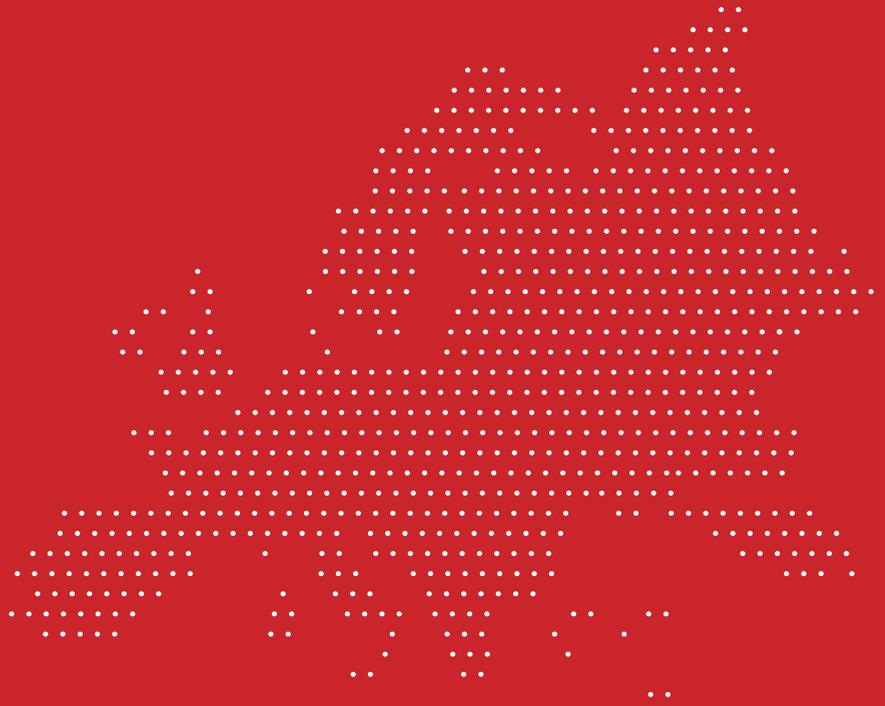


Helen Drenoyianni
Lampros K. Stergioulas (Eds.)



pursuing digital literacy in the 21st century

Reconstructing the School to provide Digital Literacy for All



Abstract Proceedings

International Conference on Digital Literacy

17th & 18th November 2008

<http://e-start.brunel.ac.uk/conference.aspx>

Brunel University

United Kingdom

welcome to the conference

Dear Participants,

On behalf of the e-START and IFIP SIG 3.9 communities, it is our pleasure to welcome you to our 1st International Conference on Digital Literacy. The aim of the conference is to give a voice to a distinguished, and also differentiated, body of educators, to share knowledge and experience and to initiate dialogue about and around the intricate area of digital literacy in compulsory education.

However, the conference aims to do more than simply contribute to knowledge and offer networking opportunities. In the last two decades, advances in Information and Communication Technologies have been continuously raising society's expectations from the so-perceived transformative wave of the emerging "Knowledge Society", an ideological construct that carries a promise for a better future, and places knowledge, and alongside it education, in the driver seat of humanity.

Yet, by the end of 2008 the world has been hit by the most severe economic and by extension social and political crisis for more than half a century, with rising unemployment and social welfare under threat. The view of an ever-prospering society riding the ICT/"Knowledge" wave has now to face a sudden reality check, forcing reconsideration of individualism and its consequences of cynicism and greed. Similarly to other crises in history, it is now likely that people will attempt to rediscover their values and visions and to reinstate "their hope for a better future". Just like other defining historical moments, the year 2008 might be marked by the unique opportunity it offers for ushering in a period of radical economical and societal transformations.

It is within this context of the universal desire to reinstate and reposition our hope for a better future and hence to promote a transformative vision of education, that the aims, the themes, and the methodology of this conference lie. Digital technology and digital media are inevitably and inextricably part of our future, a future which is literally defined by the way we educate our children. As such, the aim to provide "digital literacy for all" depends upon the re-construction of the school. Nevertheless, in pursuing this aim, there are two different, somehow contradictory, perspectives to choose from and two different potential directions to take - just like the choice between the two sides of a coin, the South vs. the North, or the East vs. the West. It is up to you to discover and confront them in relation to your own ideology, philosophy and perspective towards education.

Enjoy the Conference

Helen Drenoyianni & Lampros Stergioulas

<http://www.estart-net.org>



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international conference on digital Literacy

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Pursuing Digital Literacy in the 21st Century - Reconstructing the School to provide Digital Literacy for All

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- Katherine Maillat (Institut National des Télécommunications, France)
- Gudynas Pranas (Education Development Centre Lithuania)

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The e-START Digital Literacy Network



The e-START Digital Literacy Network is an EU-funded project (e-START Digital Literacy Network, Contract No: 2006-4530/001-001 ELE ELEB11) concerned with the establishment of an EU-wide network of experts and key stakeholders, which will provide a communication base for understanding, supporting and promoting Digital Literacy in Primary & Lower Secondary Education (K-9) across the EU. The work of e-START will help formulate a viable, feasible, efficient and effective educational policy and strategy towards the development of digital literacy in Primary & Lower Secondary (K-9) Education that would address successfully the differentiated needs, interests and aspirations of different groups of students, teachers and parents.

Main Objectives

- To build and offer a range of sustainable and high-quality information and other services on the concept, the status and the development of Digital Literacy in Primary and Lower Secondary (K-9) Education (e.g. European Observatory, analysis and review services, advisory and consultation services, etc).
- To build consensus towards a "common" curriculum framework for Digital Literacy in Primary and Lower Secondary Education (K-9) across Europe.
- To provide a discussion and policy advice/consultative forum on Teachers' Training needs (both initial/pre-service and continuous/in-service) in order to meet the Digital Literacy challenge.

Approach

To achieve its objectives, it is envisaged that the e-START project will foster participatory, bottom-up approaches for its network development, which could act as a network of networks, involving the establishment of smaller networks and sub-networks of experts and educational key stakeholders with differentiated roles and activities. Furthermore, it is required that the e-START project cultivates multi-faceted mechanisms of knowledge sharing, which may enable understanding of the unique "realities" of individual countries with respect to digital literacy, as well as identification of generalisable features of digital literacy and common strategies or roadmaps for its "accomplishment" in primary and lower secondary (K-9) education.

<http://www.estimate-net.org>

(e-START is one of the projects approved by the European Commission in the 2006 Call of the eLearning Programme.)

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Abstract
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Realisation of the Knowledge Society in Europe – the impact of digital technologies

by Brian Holmes

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Brian Holmes is Head of Unit at the Executive Agency established by the European Commission to manage the Community's programmes in education, training, culture and media. He is responsible for the unit dealing with the Comenius, Grundtvig, ICT and Languages actions under the Lifelong Learning Programme. The unit is also managing ongoing actions under the Socrates and eLearning programmes. He has been working on education and training for many years at the Commission. Most recently he was involved with European policy for innovation and lifelong learning, supported by ICT, in DG Education and Culture. For several years he co-ordinated the eLearning Programme and prior to that, he worked for DG Information Society on the IST programme, where he was responsible for state-of-the art research projects addressing e-learning for work.

Brian is a Chartered Engineer and has an MBA from a Paris business school. Until recently he was a tutor with the UK's Open University Business School, for the MBA module on Managing Knowledge, in which he used e-learning support for virtual collaborative work and on-line tutorials. Brian is currently undertaking a PhD on technology enhanced learning with the University of Lancaster in the UK.



Digital literacy: enlightening the dark side of information?

by David Bawden

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Abstract

This presentation will briefly review some of the 'pathologies' of information, including information overload, information anxiety, information avoidance, infobesity, inability to assimilate knowledge at a deep level, and the poor use of the 'satisficing' principle. Paradoxically, these seem to be made worse by the success, and the increasing capacity and availability, of systems for communicating and providing information in many formats and media. These may have the effect of leaving us paralysed by the 'paradox of choice'. They have even led some commentators to suggest that they may cause the end of our present form of civilisation.

After examining the reality of some of these issues, I will consider to what extent digital literacy - which I understand as a framework of understanding, skills and competences, and perspectives, with meaning and context at its centre - may assist in overcoming them.

Keywords

Digital literacy, information overload, information anxiety, satisficing, paradox of choice.



David Bawden is Professor of Information Science in the Centre for Information Science at City University London, and has a long-standing interest in information and digital literacies.



Changing the policy paradigm for the promotion of digital and media literacy. The European challenge

by Laura Cervi and José Manuel Pérez Tornero

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Abstract

Two recent studies done by our research group show that the policy paradigm for the promotion of digital and media literacy is changing. Digital literacy is starting to be considered not only as a purely instrumental and technical knowledge but as a tool with a cultural dimension and an important potential for institutional innovation. This new paradigm goes together with a reinforcement in regulation and protection policies related to children and with an extension of the concept of media education, that is not anymore limited to schools, but gets diffusion by media, civil associations, social movements, etc. All these changes are very slowly affecting the educational curricula of main European countries that accept them with doubts.

Keywords

Media literacy, digital literacy, policy, strategies, paradigm.

José Manuel Pérez Tornero, PhD, is Full Professor of Communication at the Communication Department of the Universitat Autònoma de Barcelona. His research interests are communication and education and Media Literacy.

Laura Cervi, PhD is Associate Professor at the same Department. Her research interests are the relation between new technologies and new forms of participation. She works in Prof. Tornero's research group in Media Literacy.



Digital Literacy in a Knowledge Society

by Bernard Cornu

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Abstract

Digital Literacy is a major issue in a Digital Society. But digital technologies, information and communication technologies, lead us towards an information society and a knowledge society. In such a society, digital literacy is not only a technological issue. It is a condition for a real inclusion in the society, for accessing education and acquiring the new competences which are necessary in the society, it is a condition for being a citizen of a knowledge society. Digital literacy includes the core components of a knowledge society: understanding and taking part in the networked society, taking part in collective intelligence, taking part in lifelong learning.

Keywords

Digital literacy, communication & cooperation, process of globalization, transmission of knowledge.



Bernard Cornu is a Professor at "University Joseph Fourier", Grenoble, France, and presently acts as the Director of Training Programmes at CNED (National Centre for Distance Education, Poitiers-Futuroscope, France), and the Director of CNED-EIFAD, the Open and Distance Learning Institute. He has been for ten years (1990-2000) the Director of the IUFM (University Institute for Teacher Education) of Grenoble, France, then (2000-2002) an Advisor for Teacher Education at the French Ministry of Education.

As a member of IFIP (International Federation for Information Processing), he is the Chairman of the Special Interest Group on Digital Literacy (SIG 3.9) and the Secretary of the IFIP-TC3 (Technical Committee for Education).

Bernard Cornu is a Member of the French National Commission for UNESCO. Vice-chair of the Governing Board of the IITE (Institute for Information Technologies and Education), the UNESCO Institute in Moscow, he worked on the design of educational policies integrating information and communication technologies, and led several Seminars on this topic with Ministers of Education from different countries.

Bernard Cornu is one of the co-authors of the Common European Principles for Teachers Competences and Qualifications.



Web 2.0 and the digital divide – what can Facebook and YouTube contribute?

by Joe Cullen

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Abstract

There has been a growing interest in the opportunities provided by Web 2.0 systems and tools to promote more widespread accessibility to the Knowledge Society for more people – especially 'hard to reach' and 'excluded' groups. Drawing on extensive research both recently completed and ongoing, this paper will critically review these claims.

Keywords

Web 2.0, social networking, e-inclusion, digital literacy.

Joe Cullen is Director of Arcola Research, London; a member of the Board of the MENON Network, Brussels and Principal Associate of the Tavistock Institute, London.



Digital literacies and schooling – knowledge practices in transition

by Ola Erstad

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Abstract

Digital literacy, or literacies, relates both to changes in the ways we learn and relate to information, and to challenges of competencies needed to be a citizen in digital societies. Such literacies are specified by the social practices that people are involved in using digital media in different ways. Such literacies are both building on older literacies, but also representing something new, related to cultural complexities in the ways we live our lives.

In this presentation the focus will be on how digital literacies fundamentally challenge the institutional practices of schooling. For more than ten years there has been a focus on access to computers and the Internet in schools, without seeing much change in educational practices.

Three themes will be elaborated. First, there is a need to understand digital literacy in a historic perspective, seeing learning and human development as a mediation between cultural tools and knowledge building. Second, the social practices of using digital media are framed within local literacies, and as an intersection between formal and informal ways of learning. Third, there is a need to become clearer in what is actually new in the way we use digital media compared to older media.

Keywords

Digital literacies, knowledge transition, remixing, school.



Ola Erstad is Professor at the Department for Educational Research, University of Oslo, Norway. He has been working both within the fields of media and educational research. He has published on issues of technology and education, especially on 'media literacy' and 'digital competence'. From 1998 until 2005 he was Head of Research at a national centre on ICT research in education, leading large-scale innovation projects in Norwegian schools working on different levels of school development using digital technologies. He is leader of a research group at the Faculty of Education, Oslo, called 'TransActions-learning, knowing and identity in the information society'. Among recent publications is an article on 'Trajectories of remixing - digital literacies, media production and schooling' in 'Digital Literacies' by C. Lankshear & M. Knobel (2008, Peter Lang), and two articles in 'Digital storytelling, mediatized stories – self-representations in new media' by K. Lundby (2008, Peter Lang).

What futures for 'digital literacy' in the context of long-term socio-technical change?

by Keri Facer

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Abstract

This paper draws on a major two year futures research programme which aims to build a set of long term scenarios for education in the context of socio-technical change. This programme, called 'Beyond Current Horizons' and funded by the UK's Department for Children, Schools and Families, is attempting to map out the diverse ways in which technological and scientific developments might interact with socio-cultural factors to create radically divergent learning, working and social futures. Building on desk research, consultation and creative experimentation, the programme is interrogating how concepts as diverse as 'knowledge, communication, creativity, family, working, learning' might evolve over the coming 15-20 years.

This longer term perspective raises a set of generative questions for future developments in 'digital literacy'. It requires us to explore whether a discrete concept of 'digital literacy' will continue to be valid in future; it demands an examination of the relationship between generations and digital literacies; it allows an exploration of whether 'digital' and 'biological' literacies may soon need to be more closely interconnected. This paper is intended to raise a set of generative questions to assist educators and researchers explore productive areas of future research and experimentation in this field.

Keywords

Futures, literacy, democracy.



Keri Facer is Professor of Education at the Education and Social Research Institute, Manchester Metropolitan University where she specialises in informal learning, educational futures and the role of digital technologies in learning. Since 2007 Keri has led the DCSF 'Beyond Current Horizons' project, a 2 year strategic futures programme designed to enhance the capacity of UK education to understand and respond to potential developments in science, technology and society over the next 15-20 years. From 2001 to 2008, Keri was Research Director at Futurelab, the not-for-profit 'think lab' for innovation in education, where she was instrumental in establishing and leading the R&D team responsible for developing internationally recognised experimental technology enhanced learning environments and practical interventions to model the future of education.

Keri's previous research includes projects such as Savannah, a mixed reality environment overlaying a virtual savannah onto a school playing field to explore the potential of mixed reality gaming in education; Enquiring Minds, a three year investigation of what is required to really develop negotiated curricula in schools through learner-led enquiry based learning in schools; ScreenPlay, a two year study of children's use of digital technologies in the home; the DFES Evaluation of the National Grid for Learning; and a wide range of advisory and consultancy roles for DCSF, BECTA, DCMS, Electronic Arts and others. She has published widely in the field of children's digital cultures including the book 'ScreenPlay: Children's use of computers in the home' (2003) and papers on issues from digital divides, to mobile learning. Keri's personal interests relate to questions of social justice, sustainability and children's rights.

An alternative perspective on curriculum planning

by Georgios Grollios

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Abstract

This paper is concerned with an analysis of the main perspectives on curriculum planning, which contributed to the formation of the field of curriculum studies in the USA. This analysis becomes the basis for discussing certain positions of an alternative perspective on curriculum planning that is differentiated from those perspectives that dominated the field. Such a perspective may be important for the development of an alternative approach towards the pursuit of digital literacy that could be responsive to issues and concerns related to the reproduction of social inequalities, power relations, and dominant ideology.

Keywords

Curriculum planning, literacy, democracy, students' culture.

Georgios Grollios was born in Thessaloniki, Greece and he is currently an Assistant Professor at the Department of Primary Education, Aristotle University of Thessaloniki. He studied pedagogy and obtained his Phd degree at the same Department. He is the author and co-author of four books concerned with: a) the European Commission programs and initiatives for education, b) the scientific activity of Greek teachers, c) an adult literacy research programme based on Paulo Freire's pedagogy, and d) the Paulo Freire's perspective on curriculum planning. Furthermore, he is the author and co-author of more than 45 scientific articles on Pedagogy and Curriculum, published in Greek and international journals and edited volumes.



What makes a digital literacy measure successful?

by Kari Hadjivassiliou and Kerstin Junge

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Abstract

Member states are implementing a wide range of digital literacy measures aimed at an increasingly diverse audience. However, not all are equally well designed and successful. Indeed, we would argue that unless measures are grounded in the social and economic realities of the individual and the locality, improving skills is more a 'tinkering with symptoms' of digital exclusion (and economic inactivity) rather than addressing its root causes. We aim to illustrate the need for such social and cultural embeddedness of digital literacy measures by drawing on projects from across the EU that we reviewed as part of our EU-funded study on e-Inclusion and other work we have been doing in this area. Using a grounded project-based and contingency approach we aim to illustrate which factors and under which circumstances are likely to contribute to the success of digital literacy policies and related measures.

Keywords

Socially and culturally embedded approaches to Digital literacy; contingency approach to digital literacy and e-Inclusion; diversity of needs and target groups; examples of projects from across the EU; factors contributing to successful implementation of digital literacy initiatives.



Kari P Hadjivassiliou is a Principal Researcher/Consultant at the Tavistock Institute. Kari obtained her MSc in Industrial Relations and Personnel Management in 1987 at the London School of Economics and Political Science (LSE) and her background is in human resource management. Since joining the Tavistock in 1997 her work has focused mainly on research and evaluation in research and innovation, the information society, eGovernment, social and digital inclusion, public sector innovation and partnership working. From 2001 to 2003 Kari was on secondment to the European Commission where she worked in the eTEN Unit of DG Information Society and specialised in the areas of e-Inclusion and e-Learning. After she came back at the Institute, Kari's work included COMPETENT (Competence Evaluation Trans-European Networks), an EU-funded project that aims to roll out a skills development network and associated services for European employers, public employment services and cross-border agencies and the evaluation of Open Method of Co-ordination within the context of eEurope/information society (again funded by the European Commission). Between 2003 and 2006, Kari was lead evaluator in conducting the evaluation of the European Commission's Community Programme to combat social exclusion. She has recently finished managing a European Commission sponsored study about the state-of-play regarding digital inclusion in the EU. She was also a member of the team who are looking at citizen-centric eGovernment solutions across the EU as part of a project commissioned by DG INFSO. She is currently involved in the formative evaluation of the Virtual Research Environments Programme within the research and academic community in the UK.



Kerstin Junge is a Senior Researcher and Consultant at the Tavistock Institute. Her work focuses on pan-European as well as UK national evaluations and studies in the social policy domain. Drawing on political science theories as well as traditional Tavistock socio-technical systems thinking, she applies qualitative and comparative methods to develop a solid evidence base which supports the decision-making of policy makers and programme managers. Kerstin has a particular interest in questions relating to the Information Society and the social use of technology and has carried out work in these areas for both EU and UK clients. Current and recent assignments in this area have focused on responses by European governments to the issues of digital inclusion and citizen-centric eGovernment as well as support for the development of Virtual Research Environments by the UK Higher Education Community. Kerstin's background is in European Studies where she completed a PhD exploring the impact of differentiation on the process of European integration.

Digital Literacy: Different Cultures Different Understanding

by Ellen Helsper

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Abstract

This presentation will critically reflect on the current definitions of digital literacy and their application in empirical research. Current definitions do not reflect the empirical reality in which people from different generations and with different backgrounds live their 'digital lives'. By using World Internet Project data this presentation will illustrate how different European countries show different steps from what can be considered basic to advanced types of engagement with technologies. Different socio-cultural explanations can be given for this variety. The main argument made is that a definition of digital literacy needs to be developed that is applicable in a multicultural context, such as the British education system. Multicultural is in this case also meant to refer to the range of generational as well as cultural contexts of many students. That is, research shows that literacy means something different for younger generations than it does to older generations and that this has implications for the educational resources of the student. A similar argument is applicable to different cultural contexts where digital literacy means something different and has different implications in different socio-cultural groups. The presentation will conclude by arguing that the home context can and should be integrated into formal educators' understandings of students' literacy and the possibilities that these students have to develop digital literacy.

Keywords

Digital literacy, generation, culture, home, contextualisation.



Ellen Helsper is a Survey Research Fellow at the OII responsible for the design, analysis and coordination of the Oxford Internet Surveys (OxIS) and World Internet Project (WIP) Surveys. Further projects that she is involved in at the OII are the 'Me, My Spouse and the Internet' and the 'Online Gambling' studies. Previously Ellen Helsper was a Tutorial Fellow and PhD student at the London School of Economics and Political Science (LSE). Projects that she has recently been involved in include the UK Children Go Online project about internet use by 9 to 19 year olds for the LSE, a survey about the use of Open Source Software in Higher Educational Institutions for Oxford University, research about the effect of food advertising and R18 (sexual) material on young people for the Office of Communications (UK government) and evaluations of journalism training programs for the BBC.

Teaching Digital Literacy Skills: A Step Towards Digital Inclusion?

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Abstract

It is now generally acknowledged that there is no simple digital divide between 'have' and 'have-nots' and that remedies cannot focus exclusively on access and connectivity. However, different initiatives in the UK have often had a limited success, particularly in terms of engaging socially excluded groups and increasing their digital literacy skills.

In this presentation I place the discussion of digital literacy within wider concerns of digital exclusion and inclusion. I report on findings from the Penceil Project, which explored experiences and aspirations of non and minimal users of Information and Communication Technology (ICT), potential effects of digital exclusion and ways of addressing it.

In presenting ways of responding to digital exclusion I focus on different aspects of digital literacy and how we can help people to acquire it. I argue that initiatives aiming to facilitate people's sustainable and meaningful to them use of ICT should draw on individual's and community's resources and particular skills. For a curriculum to have an emancipatory potential it should incorporate various digital literacy skills, including using the Internet for consumption, civic engagement, communication and self expression, and be guided by learners' experiences and their expressions of their needs. The focus should be on understanding rather than merely skill acquisition, which requires discussion-based teaching in addition to group and individual exercises. I present a course syllabus developed for the Penceil project, which aimed to fulfil such goals.

Keywords

Digital exclusion; digital divide; digital literacy.



Ela Klecun is a lecturer in information systems at the London School of Economics and Political Science (LSE). She holds a Ph.D. in information systems from the LSE. Ela's research interests include social exclusion in information society, digital literacy, the implementation, use and evaluation of health information systems, and the application of critical theory and actor-network theory in the IS field. Between 2005-2006 Ela led ESRC funded project - How People Encounter E-Illiteracy And How They Can Take Action To Overcome It (PENCEIL). Currently she is a part of the team evaluating the adoption of the NHS Care Record Service in secondary care. Ela can be reached by e-mail at e.klecun@lse.ac.uk or through her home page at <http://personal.lse.ac.uk/klecun/>

Digital literacy or digital literacy for critical consciousness?

by Anastassios Liambas - Ioannis Kaskaris

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Abstract

The nexus between pedagogy and ICT evokes and triggers a set of complicated theoretical groundwork. These articulations include the corpus to realize emancipation and utopian discourse for both the school and the society. Focusing, thus, on the very notion of education/cultivation and the emergence of the Subject the discussion on digital literacy could be anticipated either as a site to argue towards social and political equality and justice or to be acknowledged as the terrain where the neoliberal restructuration simply amend the norm in order to promote new modes of rhetoric, hence, to conceal the existed contradictions and legitimate the ideological conditions to assimilate educational policies (related to the content of education i.e. curriculum innovation and evaluation, and to an extend to the pedagogic practice) into the dominant formations. The public dialogue on digital literacy could be enhanced within range of the compelling perspective that engages technology, historically, into the realms of the social forces of production (i.e. correlating the forms of culture and knowledge with the relationships of production), the means to contour pedagogic methods, students' meaningful praxis, and broad class and gender themes.

Our paper argues that a critical discourse on digital literacy could be annihilated to the extent that the discourse on digital literacy becomes the ideological vehicle to accommodate the needs of the market and economic antagonism or become the platform to neutralize the possibilities to empower social forces through a technology that acknowledge man's expressiveness, and therefore, be inclined to regulate consensus and uniformity. Furthermore, we argue that if we study ways to integrate digital literacy into schools it would be only within the lines of an emancipatory democratic route where the process towards critical consciousness, creative capacity and epistemological curiosity of the learner would be considered as basic commitments of the school - represented within the historical and the socio-political that encounters education.

Keywords

Pedagogy, critical consciousness, educational policy, digital literacy.

Anastassios Liambas is a Lecturer at the Department of Primary Education, Aristotle University of Thessaloniki. He has studied pedagogy (B.Ed., Ph.D.). Author and co-author in edited volumes, periodicals and journals. His academic interests are in methods and practices in pedagogy, Freire's pedagogy, curriculum, assessment and cultural studies in education.

Ioannis Kaskaris, is a primary school teacher at the public/state education, since 1992, and a researcher. He has studied pedagogy (B.Ed., Dip.Ed., M.Ed.) and sociology (M.Sc.). He is an author and co-author of papers in edited volumes and journals. His academic interests are in critical pedagogy, curriculum and social & political theory.



Real purpose, real audience and real value: researching contributions of digital literacy to learning

by Don Passey

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Abstract

Digital literacy (in the form of capabilities associated with using social networking sites, creating videos, writing reviews accessible to others, or the making of online news, for example) is reported often as being undertaken by pupils outside, rather than inside, schools. It is often access to specific projects within schools that offer opportunities to develop and use digital literacy capabilities that are focused on school-based subject matter, selected for specific educational endeavours and purposes. Empirical studies show that these opportunities can lead to outcomes not just at a subject level (which might be assessed through more traditional tests or examinations), but across a realm of areas including communication and operational skills, group work and teamwork approaches, ownership and independent learning, technical skills, confidence, interest, and the meeting of deadlines (where forms of assessment other than subject tests are clearly needed). Fundamentally, empirical studies report that projects employing digital literacy afford pupils real purpose, audience and value. Researching this realm of outcomes provides real challenges, both in terms of identification of affordances, and identification of levels of affordances arising. This presentation and chapter will consider research approaches adopted, and an evidence base emerging, for wide benefits beyond subject gains alone.

Keywords

Digital literacies and learning, learning affordances, school-based activities, research approaches.



Don Passey is a Senior Research Fellow in the Department of Educational Research at Lancaster University. He has wide experience with developing and using evaluation and research methods to look at technological innovation supporting learning and teaching. He has recently completed studies for the BBC that have focused on aspects of digital literacy, and for Becta that have looked at the potential for technology to support young people 16-18 years of age who are not in employment, education or training. He has worked with government agencies, commercial and non-commercial groups, educational institutions and schools, in undertaking research to inform both policy and practice. He is a member of the International Federation for Information Processing Working Group on Educational Management and ICT, a member of the BCS Schools Expert Panel, and has written widely on aspects of ICT uses in primary and secondary education.



Digital Literacy, Information Literacy and the Internet

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Abstract

It would appear to be a common misconception that much digital literacy, information literacy and the use of the internet can be learnt through osmosis. Fortunately this misconception is becoming less widely held. However, having used Alan November's (<http://Novemberlearning.com>) quiz on information literacy on numerous occasions with audiences ranging from academics concerned with Digital Literacy, to 13 year old students it appears that there is still a lack of knowledge about what may be considered the fundamentals of Internet usage.

We need to teach our students - the need for information, the resources available, how to find information, the need to evaluate information, how to work with information in an ethical and responsible manner, and how to manage communicate and share their information. Furthermore, the Internet is more than a source of information, it is for example a place for "social networking" and as such in schools we need to be concerned with online safety. Obviously schools can implement "walled gardens" to provide a safe environment, and restrict access to internet messenger services and chat rooms. However, these systems can restrict access to perfectly acceptable web sites, and chat rooms etc can be used for educational purposes. Also, we need to educate children to be safe online when away from school.

This paper examines briefly some of the issues related to young peoples' use of the Internet and reviews some of the UK based literature and resources concerned with issues relating to Internet use by young people.

Keywords

Information literacy, internet, e-safety.



Ian Selwood is a Senior Lecturer in ICT in Education in the School of Education at the University of Birmingham. He has worked in the field of ICT since the early 70s, initially as head of Computer Studies in a secondary school, followed by six years as an advisory teacher for IT. Since 1987 he has worked in the School of Education. His research interests are mainly concerned with the use of ICT to support Educational Administration and Management, and the Management of ICT in Schools. His publications reflect these areas of interest but also include other educational applications of ICT. Funded research projects include contributions to the 'TSW Evaluation', 'ICT Testbed baseline study', 'Impact of Broadband on Schools', 'Evaluation of Tablet PC's' and 'Impact 2007'. His current research is concerned with ICT and School Improvement, and ICT and personalised learning. He has recently given keynote addresses in Germany (IT in Educational Management), Switzerland (ICT and School Improvement) and Greece (Information Literacy). He is Editor-in-Chief of 'Education and Information Technologies' and on the editorial board of two other international academic journals.

Re-imagining the school as a 'loose space' for digital technology use

by Neil Selwyn

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Abstract

Much of the controversy surrounding the (non)use of digital technology in schools stems from a fundamental tension between informal nature of many digital practices and the rather more formal aims and activities of educators and educational institutions. Given the undoubted educational potential of digital technologies, it would seem incumbent upon educationalists to seek ways to lessen this gap – seeking ways to encourage and stimulate more extensive, expansive, imaginative and empowering uses of technology by learners and teachers. Whilst many technologists are happy to argue for a de-schooling of society, this paper contends that there is little sense in denying the permanence of the school in late-modern capitalist society. Rather we need to seek to reconcile schooling with the challenges of digital technology, and explore opportunities for a realistic re-imagining of the nature of digital technologies and – where possible - the educational settings that they are used in. Drawing on sociological notions of informality, and urban geographical accounts of the 'loosening-up' of public space, this paper considers a number of opportunities for a sympathetic and sensitive reconfiguration of the notions of 'school', 'teacher', 'assessment' and 'curriculum'.

Keywords

Schools, digital technology, informality, reform, sociology.

Neil Selwyn is sociologist working at the London Knowledge Lab. His research and teaching focuses on the place of digital media in everyday life, and the sociology of technology (non)use in educational settings.



Digital Literacies: concepts, definitions and educational implications

by Melpomeni Tsitouridou and Konstantinos Vryzas

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Abstract

Literacy is a quite ethereal, evolving concept, ever-changing with technology upgrades. Digital literacy as a term is polysem and is used differently by different researchers. Often the term is understood in a purely functional way and is referred to a person's ability to perform tasks effectively in a digital environment. For others, critical thinking rather than technical competence is identified as the core element of digital literacy. In the emergent society of knowledge, digital literacy does not constitute a simple cognitive skill, but a set of social and cultural practices. Digital technologies have enabled transformative change in the nature and the role of both information and knowledge in society. Since they have changed the way we store and retrieve information, we need to rethink teaching and learning practices.

Keywords

Digital literacy, multi-literacies, knowledge society, information literacy.

Melpomeni Tsitouridou is Associate Professor of ICT in Education in the Aristotle University of Thessaloniki-Greece. Her research interests relate to ICT and children and teacher education in ICT.

Konstantinos Vryzas is Professor of Sociology of Mass Media in the Aristotle University of Thessaloniki - Greece. His research interests relate to children and media and the globalisation of communication and cultural identities.



New literacies for the digital generations

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Abstract

Traditional alphabetical competencies include basic operational competencies related to texts, psycho-cognitive competencies related to alphabetic signs, basic reading and writing, basic mathematical and textual comprehension, and socio-communicative competencies. Digital competence include basic operational competencies related to screens and computers, psycho-cognitive competencies related to computer signs, basic computer competence, interactive media and on-line competence, and global socio-communicative competence associated to cyberspace. A rich new interplay of disciplines and schools of thought is possible through such electronic cooperation and interchange. By bringing many minds together through computer networking and conferencing, our "collective intelligence" can be brought to bear in exploring fresh approaches to global issues.

The concept of digital literacy can also be understood as complementary to the concept of media education and even synonymous with media literacy. Digital literacy as media literacy aims to develop both critical understanding of and active participation in the media. Digital and media literacy is about developing people's critical and creative abilities. Using a computer requires diverse and complex previous knowledge. It also introduces the individual and humanity to new contexts, which demands mental, intellectual, profound and complex changes. In essence, digital literacy is a complicated process that consists of acquiring a new tekne, ability of art or craft. Creativity and culture become essential raw materials for the knowledge economy.

Keywords

Digital generation, thinking skills, layers.



Tapio Varis is a professor of Vocational Education, with particular reference to global learning environments at the University of Tampere, Finland, Research Centre for Vocational Education, and UNESCO Chair in global e-Learning with applications to multiple domains. Principal research associate of UNESCO-UNEVOC. Acting President of Global University System (GUS). Former Rector of the University for Peace in Costa Rica. Expert on media and digital literacy to the European Union. Communication and Media Scholar at the University of Helsinki and the University of Art and Design in Helsinki and the University of Lapland, Finland. Published over 200 scientific contributions. Visiting Professor and Lecturer in many countries in Europe, North and South America, and other regions of the world.

discussion
sessions



Discussion Session 1

From digital literacy to digital competence: documents, analyses, suggestions, frameworks

Chairs: Antonio Cartelli and Katherine Maillet

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The discussion will cover the following topics:

- a) The need for a new literacy and the proposals for information literacy, ICT literacy, media literacy and digital literacy. The terms and definitions from CITL (1999), ACRL (2000), Unesco (2002), ETS (2002) are reported and the comparison among them by Tornero (2004) is discussed. At last the analysis by Martin (2006), as a result of the research carried out in the project DigEuLit, is proposed.
- b) The definition of digital competence and its assessment. The challenge of today's society due to complexity and globalization needs deep changes in the traditional way of looking at human thinking and in the meaning of competence, as reported from Morin (1999) and Le Boterf (1994, 2000, 2001). The above ideas are at last applied to digital competence.
- c) The environments for digital literacy and digital competence: school, university and lifelong learning (as an introduction to the following presentations). The documents from the EU (2005), the reports from the Eurydice group (2002, 2005) on teachers' pre-service training and in-service education are reported without forgetting some considerations on today's youth (Net generation) and its skills.



Antonio Cartelli is researcher in Didactics and Special pedagogy. He is lecturer in the Basic Computing Science courses and in the Teaching and learning technologies courses within the Faculty of Humanities at the University of Cassino, Italy. He also manages the Laboratory for Teaching and Learning Technologies in the Department of Human and social sciences and the Centre for ICT and on line teaching in the same Faculty he is employed in. Among his interests are: ICT and knowledge construction and development, Information Systems for research and teaching, Web Technologies in teaching-learning research and their everyday application for the improvement of teaching and learning. He is author of many papers in conferences' proceedings, journals and books on the themes he is interested in, the most recent books he published are the ones by IGI Global, Hershey (PA): *Teaching in the Knowledge Society: New instruments and Skills for Teachers* (2006) and *Encyclopedia of Information Communication Technology* (2008), the last one together with M. Palma.

Katherine Maillet has twenty years of professional experience in teaching and research: authoring distance learning courses, "virtual student mobility", curriculum design, administration, project management, consulting, publishing research results. She was head of the foreign language department at INT for 10 years during which she was responsible for designing, implementing, and directing the foreign language curriculum, learning facilities, and its associated educational and administrative operations. Since 1991 she has been involved in the capacity of researcher, consultant, and project manager in numerous national, international, and EU funded IST, eLearning, and Tempus projects including: the Multimedia Teleschool, LEVERAGE, UNIVERSAL, PROLEARN, EduXchange, InnoUniLearning, EducaNext, the creation of the eLearning Center at the Cairo University, and the trans-Atlantic CULTRA collaboration project.

Digital competence assessment: frameworks for instruments and processes to be used by students and teachers

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Abstract

It is first reported the framework for digital competence assessment, developed under the grant for the Italian national research project "Internet and school: problems with the access, equal policy and management of information". A series of instruments for digital competence assessment have been hypothesized together with that model and, some among them have been already developed, tested and implemented online, to be used from students and teachers at school. It is then showed the reference model for the iDCA (instant Digital Competence Assessment) questionnaire which is already available on the Internet and, the results from the submission of a paper version of the questionnaire to a sample of students and the results from its online version are soon after discussed. A framework for the activities to be developed at the different school levels, to help teachers in creating and adopting the right instruments for the development of digital competences is then reported. The framework is partially developed by starting from the results until now obtained from the analysis of the students' answers to the iDCA, and partially built upon the experiences which have been carried out at the Faculty of Humanities in the University of Cassino, both on the students attending the graduating courses and the teachers involved in national projects on the introduction of technology at school.

The experiences which will be discussed concern:

- a) Students' integration of basic computing skills with more general digital competences;
- b) Teachers' involvement in the creation of communities of practices working on information systems for the management of teaching-learning processes,
- c) Teachers' participation in a national project for the creation of learning objects and the introduction of ICT in everyday teaching.

Keywords

Digital literacy, digital competence, assessment, information system, socio-technology.



Teacher Education through a virtual learning environment called PLANETA ROODA

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Abstract

The present paper discusses the PLANETA ROODA, a Virtual Learning Environment for collective work with children and professors, centred on the user in the sidereal space, as well as the first experience in Teachers' Education. For its implementation, we analyzed different Virtual Learning Environments and young-children sites and performed interviews with professors and students of children and Children Education. We based our work on Jean Piaget's theory, which provides the basic foundations for the environment, where knowledge is developed from the interaction of the subject with the physical and social environment. Within this framework, the approach of the project's functionalities in the PLANETA ROODA point out to the interaction between the users, the sharing of files and productions and finally to management of different groups of students. In this paper, the formative course for Teachers aiming to use the environment of PLANETA ROODA is emphasized.

Keywords

Virtual learning environment, teacher education, digital literacy, children, free software.



Patricia Behar - Master's and Ph.D. of Computer Science at the Federal University of Rio Grande do Sul. Currently is Professor at the Education School and the Post Graduation Programs in Education and Computer Science in Education at the Federal University of Rio Grande do Sul. Coordinator of the Digital Technology Nucleus in Education (NUTED) and member of the Interdisciplinary Center for Education New Technologies. Has experience in Distance Education, learning virtual environments, learners and lifelong learning, role of teachers in e-learning.



A Digital Literacy Proposal in higher education: the UOC case

by Montse Guitert and Teresa Romeu

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Abstract

Since UOC origins, ICT were integrated to UOC educational activity. Also, a specific subject of this university on digital literacy was created which has been evolving in agreement with the necessities of students. It is by now a Digital Literacy subject that currently works the basic competences in ICT and it is inspired by the declaration of Bologna.

This competence in the subject favouring a network methodology: to search, to locate and to recover information in the network, to treat and to elaborate the digital information, to present and to disseminate the digital information, to acquire network social communication strategies, to dominate the basic functions of digital technology, to plan and to manage a virtual project, to acquire a critical and civic capacity in the use of the ICT in the professional environment and to acquire abilities to work in teams in a network.

Keywords

Digital literacy, ICT competences, higher education.



Montse Guitert is a lecturer in the Universitat Oberta de Catalunya (UOC), since 1995. Current Director of the Digital Literacy area, that has a compulsory and cross-curricular subject in all degrees, on the ICT competences with 70 teachers and 5000 students per semester. Lecturer in PhD on the Information and Knowledge Society, in Master in Education and ICTs, and in Master in Free and Open Source Software Technology.



Teresa Romeu is a lecturer also in the Digital Literacy area and in the Master in Education and ICTs.



Discussion Session 2

Digital Literacy: Perspectives of national policies and national curricula

Chairs: Pranas Gudynas and Valentina Dagiene

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According to many researchers, digital literacy can be described as a multidimensional concept. We could mention such components as computer literacy, ICT literacy, technology fluency, media literacy, problem solving in ICT environments, information literacy and information problem solving, sharing knowledge using ICT, cooperation in a networked community of learning, etc.

These components should be partly involved in school curricula and start to be taught at the very beginning, in primary school. They should also be linked to the dynamics of the knowledge society, should last all life long.

In this workshop we have 5 presentations focused on digital literacy education in connection with national curricula in different countries: Finland, Lithuania, Poland, Sweden.



Pranas Gudynas was born in 1950 in Vilnius, Lithuania. Graduate (1973) from the Vilnius University, applied mathematics specialty. Doctoral degree (1978) in the field of probability theory and statistics. From 1973 to 1996, researcher and lecturer. From 1996 Director of Education Development Centre, whose functions are curriculum development and implementation. Author (or co-author) of different studies, strategies, conceptual documents in the area of primary and secondary education.



Valentina Dagiene is Head of the Department of Informatics Methodology at the Institute of Mathematics and Informatics and Professor at the Vilnius University, Lithuania. She got PhD in Mathematics from Vytautas Magnus University (1995), and received there the degree of Doctor Habilus in Social Science, Education (2005). She has published over 100 scientific papers and the same number of methodical works, more than 50 books in the field of informatics. She is engaged in teaching programming, localization of software, and e-learning. She is member of the European Logo Scientific Committee, representative of TC3 for Education of IFIP.



National Curricula and Pilot Projects to pursue Digital Literacy in Lithuania

by Pranas Gudynas

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Abstract

Ministry of Education and Science takes measures to improve digital literacy of pupils. From year 2007 teaching of partially integrated course of informatics starts from in the 6 grade. Preparatory work has been done for the extensive use of computers for teaching and learning in primary school. Pilot projects are underway to: improve computer based teaching methods; train teachers to use ICT effectively for teaching and learning and to apply innovative teaching methods; produce attractive and efficient learning objects; help schools implement their ICT plans. Understanding, that teachers play very important role in developing pupils' digital literacy, the plans are approved to computerize all teachers' work places and enable teachers to use computers filling in documentation and preparing lessons.

Born in 1950 in Vilnius, Lithuania. Graduate (1973) from the Vilnius University, applied mathematics specialty. Doctoral degree (1978) in the field of probability theory and statistics. From 1973 to 1996 researcher and lecture. From 1996 director of Education Development Centre, whose functions are curriculum development and implementation. Author (or co-author) of different studies, strategies, conceptual documents in the area of primary and secondary education.

Keywords

Digital literacy, curricula, projects, Lithuania.



Digital literacy in Swedish schools: more technology than pedagogy

by Lena Olsson

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Abstract

Sweden had an early start in providing computers for schools already during the 1980's. Large investments in machinery and policymaking during the 1990's did then not have the great impact which was expected, mainly due to the lack of pedagogical application. All Swedish schools now use computers for teaching and have internet access, most of them (89%) via broadband connection. Databases with learning objects on open access platforms have been made available to teachers. The discussion on digital literacy is however mainly conducted in research departments and grant foundations. There is a clear divide between politicians and researchers - the political idea of the task of school, which has a lot to do with how to measure knowledge in a limited way, a textbook culture which rewards traditional subject knowledge with traditional tests. The researchers' idea is more in harmony with the EC definitions of digital literacies and abilities. They mean that ICT has solved the information problem but the knowledge problem remains. Pupils should still learn how to value relevant and important information and reflect on it. Research on ICT and learning has notably contributed to the understanding of digital literacy.

In comparison with other Scandinavian countries i.e. Norway, the pursuit of digital literacy in Swedish compulsory education still remains weak. In Norway digital literacy is included in the National curriculum. At this time here is no political proposal for a National strategy on digital literacy in Sweden. However the Swedish National Agency for Education was inspired by the EC definitions to apply digital literacies within four areas and revise course plans in Swedish schools on all levels accordingly. Another attempt is the addition to the Committee for Teacher Training to take into account digital literacies as vital competencies. There are further efforts within separate schools/school regions and teacher education programs to build better conditions for digital literacy i. e. the Classroom of the Future.

Keywords

Computer use, national strategies, research on ICT and learning, teacher training, learning objects databases, classroom of the future.



Lena Olsson is the Director of a Learning Resources Centre mainly supporting the teacher education faculty and students at Stockholm University. She has worked in several management positions in university libraries and was managing information and ICT services at the Swedish National Government. She was early on involved in information literacy education at Swedish universities. She has a PhD in the interdisciplinary field of Technology and Social change. Her research has been directed towards ICT development issues concerning library systems and digital encyclopedias as well as ICT user studies. Lately her research concerns learning environments and digital literacies. She is active in various national and international networks within the library field (IFLA, International Federation of Library Associations) and ICT education field (IFIP International Federation for Information Processes). She is further active in the development of ICT in Swedish schools. She is now participating in the 6-year LIKA-project for developing the competence of teacher trainers using ICT. She works within a National project on Open Educational Resources for Swedish Universities and is the Swedish partner in the EU ShareTEC project providing digital educational resources for teacher education. She is an expert evaluator of EU ICT projects.

Shifts of National Policy on ICT implementation

by Vainas Brazdeikis and Mantas Masaitis

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Abstract

Schools computerization campaign started in Lithuania twenty years ago. Today changes in technology and curriculum require rethinking processes of ICT implementation in Lithuanian schools. The goal of research is to ground main changes of process of computerizing Lithuanian schools, especially in digital competences of teachers and students.

As methodological background are used scientist framework (model) which compares ICT implementation in education and the change of the pedagogical system. When analyzing changes in the pedagogical system through ICT implementation, one can also observe the change of other pedagogical elements in the system.

The article examines the development of schools computerization in Lithuania. It draws on the information presented in various recent publications of Lithuanian scientists working in the field of ICT implementation, statistical data accumulated in the Centre of Information Technologies for Education, operating under the Ministry of Education and Science and data received from international research SITES 2006.

Analysis of data showed that Lithuania education is still on teaching paradigm more than learning, although one of the goals of ICT implementation is to catalyze changes from teaching to learning. Some elements of pedagogical system achieved good results (for example: student ICT competence, infrastructure), some need to improve (for example: teacher ICT competence (education), but in general teachers are used ICT to enrich traditional education process, mostly. A lot of work related to the ICT implementation still awaits Lithuania, in particular, due to ever newly arising challenges: greater use of students' home computers in education, globalization factors in education, harmonization of national and international content, localisation of global content and its adjustment to local needs.

Schools computerization plays a vital role in the development of pedagogic. Given the necessity to consolidate and further develop the results, it becomes pressing for Lithuania to coordinate general educational goals and the education reform with ICT implementation processes in schools and to use these processes as main catalysts of change in the educational system. Recommendation from the research took attention on teachers ICT competence, especially on management level, on creation of interactive learning environment with digital content in networks, on organization project activities with special attention to collaboration between all parts of pedagogical process.

Keywords

ICT implementation, ICT competence.

Digital Literacy in Lifelong Learning: the Polish Context

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Abstract

The last decades have been a period of the greatest changes in history. Experts share the opinion that their main cause should be identified with very dynamic development of information and communication technologies. Easy, via the Internet, access to unlimited source of information and electronic forms of communication and cooperation make a human independent from place and time, stimulating the development of economy and provoking successive processes of globalization. In the contemporary world, effective acquisition, processing and transmission of knowledge are becoming the basis for the functioning of both an individual and the whole societies, which means that information competence is gaining priority meaning. The competences take into account used until now sources and means of operating with information and they place emphasis on knowledge and skills of effective use of digital tools. The digital literacy has just become an integral element of the basic social competence, which determines any activity of a modern human: private, social but above all professional.

Keywords

Digital literacy, lifelong learning, ICT in education, information competence, key competence.



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Experiences about the two step curriculum system implementation to general education in Finland

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Abstract

The Finnish National Board of Education (NBE) is the national authority to decide about the national curriculum in Finland. NBE has been organizing a comprehensive national curriculum reform approximately every ten years during several decades. One of the main changes that took place in the 1994 reform was the two step national curriculum reform. The procedure was repeated in the 2004 reform as well. The key concept in the reform is to give the schools both freedom and responsibility to write and implement a local curriculum based on the national framework curriculum from the NBE. One of the main expected results of this approach is to improve the school administration emphasizing dynamic school leadership instead of an apparently stagnant traditional school management. The teachers are expected to adopt innovative pedagogical methods and increase their motivation and commitment. The final result will expectedly be better learning results. NBE has done a number of evaluations about the implementation of the National Curriculum Framework, and in my presentation I will highlight some of findings of those evaluations.

Keywords

Finland, curriculum, curriculum framework, evaluation, leadership.



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Director during 18 years (1987-2004) of The Geneva Educational Technology Centre (CPTIC), a Service of the Geneva State Education Department (DIP), he achieved the cursus "Organization and human resource management" as decision maker of the State de Genève. Since 1969, he introduced information and communication technologies (ICT) into the schools. From 1st of October 2004, he is serving as Head of Educational Prospective Department at the Direction of a new Institution named SEM (Service Ecoles – Medias).

On the national level, he set up and chaired during 20 years the Swiss group of coordination for ICT, organizing more than one hundred of teacher training education courses for the Swiss teachers and more than one dozen of national symposia. Currently he is expert for the Swiss ICT in Education Task Force.

Member of SI, SISR and SARIT, he is at the SI, SISR, SSAB, and ICT Switzerland Executive Committees. Since 2001 he is individual member of SATW and member of the Scientific Advisory Board of the Swiss Academy of Engineering Sciences (SATW). Since 2002, he has been Chairman of the SATW ICT Committee.

Acting expert and Swiss representative in organizations such as IFIP (TC-3 and GA), OECD, UNESCO, etc, for more than 20 years, he is currently special consultant of the TC-3 (education and ICT) of the IFIP (International Federation for Information Processing) and has contributed since 1981 to the scientific organization of many meetings and international conferences.

In the research field, he led, as Swiss partner, since 1989 several projects within the framework of the European R & D programs (Delta I and II, SOCRATES, etc). He is advisor member for EENet (The European Experts' Network for educational technology) and Vice-president of the World Digital Solidarity Agency in Lyon.

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