Software Strategies for Retooling the Workforce

*Professor **Tapio Varis***

UNESCO Chair in Global e-Learning

University of Tampere, Finland

Keynote at the National Software Conference Organised by ISPON - 22 October, 2013 at the Tinapa Knowledge Centre, Calabar, Cross River State, Federal republic of Nigeria.

PROF. ALFRED OPUBOR (1937-2011)

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(1937-2011)

- **AFRICA'S FOREMOST COMMUNICATIONS EXPERT AND TEACHER**

- First Nigerian Professor of Mass Communication

- Between 2008 and 2009, he designed the institutional communications strategy for ECOWAS, entitled "From a Community of States to a Community of People".

Objectives

- a. How can Nigeria Education Institution and indeed Africa benefit from the Unesco Chair e-Learning programme?
b. How can Cross River State Partner UNESCO on Technology e-Learning - with respect to facilities and tools.

UNIVERSITY OF TAMPERE

Coming events

10.10. Guest lectures
Re-configuring agency and policy - Denaturalising nature

11.10. Doctoral defence
The Health, Work Ability and Healthcare Needs of Finnish Female Prisoners

» Events

» News

» Vacancies

"Bolstering national identity is not the task of research," says professor Pertti Haapala. The Centre of Excellence in Historical Research organises an international seminar this week. Read more »

RESEARCH & STUDY

DOCTORAL SCHOOL

UNIPOLI TAMPERE

Application for admission for doctoral studies is open in October. Read more »

Finnish society and culture lectures on Wednesday evenings. Read more »

Tapio Varis - Takeshi Utsumi - William Klemm (eds.)

GLOBAL PEACE THROUGH
THE GLOBAL UNIVERSITY SYSTEM

UNESCO Chair in Global e-Learning

University of Tampere, Research Centre for Vocational Education

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Global University System (GUS) (Takeshi Utsumi & Tapio Varis)

- GUS is a companion global alliance of major universities in finding, collecting, model building, and processing data. GUS brings technology to the agenda of global education as launching a trans-cultural, global-wide initiative (using modern techniques of communication) to promote the kinds of global education that will advance peace, justice, understanding, and human wisdom.

www.globaluniversitysystem.info

University: Leader of Community in the Knowledge Society in the 21st Century

- E-Learning / E-Healthcare
- University Knowledge Center
- Global Partnership
- Community Development

Varis, Nigeria 2013

MILLENNIUM INSTITUTE

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Ndioro Ndiaye is former Minister of Social Development, Women, Children, and Family of the Republic of Senegal. She was twice elected Deputy Director General of International Organization for Migration (IOM), a post in which she channelled her energy and skills towards sensitizing and supporting developing countries in their search for a better management of both internal and international migration management. She contributed to enhancing focus on the nexus between Migration and Development and to the mainstreaming of migration into national public policies for poverty reduction, which led to the establishment of IOM's Migration for Development in Africa program.

Katharine Esty, *Chair Emeritus and Vice Chair*, an organizational psychologist by training was the founder of Ibis Consulting Group, Inc. an organizational development and diversity consulting firm. Her expertise is in large systems change, culture change initiatives, diversity and the future search methodology.

Dr. Esty's publications include, "How Effective Managers Make Things Happen," "Dealing with Downsizing," "Issues for Women Managers, Group Methods for Transformation," and "Changing Corporate Culture to Support Work and Family." She co-authored the book, Workplace Diversity: A Manager's Guide to Solving Problems and Turning Diversity into a Competitive Advantage.

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for Information Technologies in Education

IITE-2012 International Conference "ICT in Education: Pedagogy, Educational Resources and Quality Assurance"

ANNOUNCEMENTS

Governing Board 2013

PUBLICATIONS

UNESCO IITE Activity Report 2012-2013

UNESCO IITE International Master Programme "ICT in Teacher Professional Development" (in Russian)

'Multimedia in Education' Curriculum

Introduction to MOOCs: Avalanche, Illusion or Augmentation?

NEWS

25 September 2013

First event out of the series of open workshops "Ideas. Technology. Education"

On September 20, 2013 the first event out of the series of open workshops "Ideas. Technology. Education" held by UNESCO IITE in cooperation with

MEDIA LITERACY AND NEW HUMANISM

José Manuel Pérez Tornero
Tapio Varis

NEW CITIZENS, INTERCULTURAL DIALOGUE AND MEDIA LITERACY:
AN EDUCATION FOR PEACE

"Humanity should govern the development of technology instead of technology governing the development of humanity" (Perez Tornero & Varis)

New humanistic awareness

NEW HUMANISM

- Human being over technology

- Critical to technology

- Autonomy over global communication

- Diversity

- Universal rights and responsibilities

OLD HUMANISM

- Human being over theology

- Critical to classic texts

- Discovery of self

- New world

- Cosmopolitanism

Agenda for intercultural dialogue

- *1. Fighting the digital and cognitive divide*
- *2. Stimulating international cooperation and participation*
- *3. A global education*
- *4. Education must therefore open up to global interaction*
- *5. Revitalizing the global public sphere*
- *6. Integrating communication values*
- *7. The creation of a culture of peace and peaceful understanding between communities and people must be the ultimate value for media literacy*

A culture of peace

- *The creation of a culture of peace and peaceful understanding between communities and people must be the ultimate value for media literacy:* this means accepting the elementary principle that no one is right without dialogue and there is no peace without freedom and justice.

Diversity, dialogue and peace

- Nigeria has more than 250 ethnic groups, with varying languages and customs, creating a country of rich ethnic diversity
- Nigeria is home to a variety of religions which tend to vary regionally
- Nigeria is apparently divided equally between Islam and Christianity

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United Nations
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International Centre
for Technical and Vocational
Education and Training

Promoting learning for the world of work

NEWS

Asia and Pacific Regional Forum on Advancing TVET for Youth Employability and Sustainable Development

UNESCO-UNEVOC in collaboration with KRIVET and GIZ organized a Regional Forum on Advancing TVET for Youth Employability and Sustainable Development targeting Asia and the Pacific from 4 to 6 September 2013

▸ More information

① ② ③ ④ ⑤   All news ▸

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RESOURCES

UNEVOC Publications
An overview of UNEVOC's publications

e-Forum
Discussion board for TVET experts

World TVET Database
Information on TVET systems worldwide

TVET Events
Calendar of TVET events

Multimedia
Videos and Photos

ABOUT US

The UNESCO-UNEVOC International Centre

Who we are
UNESCO-UNEVOC is UNESCO's specialized Centre for technical and vocational education and training (TVET). It assists UNESCO's 195 member states to strengthen and upgrade their TVET systems. (more)

What we do
The three core areas of our work are:
▸ Knowledge sharing and management
▸ Advocacy and capacity development
▸ Global UNEVOC Network
(more)

WELCOME TO THE UNEVOC WEBSITE

It was last year that 700 TVET experts came together during the UNESCO Third TVET Congress in Shanghai, China to discuss the transformation of TVET and set the international agenda for the next five years. ... (more)

UNEVOC NETWORK

Key Trends in the Changing World of Work

- **Distinction between academic and practical/vocational work becoming blurred**

- **Move from the Industrial Age to the Information Age**

Varis, Nigeria 2013

Global trends

- Globalism – regionalism
- ICT, English
- Innovations, imitation, stagnation
- 21st century literacies: media and information literacy
- Global economic & financial crisis
- Skills crisis
- Era of instability
- The role of education

Forces Stimulating Disruption

http://www.strategicinitiatives.com

Late 20th Century
Knowledge Age

- Sense of financial wealth
- Knowledge scarcity
- High production quality
- Experts and institutions
- Research associated with universities
- Vertical knowledge integration
- Employers depend on universities to filter talent
- Graduates seek a job
Job Seekers

Early 21th CenturyAge of Disruption & Creativity

- Sense of financial limits/stress
- Knowledge abundance
- "Good enough" production quality, immediacy
- Individuals, groups and communities
- Distributed research and citizen scientists
- Virtual knowledge integration
- Employers use multiple sources to filter talent
- Lifelong learners create value
Job and Success Makers

World Internet Penetration 2011

- North America 78.6 %
- Oceania/Australia 67.5 %
- Europe 61.3
- Latin America/Caribbean 39.5 %
- Middle East 35.6 %
- **World Average 32.7 %**
- Asia 26.2 %
- Africa 13.5 %

Entrepreneurship and the Creative Society

- Entrepreneurial skills involve planning, decision-making, problem-solving, creativity, communication skills

- to promote entrepreneurship among students, formal vocational education should be organized so that they stay in contact with a culture of entrepreneurship, ideally, in the framework of an educational institute or a school

Skills needed in working-life
1960 - 2002(Linda Darling-Hammond 2011)

- **Routine manual   50 -> 46**

- **Non-routine manual 50 -> 41**

- **Routine cognitive 50 -> 42**

- **Non-routine analytic 50 -> 60**

- **Non-routine interactive 50 -> 64**

- **The dilemma of schools:**The skills that are easiest to teach and test are also the ones that are easiest to digitize, automate, and outsource

Individual Skills for Innovation

- **What individual competences should people acquire to**

- **contribute to innovation as producers and users?**

(OECD)

Individual Skills for Innovation

- **What individual competences should people acquire to**

- **contrib̲̲̲̲̲̲̲̲̲̲̲̲̲̲̲̲̲producers and u̲̲̲̲̲̲̲̲̲**

Subject-based skills (know-what and know-how)

Behavioral and social skills (self-confidence, energy, perseverance, passion, leadership, collaboration, communication)

Skills in thinking and creativity (critical thinking, ability to make connections, imagination, curiosity,...)

Skills for Inclusive and Sustainable Growth in Developing Asia–Pacific (ADB Briefs 10/2012)

It is the combination of foundational skills, soft skills, and technical skills that contribute to successful performance in the workplace. Employers are increasingly stressing the importance of soft skills to enhance effectiveness of technical skills. Attributes such as critical thinking, communication, collaboration, creativity, and problem solving enhance application of technical skills.

Building a Knowledge Equilibrium

- How can traditional vocational education institutions foster in their students the entrepreneurial skills needed to succeed?

- Self-sufficient schools are the result of an innovative approach that combines entrepreneurship and vocational education

- School enterprises are established with the goal of fostering competences for self-employment as well as wage employment.

Transforming boundaries

- The current transformation penetrates boundaries that emerged and were shaped by the forces of the previous techno-economic paradigm. One of the most important of these boundaries is the one that separated industrialized countries from developing countries. The global knowledge-based economy slices geographical regions in new ways

New pattern of in service training

- New learning culture
- New pedagogy
- Open Educational Resources (OER)
- Massive Open Online Courses (MOOC)

Open Educational Resources

'educational resources that are freely available for use by educators and learners, without an accompanying need to pay royalties or license fees'

educational materials that may be freely accessed, reused, modified and shared

Smart training for the Smart society

- Basic training of the skills

- Ideas how to use learned skills to teachers own curriculum (daily work)

- Personal implementation plan of one new learning method

Digital literacy is key to:

- Learning to learn (lifelong learning)
- Learning to work
- Facilitating job opportunities
- Providing each citizen with skills and knowledge to live and work
- Providing the confident use of new tools for assessing and using knowledge
- Promoting active citizenship, democracy

Media and Information Literacy and Intercultural Dialogue Week (UNESCO)

- **Media, the Internet, libraries and other information providers play an essential role in the way other peoples, cultures, religions and ethnic groups are perceived. Media and information providers also have the fundamental power to promote diversity, pluralism and intercultural dialogue.**

  http://www.unesco.org/new/en/communication-and-information/media-development/media-literacy/milid-week/

UNESCO WCHE 2009

- **Social responsibility of higher education**:

"Higher education institutions, through their core functions (research, teaching and service to the community) carried out in the context of institutional autonomy and academic freedom, should increase their interdisciplinary focus and promote critical thinking and active citizenship"

UNESCO WCHE 2009

- International cooperation in higher education should be based on solidarity and mutual respect and the promotion of humanistic values and intercultural dialogue.
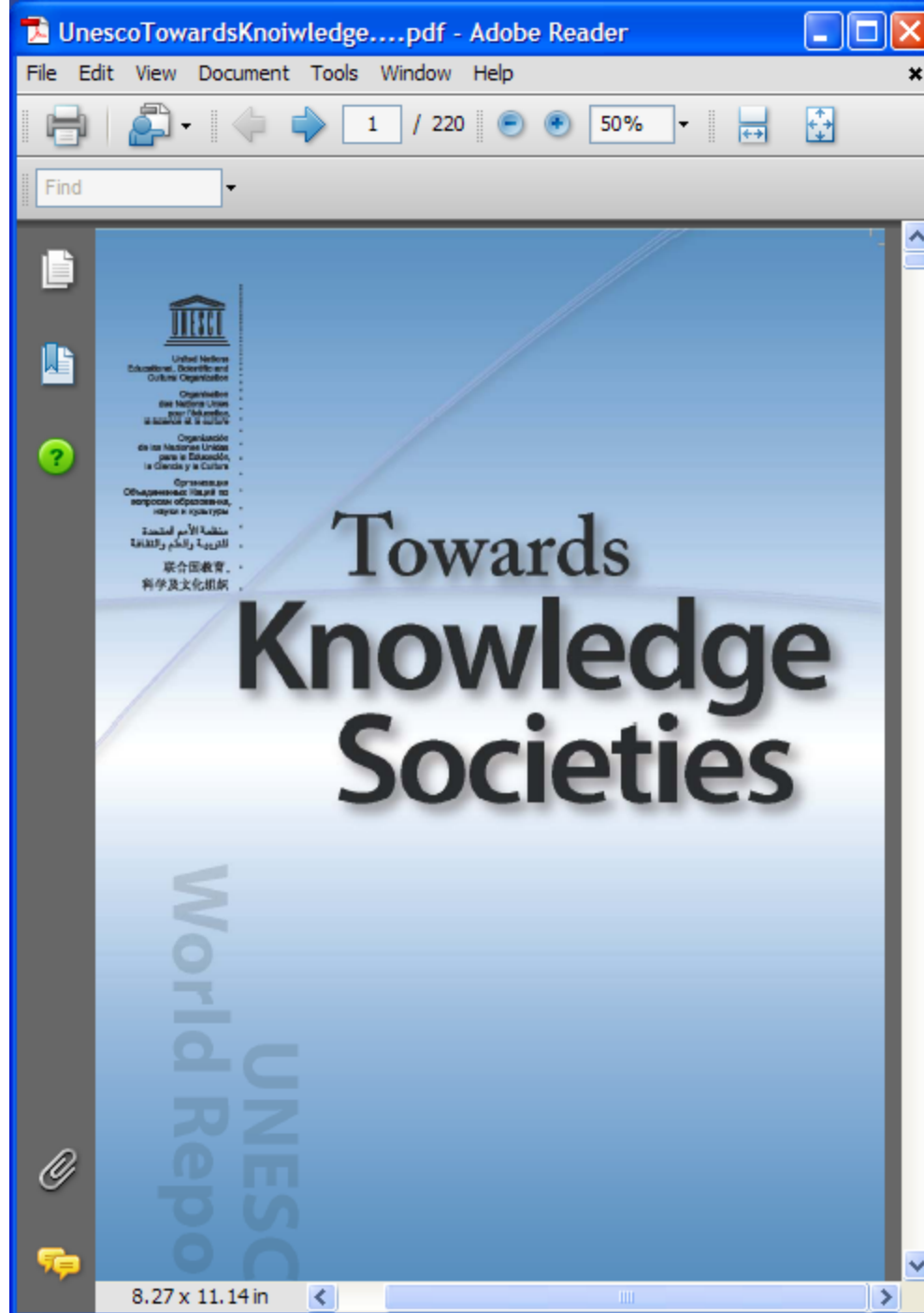
From Industrial to Knowledge Societies

- UNESCO (2005): there is a general agreement on the expression "knowledge societies" but not of the content of it

Proposed Recommendations

- *strategies*
- *educational environment*
- *demystify technology innovation*
- *future schools models*
- *national Software Competition*
- *International e-Learning Centre for for Domestication of e-Leaning Technology Research and Standards*