INFORMATION TECHNOLOGY AND EDUCATIONAL MANAGEMENT IN THE KNOWLEDGE SOCIETY

IFIP – The International Federation for Information Processing

IFIP was founded in 1960 under the auspices of UNESCO, following the First World Computer Congress held in Paris the previous year. An umbrella organization for societies working in information processing, IFIP's aim is two-fold: to support information processing within its member countries and to encourage technology transfer to developing nations. As its mission statement clearly states,

IFIP's mission is to be the leading, truly international, apolitical organization which encourages and assists in the development, exploitation and application of information technology for the benefit of all people.

IFIP is a non-profitmaking organization, run almost solely by 2500 volunteers. It operates through a number of technical committees, which organize events and publications. IFIP's events range from an international congress to local seminars, but the most important are:

- The IFIP World Computer Congress, held every second year;
- Open conferences;
- Working conferences.

The flagship event is the IFIP World Computer Congress, at which both invited and contributed papers are presented. Contributed papers are rigorously refereed and the rejection rate is high.

As with the Congress, participation in the open conferences is open to all and papers may be invited or submitted. Again, submitted papers are stringently refereed.

The working conferences are structured differently. They are usually run by a working group and attendance is small and by invitation only. Their purpose is to create an atmosphere conducive to innovation and development. Refereeing is less rigorous and papers are subjected to extensive group discussion.

Publications arising from IFIP events vary. The papers presented at the IFIP World Computer Congress and at open conferences are published as conference proceedings, while the results of the working conferences are often published as collections of selected and edited papers.

Any national society whose primary activity is in information may apply to become a full member of IFIP, although full membership is restricted to one society per country. Full members are entitled to vote at the annual General Assembly, National societies preferring a less committed involvement may apply for associate or corresponding membership. Associate members enjoy the same benefits as full members, but without voting rights. Corresponding members are not represented in IFIP bodies. Affiliated membership is open to non-national societies, and individual and honorary membership schemes are also offered.

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Preface

The Gran Canaria (Las Palmas) ITEM conference was a special one as it was exactly ten years since the first ITEM conference (although we did not then use that acronym) was held. In 1994 Ben-Zion Barta and Yaffa Gev from the Ministry of Education in Israel were aware of the growing need to share information, and managed to obtain funding to organize a conference on the utilization of information technology for the administration and management of schools. Scientists, system developers, implementers and others active in this area travelled to Jerusalem where these practitioners and experts from around the globe were brought together for the first time to share their knowledge.

The paper presentations and workshops were so successful that it was decided to organize an ITEM conference every two years. (Yaffa Gev invented the ITEM acronym which stands for Information Technology in Educational Management.) Since Jerusalem, these conferences have been held respectively in Hong Kong (1996), Maine (USA, 1998), Auckland (New Zealand, 2000), and in Helsinki (2002). The next conference will be held in Hamamatsu in Japan in 2006.

Quite a few people who attended the Jerusalem conference are still active in ITEM and also attended the Las Palmas conference. Since 1994 we have also welcomed several new ITEM members, and some delegates attended an ITEM conference in Las Palmas for the first time.

The conferences have engendered a spirit of co-operation amongst people around the world: they have resulted in papers and special issues for scientific journals, obtained research funding, carried out research projects and organized research fellowships. As a group we successfully applied in 1996 for the establishment of IFIP (International Federation for Information Processing) Working Group 3.7 to promote the effective and efficient use of information technology for the management of educational institutions in all respects. (For more information, please refer to <u>http://ifip-item.hkbu.edu.hk</u>). International co-operation and exchange of information on the state of the art of the research, development, and implementation of ITEM will help us to achieve this overall goal. This book is the result of an international call for papers addressing the challenges faced by the information technology and educational management (ITEM) field in a society where knowledge management is becoming a major issue both in educational and business systems. As a result a number of papers were received. Each paper was peer reviewed by two acknowledged ITEM specialists who provided useful feedback to authors of accepted papers. These papers were presented at an International Working Conference in Grand Canaria, and were subject to discussion and criticism. After the conference a selection was made of papers for inclusion in this book, and the authors were give the opportunity to modify their work according to feedback obtained at the conference. This publication is the end result of this process.

The papers in this book fall broadly into five main categories: Schoolbased educational issues regarding ITEM; case studies regarding ITEM use in schools; issues relating to ITEM in higher education; research, technology and business issues; and reports of the focus group meetings held at the conference.

The first group of papers is concerned with ITEM issues in schools. The first paper by Len Newton questions the adequacies of school ITEM systems in meeting the needs of teachers and pupils in relation to assessment for learning purposes, and suggests further challenges for the design and development of these systems for handling useful assessment information. Newton notes that in addition to administrative data, we need information to inform pedagogical processes including data that will embrace pupils' learning skills. Ian Selwood follows with a paper reporting on the findings of a baseline study on Primary School Teachers' use of ICT for administration and management in England. He notes that even though primary teachers are generally positive about ICT and its ability to support their administrative and management duties, the findings point to low levels of use of ICT for administration and management. Chris O'Mahony then reports on a survey of ICT access, ability and use conducted among 25 schools in England and Wales in 2002/03. The survey results indicated that access to ICT resources was high both at school and at home, and staff reported overall satisfaction with their ICT abilities across core applications, whilst calling for more training in 'advanced' applications. The next paper, by Connie Fulmer, discusses accountability in distance-learning programs in the US. She points out that accountability is a complex process in any organizational learning experience, particularly in distance-learning environments. The paper describes online-accountability innovations used in distance-learning programs and how these online tools help students provide evidence of their readiness for educational-leadership positions. Alex Fung and Jenilyn Ledesma then describe an interactive, web-based, real-time platform for delivery of teaching and learning in Hong Kong when classes were

suspended during the SARS outbreak in 2003. Finally in this group of papers, Chris Thorn discusses systemic reform efforts in the US in relation to data-based decision making and decision support systems. He describes the latest generation of collaborative systems that support knowledge exchange and expertise location services and argues that the human capacity to evaluate programs, curricula, and other reform efforts has not kept pace with technological developments.

In the next group of papers several authors describe specific school-based examples of ITEM systems. Greg Baker describes some of the issues involved in developing an integrated information system that contributes to the management of an Australian independent school. He demonstrates that it is possible and feasible to develop an information system that meets both the needs of staff and is customized for the users' requirements. Ronald Bisaso and Adrie Visscher then outline an exploratory study on the usage of computerised school information systems in the administration and management of the biggest secondary schools in Uganda. Omponoye Kereteletse and Ian Selwood next describe a study that evaluated system usage of the computerised information system implemented by the Ministry of Education in Botswana.

University ITEM systems are then the subject of a set of papers. Geoff Sandy and Bill Davey begin by considering issues of data quality for ITEM systems used in higher education decision making. Jacques Bulchand and Jorge Rodríguez then outline the process that the University of Las Palmas de Gran Canaria went through in planning, building and implementing a new ITEM system. In the paper they describe a methodology composed of nine steps that involves the whole university community and not just IS/ICT technicians. In the next paper Bill Davey and Arthur Tatnall argue for university ITEM systems that provide useful information to teaching academics as well as to university administrators, and lament the lack of such system in most universities. Lucía Melián, Víctor Padrón and Tomás Espino next consider issues of quality management in virtual universities.

The next papers cover a wide range of issues relating to research, technology and business issues. To begin, a paper by Mikko Ruohonen looks at knowledge networks for educational management and lessons that might be learned from industry. Toshio Okamoto and Mizue Kayama next propose and discuss functionality required for collaborative learning and introduce a platform for a collaborative learning environment called RAPSODY-EX (REX) that they have developed. A paper from Jose Diaz follows describing a strategic project for an information society in the Spanish Region of Extremadura. An aspect of this project was development of GNU/LinEx and associated Free Software, and the paper elaborates the advantages of this Free Software. In similar vein, Pedro Baquero, Alfredo Santana, Ignacio Zubiria and Manuel Prieto then outline a global solution that covers the ICT

infrastructure necessities of an educational community in the Canary Islands. This consists of a basic technological architecture of: Individualized Networks of Schools, the Integrated Broadband Network and the Management System. This study has been framed inside MEDUSA project. In the last paper, Arthur Tatnall explores ITEM as an innovation and argues for research, framed by innovation theory, into why some schools, regions and countries adopt ITEM more fully and in different ways than others.

The final papers report on the discussions that took place in the focus groups that met during the conference. Firstly Arthur Tatnall and Bill Davey describe the discussions of a group that was considering future directions in item research. Connie Fulmer next details the discussions of the second group on issues in the management of distance and lifelong learning.

We hope and trust that these papers will prove interesting and useful to other researchers and to educators with an interest in Information Technology in Educational Management.

Javier Osorio Adrie Visscher Arthur Tatnall