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Book Review

Information and Communication Technology in Education. Dictionary of terms. Volume I: A-K, Volume II: L-Z (Tehnologia Informaţiei şi a Comunicării în Educaţie. Dicţionar de termeni. Volumul I: A-K, Volumul II: L-Z)

by Ciprian Baciu, Mușata-Dacia Bocoș, Ioana-Cristina Magdaș (Eds.)

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In the context of the challenges posed by the global transition of education systems to virtual learning, the use of information and communication technologies is no longer just a choice, but has become a necessity for all involved actors. In recent years, a whole digital tool must be effectively integrated into the educational process at all levels and this requires the development of complex skills, including both language-specific technology and the ability to use these means to support learning activities. In the last decades, the Romanian literature in the educational field has been enriched with works that have treated various perspectives on the possibilities of efficient integration of information and communication technologies in the didactic act. The psychosocial implications of education in the digital age, the possibilities of pedagogical and didactic innovation adapted to online education, hypostases of technology-assisted learning, etc. were discussed.

The forced transition to online education during the Covid-19 pandemic has further increased the production of scientific articles that have explored the adaptation of teachers, decision-makers, pupils, students and parents to this form of education. Investigations from this period of social crisis have shown that, although technologies have been used in the educational process for decades, there are still many issues that require specialists' attention. Both teachers and the generation of digital natives they educate need more special training and tools to make their work more operational in an environment that requires a swift accomplishment of various tasks.

In this context, the dictionary we discuss about is a part of the broader direction of developing information resources that facilitate the competent and efficient application of digital technologies in education. More specifically, it reflects the concern to meet the training requirements essential for the knowledge society, by stimulating the reflective thinking of all those interested in the development of digital skills, but especially of teachers and students preparing for a teaching career. With a rich experience in educational research, the three authors of the book, members of Babeș-Bolyai University in Cluj-Napoca, coordinated a team that brings together professionals in the field of education, computer science and information technologies, from tertiary and secondary education, in order to put together a dictionary of terms on this topic of major interest for the current period. The heterogeneity of the team of authors, university professors, secondary teachers, computer scientists and master students, creates all the conditions for this dictionary to respond to various needs for the formation of digital skills specific to the educational field.

Structured in two volumes, with a total of 544 pages, the dictionary lists and explains terms in the field of Information and Communication Technology (ICT), in order to provide for the readers a useful tool in understanding the complexity of digital realities. The undeniable value of this book, unlike other previous publications on this topic, is that it provides an overview of specific terminology in a technical field, which in today's society must be mastered by any

participant in the educational process. Respecting the requirements of a well-structured dictionary, but also the criterion of the importance and frequency of terms in the field of ICT, the paper gives a certain amount of space for each letter of the alphabet. In this space, in addition to the scientific definition and explanation of the concepts, are presented their computer, pedagogical, psychological, sociological or economic implications and some bibliographic references to deepen the issues reflected by the terms. Another merit of the dictionary is that the translations of the English language concepts (that have entered in Romanian language) was provided. Thus, the user of the dictionary can gain flexibility in understanding the way that various electronic devices can be used. The authors also present interrelationships of concepts, which allow the understanding of the principles and mechanisms of operation of systems as a whole and, at the end of the volumes, list and explain the most commonly used symbols in the field of ICT.

To develop the specialized language of teachers and for those preparing for a career in education, the authors proposed a selection of concepts and phrases applicable to education, considering the two meanings of ICT: a more general one, which refers to the search, the processing, storage and transmission of information and the other, which defines the principles, strategies, rules and operations required in communication. In a rough summary, we can say that the dictionary covers several areas of ICT terminology, among which we mention the most important for the field of education:

- General terms that describe the process of digitization of education systems: e.g. Online / Virtual Education, E-learning, M-learning, U-learning, Learning Management System (LMS), Synchronous / Asynchronous, Blended learning, Deep Learning, Computer Based Education (CBE), Computer Enriched Instruction (CEI), Life wide Learning (LWL), Computer Assisted Instruction (CAI), Web Based Learning (WBL) Distributed Learning (DL), Artificial Intelligence (AI), Distance Learning (DL), Virtual Learning Environment (VLE) etc.;
- Technical aspects of the architecture of computers or other computing devices: eg, Hard Disk (HDD), Sound card, Video card, Compact Disc Read-Only Memory (CD-ROM), Device, Head-Up Display (HUD), 3D Printer, Microprocessor, micro USB etc.;
- Information related to operating systems, applications, software for educational activities: e.g., Free software, Microsoft Office, Software Package, Google Workspace / G Suite, Parental control software, Google Forms, Microsoft Forms, Educational Robot, etc.;
- Information and communication networks, web pages, e-mail: e.g. Internet, Internet Explorer, Social network, Website, Home page, Blog, Hyperlink, Address bar, IP address, Mail server, Instant Messaging, Web address, Web browser, Web hosting, Local, Web of Science (WoS), World Wide Web, Local Area Network (LAN) etc.;
- E-learning platform: Modular Object-Oriented Dynamic Learning Environment (Moodle), Cisco Webex, Microsoft Team, Zoom etc.;
- Elements of pedagogy and information teaching (teaching models, methods, means / materials / tools, forms of organizing teaching-learning-assessment activities using ICT): e.g., Science, Technology, Reading, Engineering, Arts and Mathematics (STREAM) E- teaching, Computer Assisted Design (CAD), Digital Curriculum, E-assessment, Computer Assisted Assessment, E-portfolio, Digital worksheet, Gamification, Didactic algorithm, Didactic animation, Interactive Whiteboard (IWB), Digital poster, Web-based seminar etc.;
- Psychosocial aspects of ICT: Avatar, Online educational forum, Online communication, Cyberbullying, Chat Room, Virtual learning community etc.;
- Information on procedures, operations, tools: e.g., Upload, Reload, Recording, Drop-down menu, Pop-up menu, Web Authoring Tool (WAT), Hypertext Markup Language (HTML), File Transfer Protocol (FTP) etc.;
- Digital tools with a role in assisting and supporting users: e.g., Intelligent Personal Assistant (IPA), Intelligent Virtual Assistant (IVA), Frequently Asked Questions (FAQ), etc.;
- Data security issues in the virtual environment: e.g., Antivirus Software, Malware, Backdoor, HTTP Cookie, Backup, Hacker, Phishing, etc.;
- Ways and virtual spaces for storing information: Virtual Library, E-book, E-Journals, Database, Podcast, Data compression, Open Educational Resources (OER), Roshal Archive (RAR), ZIP etc.;
- ICT skills, abilities and behaviors: Digital literacy, Media literacy, Digital behavior
- Health aspects of ICT users: e.g., Internet addiction, digital dementia, technology phobia, cyberhondria, computer rage, etc.;

- Agencies, organizations, institutions with a role in creating innovative technologies: e.g., the Romanian Digitization Authority, Defense Advanced Research Projects Agency (DARPA), Wikimedia Foundation (abbreviated WMF)
- Multinational companies offering digital products and services: e.g., Google, Google LLC, Microsoft, Advanced Micro Devices Inc, Bitdefender S.R.L., Intel Corporation, etc.

The dictionary *Information and Communication Technology in Education* appeared in a context in which the need to train the digital skills of all those involved in the education system was more aware than ever. If by the beginning of the pandemic period, ICTs were already integrated into universities and schools, being more or less used by teachers, the global introduction of online education in the last two years has created a greater pressure to know and master this field. In these conditions, the book is a guide that includes the main conceptual landmarks of the field of information and communication technologies, focusing on those elements applicable in educational activities. In addition, it offers to the reader eager to deepen information in ICT field, specialized bibliographic references, recently published and carefully selected by competent authors in this field. In conclusion, a much-needed and useful dictionary that could became in a short time, one of the most valuable tools for those interested in the topic.

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