3 Working Group 3.2 (Higher Education), but also applicable to the development of learning materials and to WG 3.3 (Research).

- (3) Tiffin, J. *The virtual class is coming*, New Zealand.

This paper reports on a long term action research programme initiated in 1987 (and on-going) to develop a virtual class, which is regarded as the critical component of a new education paradigm for an information society.

This article relates to many of the IFIP TC3 Working Groups, in that there is a research focus as well as an administrative application (WG 3.3 and 3.4), all three educational phases can learn from the experience (elementary, secondary and higher education, thus WG 3.5, WG 3.1 and WG 3.2), and also distance delivery is included (WG 3.6). The technologies involved are the Internet, and specialized interface software.

- (4) McDougall, A., Squires, D. and Guss, S. *Emphasizing use over attributes in selection of educational software*, Australia.

This paper rejects the traditional checklist approaches to software selection, and proposes a way of thinking about software that takes the perspectives of the student, the teacher and designer and uses interactions between pairs of these perspectives to generate broad questions and more specific issues to be considered when software is being assessed for purchase or classroom use.

The article, like that of Tiffin, ranges across the domains of all of the IFIP TC3 working groups.

- (5) Ki, K-W. and Lai, W-W. *Computer-mediated communication and teacher education: some observations from the implementation of TeleNex*, Hong Kong.

This paper outlines some of the reasons for the use of computer networking for teacher education and professional development, and discusses why networking can be used to support teacher education and development. At a time when many teacher groups are on their way to using the Internet, for example, the experience detailed here will be particularly valuable for those involved in building their own electronic learning community.

This article relates most closely to WG 3.1 (Secondary) and to WG 3.5 (Elementary) in its interest in teacher education, but the applications of the work are relevant to all levels and methods of learning, WG 3.2 (Higher Education), WG 3.4 (Professional and Vocational Education) and WG 3.6 (Distance Learning).