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Division of Adult Education

Adult Education in Israel

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# Table of Contents

Editor’s Note 6

**Adult Education in Israel: An Overview** 8

_Eitan Israeli - Thoughts on the State of Adult Education: The Glocalization Paradox_ 9

_Magi Koren - Ad Halom Project - Parents Learn and Children Succeed: What we Learned and What we Achieved Up to Now_ 37

**Digital Technologies and Adult Education: The Challenge** 52

_Introductory Discussion: Digital Citizenship - The Adult Learner as an Effective User of New Technology – Interview with Nava Gilad_ 53

**Integration of New Technology in the Education System: Models and Goals** 60

_Orit Avidov-Ungar and Yoram Eshet-Alkalay - Islands of Innovation: A critical analysis of a model for innovation implementation in school systems_ 61

_Miki Kritz - Online Academy Leads Change in Schools: Integration of Learning Technologies in the Multi-Cultural Context_ 91
Dalit Levy - Two Types of MOOCs: An Overview 106

The Effects of New Technology on Learning 118

Rakefet Ackerman - On-Screen versus On-Paper Learning: Which Media Enables More Effective Learning and Why? 119

Ofra Razel – Technology for the Benefit of Individuals with Special Needs 132

New Technology and a Changing Perspective about Teaching Hebrew 143

Rina Zaslavsky, Vera Agranovsky and Evgueny Maryanchik - Using New Technological Tools to Teach Hebrew as a Second Language in the FSU 144

Parents and Children in an Online World 160

Elizabeth Gal-on and Rina Cohen - Parents and Parenting in a Developing Digital Reality: The Challenge of Significant Parenting in the Internet Age 161
Also in the Adult Education in Israel series

Volume 2-3: A. Adult Education as a Profession (1997)
B. Adult Education and Communication (1997)
Volume 5: Didactics of Adult Education (1999)
Volume 6: Vocational Training and Human Resources (2001)
Volume 8: Adult Education and Higher Learning (2005)
Volume 9: Gender and Learning (2006)
Volume 10: Adult Learning, Society and Economics (2007)

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Editor's note

Publication of Adult Education in Israel, volume 13 was delayed for quite some time. This is especially unfortunate since the main topic of this edition: integrating technological innovation in the general school system and in adult education is of interest to all of us yet may become outdated very quickly. Nonetheless, to our digital journal readers we present the English version of the main articles published in volume 13 of the Hebrew journal for adult education, Gadish. The term ‘adult education’ is interpreted here broadly to include work in ulpans (teaching Hebrew as a second language) and parent training, as well as teaching in academic frameworks – university and teacher education institutions. We set out as we always do with a general topic. Dr. Eitan Israeli writes about the problem of glocalization in adult education: many countries collaborate on the global level, are willing to sign nicely worded manifestos about the need to advance adult education and eradicate illiteracy in the world, but do very little on the local front and neglect population groups desperately in need of learning and education opportunities, among them women and those living in the periphery.

Another article describes a unique project initiated by the Ministry of Education, the Division of Adult Education, which issues this publication. The project offers parents the opportunity to complete their formal education in the aim of helping them help their children, fostering a learning climate at home and giving children reason to be proud of their parents as knowledgeable and up to date individuals. The article ‘Parents Learn and Children Succeed’ reports on the preliminary results of this project.

We chose to address several aspects of the main topic ‘technological innovation in the education system’. Nava Gilad from the Israel Internet Association describes how third-age individuals, most of them retired,
are exposed to the ‘secret’ of the Internet and to computer use in general. In teaching individuals of this age training must focus on very practical aspects and take the limitations of the learners into consideration. Ofra Razel describes tools developed to give people with special needs access to new technology.

In articles related to academic teaching we chose to present, among others, a paper by Dr. Miki Kritz that discusses a project that aimed to strengthen the ICT skills of teachers and pre-service teachers prior to ICT integration in school. Prof. Rakefet Ackerman used scientific tools to examine an intriguing question: which type of learning is preferable and more effective – learning from text that appears on a computer screen or from hardcopy (newspaper, book, etc.) - and some of the answers are surprising.

We bring two fascinating articles on topics directly related to the work of the Ministry of Education, Division of Adult Education: Vera Agranovsky, Rina Zaslavsky and Dr. Evgueny Maryanchik discuss the integration of new technological tools in teaching Hebrew as a second language in the Former Soviet Union. Technology is harnessed to address unique problems involved in teaching Hebrew to students who are geographically dispersed and the Hebrew level of their teachers is not uniform and at times inadequate. Elizabeth Galon and Rina Cohen address the problem of parenting in a developing digital reality. At times it seems that children and adolescents are so engaged in their digital devices that parents become redundant when in fact parents’ role in this reality is even more significant and demands increased responsibility: to guide and protect their children in the new ‘jungle’ that offers new possibilities but presents quite a few dangers.

We hope our readers enjoy reading about new aspects of topics on the agenda of young people and adults alike throughout the world.

Ido Bassok
Adult Education in Israel: An Overview
Reflections on the State of Affairs of Adult Education: The Glocalization Paradox

Eitan Israeli

The article presents the glocalization paradox in adult education – despite widespread consensus regarding the need to connect the global and the local, this is not the case nor is it possible. The paper offers several explanations. Frustration is growing on both ‘sides’ owing to the inability to do so, alongside a sense of discouragement as to achieving global goals in the local context. Chapters of the article: defining the problem in a new light; the nature of the paradox; international conferences; worthy world and a worthy life; who “will educate” and how - the training paradox in Israel.

Defining the Problems in a New Light

For over a decade the world including Israel have slowly come to realize that global adult education is gathering momentum, mobilizing in new organizational structures, realizing post-modern theories related to

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market economy and electronic media, redefining weak populations and poverty in general, highlighting women’s role in power struggles, distinguishing between livelihood and leisure activities and finally, producing behavior studies that are not grounded in previously accepted scientific frameworks.

This process of globalization in adult education, a term that replaces ‘universalization’ and to a lesser degree ‘internationalization’, reflects two central phenomena: first, the creation of a worldwide system, formal and informal, of civil society organizations involved in adult education. These organizations do not relinquish cooperation with state establishments, but rather circumvent it since they are confident that the establishment cannot solve the problems as they have been redefined. When it comes to adult education, civil society is both more flexible and more open to new perspectives and solutions to the problems it identifies.

Second, and in a way paradoxical, States hardly respond locally to the needs of adult education for which they are responsible, yet listen to calls coming from global adult education when worldwide issues are on the agenda and possess the allure of a trend and of pressing global needs.

What are the problems identified in the local adult education arena? (a) meager funds; (b) gender inequality; (c) the intensive degree and wider scope of illiteracy; (d) inadequate and insufficient preparation of individuals to enter and stay in the workforce; (e) partially treating the needs of third agers (60’s and 70’s) and fourth agers (80’s and 90’s); (f) the high cost of leisure activities; (g) uncertainty regarding the benefit or ‘profitability’ of adult learning.

Each problem itself, and the cluster of problems taken together, are at the heart of the action or inaction of the local arenas. These arenas are first and foremost the State and its institutions, in other words government ministries and the power behind them – their work
plans and the budgets. In countries with which the author is familiar, the State is unable to adequately budget adult education, even if on paper the plans seem satisfactory. Not only is the budget paltry, but personnel engaged in adult education programs are not professionally comparable to the professionalization required from formal education workers. Furthermore, the goals of adult education programs proposed by government ministries are worded similarly year after year, without detailed assessment of their implementation. Professed adult education policies, verbal and written, reflect wishes and good intentions but do not include a requirement to monitor progress or success. The conclusion that can be drawn is that adult education, broadly defined to include lifelong learning and every individual’s right to learn, does not figure prominently on the list of national priorities and is either disregarded or discarded.

The other local arena is that of local government. In countries with which the author is familiar, local government, in its various forms, is attentive to the needs of its citizens and offers annually a broad and varied system of adult education. Yet in this case as well, budget is lacking and the professional level of personnel is inadequate. Unlike the situation with respect to central government, local government goals are focused on identified population groups and results are measured, however activities are directly influenced by local politics and budget considerations.

Civil society is another local arena. It is diversified in its organizations, goals, budgets and human resources. Three qualities characterize civil society organizations involved in adult education: enthusiasm and perseverance; longevity and inventiveness. These organizations work with programs operated by local government organizations or supplement the offering and organization of adult learning opportunities in terms of added places and time.
The fourth local arena, the *business and private sectors*, engage in adult education activities that are for the most part discrete and particular. They sometimes join companies and cultural agencies in sponsoring trendy cultural projects where their contribution creates for them favorable public opinion which in turn helps their business. This sector engages in large visible projects, such as conferences, symposia, seminars and learning tours, usually targeted toward the narrow upper middle or upper socio-economic-professional stratum.

In summary: the local arenas, of varying size and budget, are unsuccessful in dealing with the problems of adult education described above:

1. **Budgets** are insufficient and in effect meager;
2. There is gender asymmetry: women, compared to men, are not the focus of available opportunities to learn advanced competencies suited to their abilities;
3. The **degree and scope of ignorance (or illiteracy)** is not fully addressed in any of the countries familiar to the author, in other words action taken to reduce illiteracy is never adequate;
4. **Occupational training** is growing, however the training personnel does not come from the field of adult education but rather from other disciplines in which adult learning and education is not part of their DNA;
5. **Third and fourth age** individuals can enjoy specific learning opportunities – only if they have the necessary financial resources;
6. **Leisure time activities** are developing among the educated with the available financial resources; disadvantaged populations cannot share in the myriad glamorous possibilities;
7. The **benefit and profit gained from adult learning** remains the key problem in marketing adult education to local government entities and organizations.
The Nature of the Glocalization Paradox

What is the glocalization paradox? The saying ‘Think globally and act locally’ or ‘think worldly and act locally’ cannot be realized. Global action, as described in the following, is not directly transferred to the local arena. The dictionary definition of ‘paradox’ is — an opinion that completely contradicts what is accepted and agreed, an uncommon statement that contradicts (only seemingly) common sense. paradoxicality is a state in which there are paradoxes, a state of internal contradictions.¹ What paradox are we referring to? The two components, global and local, are not inherently contradictory. The contradiction is found in the inability to implement the connection between the global and the local, between ideas and recommended action. Globalization proponents created the favorable image attributed to the global-local connection in their recommendation to couple rapid changes in the global sphere to the familiar and the real in the local context. In retrospect, the global is expressed in dictums, assertions, demands and action plans that look good on paper but cannot be implemented locally. This paradox results in two undesired outcomes: first – continued frustration of the local and its arenas regarding its inability to implement and fulfill global declarations; the second - a sense of guilt that drives the local to marginalize adult education even more. We maintain that the diminishing status of adult education in a country can be explained by these two effects of globalization. The gap between the desired and the possible widens and discourages the local stakeholders and operators.

Worldwide Conferences: CONFINTEA VI in Belem Brazil, VIII World Assembly of the ICAE in Malmo Sweden and RIO+20 United Nations Conference on Sustainable Development in Brazil

The world holds and will continue to hold international conferences: supra-national, regional and global. The conferences in Belem Brazil and in Malmo Sweden took place in 2009 and in 2011 respectively, and the third, Rio+20, was held in 2012. The first two focused specifically on adult education while the third on sustainable development with a major group dealing in adult education. The following points are common to all three conferences:

A. They are based on a long-term master plan, The Sixth International Conference on Adult Education (CONFINTEA VI) meets every 12 years, The ICAE World Assembly is held every 4-5 years and Rio+20 every 20 years;

B. They are conducted and organized by a combination of establishment entities and international-global civil society entities;

C. Papers are submitted prior, during and after the conference, all worded in similar ‘global’ language that takes the readers' time to absorb and is difficult to implement in practice at the local level;

D. Conference summaries offer countries action plans and their implementation is tracked.

It should be mentioned that, in addition to these conferences, UNESCO has annual and 10-year programs which focus on advancing the level of literacy and education in the world, with an emphasis on young women. They include periodic follow-up conducted by a special entity, yet in the long run the numerical results are not in line with their good intentions. In retrospect, if one has participated in one international conference it is as he/she have participated in all of them. These
conferences do however draw huge interest since they serve as a meeting ground for the best world ‘players’, and the social-professional ties forged at these gatherings are invaluable for international engagement and even for local action.

Segments of declarations issued by these international conferences are presented in the following. They are not full citations and were selected so that each segment is representative of our attempt at trying to portray the literal and actual gaps currently existing between the global and the local in the field of adult education.

Segment 1: First Follow-Up Report of the Sixth International Conference on Adult Education CONFITEA VI (November 11, 2011) following the conference in Belem-Brazil (2009)

‘The following is important information received from UNESCO and from follow-up of CONFITEA VI. It is vital for civil society organizations to be involved in this process. We request that you disseminate the information at the national level and hope that in doing so we will move forward in advocating the right of young people and adults to education and we will be able to act to support these processes through specific action, such as:

- Continue to disseminate information about CONFITEA VI and about the progress made in every country.
- Share experiences and successful action, particularly initiatives that can be replicated in other countries.
- Engage the local UNESCO committee in every country as well as government ministries more immediately involved in youth and adult education.
- Learn how to prepare national reports and how to take part in civil
society activities in this process. It is important that civil society contribute to the formulation of national reports.

- Track governments preparing national reports to be submitted on dates specified by UNESCO - February 2012.
- Create discussion arenas to reassert the importance of a national youth and adult education agenda.’

**Explanation**

CONFINTA VI, the International Conference on Adult Education held in 2009, was planned and conducted by UNESCO and international organizations involved in adult education in civil society – the ultimate combining of forces. The Conference published a binding international work plan for all countries and invited civil society to collaborate. The international work plan included preparation of national progress reports on issues discussed and decided. The topics were those with which we are familiar, the likes of which will be specified in the next segment.

In the first progress report, about two years after the conference in Belem - Brazil, the recipients are requested once again to contact, track, disseminate, discuss and be vigilant. The source of authority for this request is the CONFINTA VI conference and the language is that of action and urgency. We should remember that the previous five CONFINTA VI conferences were conducted in a similar manner, combining global forces in adult education and requiring preparation of national work plans and follow-up of their implementation. What if any of this was implemented in the countries with which we are familiar? Very little. The voice of the establishment was not heard. Civil society organizations continued what was already in place without any substantial changes to their work plans.

Objectives of the Conference of the International Council for Adult Education:

- To provide a collective arena to strongly uphold the right to lifelong learning and education for all; To assert the value of adult education and learning in enabling citizens to build a world worth living in.
- To identify the priorities of education and lifelong learning and to develop action frameworks at the global, regional and local level.

Conference participants

The 690 participants in the adult education field included: experts, activists, learning associations, researchers, practitioners and policy makers as well as learners from 80 countries that came from the following regions: Africa, Asia and the Pacific Ocean, Latin America and the Caribbean’s, Europe, North America and the Arab region. There was robust participation from folk high schools in Scandinavian countries. Among the participants, 56% were women.

The program

Global Consultation of the Gender and Education Office (GEO) of the ICAE was held on June 14th. Female and male feminist activists gathered to discuss the multi-faceted crisis: the rise of new paradigms and the role of adult education in building a world worth living in. The Consultation outlined the global context and its gender ramifications. The four key thematic areas of the conference were also discussed from a feminist perspective.
On the opening evening of the conference a reception was held by graduates of the international course of the ICAE Academy of Lifelong Learning Advocacy (IALLA) which is discussed later in the article. The four thematic areas addressed at the conference were:

1. Adult education as a right and a profession - follow-up of international agreements: MDG (UNESCO’S Millennium Development Goals), EFA (UNESCO’S ‘Education for All’) and CONFINTEA
d2. Lifelong learning for sustainability in view of climate change
3. No right to decent work without the right to learn
4. Nordic tradition of Folkbildning to help meet current global challenges

Comments

1. The Conference was a very impressive gathering. The strength and exuberance of adult educators from around the world was evident. The International Council more than doubled the number of participants compared to the previous conference held in Nairobi, Kenya in 2007. Those of us who participated in most of these conferences in the past found nearly all participants hailed from South America and Africa. Clear voices also emerged from Asia; women positioned themselves in the center; the small number of participants from North America was conspicuous. This is the ‘noise blueprint’ at the beginning of the third millennium.

2. The main goals of the conference were well-known: every person’s right to learn, the priorities of lifelong learning, freeing citizens from the shackles of illiteracy, combined action at three levels: global, regional and local. Similar goals were declared at previous conferences.

3. Feminists participated in preparing the program and on the opening evening a reception was held by graduates of the ICAE Academy of Lifelong Learning Advocacy (IALLA) international course. These
were new figures, mostly young women, articulate and colorfully dressed. This is the power of the ICAE, even if middle-aged individuals were elected to its senior positions.

4. The four thematic areas were new in terms of their formulation and potency:
   
   a. Follow-up of global programs should describe what is actually taking place. This reflects a resolute demand that follow-up reports provide information about what was achieved and what was not addressed or implemented;

   b. Involvement on climate is the first step towards the demand to recognize adult education as a significant force in promoting distinctly global socio-economic goals such as overseeing climate change. Here the conference is in effect ‘banging its fist on the table’ demanding global partnership on this issue;

   c. The specific wording used to articulate the idea that the right to work is linked to the right to learn is demanding and unqualified in its formulation and was not been voiced in conferences over the past decade;

   d. The Scandinavian legacy in the field of popular education, liberal education for adults, in the best tradition of Bishop Grundtvig, was exposed and presented in its alternation between theory and practice.

5. Let us return to our main argument regarding the paradox – what can be implemented locally from among the points put forth above? In places with which we are familiar, few adult educators attend international conferences while more come to local gatherings. Two of the four thematic areas are relevant for the State of Israel – the relationship of work to learning and the Scandinavian heritage. The two main global goals have been heard repeatedly for many years in local arenas in Israel. Though, the burning issues in these arenas
revert back to the individual and to populations of individuals who are in need of learning opportunities and do not have the sufficient resources. Upon their return from the exciting conference in Sweden, the participating Israeli adult educators once again face the unique environmental contexts in which they operate yet and they are not equipped with a new toolbox to “overturn” reality.


Educators, 350 in number from over 35 countries convened in Budapest, including international and global partners, members of the social and the private sectors, social partners and public agency representatives.

The conference marked three years of intensive European cooperation in the field of adult learning policy in the aim of reviewing implementation of the Adult Learning Action Plan. The goal was to identify the main challenges faced by adult learning in 2020 and to provide feedback by key stakeholders on future needs and action.

Participants unanimously acknowledged the success of the Action Plan in promoting the adult learning agenda in various ways and in different countries despite different perceptions of adult education. They noted the value of a common platform and milestones for its implementation as an instrument for debate with national establishment leadership. The Conference working groups reported on three years of intensive cooperation between EU Members States. A culture of mutual learning for better policy making and practice was consolidated and continues.
Conference participants were in agreement regarding the significant contribution of adult learning to addressing society’s major challenges: improving the level of knowledge, skills and competencies across the population as a vital factor in responding to the economic crisis, coming to terms with demographic change including an ageing society and increased immigration.

Challenges facing adult education were delineated and practical proposals to overcome them were presented:

- Help low skilled and low educated individuals **acquire key competencies for life and work**, starting with basic skills - adequate literacy, numeracy and digital skills;
- A sophisticated counseling service to ensure that adults make the right choices, find the right offers and plan their life for the long-term;
- Tailor-made responses to the needs of individual learners supported by a range of pedagogies combined with ICT and supported by highly competent teachers to guide them in the knowledge society;
- Establish learning centers, learning communities and learning regions with a strong link to social networks that will offer adult learners a more prominent place in the community; robust partnerships with relevant local actors supported by the public sector;
- Massive contribution of higher education institutions which have the dual role of opening their doors to adult students and researching the learning sector;
- Develop a knowledge base of the adult learning sector; Develop a professional track for adult educators to ensure and maintain high quality teaching;
• Create a vibrant new sector of ‘lifelong learning’ for active, autonomous, and healthy third age individuals, that will cultivate inter-generational learning and solidarity and utilize the social and cultural capital of the elderly as well as their human capital.

Regarding the future - 2020, it was unanimously agreed that the work which was launched with the 2007 Action plan should continue in order to ensure the value and benefit of adult learning for society.

**Reflections**

This segment differed from the previous segments presented. It reflected greater ‘localism’; expressed the satisfaction of European conference participants who represented all sectors; there was a written and organized action plan that served as a platform for action and follow-up. Yet, as we see it, the summaries and recommendations were familiar, with almost nothing in light of what has been learned or achieved over the recent years. The solidarity among the participants was evident in the wording. How pleasant and comfortable it was for those people who gathered in ornamented Budapest towards the end of winter. They wanted to continue to do what they have been doing, with several modifications, until 2020.

In our opinion, this was the case because the glocal paradox did not operate here. There was an European policy that was formulated collaboratively; there have been enormous differences between countries but adult educators had a strong sense of professional solidarity. They acted and were willing to continue to do so without feeling helplessness or banging their fist on the table. Those were most likely few of the necessary conditions for successful and satisfactory action in adult education.

Rio + 20 was a global event that addressed the environment and preservation. It took place in June 2012, twenty years after the previous 1992 Earth Summit in Rio, and hence its name. The International Council of Adult Education (ICAE) decided on its involvement in preparations for the conference from the perspective of adult learning, and invited its members from different areas of the world to express their opinion. It was a virtual seminar in which adult educators discussed vital questions of world order – positioning themselves directly and assertively in the global arena.

‘We are part of the thematic social forum held on 24-29 January 2012 in Porto Alegre on ‘Capitalist Crisis, Social and Environmental Justice’, in preparation for the Rio+20 Summit. The objectives of the virtual seminar that preceded the forum were:

A. To present an analysis and to point to the linkage of youth and adult education to the main themes of Rio+20;
B. To rethink the learning needs for a world worth living in, in a context where paradigms are shifting;
C. To broaden the opportunity for alliance-building between networks and movements involved in the right to education and other movements and civil society organizations for complementarity and collective actions aimed at social transformation;
D. To provide an inclusive virtual space for the Group on Education in preparation for the Rio+20 Summit and for those who will not be able to attend the Summit.’
A Flashing Thought

This foray of the ICAE into the main global debate was not its first. We bring this example in order to show the distant global arena to which we, adult educators, often travel as we perhaps distance ourselves from the urgent need to contend with ‘our own’ vital and unique problems.

A Worthy World and a Worthy Life

The highlight of the VIII World Assembly of the ICAE in Sweden was the summary declaration. It reflected the name of the conference: ‘a world worth living in’. The declaration was not the ICAE action plan for the coming years, since a strategic plan was also formulated and approved.

It was important to the organizers that the declaration presented at the last session of the conference be approved unanimously (new senior position holders were also elected in this session). This was a declaration about the relationship between the world, an individual’s life and adult education. Such a formulation was in the unique realm of ‘spirituality’, in which the individual and the world and what lies beyond them were frequently discussed.

Section 5: ICAE 8th World Assembly Declaration: A World Worth Living In (June 17, 2011)

‘A world worth living in is one where all women and men can live in dignity, where they can exercise citizenship, and their right to create, to learn and to think and act critically. It is a world where everyone can express and voice their opinion in a context that understands and celebrates plurality and the peaceful resolution of conflict as the cornerstones of democracy. A world where all can learn from our differences, strengthen
solidarity and community building, and where everyone can participate on equal terms in public life.

A world worth living in is one where the world economy is at the service of the wellbeing of women and men, where all can participate freely and with dignity, develop their full potential and enjoy the benefits of this shared achievement.

A world worth living in is aware of the need to radically change the ways we produce and consume, a planet where nature is not taken as a capital to be exploited for furthering economic growth, where citizens become more vigilant and proactive at both global and local level, and where clean and safe energy is secured for all.

So, a world worth living in includes a holistic view that recognizes the interdependence of environmental, social, cultural and economic perspectives, and poses challenges that demand collective sharing of responsibility - at the local, regional, national and global level.

A world worth living in is a world where the Universal Declaration of Human Rights must apply to all men and women living in one country or migrating around our planet. It is a world where equality and social justice prevail, overcoming all forms of discrimination, and where patriarchy is overcome. It is a world where, in achieving real equality, recognition and redistribution go hand in hand. A world worth living in is a multicultural world whose splendor and richness reside in the celebration of its diversity, and one which recognizes the linguistic rights of peoples.

A world worth living in is a world where everyone, children and adults, enjoy the right to read and write. Since we now have a world where seventy million children, mostly girls, do not have a place in school and where nearly one billion adults, overwhelmingly women, have no chance of learning to read and write, we need a commitment for urgent transformation.
A world worth living in is a world economy that includes values and recognizes the informal economy where women in great numbers are active in care work and in subsistence production and as informal educators. It is a world where care work is a shared responsibility of government, enterprises and families, and where educational programs and plans help to overcome stereotyping and the gender division of labor.

A world worth living in is a multilateral world complying with United Nations’ rules and a world governance strengthened by meaningful participation from a globally and locally informed civil society.

A world worth living in needs high quality learning experiences, skilled educators enjoying better work conditions, drawing on rich practices from all parts of the world, including popular education, feminist education and education for transformation.

Such an active learning world, enriched by mutual learning across boundaries of all sorts is today a necessity more than ever. Yet it cannot become a reality without the full participation and mobilization of a learning civil society.’

Sparks of Thought

The declaration does not end here. The second part includes details of action to be taken. Before we return to the second part of the declaration, here are several sparks of thoughts and reaction.

First, the Declaration couples the global and the local. The components of a world worth living in extend, exist and are needed in order to exist in these two ‘worlds’. This is so because this comprehensive vision, that has to do with the roots of human existence today, has no boundaries.

Second, a world worth living in consists of men and women, boys and girls, different economic systems, multiple cultures, stereotypes,
values and rules, educational programs and endless learning. It includes everything, and the vision is to organize this world, put things in order, globally and locally. This order can be achieved first and foremost when there are learning situations, learning opportunities, suitable teachers and adequate learning conditions.

Adult education is the condition that can make this possible and its role is central, comprehensive and inclusive. The current situation throughout the world is in stark contrast to this vision: adult education has meager resources, is marginal and shoved to the sidelines.

How do we overcome this huge gap? Let’s read the second part of the Declaration.

We, participants of this conference, declare that education and learning are a fundamental human right and also an enabling right that allows for the realization of all others. We are bound to ensure that this right will be realistic and will be enjoyed by adults and young people that are not in school, throughout the world.

We recognize that a great deal of international action has taken place. MDG (UNESCO’S Millennium Development Goals), EFA (UNESCO’S ‘Education for All’), CONFINTEA – these are interrelated, however solidarity and continuity in execution and follow-up are lacking. We must achieve these goals and we will continue our involvement in advocating them.

We call on civil society organizations to evaluate their actions, to create strategies that will foster new ways of life and new economic and ecological solidarity; to discuss how a different world is possible - a world in which everyone would have access to safe and clean energy – to reach the critical mass of awareness needed to sustain action towards achieving fair climate solutions.

We demand that countries, United Nations agencies and other organizations recognize that poverty and social exclusion are related to congenital inequality, reflected and reinforced due to unequitable
distribution of learning opportunities.

Social exclusion is not only exclusion from learning opportunities, but also the perpetuation of the knowledge hierarchy that excludes access to types of knowledge. In a world worth living in access to all types of knowledge is open and democratic, and we call on states to develop action plans towards this end.

We call on states to ensure the right to learn for young people and adults, especially the fundamental right to elementary education, without discrimination; to grant these rights legal status and to allocate the necessary resources to fully realize them. This is the most urgent priority of all.

We demand that preparing learning policy for young people and adults will not be viewed as an additional expense, an addition to existing education policy, but rather as a vital part of the solution to challenges currently facing all of humanity. Individuals without access to learning opportunities need state support and adequate infrastructure for adult education. Special attention should be given to programs that ensure freedom of expression, recognition, representation and empowerment of women as independent citizens.

We invite the states to become acquainted with adult education programs in Scandinavia and to learn about the effect of these programs on health, the environment, multi-generational education, citizenship and quality of life. Adults have the right to be well informed and to understand the changes affecting their life and broader society; to participate in these changes and to shape them. Learning plays a vital role in this endeavor.

We propose that countries, unions, companies and social players to link their work-related activities to education policy in order to strengthen the role that learning can play in technological and industrial changes and to prevent the threat to the provision of decent work to all. This policy must address exclusion of weak communities that already exists. The
changes raise new demands for learning opportunities for every man and woman in the workforce, with old jobs being replaced by technology and new work methods. They must recognize that comprehensive realization of the many facets of learning will create more efficient and sustainable jobs that will significantly contribute to the right to decent work for all.

With respect to work and learning, we ask countries to take into consideration the massive expansion of immigration. Immigrants are people escaping oppressive regimes and seeking a place to live or a decent workplace. We invite the United Nations and the International Labor Organization to monitor the full realization of the rights of immigrants and their families.

We call on countries and UN agencies: (a) to provide for the educational needs of the countries in the southern pacific that are under sea level and at high risk of flooding; (b) to prepare criminal offenders for their reintegration into their society; (c) to enable women working in caretaking jobs and individuals who have retired to realize their full potential by creating conditions for change in the family and in culture enabling participation in the public sphere. Learning is the key to all change.

We call on UNESCO to monitor the implementation of the Belem-Brazil Declaration from 2009 and call on countries to report their achievements with respect to the work plan adopted in 2009; to fully engage with civil society organizations; to disseminate this report throughout the world.

**Subsequently:**
The second part of the Declaration invited countries, professional associations, civil society organizations, industry and social actors to be mindful, to implement education programs, to protect the weak, to adapt the job market and to realize the right to learn in light of technological and cultural changes - and to do all this throughout the world. Do the
detailed proposals advance the local agenda, and if so, in what way? It seems that we are still in the realm of non-binding and global wording that distances readers from new commitments. The call to internationally monitor the implementation of the Belem-Brazil action plan does not stand the test of reality among the majority of countries.

We can add that this conference published a detailed action plan that we do not address in this paper. We invite those interested to discuss with us the action plan and its implementation in local arenas.

**Who and How to ‘Educate’ - The Training Paradox**

As we see it, the strongest evidence pointing to the existence of the glocalization paradox is evident with respect to the training of adult educators.

**Section 6: ‘Introduction to Training of Adult Learning and Education instructors’ by the author of this article (article published October 2010)**

In another paper, ‘Adult Education in Israel and Around the World’, we maintained that there is a critical gap between the discipline and the practice of adult learning, a gap between theory and praxis. The discipline, in other words research, writing and discussion creates a world of terms and concepts, theories about behavior and adult learning as well as endless proposals about what to do and how to foster a field that is perceived almost everywhere in the world as marginal in terms of budgeting and professional training. Thus, while the discipline flourishes action flounders and cannot achieve the goals articulated so well by so many people and supported by endless international conferences.

*These are the failures everyone agrees we face:*

1. The tragic failure to bring learning to the adult population that needs
it most (from 20 years of age through the end of life).

2. A huge failure to mobilize financial resources in every country and in international organizations – resources that would fund learning among those for whom it is the most vital.

3. The failure to help learners who need it most to enter the workforce, lead an active civic life and a balanced lifestyle – all the things that strong populations enjoy.

4. The failure to persuade every country and every organization that adult learning is the most beneficial action they can take in order to advance society in general and increase human, social, economic and State capital.

5. The failure stemming from the painful gap between documents about lifelong learning national policy and creating a learning society on the one hand, and the level of stakeholder conviction that this is what should actually be done, fostered and persistently developed on the other.

Possible explanations for these failures

- Only a handful of professionals are involved in untiring efforts to find answers to the failures listed above. Academia is not interested, government cuts back, civil society organizations are not informed and the many learning options offered by the private and business sector only go to those employees who are lucky and qualified.
- With respect to the most disadvantaged populations, failure is not found only in the adult education field. Social work and community work, fields that also battle poverty and social inequality suffer the same fate. The common denominator is social and regional policy that suffers from a budgetary and practical approach that ignores those who are disadvantaged, excluded, marginalized, illegal
immigrants, women and the elderly.

- It stands to reason that the entire social sector should have mobilized and collaborated to bring about change in national social policy. However, in retrospect, every sector fights to satisfy its needs and is afraid that collaboration may come at its expense.

- The most important explanation in our opinion is that those currently working in the adult learning and education field both throughout the world and in Israel are unqualified. Current training of these workers in Israel is very limited and those that do receive training are powerless to change the state of affairs at the national level with all its failures and shortcomings.

**Training people who work in adult education is the key**

Training current workers, and those attracted to this field, is the key to dealing with the failures described. Training will provide the tools to address this issue and enhance the personal and organizational qualifications of those who will complete the training. Training adult education professionals is the best investment that can be made in order to change the current state of affairs.

The familiar training frameworks are:

- Undergraduate and graduate studies
- Expanded studies qualifying community, social and adult education professionals in a one or two-year program that will award a certificate.
- One or several professional development courses in addition to symposia, workshops, seminars and ‘weekend’ training.
Sample modules:
1. Recruiting disadvantaged individuals as learners.
2. Fostering municipal, regional and national collaborations
3. Promoting and developing learning cities and regions
4. Acquaintance with civil society organizations – the potential for collaboration
5. Designing adult learning programs
6. Practical experience with a variety of adult learning-teaching strategies and techniques
7. Adult learning history, philosophy and theory
8. Adult learning - a comparative perspective of the world and Israel’s immediate geographic area (the Mediterranean).

Spotlight

The glocalization paradox joins the training paradox. In both cases there is a gap between the global and the local that has not been bridged to date. The former produces global declarations articulated in general terms and directed at different types of countries as well as social and industrial-business organizations. The training paradox differs in that proposals are specific and implemented in training and continuing education courses in various countries – successfully! The training paradox refers to the gap between Israel and ‘the world’. The processes taking place in the world do not reach Israel. There is an impenetrable barrier in Israel with respect to everything that has to do with the training of adult learning and education professionals.

The following is a brief description of the ICAE Academy mentioned above. The ‘Academy’ is an example of how the glocalization paradox can be undone, perhaps a course of action or at least a direction to be considered in Israel.
Section 7: The ICAE Academy of Lifelong Learning Advocacy IV – IALLA

The overall goal of the Academy is to cultivate the skills of educators and social movement activists, in the aim of supporting adult learning and education for change; to consolidate the ICAE as a worldwide network committed to this goal, and to achieve this through a course offered annually that focuses on adult learning and education advocacy and conducted in a dormitory setting.

The specific goals of the Academy are:

1. Create a comprehensive vision of youth and adult education as part of the right to learn and engage in active citizenship, and to develop an affinity to the most important global issues currently influencing the world.

2. Support the development of new leadership for the global network of adult educators, committed and trained to work as a worldwide team, especially for the ICAE.

3. Ensure the continuity of social movements for lifelong learning.

4. Track and facilitate mutual ties among Academy participants to facilitate continued learning by enabling Academy graduates to share their experiences after the IALLA course.

The outcomes for Academy graduates:

- Individuals with a sweeping vision of adult learning and the role of civil society as a stage in the education process.
  - Leaders with advanced skills capable of monitoring the agreements and work plans of national and international conferences.

- Adult educators trained in adult learning advocacy in the aim of cultivating adult learning at the national, regional and global level.
- Individuals who have acquired skills for collaborating with civil society organizations and in working with and building social networks.

- Individuals able to comprehend and analyze mutual relations within and beyond the adult learning and education field.

- Individuals able to learn from varied inter-cultural databases within the context of culture translation.

The main contents of the Academy course:
1. Global governance
2. Civil society
3. The state, civil society and rights
4. Global movements
5. MDG (UNESCO’S Millennium Development Goals) and civil society
6. CONFINTEA VI, 2009
7. Creative participation and advocacy strategies

Is Such Training Feasible in Israel?

The Academy focuses on organization, objectives and arenas. The organization is the International Council for Adult Education that prepares its supporters, propagators, emissaries and trustees who work for the Council but are not salaried employees.

Its arenas are the global, the regional and the national. The recurring training topic is advocacy, a term that includes lobbying, support, negotiation, recruitment, achieving results and building continued relations. The International Council obtained a budget, recruited teachers, lecturers and trainers and designed an intensive curriculum and program offered in a dormitory setting. Participants in the six classes conducted to date were mainly from Africa and Asia and were accepted following a rigorous selection process. The course is taught in English and French.
separately. Graduates are awarded a certificate issued by the ICAE. Is such an academy feasible in Israel?

Current situations in Israel

The glocalization paradox in the field of adult education is evident in Israel – this is the starting point of our article. Global visions and formulations are disconnected from the various elements of daily activity in the local arena.

In Israel we can only dream of a framework similar to the ICAE Academy. The Academy does not operate within a known academic framework that grants degrees, but rather certifies its graduates by awarding a certificate that has gained respected and recognized international standing. There is no budget in Israel for such an ‘academy’, and its certificate would not have any formal status, even if teachers, lecturers and tutors were to be found.

My experience in this field of adult education in Israel is characterized by more wishful thinking than action. We deal with critical issues which are in dire need of improvement and follow-up.

The aim of the article was to shed light on global activity in the field of adult education in the hope that we can come together, organize the local arenas and embark on a journey into the realms of thought and action so vitally important for all of us.

I Almost Forgot the Most Important Point

This article will join the pool of ‘academic’ articles and will appear in a publication that is for the most part academic. Debate about the article may continue, but will remain in the academic sphere.

The current predicament of adult education in Israel calls for a breakthrough, and this will only be possible when all stakeholders join forces. Who will provide the required momentum – will it be someone from inside or perhaps from outside the field?
"Ad Halom" Project – Parents Learn and Children Succeed – What we Learned and What we Achieved Up to Now

Magi Koren

Introduction

Data published in the Statistical Abstract of Israel indicate that the stronger the pupils’ socio-economic background the higher their scholastic achievements as reflected in 5th and 8th grade Meitzav scores (Hebrew acronym for School Efficiency and Growth Indicators) and dimensions related to matriculation exams. In other words, the lower the parents’ education level, the smaller the probability that their child will be awarded a matriculation certificate and will be admitted to university. In this way inter-generational class exclusion is perpetuated over years. Furthermore, ramifications of parents’ lower education level are evident in school dropout figures, matriculation exam scores and university admission data. Alternately, the higher the parents’ education level, the higher their children’s chances to succeed on matriculation exams and to be admitted to a higher education institution. The relationship between success in school and workforce integration and social mobility is clear.

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Ms. Magi Koren has a Masters from the University of Chicago in the area of adult education and human resources development. She is a graduate of Haifa University in the humanities, and has been the director of the Department for Adult Education in the Israel Ministry of Education since 2012.
Formerly director General of the Ministry of Education, Dr. Shimshon Shoshani, announced a unique project in selected schools with low Meitzav scores and a high percentage of pupils whose parents have less than 12 years of formal education. The Ministry will offer participating parents an opportunity to complete 12 years of formal education, fully funded by the Ministry. This was a unique attempt by the Ministry of Education to address the low achievements of pupils in some schools by advancing their parents’ education, in the aim of impacting children’s school achievements.

The outlook that parents are mature adults with needs and desires and have a crucial influence on their children’s achievements and integration in society differs from assumptions implicit in projects implemented to date in various frameworks. This unique project partners with the Adult Education Division in the Ministry of Education as well as with Ministry district heads and heads of the age divisions, with the National Authority for Measurement and Assessment in Education (RAMA) and, at the local level, with school principals, directors of education centers, local authority representatives, parents, etc.

RAMA grouped schools into clusters, by municipality or learning center, with a prerequisite of a minimum number of parents with less than 12 years of education per group. The sample includes 150 schools, associated with 32 learning centers and municipalities. In some centers or municipalities more than one class was opened.

Project goal: To examine whether increasing parents’ education level to 12 years of schooling would improve pupils’ achievements as reflected in Meitzav and Matriculation scores, and whether parent involvement in their children’s education and school would also improve school climate.

The project has several prominent characteristics:

- This is the first time that the official education system or any education system intervenes and acts to change one of the pupils’
background variables; after all it is very difficult to change parents’ income or the socio-economic level of their place of residence, yet it is possible to raise parent’s education level to 12 years of schooling and in doing so, in light of what research has demonstrated, improve their children’s scholastic achievements.

- An understanding and awareness that in order to contend with issues and challenges on the national agenda – competition in the global world, a return to economic growth and development, reducing poverty, narrowing social gaps and increasing solidarity – continuous learning in adulthood and lifelong learning are required, to close gaps or to remain up-to-date. Such learning fosters adaptation to a changing environment; it is a supplementary and corrective measure to formal education; a tool for narrowing economic gaps.

- It is based on professional knowledge accumulated by the Division of Adult Education in the Ministry of Education about adult education and about formal education completion in the adult population in Israel over many years.

- This is a long-term project. The education system is usually impatient as it seeks immediate solutions and quick fixes. Investment in education and in adult education in particular is always long-term (producing significant benefits). Pupils’ improved achievement levels compared to their 5th grade Meitzav exam scores will only be seen several years down the road – perhaps in improved 8th grade Meitzav scores, in matriculation exam grades, or maybe they will meet higher education admission requirements or perhaps the effects will only be seen among their younger siblings.

- The project is accompanied by research from its inception. The National Authority for Measurement and Assessment in Education (RAMA) is involved in the project from the planning stage: RAMA decides which municipalities and schools will participate in the project, determines sample composition and accompanies
the project from beginning to end. In the first stage, in 2011, fifty schools participated in the project and fifty classes were opened in which parents studied to complete 12 years of formal education. In the second year, 2012, another 50 classes were added with an expected 150 classes in the third stage.

- Wide-ranging cooperation and pooling of activities of the entire Ministry of Education organization - the Division of Adult Education, Age divisions in the Pedagogic Administration, district heads, the Parent and Family department in the Psychological consulting Service, municipalities, directors of learning centers and RAMA. All these entities collaborated in order to bring about sustainable change in pupils achievements.

The assessment process is conducted by RAMA. As part of this process the scholastic achievements of schools with pupils whose parents participate in adult education frameworks and are completing their formal 12-year education are compared over time with similar schools (‘comparison group’) in which the pupils’ parents do not attend adult education frameworks. To this end schools were grouped into an experiment or control group based on achievement and school climate data. Follow-up is planned to track achievement and school climate indicators as reflected in Meitzav test scores in both groups.

The first classes opened in November 2010.

**Assumptions**

- In order to deal with issues and challenges on the national agenda - competition in the global world, a return to economic growth and development, reducing poverty, narrowing social gaps and increasing solidarity – *continuous learning in adulthood and lifelong learning are required*, whether to close gaps or remain up-to-date.

- In light of the abovementioned changes, it is increasingly important to continue learning throughout life, both formal and informal. Such
learning facilitates adaptation to a changing environment; it is a supplementary and corrective measure to what formal education was lacking in childhood and adolescence; a tool for narrowing economic gaps.

- The family unit and social solidarity are undergoing myriad changes. The awareness and knowledge that there is no substitute to these two fundamental structures creates the need to strengthen the family and its structures and to develop family and community robustness. This can be achieved by fostering knowledge, completing education, developing life skills and providing tools for managing family life and for adequate, suitable and relevant family and parent functioning.

- The State of Israel suffers from significant gaps between various population groups – economic and educational gaps (‘social-cultural capital’). Changing the education and professional training characteristics of the population group with limited capital (economic or education) is not possible without state intervention. The proposed project is expected to provide an infrastructure for acquiring education and training. Access to learning will assist those who seek to improve their economic-social status and will, indirectly, raise their children’s education level.

**Strategies**

- Ongoing partnership and dialog between entities at all project operating and activity levels.
- Foster system level partnerships: project management, municipal, inter-organizational, teacher and parent levels.
- Professional empowerment of teaching staff, program managers, school principals and directors of learning centers.
- Professionalization in the adult learning field as well as in the integration of school and community contents.
- Develop relevant tools at the program and teaching method level.
**Operating Principles**

- Involvement of the age divisions in the Ministry of Education as part of the partnership in all project stages.
- Grounded in professional knowledge accumulated over many years in the Division of Adult Education about adult learning and formal education completion in the adult population in Israel.
- Designing a plan for formative assessment and ongoing accompaniment by RAMA professionals.
- Adapt learning contents to parents’ needs and integrate contents from topics and emphases of the formal education system.
- Establish steering teams at the national, district and municipal level.
- Ongoing involvement of Ministry of Education district managers and school principals.
- Establish action teams at the municipal level comprised of learning center directors, school principals, teachers, parents, municipality representatives and any entity whose participation on the team is vital for project success at the municipal level.

**Reactions of Parents to their Possible Participation in the Project**

According to RAMA findings based on analysis of selection questionnaires filled by parents who attended selection exams and class openings, characteristics of the learner population in stage A of the project (2011) are as follows:

- The main attraction factors of the program for parents are the desire to help their children and to be role models for them, as well as the opportunity to complete their own formal education. These factors were listed in first place among program candidates from all groups: Hebrew speakers, Arabic speakers, individuals born in Israel and immigrants from different countries.
• Expectations from the program: among Hebrew speaking individuals, in addition to helping their children with homework the expectation to continue professional studies/certificate studies and to improve their self-confidence was prominent. Women more than men tended to indicate emotional-social issues such as self-confidence and respect of others towards them. Men on the other hand mentioned to a slightly greater extent than women the expectation for promotion at work. A high expectation to help their children with homework was also found among Arabic speaking individuals, along with continued professional development studies/certificate studies and improved self-confidence.

• Hindering factors mentioned by questionnaire respondents pertained mainly to emotional issues related to the studies and fear of failure, feelings that they have most likely carried with them from a young age. While these fears did not hinder many from joining the program, they most likely inhibited potential candidates from participating in the selection process (which in effect was a test).

• Participants in the selection gatherings hailed from various population sectors, with especially high representation of the following distinct population groups: women, Arabic speakers and individuals of Ethiopian origin.

**Preliminary Activities**

• We reviewed the research literature in Israel and around the world pertaining to similar projects.

• We collected data about education levels in municipalities and population sectors based on the latest population census (2008) and compared this data to the 1995 census.

• We compiled a list of Ministry of Education learning centers that offer various study levels and tracks to adults seeking to complete their formal education.
• After several meetings with RAMA representatives we designed a preliminary plan for the assessment process.
• We gathered all Meitzav scores from the past two years in order to obtain a comprehensive picture of all schools.
• Schools with low Meitzav scores (less than 6) were selected.
• Meetings were held with Ministry of Education division heads and it was decided that school contents would be included and workshops for parents would be conducted as part of the project.

**Preparations by Project Management Staff**

Preparations of the Division of Adult Education staff responsible for operating the project included the following activities:
• RAMA determined the municipalities and the schools within them that would participate in the first stage of the project. Schools were sampled randomly using the probability sampling method. For follow-up purposes schools were assigned to an experimental or a control group. The experimental group included 149 schools from 29 municipalities.
• RAMA developed assessment and follow-up tools, including self-administered questionnaires, observations, focus groups and in-depth interviews.
• The project and its various stages were presented to Ministry of Education division directors and to the Ministry’s top management, and received their approval.
• The project was presented to the Director of the Education Department of the Union of Local Authorities in Israel, and through him to directors of test departments in the municipalities.
• The project was presented to management of the Ministry of Education Adult Education Division which decided on how the project would be initiated, launched and operated.
The project was budgeted and prepared for presentation to the budget committee with everything entail in this process, including publication of a call for proposal.

**Preparation of Ministry of Education Districts for Project Operation**

Preparation of Ministry of Education districts for project operation included the following activities:

1. Meetings were conducted with principals of schools sampled, with the participation of Ministry of Education district heads, directors of education departments in municipalities, learning coordinators in municipalities and representatives of the Adult Education division. Different options to recruit learners were also discussed.

   1. Municipal steering committees were established.
   2. Parent associations in sampled schools were contacted.

**Getting the Project off the Ground**

In order to get the project off the ground the following actions were taken:

1. The project was presented to parents in parent gatherings, letters were sent by school principals, individual meetings and telephone conversations were conducted.

1. Potential learners were registered and invited to take selection exams. These exams (responsibility of the Adult Education Division) determine the learner’s beginning education level and set the study goal; the purpose of the selection questionnaires (RAMA administers and is responsible) is to identify learner expectations and apprehensions and characterize perceived barriers and attraction factors.

**Class Operation**

Classes opened following the learner recruitment and registration process, and after completing the required administrative process for
municipality budgeting (budget committee).

Difficulties encountered in operating the classes that should be noted:

1. Some municipalities sampled did not have learning centers and class operation entailed establishing or reestablishing learning centers, including recruitment and training of staff, teachers, etc.

2. Difficulty was encountered in recruiting learners for the project, particularly because classes opened mid-year year after parents had already committed to activities at the beginning of the year.

**The Assessment Process**

The assessment process is conducted by RAMA. As part of this process the scholastic achievements of schools with pupils whose parents participate in adult education frameworks and are completing their formal 12-year education are compared and evaluated over time in contrast to similar schools (‘comparison group’) in which pupils’ parents are not taking part in adult education frameworks. Family and other processes are also evaluated using formative assessment tools. Formative assessment examines issues such as: how adult learners and their children perceive education (as well as changes in these perceptions after acquiring education); how adults perceive their children’s schools and their involvement in their children’s acquisition of education; how parents and children perceive the children’s occupational and employment future. The parents are evaluated on two axes:

- The learner as a parent
- The learner as adult

**The Study Curriculum**

The study curriculum is comprised of three elements:

- Curriculums of the Ministry of Education Adult Education Division
for various education levels and adapted to parents’ needs. It should be noted that learners who complete the study requirements are awarded a certificate by the Ministry of Education.

- Curriculums of the Ministry of Education Elementary School Division, with emphases and priorities at the national and school level.
- Workshops for parents on issues relevant to the various groups, with group leaders provided and trained by the Parent and Family Department of the Psychological and Counseling Service.

Adult Education Division curriculums are intended for adults who lack elementary or high school education and are adapted to the world of the adult learner. These curriculums enable learners who have gained life experience along with professional and family status to complete their formal elementary or high school education. This in turn strengthens self-image and contributes to social mobility and its nature. The curriculums focus on three main areas: fostering knowledge, cultivating tools and skills and developing perspectives and attitudes. They cultivate the learner’s awareness and recognition of the importance of continued learning and instill the understanding that learners can realize their abilities and improve their functioning in the family, at work and in a democratic and equal society.

Three main tracks are offered:

**Program for completing elementary education** – the program provides basic tools such as reading, writing, reading comprehension and arithmetic for orientation in the modern world. The program spans 500 hours. Learners receive a certificate after completing this study track. The program includes: two mandatory courses – reading comprehension and mathematics. Tests in these subjects are conducted nationally. Learners also choose three elective subjects for which exams are administered internally.
Programs for completing high school studies:

Completing 10 years of formal education
Learners must participate and pass tests in five subjects according to Adult Education Division curriculums, of which two are mandatory: for Hebrew speakers – mathematics and reading comprehension; for Arabic speakers – mathematics and Hebrew or mathematics and Arabic. Scope: 560 hours.

Completing 11 years of formal education
In this track learners are required to participate and pass final exams in two mandatory and two elective subjects in one of two formats: format A – comprised of 7 completion units; format B – comprised of 5 completion units and a matriculation unit in any subject. Mandatory subjects are: for Hebrew speakers – mathematics and reading comprehension; for Arabic speakers – mathematics and Hebrew or mathematics and Arabic. Scope: about 550 hours. Matriculation exams are in accordance with the exam curriculum of the Ministry of Education Examination Division.

Completing 12 years of formal education
This track requires learners to participate and pass exams in at least five subjects in a format of 7 completion units and 3 matriculation units – a total of 10 study units. Scope: about 760 hours. Mandatory subjects for Hebrew speakers include: mathematics and reading comprehension at the matriculation or completion unit level and an essay at the completion level. Mandatory subjects for Arabic speakers are mathematics, Hebrew and Arabic at the matriculation or completion level.

Summary and conclusions for future

Satisfaction, Strong Points and Issues Needing Improvement

- Satisfaction from the program was very high, in particular within the
Hebrew-speaking sector (satisfied/very satisfied: 95% of Hebrew-speakers, 79% of Arabic-speakers).

**Program Strong Points**
- The primary strong point of the program is that it offers an opportunity for adults to complete 12 years of schooling (at no cost) - this chance is seen as a springboard to advancement in a variety of areas in life (in formal education, expanding horizons and enriching knowledge, as a means of learning a living, helping one’s children in school, self-confidence, etc…).
- Attitudes of the teachers.
- Quality of the instruction.

**Issues Requiring Improvement**
- Physical conditions of the classrooms (especially in the Arab sector).
- Adding English to the curriculum – in a significant number of the classes English was not taught at all. In others not all students were able to participate in English studies because of the wide gaps in levels of knowledge.
- Disappointment that the program does not enable completion of matriculation. In some cases: frustration that the program does not provide for completing matriculation. In others: lack of understanding at the outset that this is not part of the program, since some students were under the impression that the course would enable them to complete matriculation.

**Impact of the Program on Literacy in the Home and Involvement in Children’s Education**
- Parents who joined the program were from the outset individuals who attached great importance to their children’s education, and were (relatively) involved in their schoolwork and maintained
ongoing communication with the school staff (these findings are in concert with the outcomes of in-depth interviews held during the course of the program). Hence, it is difficult to identify specific contributions of the program to these issues.

However, it is possible to indicate the program’s contribution in the following areas:

• In each of the following subjects: Hebrew, arithmetic, and computer use, there was an increase of some 15% in the number of interviewees who reported that as a result of the program it is easier/much easier for them to help their child in schoolwork in these subjects.

• Among interviewees there was a 12% increase in reports that they help their children with homework at least a week.

• There was an increase of 7% of parents who said it is important to them that their children acquire higher education.

• There was an increase of 7% of parents who initiated contact with the staff of their children’s schools during the course of the year.

**Impact of the Program upon Participants**

• In terms of the program participants themselves, comparisons between the beginning of the program and its end refer to two topics: computer use, and various aspects of self-image and self-confidence.

• In both the above areas that were assessed, the impact of the program is significant:

• Interviewees reported an increase in the use of the variety of computer applications and frequency of use. An especially high increase was noted in use of email (23%), in social networking (18%), and in writing documents (14%).

• It can be deduced that the program enabled participants to
communicate effortlessly in writing with their environment via advanced digital technology (an issue of importance in their personal and work place lives).

- Self-image: There was noted improvement, especially in “soft” aspects of self-perception – those aspects not directly connected to achievements or success in studies/work: “I feel that I am of equal worth to others,” and I can be proud of many things about myself” – in each of these areas there was an 8% increase in the number of interviewees responding “very much agree.”

- Adult learners in the program have many expectations for the future, especially: vocational advancement, continued studies, continuing to help their children with the latters’ schoolwork, and in general, to progress and succeed more in life.

- The above do not preclude the possibility that our adult learners will require further help – guidance, counseling, and encouragement – to fulfil their expectations. It is recommended to follow-up on how, and if, these expectations are actualized.

- Make an effort to provide acceptable physical conditions in each classroom, especially in the Arab sector. In this connection, it is recommended to pay special attention to the following issues (which were raised in the in-depth s conducted during the program): adult-size chairs, heat, air-conditioning, a permanent classroom.

- Evaluate the option of learning English in all groups and on differing levels (even if not all students will be tested in this subject).

- Clarify expectations from the program at the beginning (the program leads to completion of 12 years of study, but not matriculation).

- Offer support for program graduates (counseling, guidance, referrals) to help them continue studies for matriculation or vocational studies.
Digital Technologies and Adult Education: The Challenge
Digital Citizenship
An Interview with Nava Gilad, Digital Citizenship Task group Manager, The Israel Internet Association (ISOC-IL)

A Focus on the Digital Periphery
- What is ‘Digital Citizenship’?
- We are all citizens, and a new arena has opened up for all inhabitants of the world – the virtual arena. We have become a very digital society, particularly in three areas: information, communication and service consumption. One of the first goals the Israel Internet Association set for itself a decade ago was to narrow the digital gap.
- ‘Narrow the gap’ in what sense – adults versus young people?
- The intent is to narrow the gap for those in the ‘digital periphery’. This refers to diverse audiences – those who ‘are not there’, who are not at the center of the digital world for a variety of reasons. Perhaps they were not born into the digital world and have difficulty entering it, or maybe their employment circumstances did not provide the opportunity to use digital tools. In 2001 we decided to focus on the ‘third age’ population. Life expectancy was increasing and people retired without having acquired knowledge of computing, while the ability to consume and use the Internet to obtain information, communicate and take advantage of services could improve their quality of life. We established a task group comprised of “suppliers and consumers”.
- Who are the suppliers?
- Eshel (the Association for Planning and Development of Services for the Elderly in Israel) within the framework of Joint-Israel is from our perspective a supplier because it is focused on ‘third age’
individuals (providing services, information etc. to this population group). Non-profit organizations of pensioners are consumers, as is a person that has retired.

- So is this the main target group as you see it?
- Not only this group. To the same extent we engage in making the Internet accessible to people with disabilities; we are also involved with the Arab sector as well as with other groups that for cultural, economic or social reasons, or because they worked in ‘blue collar’ professions, were not exposed to the technological world of computers and the Internet. We also have for parents, teachers, children and adolescents to increase awareness of the need for informed Internet use.

- How did you approach this task?
- Our approach in the Israel Internet Association developed gradually over time: defining and mapping needs, constructing and developing knowledge, producing training kits under the titled ‘Online Citizen’ and identifying partners that would help disseminate the kits and would train, accompany and provide professional development to the group we defined as ‘third age members’.

**Third Age versus New Technology**

- What challenges did you encounter in your work with third age individuals?
- The main problem is what I call ‘self-branding’ – how elderly people perceive themselves in relation to technology, how they think it can serve them, their attitude towards the Internet and the new communication options that are now available. Also, how they
perceive the fact that their means of self-expression have changed, for example they can write a blog or collaborate in writing a Wikipedia entry. In other words, in this new reality the fact that a person is no longer in the workforce does not mean that he or she do not have anything to contribute to society or to themself. As a result, we decided to develop the knowledge these people require by asking ourselves what an individual needs in order to be an ‘online citizen’. By this we meant individuals who are not intimidated by technology, use it for things that genuinely interest them and that they view as necessary such as finding information; consuming news, health and banking services; distance learning; Internet games; culture and hobbies; maintaining contact, etc.

- How do you define ‘Digital Citizenship’ with respect to the ‘third age’?

  Digital citizenship refers to three main areas which I already mentioned: information, communication and service, and branches out into nine areas of digital literacy: what is technology and what is the proper use of technology (this also includes mobile phones, digital cameras, Skype, etc.)? What are the differences between the various Internet uses – sending electronic mail, writing a blog, partnering in writing a Wiki entry. The Internet offers a wide range of tools and services. You must be familiar with the options it provides for your empowerment and at the same time be aware of ‘potential problem areas’ and the general issue of privacy: responsibility for my privacy and for the privacy of others. So there are two sides: empowerment and danger. Without this you are not ‘digitally literate’.

  Digital citizenship also includes: digital ethics, law, consumption and health. Regarding these topics – we understood that on the one hand we had to develop the knowledge, and on the other hand
reach the audience that needs it by offering one-on-one or group instruction. We had to examine and understand the advantages of each of these learning formats. This is how we developed different alternatives. Our material enables everyone – in the ‘third age’ context – to choose both a learning format and the topics that are of real interest and importance to them.

- So you developed study kits?

- Yes, we started out with study kits, both hardcopy and online, accessible to everyone. After we had the material, some of which I had produced as the Computerization Center manager in the city of Hadera, we asked ourselves whether learning and memory are different for third-agers. To answer this, in 2007 we asked Dr. Tova Gamliel from Bar Ilan University to conduct a study that would accompany the project. To this end we created focus group of pensioners who studied with the help of the first study kit we produced in 2003 and another group that used the second kit, ‘NETWISE-Online Citizen’ that we developed following a pilot among groups of women. In addition to the focus groups the study also included observations and questionnaires.

We designed a weekly and a periodic questionnaire that the learners answered and addressed all aspects of their learning. They were also asked about what was missing in the kit and about the difficulties they encountered. We did the same with focus groups of instructors that worked with the pensioners (scholarship students from the Friends of the IDF IMPACT! program who worked with us through Eshel-Joint). This group was also part of our study. The weekly and periodic questionnaires pertained to the learning process with both study kits. For example we found that our kits did not address the use of ‘peripheral equipment’ such as digital cameras, and how to
upload pictures to the computer and send them through the Internet. Skype is another example, after all nothing interests this population more than talking to their grandson that is on a trip abroad. We became aware of these issues through the observations, focus groups and questionnaires.

- How would you summarize the study conclusions?
- The conclusions address topics that were missing as well as teaching methods. For example, we found that there is a need for a glossary and decided to create a glossary based on terms mentioned in the study kits. We included these terms in the glossary and added a reference to the page on which it is discussed in the study kit. We also compiled a list of questions and answers that refer the user to the relevant page in the study kit where the topic is discussed. For example, if an individual learned how to attach a file to an email but does not remember how to do so he can refer to the Q&A list and find the information he needs. This list provides learners with answers to all issues, large or small, related to word processing, the Internet and emails, for example deleting or highlighting words. These are examples of ‘learning aids’ we developed after understanding the needs of the elderly in learning to work with technology.

- What did you change in the study kits as a result of the study?
- We had a better handle on the learning issues that we needed to address and how to approach them. We could define our precise goals for every stage, determine how to achieve them and then offer practice exercises and a summary of the topics covered. This approach also helps the instructor remain more focused. After all with the Internet you can ‘surf’ in many directions and ‘get lost’ and forget where you were and what you were looking for… Another
important thing we learned from the study had to do with using the ‘mouse’ and the problem of hand-eye coordination when using the computer. Also, when using the computer users must hold their head in a different position than when reading a book or writing. Consequently we began to teach our students how to use the computer without a mouse – by performing all necessary functions using only the keyboard. Another issue we addressed following the study had to do with managing knowledge on the computer – creating ‘libraries’ and ‘favorites’ – a critical topic since if a person visits a website but does not place it in ‘Favorites’, he might not find it again. Knowledge management is a common theme throughout the study kit. The study also helped us develop The Guide for the Guide with information and guidelines for the instructors.

- And what about ‘social networks’?
- Our kits have two target audiences: retired individuals and their instructors. Following our study and follow-up we developed a third kit about social networks, including Facebook. In other words, you can see how a whole new world unfolded – Part A: the level of holding the mouse (in the first unit), understanding the work environment and the work tools and initial use of the Internet; Part B: how to find information, transfer and organize information, organize email communication, communicate in forums and use additional communication tools such as Skype. This booklet is geared towards service consumption: E-Government (including pensioner rights and useful forms), banks, financial transactions, the world of health services, searching for information and cross-referencing information to check that it is reliable, up to date and valid. Everyone that used the kit was very enthusiastic. And I am referring to learners and their instructors.
Additional Information

The ‘Online Citizen’ study guide for senior citizens is divided into three parts:

**Part A** - acquaintance with the computer and the work environment, basic acquaintance with a word processor and the Internet browser.

**Part B** - Hands-on experience finding information on the Internet, using the E-Government website and a variety of other services available on the Internet, email and its use, communication and information in forums, acquaintance with online conversation services such as SKYPE, using a digital camera and peripherals such as a USB.

**Part C** – acquaintance with social networks and hands-on experience with Facebook.

Study kits are available on the Israel Internet Association website:
isoc.org.il/workgroup/guidance_kits.html

For additional information contact:
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Michal Hess, NETWISE Coordinator – life skills for the third age Michal@isoc.org.il
Integration of New Technology in the Education System: Models and Goals
Islands of Innovation: A critical analysis of a model for innovation implementation in school systems

Orit Avidov-Ungar and Yoram Eshet-Alkalay

In recent years, there have been an increasing number of projects implementing technological innovation in education systems, employing the Islands of Innovation model. According to this model, technological innovation is implemented in small islands within an organization, in the hope that they will be imitated, permeate the whole organization with their values and lead to overall, comprehensive innovation and to a new organizational culture.

Islands of innovation are created through two main mechanisms: top-down management decisions or bottom-up, spontaneous local initiatives taken by enthusiasts within the organization. Studies on technological innovation implementation in education systems show that for the most part, islands of innovation fail to generate overall, comprehensive innovation.
Islands of Innovation: A critical analysis of a model for innovation implementation in school systems

innovation. This article uses three prominent organizational theories - Institutional Theory, Loosely Coupled System Theory and Disruptive Technology Theory – to analyze the primary reasons for these failures. It stresses the buffering effect as an isolating mechanism, detaching the islands of innovation from the organization as a whole, and sees it as the main cause of failure in innovation implementation. The article warns against the stagnation that these islands of innovation may cause organization managements, which use them as an excuse to consider themselves innovative, and warns against unsupervised, poorly thought-out use of this model for technological innovation implementation.
Introduction

Modern digital technologies – particularly multimedia and ICT – are characterized by a transition from systems that are closed, static and monistic to ones that are open, dynamic and pluralistic, ones which enable broad access to information and knowledge and invite social and scholastic interactions that transcend the constraints of time and place. These technologies offer a new interpretation of concepts such as learning, school, authority and the teacher-student relationship (Alexander, 2006; Anderson, 2004; Venezky & Davis, 2002). The widespread penetration of these technologies into all levels of education, training and higher education in recent years has dictated considerable changes in teaching-learning-training processes (Aviram, 2000; Koehler & Mishra, 2009; Kozma, 2002). This is evident in the formulation of technology-oriented pedagogical concepts (Lowenthal & Muth, 2008).

During the past decade, we have witnessed extensive implementation of educational technology as an integral part of teaching, learning and training processes (Cunningham, 2009; De Freitas & Oliver, 2005; Fullan & Smith, 1999; Halverson & Smith, 2010; Selwyn, 2010). This involves the development of unique strategies for adapting multimedia and computer technologies to educational needs and projects of innovative technology implementation such as the ‘interactive board’, the ‘computer for every teacher’ or the ‘computer for every student’.

Analysis of contemporary professional literature reveals that despite the immense inherent potential of educational technologies to enhance and improve teaching, learning and training, these educational systems have
a structural resistance to the organizational and pedagogical changes resulting from their implementation (Charter, 2008; Fullan, 2001; Levin & Fullan, 2008). This resistance presents several obstacles to the implementation process (Salmon, 2005) which lead to disappointment with the limited impact the technologies have on school culture (Cuban, 1986, 1993; Venezky, 2001), a disappointment that is common to most such endeavors (Fullan & Smith, 1999; Mioduser, Nachmias, Tubin and Forkosh, 2006). As early as 1987, Papert aptly described the stagnation of the education system and its resistance to technological innovation, when he formulated his implementation paradox, claiming that “the more suited innovative technologies are to the existing system and the fewer changes needed to implement them, the more marginal the impact they will have” (Papert, 1987)

Studies on technological innovation implementation in education systems show that contrary to the recommendations for leading models of innovation implementation (Levin & Fullan, 2008; Rogers, 1995; Tyack & Cuban, 1995), the decision about how innovations are to implemented in education systems is usually an imposed top-down policy, that does not involve principals and teachers, and does not take into account the organizational culture, practices, norms and inherent resistance to change. (Levin & Fullan, 2008; Ogobonna & Harris, 2003; Vaillant, 2005; Zimmerman, 2006). The research also indicates that most projects focus on the external characteristics of the organization and ignore the need for a change in the organization’s culture, norms and basic assumptions (Schein, 1990) as a prerequisite for effective, meaningful implementation of innovation (Fullan, 2006; Goldhaber & Eide, 2002; Hargreaves & Goodson, 2006; White, 2007).
The search for suitable methods of implementation has led education system leaders over the past decade to examine effective implementation strategies (Sarason, 1995). In contemporary literature we find two main implementation models: Islands of Innovation and Comprehensive Innovation. In the Islands of Innovation model, the innovation encompasses only a small part of the organization and is usually focused on a particular content area or a particular task (Mioduser et al, 2006). This model usually leads to first degree changes which mainly involve changes in the characteristics and behaviors of the organization without a significant change in its culture, norms and basic assumptions in the organization (Argyris & Schon, 1978; Raz, 2002, 2006). In contrast, in the model of Comprehensive Innovation, the innovation permeates all levels of the organization (Mioduser et al., 2006). It creates a new organizational culture and leads to second degree changes which affect values and basic assumptions in the organization (Argyris & Schon, 1978; Raz, 2002, 2006). At the highest level, this innovation might even become a paradigm shift within the organization (Pelgrum, Brummelhuis, Collis, Plomp, & Janssen, 1997).

Because of the complexity and high cost of educational technology implementation (Venezky & Davis, 2002; Fullan, 2001), many organizations choose to employ the Islands of Innovation model (Avidov-Ungar, 2010) at the first stages of integration, in the belief that this will facilitate gradual, controlled implementation during which these islands will radiate onto their surroundings and lead to comprehensive innovation (Carter, 2008; Day & Lindsey, 2009; Del Val & Fuentes, 2003). Because of the many disappointments with innovative educational technology implementation projects (Cuban, Kirkpatrick & Peak, 2001;
Venezky, 2001), the Islands of Innovation model is attractive to education systems because it only uses up a small part of their resources and any damage from failure is limited. Because the implementation is limited in scope, the big challenge in successful implementation of the Islands of Innovation model lies in their successful expansion to the organization as a whole, including the creation of a change in its culture, and in particular its values and basic assumptions (Dodgson & Bessant, 1996; Morrison, 1998; White, 2007).

In this article we compare the two major models of innovative technology implementation (i.e. islands of innovation versus comprehensive innovation), with a special focus on the implications of the Islands of Innovation model for the implementation of innovative technologies in education systems.
Islands of Innovation and Comprehensive Innovation as models of educational technology implementation

Recent research findings indicate the limited impact of comprehensive innovative technological reforms in the education system (Venezky, 2001) and mention that they usually end in disappointment from their limited success (Cuban et al., 2001; Fullan, 2001; Venezky & Davis, 2002). Unclear trends also emerge from research findings about the effectiveness of the Islands of Innovation model of technological innovation in the education system (Avidov-Ungar, 2010; Wenglinski, 1998). Many studies reported that not only did the hope that these islands of innovation would radiate out into comprehensive innovation prove to be in vain, but also that the islands of innovation themselves were often found to inhibit the wider implementation of technological innovation (Ruggles & Sadtler, 2006; Christensen& Clark, 2003). We will now analyze the two models in an attempt to identify the advantages and disadvantages of each one in terms of effective implementation.

In the Islands of Innovation model, the innovation is implemented in a small part of the organization for a homogeneous group with similar traits. In many cases this is done in the form of a pilot project or a specially chosen framework such as a particular age group, subject of study, schools in a certain community or a particular teaching method. Examples of such projects might be the introduction of laptops into a school or examining the effectiveness of learning with video clips in a certain class. The choice of the Islands of Innovation model derives, in many instances, from a conservative approach that aims at a gradual introduction of innovation without causing too many shockwaves or rapid systemic changes to the organizational culture (Gomez, Sherin,
Griesdron & Finn, 2008; Koehler & Mishra, 2009). The assumption common among many proponents of this kind of innovation is that the success of these islands of innovation will serve as a role model for the whole organization, allowing the innovation to spread and turn into comprehensive innovation (Kozma, Voogt, Pelgrum, Owston, McGhee, Jones & Anderson, 2002). On the other hand, in the **Comprehensive Innovation** model, the implementation of innovative technology is all-encompassing rather than gradual and involves most of the components of the organization and its members. Consequently, the group of participants in the comprehensive innovation model is the more heterogeneous of the two. The comprehensive model derives from the assumption that the implementation of any innovation requires a radical change in the organization’s basic assumptions and the formulation of a new worldview (Halverson & Smith, 2010). Hence, while the Islands of Innovation model is often satisfied with a change within the existing organizational structures, in the comprehensive model the technology is perceived as leading an overall change in the organizational culture and in the organizational-educational culture (De Freitas & Oliver, 2005; Fullan, 1998, 2000, 2006). In reference to a school, this would involve systemic changes such as in the structure of the school and the role of the teacher.

Many studies mention the critical importance of matching the implementation model to the organizational culture and the impact of that choice on the effectiveness of the implementation (Carter, 2008; De Freitas & Oliver, 2005; Fullan, 1998, 2000, 2006; Venezky, 2001). On the other hand, other studies reveal that in many instances, the choice of
Islands of Innovation: A critical analysis of a model for innovation implementation in school systems

The implementation model is not made out of a deep analysis of the goals and limitations of the implementation or of the organizational culture into which it is to be introduced (Ben Perez, 2009).

Table 1 compares the two models through parameters of organizational change (Sarason, 1995).

<table>
<thead>
<tr>
<th>Parameters of Organizational Change</th>
<th>Islands of Innovation Model</th>
<th>Comprehensive Innovation Model</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Goal of change</strong></td>
<td>Improvement of existing structures; changes in behavior, language and symbols</td>
<td>Overall change in organizational culture; a new structure based on new values and worldview</td>
</tr>
<tr>
<td><strong>Depth of change</strong></td>
<td>Innovation encompasses only a small part of the members learning and teaching in the organization</td>
<td>Innovation encompasses at least half of the members learning and teaching in the organization</td>
</tr>
<tr>
<td><strong>Type of change</strong></td>
<td>A conservative approach; innovation leading to changes defined as first degree</td>
<td>A systemic approach; innovation leading to changes defined as second degree</td>
</tr>
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</table>
Focus of change | Innovation is focused on specific content or a specific task | Innovation involves most components of the organization with direct implications for the values and worldview of the organization
---|---
Structural features | An operational change of a particular parameter within the organizational system without changing any of its definitions; the innovation has no significant impact on other levels of the organizational culture. | A change in the features and definitions of the organization that becomes of essential value, one that directly affects role variables and creates a ‘new culture’
Principal implementers | A particular, unique, homogenous ‘audience’ | An ‘audience’ with a broad population that is varied and heterogeneous
Organizational culture components | Innovation involves mainly the level of characteristics and behaviors. | Innovation encompasses all layers of the organization including values and basic assumptions

**Table 1: Comparison of the Islands of Innovation and Comprehensive Innovation models through parameters of organizational change**
As is evident from Table 1, in both models of implementation there is potential for an educational organization to cope successfully with the complexity and problematic aspects of implementing technology innovation, but this success depends to a great extent on a profound understanding of the advantages and disadvantages and the dilemmas each one poses (Bransford, Brown, & Cocking, 1999). Research literature describes seven key dilemmas pertinent to the implementation of innovation in education systems (Ogawa, Crowson, Goldring, 1999). These dilemmas relate to the processes the school undergoes during implementation and regarding its connection with its environment. These dilemmas are presented in Table 2, with reference to the advantages and disadvantages of each implementation model. The first four dilemmas in the table refer to the relationships between sub-systems within the school and the remaining three refer to the reciprocal relations between the school and its environment.
<table>
<thead>
<tr>
<th>Dilemmas pertinent implementation of innovation</th>
<th><strong>Islands of Innovation</strong></th>
<th><strong>Comprehensive Innovation</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Goals of the school vs. needs of the individual</strong></td>
<td>Enables attainment of specific goals; less threatening; roles do not change so quickly; does not necessarily provide a response to the organization’s overall values and basic assumptions.</td>
<td>Enables attainment of organizational systems; takes a long time; it is hard to enlist many ‘adopters’; threatens the positions of members of the organization.</td>
</tr>
<tr>
<td><strong>Formal vs. informal structure</strong></td>
<td>Does not harm the formal structure of the organization; enables creation of parallel structures that do not disrupt the daily routine of the organization.</td>
<td>Requires a redefinition of the formal organizational structure in which the innovation is being implemented; might adversely affect some positions while promoting others; requires a systemic change.</td>
</tr>
<tr>
<td><strong>Professional expertise vs. bureaucratic hierarchy</strong></td>
<td>Requires specific expertise; may initially make do with ‘enthusiasts’; does not have to adversely impact the existing hierarchies in the initial phase.</td>
<td>Requires systemic expertise and ongoing learning by all members of the organization; requires a definition of the professional values underlying the innovation implementation; requires extra work on the part of many employees.</td>
</tr>
<tr>
<td><strong>Centralization vs. decentralization of decision-making</strong></td>
<td>Based on decentralization in which a subgroup is empowered – by its own initiative or at the initiative of the management; does not require centralization of the leading of the process</td>
<td>Requires a centralized approach in which most of the innovation is implemented top-down, with an overall coordinated and systemic perspective.</td>
</tr>
</tbody>
</table>
### Table 2: Comparison of advantages of the Islands of Innovation model vs. the Comprehensive Innovation model with reference to common dilemmas of innovation implementation (Ogawa, Crowson, Goldring, 1999)

<table>
<thead>
<tr>
<th>Between school and environment</th>
<th>Conservatism vs. flexibility</th>
<th>Internal cohesion vs. openness to the environment</th>
<th>Obeying technical expectations of environment (achievements) vs. symbolic expectations (values)</th>
</tr>
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<tbody>
<tr>
<td>Enables organizational conservatism as the systemic perspective but at the same time acts flexibly vis-à-vis the local innovation; partially caters to the demands of the environment to be flexible and innovative regarding implementing technologies in the school</td>
<td>Does not adversely affect internal cohesion. Enables each sub-unit to function alone according to its routines; does not require maximum openness to the environment; the environment ‘penetrates’ the organization only through the ‘islands of innovation’</td>
<td>‘Islands of innovation’ spare the organization from systemic confrontation of achievements vs. values dilemma; enables small-scale tryout without damaging the organization</td>
<td></td>
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<tr>
<td>Harder to remain conservative when implementing an overall systemic change; mental and organizational flexibility is needed to activate the change properly.</td>
<td>Often adversely affects internal cohesion, creating controversy regarding a systemic implementation that disrupts daily routine; innovation enables the intake of ‘oxygen’ from the environment, usually in the form of innovation</td>
<td></td>
<td></td>
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<tr>
<td>‘Comprehensive innovation’ forces the organization to confront the dilemma of achievements vs. values, obligating it to state what the innovation is meant to cater to and how.</td>
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</tbody>
</table>
Given the rise in the costs of technology and the increasing complexity of technological innovation implementation projects, the model of Islands of Innovation has become the preferred implementation strategy of decision-makers in the education system in recent years (Mioduser et al., 2006). However, it is actually the limited successes of these projects that reveal how important is to understand how islands of innovation are created and what factors encourage or hinder their implementation.

**How Islands of Innovation are Created**

Contemporary literature reports on the creation of islands of innovation in the education system through two main channels: (a) those created through an organized top-down process of carrying out a policy guided by the system’s decision-makers (Morgan, 1992) and (b) those created through spontaneous bottom-up processes, led by local clusters of highly motivated teachers and other enthusiasts in the organization, who lead innovative initiatives (Mioduser, Nachmias, Tubin & Forkosh, 2003). Table 3 compares these two patterns as a basis for the discussion about how these two channels can affect the spread of technological innovation throughout an educational organization.
### Islands of Innovation: A critical analysis of a model for innovation implementation in school systems

<table>
<thead>
<tr>
<th></th>
<th><strong>Top-down Islands of Innovation</strong></th>
<th><strong>Bottom-up Islands of Innovation</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Policy-making</strong></td>
<td>Outcome of overall systemic policy</td>
<td>Outcome of local school initiative</td>
</tr>
<tr>
<td></td>
<td>Predefined outcome</td>
<td>Outcome develops during a localized implementation approach</td>
</tr>
<tr>
<td></td>
<td>Overall centralized approach to the implementation process</td>
<td>Process dependent on the school</td>
</tr>
<tr>
<td></td>
<td>School is obligated by policy-makers to be part of the process</td>
<td>There is choice within the school regarding the depth of involvement in the process</td>
</tr>
<tr>
<td></td>
<td>Expertise from above – from policy-makers to the school</td>
<td>Springs from below – a local, school-based initiative</td>
</tr>
<tr>
<td><strong>School</strong></td>
<td>Source of knowledge is external to the school, lying with the policy-makers in charge of the change</td>
<td>Source of knowledge is within the school, lying with those who instigated the change</td>
</tr>
<tr>
<td></td>
<td>Minimal partnership of the school in the planning and initial dissemination</td>
<td>Maximal partnership between school stakeholders who are partners to the innovative change</td>
</tr>
<tr>
<td></td>
<td>Derives from system’s needs at the national/local authority level and from policy</td>
<td>Derives from local school needs</td>
</tr>
<tr>
<td></td>
<td>Run by elements external to the school at the “head office” level</td>
<td>Run by elements within the school, position holders and teachers who are particular enthusiasts</td>
</tr>
</tbody>
</table>
Teachers | Teacher are rarely involved in the decision-making | Only the implementers are involved in the decision-makers, not the other teachers
---|---|---
Teachers implement according to guidelines given “from above” | Implementation is the outcome of the school initiative
Based mainly on models built outside the school | Based on a local model constructed as part of the innovation
Implications of for school-wide implementation | An element in the framework of the learning (a course, a website, an online project, a virtual space) that expands the students’ learning environment | For a relatively small number of students acting within a very clear framework
Integrates into the timetable and agenda and contributes to the advancement of the curriculum | The implementation framework is focused on one defined content area or task
Orientation is the outcome of an overall policy | Orientation is towards the world outside the school i.e. image, research, hi-tech, media, other cultures and the community

Table 3: Comparison of the patterns of creation of Islands of Innovation

Contemporary research studies examining the implementation mechanisms for technological innovation in education systems indicate that in general, islands of innovation do not manage to break through their natural boundaries to become comprehensive innovation within...
A critical analysis of a model for innovation implementation in school systems

the organization as a whole (Christensen & Clark, 2003; Christensen et al., 2006; Scott, 2003). Avidov-Ungar (2010) examined one such implementation process in islands of innovation which created through a top-down approach as part of a management-dictated policy. She found that the failure of the islands of innovation to transfer the innovation to the organization and make it comprehensive so as to lead to a new organizational culture, has two main causes: (a) the size of the gap between the overt level (characteristics) and the covert level (values and basic assumptions) of the organizational culture, and (b) the size of the gap between the management’s view of the innovation implementation and that of the teachers. In another study, which examined islands of innovation created through the bottom-up approach, initiated by teachers and other enthusiasts in the organization (Darling Hammond, 2000), it was found that spontaneous islands of innovation originating in local initiatives tended to have a short lifespan. She claimed that the failure of spontaneous islands of innovation indicates a need for systemic support, particularly from the relevant decision makers and managers.

In research on islands of innovation, and particularly where this is an experimental pilot for selected groups acting within an organization, the buffering effect is described as the main impediment to the spread of the innovation beyond its original boundaries (Avidov-Ungar, 2010; Cook, Holly & Andrew, 2007). According to these studies, the islands of innovation are perceived by the rest of the staff as a kind of ‘elite unit’ that cannot be imitated on the one hand, and on the other, management sees it as proof that the organization is being innovative and reformative, and thus it stops looking to generate any further innovation. In this way, the islands of innovation actually create a buffering process that is harmful to the transfer of innovation from one level of the organization to the others: between the islands and the staff and between the management
and the environment in which it functions. Examining the buffering effect in technological innovation implementation in schools, Mioduser et al. (2003) describe how the isolating of the islands of innovation from other activities in the organization rendered these special projects marginal and lacking in influence, even though the initiative for the innovation came from a group of highly motivated teachers with the approval of the management. Support for this claim can also be found in Meyer & Scott (1983), who researched the development of spontaneous islands of innovation. They claimed that because of the buffering effect and because of the lack of awareness on the part of the management regarding the stagnation that these spontaneous islands might create, in many cases the islands actually become the main force impeding expansion of the change to the rest of the organization. A similar phenomenon of “innovation without change” attributed to islands of innovation is reported on in various studies as one of the most prominent features in organizational change and technological innovation in education systems (Avidov-Ungar, 2010; Mioduser et al., 2006; Sarason, 1995; Tyack & Cuban, 1995). It was found that in general, islands of innovation that do not constitute part of the management’s vision or worldview and which do not receive support, particularly those that are spontaneous, do not manage to expand, or radiate to the rest of the organization to become comprehensive innovation (Hanson, 2001; Scott, 2003). On the other hand, the literature testifies to the tremendous vitality of the spontaneous, bottom-up islands of innovation when they do enjoy management support (Kozma, 2000).

**Discussion**

The phenomenon of technological innovation implementation through islands of innovation has expanded in recent years, whether through
the spontaneous bottom-up approach or through top-down systemic processes motivated by decision-makers who hope that these islands will be the epicenter from which the innovation will spread throughout the organization to become comprehensive. An analysis of the cases and mechanisms discussed in this article reveals that the conditions under which the islands of innovation are created will greatly impact their chances of radiating out to the rest of the organization. It was found that bottom-up processes often widen existing gaps between an organization’s overt characteristics and its covert values and basic assumptions (Avidov-Ungar, 2010). This may be expressed, for example, in the gaps in expectations, worldview and values between the school management and the teachers, or between those who set national educational policies (Tyack & Cuban, 1995; Sizer, 1993). There are also significant gaps among the partners to top-down implementation. In many cases, technology innovation implemented in this manner is perceived by the management as a tool and not as a value, and so the motivation for implementation comes from external pressures exerted on the system by policy makers or by the need to resemble competing organizations (Carter, 2008; Cunningham, 2009), without a clear definition of what need the new technology is supposed to cater to (Cook, Holley, & Andrew, 2007; Darling Hammond, 2000). Such processes are typical of many of the decisions to implement technological innovation in education systems and in other organizations that are centralist by nature (Koberg, Detienne & Heppard, 2003), and they contribute to the widening gaps between the levels of the organization that are not part of the decision-making process, thereby which damaging the quality of the implementation (Luo, Hitly, Worlet & Yager, 2006). The most common finding regarding these gaps underlines the fact that islands of innovation created during the implementation are perceived by the environment as inaccessible and they become isolated, which, to a great extent, limits the
degree to which they can spread to the rest of the organization (Zhang, 2010).

From the findings of the abovementioned studies examining the processes of technology implementation through islands of innovation, it emerges that the assumption that their success will automatically permeate the rest of the organization is erroneous (McDermott & O’Connor, 2002; White, 2007) and that the **buffering effect** would seem to be the main impediment to this permeation, both because of the isolation from the rest of the organization and because of the stagnation they create among decision makers who, contrary to reality, use these islands as an excuse to consider their organization innovative (Kozma, 2003).

The buffering effect and the difficulties in the transition from islands of innovation to comprehensive innovation can be explained by three prominent organizational theories: the **Institutional Theory**, the **Loosely Coupled System** and the **Disruptive Technology** theory.

According to Institutional Theory, (DiMaggio & Powell, 1983; Powell & DiMaggio, 1991; Scott, 1987, 2001), organizations aspire to increase their survivability and earn legitimacy by resembling their environment and thus will meet the challenges it presents (Avgerou, 2000). This theory describes how change is perceived by the organization as a purposeless ritual conducted mainly in order to keep it in tune with external fashions of management and thereby earn social legitimacy. The implementation of technological innovation as part of a policy imposed from above is often seen by the school as something that disrupts its ongoing, routine activity (Butler, 2003). This theory also suggests that the organization handles this situation by creating islands of innovation which seemingly show it to be meeting the challenge posed by the system, but because these islands were created in order to please the system, they fail and actually block the creation of the desired systemic change (Bada, Anieboran & Owei, 2004).
The difficulty of turning islands of innovation into comprehensive innovation and the fact that these islands actually hinder the implementation of spread of innovation throughout the organization may also be explained by the Loosely Coupled System theory (Orton & Weick, 1990; Weick, 1976, 1982), which describes the school as an organization composed of units that have lose ties and limited interaction between them, out of a desire to preserve their identity and independence and to protect themselves from changes imposed from above (Heinz-Dieter, 2002). In this theory, the loose ties between the units impede any steady flow of knowledge within the organization and impedes the dissemination of innovation (Lance, 2002). As a result, buffers are created within the organization between the islands of innovation and the other units and so the desired expansion of innovation proves impossible (Tyler, 1987). For example, in a study on introducing a management system in the school, it was found that each unit retained its identity and independence and continued to function with no connection to the other units (Telem & Avidov, 1996). It is important to note that the problematic aspect of disseminating innovation within organizations with loosely coupled system units is not unique to schools but can also be found in other organizations such as the military or the government (Heinz-Dieter, 2002; Lance, 2002; Weick, 1976, 1982).

The Disruptive Technology theory (Christensen, 2003; Christensen, et al. 2006) suggests that the implementation of technological innovation might disrupt the activities and performance of the organization if implemented before they have been optimally developed or when the organization itself is not ripe for such implementation (Christensen, 2003). In terms of this theory, we can say that in many cases, the difficulty in adopting the model of islands of innovation and having them turn into comprehensive innovation lies in the organization’s lack of readiness to absorb the technology and in the reluctance of the decision-makers.
to adopt a comprehensive implementation approach (Christensen et al., 2006), which will eventually lead to a disruption in the innovation dissemination process.

In conclusion, although this article concentrated on islands of innovation in the context of schools, the analysis of the research findings it presents shows that many of the conclusions regarding the implementation mechanism of islands of innovation are also valid for other organizations, particularly ones that are hierarchical and sectioned such as the military and the government, and which confront similar challenges in implementing technological innovation where the islands of innovation might also impede effective dissemination of the innovation (Heinz-Dieter, 2002; Lance, 2002; Weick, 1976, 1982).

**Conclusions**

Today, islands of innovation constitute a common model for leading and implementing organizational and technological changes in education systems (Carter, 2008; Day & Lindsey, 2009; Del Val & Fuentes, 2003; Mioduser et al., 2006). This article analyzes the main factors involved in the processes of disseminating technological innovation by way of the islands of innovation model. The article presents reservations regarding this model and offers explanations for the difficulties education systems encounter in turning islands of innovation into comprehensive innovation. The main conclusions that can be drawn from this analysis are:

- Despite the hope that they will provide leverage for systemic change, islands of innovation might actually hinder the dissemination of the innovation, particularly in organizations characterized by loose internal ties and where there are large gaps in expectations and interests between the partners to the innovation implementation.
- Before the innovation is launched, the organization must clearly
define the nature of the change it is meant to cater to, whether it will be local or systemic to the organization’s culture.

• When deciding on the preferred model of implementation, it is important to examine its suitability to the culture of the organization in which it is to be implemented.

• In order to weaken the buffering effect and improve the potential for the spread of innovation throughout the organization, the islands of innovation must conduct an ongoing dialogue with their environment – both within the organization and outside it.

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Online Academy Leads to Change in Schools: Integration of Learning Technologies in the Multi-Cultural Context

Miki Kritz

Founders of TEC Center: Dr. Miri Shonfeld, Dr. Elaine Hoter, Dr. Asmaa Ganaim

The Ministry of Education invests extensive resources in integrating information and communication technology (ICT), however pre-service teachers do not gain hands-on experience in ICT integration during their practical training. As part of the collaboration between the Kibbutzim College of Education and the field, within the framework of the activities of the TEC Center for Technology, Education and Cultural Diversity, and following study results, it was decided to train teachers in preparation for an ICT project in their school. In the first year of the project the aim was to strengthen teachers’ ICT skills, laying the groundwork for an ICT project in the second year with their 4th grade pupils and children from an Arab school. Other TEC Center programs are also described with a focus on connecting different sectors of Israeli society using the Internet.

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**Study of Akko-Holon Project**

Online teaching has become an integral part of higher education and learning in general but is usually overlooked when it comes to schools. Lecturers and students in Education colleges are not suitably trained nor do they gain experience prior to the higher education stage, something that would enable them to engage in and even promote online teaching in schools. Students from the Kibbutzim College of Education were trained in ICT integration in preparation for pre-service training in an elementary school in the city of Holon, a school in which ICT is not integrated into teaching and learning. Studies indicate that lack of ICT integration in teaching activities and the curriculum is common in many schools and even in education colleges (Goldstein et al., 2011).

On the backdrop of this situation, and as part of the collaboration between the Kibbutzim College of Education the field and the activities of the TEC Center - Center for Technology, Education and Cultural Diversity (located in Mofet Center and Kibbutzim College), and in light of the above-mentioned studies, it was decided to integrate ICT in a school where pre-service teachers undergo their practicum. The aim of the project was to strengthen the teachers’ ICT skills in preparation for the integration of ICT in teaching in the aim of using it to foster learning communication with an Arab school in Akko. The Kibbutzim College advisor (the author of this paper) attended all meetings and assisted the teachers by offering instruction and training. The pupils from both schools were divided into mixed groups (Arabs and Jews, Religious and secular), participated in ICT activities to enhance acquaintance and cooperation between group members and performed ICT-based investigation activities in a joint Wiki website: [http://tak-wiki.macam.ac.il](http://tak-wiki.macam.ac.il) (Kritz and Shonfeld, 2010).
**Accumulated Knowledge and Experience Regarding ICT Integration in Teaching**

The Ministry of Education has invested extensive resources in the technological and pedagogical aspects of ICT integration (Harari Report, 1992; Melamed, 2000) based on the premise that technology integration requires the use of new pedagogical paradigms and different types of teaching that shifts the teacher’s role to group leader and places the responsibility for learning on pupil (Kagima & Hausafus, 2001; Law, Pelgrum & Plomp, 2008; UNESCO, 2008). In this context it was found that pre-service teachers do not gain ICT integration experience as part of their practicum in schools (Shonfeld & Zelkovitz, 2010) and therefore do not implement ICT integration as teachers (Lan, 2001; Bay & Lehman, 2003).

Many factors accelerate the use of technology: accessible connectivity, ICT expertise, technological constructivism (activating pupils to use technology), workshop participation, extensive informal relationships between peers and finally involvement in professional leadership activities (Becker, 1999). To encourage teachers to integrate ICT in teaching institutional support, advancement opportunities and awards are important (Kagima & Hausafus, 2001) as well as expanded advancement opportunities following participation in professional development activities (Teclehaimanot & Lamb, 2005). Professional development is an accepted way to develop the professional knowledge of veteran teachers (Guskey & Huberman, 1995).

Computer technology integration in schools as an issue can be placed within the broader context of new technology integration in education in general. Moersch (1995) divides technology integration in education into seven levels: nonuse, awareness, exploration, infusion, integration, expansion and refinement. Several changes can be found in the teaching curriculum as teachers move from one level to the next. Teaching focus
shifts gradually from the teacher in the center to the pupil as the focal point. Pupils use the computer as a tool to support understanding of basic concepts, topics and processes and to expand their knowledge using databases, communication, multimedia, electronic spreadsheets and graphic applications. Traditional verbal activities are gradually replaced by practical authentic investigation related to the problem or topic being studied.

Another model of computer technology implementation in teaching was designed as part of a multi-year study of the ACOT (Apple Classroom of Tomorrow) Project that trained teachers to integrate computer technologies in a computer rich environment in the United States. The model delineates five stages, in the following order: entry, adoption, adaptation, appropriation and invention (Dwyer, Ringstaff & Sandholtz, 1991). These stages were also studied in teaching colleges in Israel, and findings indicated that lecturers are in the middle stages, particularly adoption and adaptation (Shonfeld & Zelkovitch, 2009).

**Project Summary**

The study refers to a technology integration project conducted by the Online Academy in an elementary school in Holon. The goal of the project was, as stated, to strengthen ICT skills in the school followed by a multi-cultural learning project with an Arab school in the city of Akko. Study participants (N=19) who participated in professional development training filled questionnaires in which they were asked to indicate their impression of various training aspects and their impact on them and the school (on a scale of 1-5 as well as a free text element). Questionnaire reliability was found to be high. An assessment conducted at the end of the first year of the project showed that participants acquired ICT skills and used them to learn how to create ICT-based activities for their
Online Academy Leads to Change in Schools: Integration of Learning Technologies in the Multi-Cultural Context

pupils. The training also contributed to the atmosphere among school staff. However, pre-service teachers were not properly integrated into the process because ICT pedagogical training was inadequate. These finding are compatible with a Network study initiated and sponsored by the Research Authority at the MOFET Institute, an intercollegiate center for the professional development of teacher educators in Israel. The study recommended increased ICT training of pre-service teachers’ in their practicum stage (Goldstein, 2011).

The integration of technology requires new pedagogical paradigms and a different teaching format that shifts the teacher’s role to that of group leader and transfers learning responsibility to the pupil (Pelgrum & Plomp, 2008; Kagima & Hausafus, 2001; UNESCO, 2008). The experience in school contributes to pre-service teachers. Their lecturers train their professional development teachers who in turn train them as they gain experience in an ICT environment during their teaching practicum.

The ICT integration model that was implemented in the school as part of the project encouraged teachers to integrate ITC in their teaching and provided institutional support (Kagima & Hausafus, 2001) as well as increased opportunities to foster ICT integration after their participation in professional training activities (Teclehaimanot & Lamb, 2005).

However, it seems that the pedagogy is incompatible with infrastructure level. The problems centered on the availability of adequate conditions for ICT-based teaching and learning: an Internet connection, laboratory availability, a large number of pupils in a class and the availability of a computer/communication technician. The findings are compatible with research conducted in colleges of education in Israel (Goldstein, 2009) which found that their students do not have many opportunities for ICT integration in school, and one reason is inadequate infrastructure.
With respect to the professional development training format, it was requested that training be conducted individually and in small groups comprised of teachers of a specific grade (for example all 4th grade teachers). Teachers that participated in the training consulted with the training instructor and asked for his or her support. This finding is also compatible with studies showing that a personal trainer is preferable to group training (Teclehaimanot & Lamb, 2005; Sahin & Thompson, 2008).

The findings also show that younger teachers with less seniority progressed more than others in the program. On the other hand, satisfaction was higher the greater the seniority. This finding differs from that of Pollak, Shonfeld and Zelkovitz (2009) whose study of teacher educators did not find differences in ICT integration by age or seniority. The differences may be attributed to the fact that the younger teachers were in their 20’s, while younger teacher educators teaching in education colleges were in their 40’s.

In summarizing the success of ITC integration in schools, and using Moersch’s categories (1995), it appears that project participants moved from ‘nonuse’ to ‘integration’, yet did not yet reach the highest level in which traditional verbal activities are gradually replaced by practical authentic investigations related to a problem or topic being studied. Studies show that even in teaching colleges ITC is not an integral part of teaching for many on the teaching faculty or a part of the organization and culture of the institution (Waldman, 2007; Pollak, Shonfeld and Zelkovitz, 2008). As in the college so (and especially) in the school - resources and time are needed. Additional ITC integration projects in collaborations between academia and the field will advance the education system to the 21st century.
Amirim Project – ICT for Outstanding Pupils

Following the Akko-Holon project, the TEC Center conducted a larger and more ambitious program through the “Amirim” program for exceptional students managed by the Gifted Education Division in the Ministry of Education, and with the Division’s support.

Exceptional pupils from nine schools in an online gathering with Israeli female Judo champions and running a marathon

The Amirim project is an ICT program with the participation of about 150 fifth and sixth grade pupils, nine teachers and three group leaders in nine schools, three from each sector: Jewish religious and Arab. Cooperation with the Gifted Education Division enabled the TEC Center to implement, for the first time, a multi-cultural technological project in schools based on the model developed in the Center (see below about the OICH model).

Project group facilitators, hailing from three different cultures and experienced in TEC activities (senior lecturers from teaching colleges), accompany the teachers and train them to teach their pupils how to use ICT technologies: social networks, online discussions, collaborative learning, making podcasts, games and digital short films, performing ICT-based learning activities, etc. The pupils work collaboratively with pupils from schools in the other sectors using synchronous and asynchronous tools.
In the synchronous framework the pupils meet online with a famous figure regarded favorably by all three sectors. After one year of online activity, a gathering was held at the Children’s Museum in Holon that included joint activities and summarized the project. This was the pupils’ first face to face meeting, although they knew each other through their collaborative Internet activity.

**Advanced Teaching Environments Program for Education College Students**

The TEC Center gained the knowledge and experience to implement projects in schools from its involvement in education colleges. The Center has operated the ‘advanced teaching environments’ project since 2006, with the participation of more than 100 students and nine lecturers from nine education colleges annually (three lecturers from every population sector mentioned above).

Students from different sectors collaborating in a multi-cultural technological project

The students study online using synchronous and asynchronous tools, in mixed and multi-culture groups, collaboratively creating teaching and learning material and acquiring practical experience in advanced teaching environments based on the TEC idea, rationale and model that begins with lecturers in education colleges and continues to
pre-service teachers, school teachers and school pupils, as described in the abovementioned projects.

**Spearhead multi-cultural links between children**

**Intercollegiate online courses**  
Create a positive experience for students regarding inter-cultural technological liaisons

**Collaboration – Joint research, courses and initiatives**

**Links between teaching faculty**

TEC Center development stages

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**The Idea behind the TEC Center for Technology, Education and Cultural Diversity**

The common denominator of all the projects reviewed above is that they are TEC Center projects and based on activities conducted in advanced technological environments to foster learning and discussion between groups of lecturers, students in education colleges and pupils in schools from different cultures in Israeli society: religious, secular, Jews and Arabs. The activities include conferences, courses and workshops held in a technological environment through collaborative learning, while developing multi-cultural projects and study units.

Advanced technologies such as blogs, Wiki, social networks and virtual worlds are used in the learning process. Courses are compatible with the model developed by TEC Center managers (OICH), a model based on gradual development of the relationship between the
participants: from textual communication to audial, followed by the online visual dimension, and finally a face to face meeting.

**Project Rationale and Model**

We live in a world characterized by rapid and borderless changes and connections, so much so that it is becoming one global village. At the same time, national, cultural, religious and ethnic sentiment grows stronger. These phenomena create opposing trends. Education institutions in Israel belong to different cultures and school systems. Their graduates, future citizens and teachers, will find themselves in information-rich environments facing frequent change, and in a pluralistic society that underscores the cultural uniqueness of every community. Inter-cultural knowledge and discussion is vital in order to deepen knowledge and mutual respect in the aim of creating a more enlightened future for humanity.

Technological reality in the 21st century offers members of various cultures the ability to communicate between them, enhancing acquaintance with the culture of the ‘Other’ in order to identify shared universal values alongside the unique values of every culture and to develop a broad discussion based on mutual respect – needed in a multi-cultural society such as the one we have in Israel. Herein lies the need for a series of multi-cultural activities to foster engagement and a productive discourse. This activity, including its value-based aspect, offers the opportunity to showcase and implement technologies that can be integrated into teaching (Shonfeld, 2005).

Online learning allows students to connect without being influenced by stereotyping triggered by appearance. Therefore, the online framework allows for communication and the creation of relationships, but this is insufficient to resolve complex conflicts (Mayer, 2000). In order to
build trust we need equality between participants, collaboration and not competition, contact over a long period of time, institutional support and connection between groups and not individuals (Pettigrew and Tropp, 2000).

The OICH model (Online Inter-Group Contact Hypothesis) which is at the basis of TEC Center activities was developed by TEC founders and is compatible with contact theory. However it adds another element - gradual development of communication and strengthening trust between the groups as their online work together evolves (Hoter, Shonfeld and Ganaim, 2009).

**Vision and Future Plans**

The TEC Center currently operates eighteen education centers: nine teaching colleges and nine schools, dispersed throughout the country. Our goal is to reach several hundred in order to create a critical mass necessary to bring about change. The Center plans to lead the development and assimilation of multi-cultural projects and activities that integrate ITC
technologies among teacher educators, pre-service teachers and pupils. These projects will enhance multi-cultural tolerance in society and the community through the education system. Lecturers, students and pupils, citizens of Israel, will create a learning community and technological literacy and collaborative learning will facilitate its integration in the global world. Members of the community will become acquainted with and respect each other’s culture. This will engender fruitful discussion and engagement while recognizing and valuing diversity as well as universal and unique values found in every culture.
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Two Types of MOOCs: An Overview

Dalit Levy

The term MOOC stands for Massive Open Online Course. The idea behind the term is described by its originators as simple and idealistic as creating an open and distributed learning experience, which reflects, rather than fights, the internet. Within less than four years, this educational ideal has been adopted by elite universities and is currently heavily promoted by mainstream and social media. The paper aims to review the grounds from which the idea has emerged and the distinct paths it has taken, through the eyes of an active participant in several MOOCs as a learner, developer, and researcher alike.

Introduction

"MOOCs have been around for a few years as collaborative techie learning events, but this is the year everyone wants in", says a recent New York Times article.1 "MOOCs (Massive Open Online Courses) are the educational buzzword of 2012", adds Sir John Daniel (2012), who also acknowledges the fact that the MOOC phenomena became intensively reported in the international press during 2012 only after elite US educational institutions stepped in. The media hype about MOOCs in higher education has focused on their massive scale; however, the real revolution – as Daniel puts it - is that "universities with scarcity at the heart of their business models are embracing openness" (Daniel, 2012). From a pedagogical point of view, the MOOC phenomena redefines what is meant by “learning,” “teaching,” and “assessment,” and at the same time blurs the boundaries between them.

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1 "The Year of the MOOC" http://www.nytimes.com/2012/11/04/education/edlife/massive-open-online-courses-are-multiplying-at-a-rapid-pace. html?pagewanted=1&_r=1
The first MOOC took place in 2008 as an open online course at the University of Manitoba, Canada. The course, Connectivism and Connective Knowledge (CCK08) was facilitated by George Siemens and Stephan Downes, who have been developing the pedagogical theory of Connectivism and have regarded MOOCs as practical implementations of their theory (Siemens, 2012). The term itself was coined by Dave Cormier who joined in facilitating several other MOOCs, including PLENK2010 (Siemens, Downes Cormier, & Kop, 2010) that has been described as “a conglomerate consisting of various layers: live sessions…recordings…a complexity of discussion forum… the course Wiki and Blog…and the unique course aggregator named the Daily” (Levy, 2011). MOOCs of that type were later labeled “Connectivist MOOCs”, to distinguish them from the current wave of MOOC offerings that share a little with Connectivist pedagogy. It is the purpose of this paper to make this distinction clearer by (a) presenting Connectivism as pedagogical model for the 21st century; and (b) elaborating on Downes (2012) terminology of c-MOOCs versus x-MOOCs. The rise of the MOOC is relatively young; hence studying how these free, top-quality education efforts might change the world is also in its infancy. The presentation aims to contribute to this research-in-progress some definitions and observations, as well as to suggest additional research questions.

20th Century Pedagogical Models

Information and communication technologies (ICTs) have been integrated into teaching and learning to support a variety of pedagogies during the last three decades of the 20th century. Behaviorist models underlie the “drill and practice” computer programs that dominated CAI from the late 1960s through to the beginning of the 1980s. Yet, Dede (2008) observes that the underlying pedagogy in many current learning management systems (LMSs) closely resembles CAI. Their obvious
disadvantage is that they are usually based on a paradigm of learning that encourages “reaching the correct answer” rather than on the generation of new questions.

Cognitivist theories, which emphasize the mental models actively created by the learner in his/her interaction with the environment, are still based on the premise that a knowledge object can be well defined and that a task has a few possible correct ways of being approached. They do not provide answers regarding the learning of ill-defined content, which is what is increasingly presenting itself to the 21st century learner.

Constructivist theories better explain learning occurring in vague contexts. To the view of thinking and learning as an individual process of restructuring, Sfard (2008) adds the communicative facet, coining the term ‘Commognition’. In constructivist pedagogies, both the restructuring and the communicating aspects are enhanced by ICT. However, even pedagogies which have as their central focus the knowledge that is constructed by people communicating or working together on given tasks (Schrire, 2004), are not sufficient to explain the processes whereby people will learn and act in the knowledge society of the 21st century. Moreover, both technological and social networks thin (Siemens, 2010) and might even remove classroom walls, thus inevitably subverting the classroom-based roles of the teacher as these have been “taken-as-shared” (Cobb, Yackel & Wood, 1992) in Behaviorism, Cognitivism and Constructivism alike.

21st Century Pedagogical Models

Aiming to consider the broad and wide effects of the network society on learning and teaching, George Siemens has developed Connectivism as a learning theory for the digital age (Siemens, 2005). Connectivism is based on the idea that knowledge is distributed across a network of connections, and therefore that learning consists of the ability to construct and traverse
those networks (Downes, 2007). Connective knowledge is the knowledge that results from connections among properties of different entities. As a theory developed in an age of abundant information and connections, Connectivism assumes that the learner’s role is not to memorize or even understand everything, but to have the capacity to find and apply knowledge when and where it is needed (Anderson & Dron, 2011). In line with Bruns’s (2008) concept of ‘produsage’, Connectivist learning is also based as much upon production as consumption of content, while the role of the teacher is both a novel role – to enable collaborations with and among the learners in order to create and re-create content, and a constructivist role – to design interactions in which learners make connections with existing and new knowledge resources. Unlike earlier pedagogies, the teacher is not solely responsible for defining, generating, or assigning content.

As new technology enables – and even forces – the 21st century learner to learn in a very different way and at a very different pace from any other time in history, the need arises for adopting new learning structures, networks, tools, and pedagogies. These structures should fit complex learning of distributed knowledge. A Connectivist MOOC is one such learning structure, as is detailed next.

**Connectivist MOOCs (c-MOOCs)**

Learning in Connectivist-based MOOCs reflects processes necessary for life and work in the 21st century, in which information is characterized by rapid change and renewal, is collectivized, poorly organized, and incompletely evaluated (Kop & Hill, 2008). The challenge is for each learner to construct a personal learning network (PLN), by eliciting what is personally meaningful from the network of information and interactions. Such learning is “…highly social. The learning comes from
content presented by a lecturer, and then dialog via social media, where the contributions of the participants are shared” (Quinn, 2012). Table 1 lists the most noteworthy c-MOOCs\(^2\) that have taken place in the last four years.

Table 1. Connectivist MOOCs offered since the 1st MOOC in 2008 (from mooc.ca)

<table>
<thead>
<tr>
<th>Year</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>• Connectivism (Fall 2008) - the first MOOC</td>
</tr>
</tbody>
</table>
| 2009 | • Connectivism (Fall 2009)  
      |  
      | • Connect! Your PLN Lab (Fall 2009) |
| 2010 | • PLENK - Personal Learning Environments Networks and Knowledge (Fall 2010)  
      |  
      | • Change11 MOOC - Change: Education, Learning, and Technology! (Fall 2011)  
      |  
      | • eduMOOC - Online Learning Today and Tomorrow (Summer 2011)  
      |  
      | • DS106 - Digital Storytelling (Summer 2011)  
      |  
      | • MobiMOOC - Mobile Learning (Spring 2011)  
      |  
      | • LAK11 - Learning and Knowledge Analytics (Spring 2011)  
      |  
      | • CCK11 - Connectivism and Connective Knowledge (Spring 2011) |
| 2012 | • Mobi-MOOC  
      |  
      | • Games Based Learning MOOC  
      |  
      | • MOOC MOOC: a mini-MOOC, a meta-MOOC, a MOOC about MOOCs. |

These c-MOOCs are revolutionary in that they erase existing boundaries between the institution and the world “outside” it. Such Connectivist-based MOOCs call into question academic responsibility

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\(^2\) Others are also using the terms c-MOOCs, rhizomatic MOOCs, and participatory MOOCs to define MOOCs based on Connectivist theory.
and institutional accountability. However, the seeds of the MOOC that were first spread as practical implementations of Connectivist theory have been supplanted by others, which have developed into a different "flower" entirely, as the next section details.

**Other types of MOOCs (x-MOOCs)**

Interestingly, while preparing this paper, the “language of MOOCs” (Watters, 2012) has taken an unexpected turn. Right until the fall of 2011, the term “MOOC” was not used much by educational technology scholars and was not acknowledged at all in the mainstream public discourse. Those who did mention the term unequivocally denoted a practical application of Connectivism, as has been discussed above.

The turning point seems to be with the Artificial Intelligence experimental open online course offered in the fall semester of 2011 by two well-known computer scientists from Stanford. The first wide publication of this course in the New York Times (August 15, 2011) didn’t even mention the term “MOOC”, but the title – “virtual and artificial, but 58,000 want course” (Markof, 2011) – ignited a new wave of educational initiatives aiming to reach massive audiences of (mainly college-level and up) participants. The first to couple the Stanford AI course with the term MOOC was Stephen Downes himself. With sarcasm, but - in retrospect - also as a self-fulfilling prophecy, Downes writes: “The Stanford 'open' AI course has attracted some 58,000 students and an article in the New York Times. So now the MOOC will be deemed to have been officially 'invented' by Peter Norvig and Sebastian Thrun. Credit? No, not a chance.” ³

The experimental AI course ran for 10 weeks. Out of more than 60,000 preregistered participants, about 1500 completed the course in

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³ Published in Downes's OL Daily newsletter on August 17, 2011. [http://www.downes.ca/archive/11/08_17_news_OLDaily.htm](http://www.downes.ca/archive/11/08_17_news_OLDaily.htm)
December 2011. Sebastian Thrun himself left Stanford in January 2012 to form the new open online learning venture Udacity, commenting that after reaching out to such mass numbers of students he could not go back to teach in a traditional class. In a blog post from February 29, 2012, Quinn first distinguished between two types of MOOCs: the Stanford model and the Connectivist model. The goal of both types, writes Quinn, is to enable a free and “high quality learning experience to anyone with sufficient technical ability and access to the Internet”, but as opposed to the social nature of the Connectivist model, in the Stanford model “the experience is, effectively, solo” (Quinn, 2012).

During the spring of 2012 the wave turned into a Tsunami. Numerous news articles, blog posts, media interviews, and social networks posts flooded the Internet with new MOOC announcements, calls for participation, and critiques. Within a few weeks, MIT announced MITx; a consortium of Ivy League universities including Stanford and Penn State established Coursera; and Harvard University joined forces with MIT to create EDx – to name only a few. In March, Hill (2012) wrote that “there are really two variations of MOOCs with quite different approaches – witness the Stanford and MITx version vs. the rhizomatic version”. While the “O” that stands for “open” is thought to be the dominant letter in the original Connectivist branch of MOOCs, “M” seems to be the dominant letter in the Stanford branch. The most press cover, however, has been based on the Stanford model of MOOCs. In May, Martin Weller – a professor at the Open University of the UK – wrote in his Ed-Techie blog: “with the Stanford AI course, then the announcement of Udacity, EdX, coursera, and Curtis Bonk’s course, it seems that barely a week has gone by without some major new announcement” (Weller, 2012). In a blog post in July 2012, Downes (2012) therefore proposed a new terminology: x-MOOCs like Udacity, EdX, Coursera providing open online content, practice and activities in the domain in question;
and c-MOOCs – Connectivist MOOCs – providing not only open online content in a domain but also immersion into a community of practitioners associated with that domain.

**Summary**

Today, as a new cycle of MOOCs have started for the Fall semester of 2013, the media and the blogosphere are still full with MOOC reviews and calls for participation. While x-MOOCs clearly dominate and are even regarded as "the most important educational technology in 200 years" (Regalado, 2012), c-MOOCs are also spreading around the globe and the variety of subjects they deal with. As Siemens (2012) reminds us, "Thrun, Udacity, Coursera, and Stanford did not invent MOOCs. They did run them on a much larger scale… Our own MOOCs, in turn, borrowed heavily from online learning research … and experiences … that are at least 20 years old". Both types provide a new models for learning at a time when traditional school learning is widening the rift between learners’ experiences in and of the world and their experiences in formal school settings. Whether the two models will eventually merge, how the MOOC phenomena will develop, how such innovations influence higher education globally, and how it will be accepted by local institutions - these are yet open questions calling for much broader and wider investigation efforts.
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The Effects of New Technology on Learning
Learning On Screen versus on Paper: Which Media Enables More Effective Learning and Why?

Rakefet Ackerman

Although individuals use computers extensively in daily life they still prefer hardcopy when it comes to in-depth study of articles. Why? Previous studies examined a variety of technological factors, software and hardware related, but a clear-cut reason was not found. The study described in this paper offers a different approach. It analyzed the on screen and on paper learning process of university social science students based on the metacognitive approach. This approach emphasizes the importance of subjective knowledge level assessment during the learning process. Confirming what most people feel, the study found lower test performance following on screen compared to on paper study. However this difference was only found when study time was fully managed by the participants. Performance level was similar when study time was short and fixed, that is, out of the participants' control. Under both conditions subjective knowledge assessment was overly high on screen and more accurate on paper. These finding suggest that media does not affect learning itself but rather the effectiveness of learning management.

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Introduction: what is the Problem?

Most of us sit opposite the computer screen many hours a day: we read the news and write electronic mail, participate in Internet forums, write documents, analyze data and more. Although we have been doing this for many years, when it comes to seriously studying an article available on the Internet for an exam or a lecture most of us begin the study process by printing the text. The question is: why?

After all, our learning ability is a given, as is the difficulty of the material to be studied, so why do we care on which media it is displayed?

When individuals are asked about their preference to study articles from hardcopy rather than on-screen most indicate reasons related to the technology through which the information is displayed on the screen. These reasons have to do with physical inconvenience, burning eyes or sitting angle, or to the way the information is displayed, for example the amount of information displayed in the computer window or the difficulty of moving between text pages. Another important factor related to in-depth study pertains to the ease with which learning aids such as markup and note-taking can be used. Most of us feel that learning is more effective when we hold a pen in our hand and we can mark the important points on the paper. The ultimate purpose of ongoing extensive research about effective ways to display texts and technological advancements is to create user friendly learning environment. Nonetheless, up-to-date studies show that even young adults still prefer on-paper learning, even with respect to the modern e-book that addresses some of the above mentioned technological difficulties (Jamali, Nicholas & Rowlands, 2009; Woody, Daniel & Baker, 2010).

In this paper I put forth the thesis that technological differences are not at the root of the disparity between studying texts on screen and on paper, but rather the different study process applied by the learner with respect to each medium.
Research of the Learning Process

Liu (2005) conducted a survey among individuals 30-45 years of age regarding changes in their reading habits during the decade preceding the study. The participants reported that they read more texts on-screen in recent years, but that this reading has different patterns than on-paper reading. They reported, for example, that their on-screen reading is characterized by browsing, finding key words, reading non-continuous text segments, one-time rather than repeated reading of the text and in general reading that is less thorough and focused. Writing notes and marking important text is characteristic of on-paper reading and less typical of on-screen reading. The survey provided information about the on screen versus on paper study process as described by the survey participants.

The metacognitive approach to the study of learning processes stresses the subjective feeling accompanying learning, viewing it as a crucial factor in the way learners manage the learning (Nelson & Narens, 1990). According to this approach, a distinction needs to be made between the effectiveness of knowledge acquisition – storing the information into memory, which is the cognitive process, and the learning management process, which is the metacognitive process. The latter includes, for example, the use of learning strategies and the decision, at every point in the process, whether to continue or stop studying. This approach maintains that individuals manage their learning process based on a subjective assessment of their knowledge level that takes place continuously, parallel to the learning itself. This assessment is separate from the knowledge acquisition process and does not necessarily reliably reflect the actual knowledge level. When this assessment is biased, it biases learning management. For example, when individuals think they know more than they actually do, they are over-confident. This may
mislead them to think that they have enough knowledge of the material when in fact their real knowledge level may not be sufficient in order to achieve their goals. Let’s imagine a student that must give a lecture based on an article (he or she) reads. In the afternoon hours on the day before the lecture he assesses his current knowledge level to be 90%, which is indeed a sufficient level, and that he can therefore stop studying and go to a movie. If in reality he only knows 70% of the material, and his lack of knowledge is revealed in the lecture, his grade may be significantly lower than he expected. If the purpose of his study was a presentation to managers of a commercial company or a required step in a job selection process, the ramifications may be even more consequential. By comparison, a learner who reliably distinguishes between material he knows well and material in which he is less knowledgeable can review the material in which he is less proficient, ask for help, or decide that he does not have enough time to delve deeper into this material and that it would be preferable to devote most of his learning time to material in which he has an intermediate level of knowledge (Metcalf & Kornell, 2005). These decisions are all part of the learning management process.

It is noteworthy that metacognitive processes accompany and guide us every minute of our daily life, beyond their role in the conscious and deliberate learning process. For example, during a conversation we must assess our knowledge level about the topic being discussed and decide how to formulate the answer we give to the person we are talking to so that we feel confident enough regarding the veracity of the information we provide. The confidence level we deem sufficient will differ whether we are responding to a friend or testifying in court. For example, the decision to answer ‘I don’t know’ is based on metacognitive judgment. The "I don't know" answer does not necessarily mean that we do not have knowledge in the field, but rather that our knowledge level is insufficient in light of the inquirer’s expectations regarding our reliability.
and the relevant information we can contribute beyond what he already
knows (Ackerman & Goldsmith, 2008). When we encounter a medical
problem or a problem at work for which expert help is required we must
determine whether we know enough to ascertain which specialist to go
to and what to ask. Furthermore, when we receive an answer we must
determine whether our understanding is satisfactory or perhaps we need
more information.

**Studying the Effect of Media on the Learning Process**

A question of interest is which elements of the learning management
process are impacted by the media, screen versus paper. Every element
of the process may be affected by differences in our subjective feeling
about the learning conditions. For example, if individuals expect lower
results from on-screen learning they may set a lower goal for themselves.
Consequently, they will stop studying when they feel that they reached
an adequate level, and this level will be lower than on-paper learning.
If this is the case, even if knowledge acquisition and assessment are
identical, these individuals will stop studying earlier in the case of on-
screen learning and their achievements will be lower compared to on-
paper learning. Similarly, if the media used to study affects subjective
assessment differently than it does knowledge acquisition, then there
may be a gap between self-assessment and actual knowledge, leading to
mistakes in learning management.

A study conducted at the University of Haifa (Ackerman & Goldsmith,
2011) proposed a method for comparing learning situations in terms of
the cognitive aspect, that is knowledge acquisition effectiveness, and the
metacognitive aspect, that is learning management. Learning situations
are characterized, among other things, by learner traits, study material
and learning environment. The study participants were undergraduate students of social sciences. The study materials included the same collection of articles for all participants and the learning environment was a small computer room on the university campus. The only difference between the learning situations examined was the media used to study the material—one group studied the articles on screen while the other group studied them from hardcopy.

A survey was conducted at the beginning of the study among a sample of the research population which showed that, in line with widespread opinion, about 90% of the participants think that they comprehend and remember study material better when studied on paper rather than on screen. This was followed by the study in which 144 students were randomly divided between on-screen and on-paper learning. The study materials included a short 200-word practice article and six 1,000 word articles (2-4 pages each). The articles were about a variety of topics such as rites of passage in different cultures (such as the bar-mitzvah in Judaism) and reasons for preferring a power station operating on coal over other energy sources. All articles were taken from websites intended for on-screen reading and were converted into Microsoft Word documents. The articles that were printed for on-paper learning were identical to those displayed on-screen. The computerized learning was done by presenting the articles using Microsoft Word, that is well known to all students and has text marking and note writing features. On-paper learners were given a pen and a yellow marker and could use them as they wished. Each participant studied all the articles on the same medium, in other words either all on screen or all on paper. A test with ten multiple-choice questions with four possible answers was prepared for every article. Half the questions tested memory of details and half examined higher order comprehension. The work process on each article included learning, predicting test performance and answering
test questions. The participants predicted their test performance by indicating the expected success rate in percentages on a horizontal scale. Marking 25%, the lowest point on the scale, meant that the participant did not expect succeeding beyond random guessing, which reflects no knowledge despite learning the article. Marking 100% meant that the participant expected to answer correctly every question about the article studied. In most cases the participants marked intermediate levels of expected success. The test was conducted on the same medium on which the article was studied. Since the entire research procedure was conducted either on screen or on paper, the participants were not aware of the comparison being researched between the two media types.

The participants were divided into four groups. Half worked on screen and half on paper. Furthermore, half the participants in each media type studied under fixed time constraint. In other words, these participants had no control over their study time. The set time (7 minutes) was too short – such that the participants would have preferred to study more in order to realize their potential knowledge level. The goal was to measure the effectiveness of acquiring information in a predetermined period of time. Under this condition participants were relieved of the responsibility to manage their study time such that their cognitive process could be examined while the contribution of the metacognitive regulatory process to the learning outcome is reduced. The procedure was very similar for the second half of the participants. The only difference was that now the participants could manage their study time freely within the overall 90 minute timeframe (an average 15 minutes for every article, including study and taking the test). By comparing learning under the two time conditions it was possible to examine the benefit gained by participants from free control over their study time. Under both time conditions however, fixed time and free time, the participants were required to work on the articles sequentially, such that they could not return to an article
they already studied. The objective measure was the test score. Learning duration was measured and taken into consideration in the free time condition. The subjective measure was the predicted test performance level. Prediction accuracy was measured as the difference between predicted and actual test performance. A difference is not expected if the subjective performance assessment reliably reflects the test score. Additionally, because many people attribute their on-paper preference to the use of markup and note-taking tools, frequency of using these tools was documented.

What findings could be expected? If technological factors such as those specified above hinder knowledge acquisition when studying directly on screen, they should impact the learning process irrespective of the ability to control their study time. If this is the case, we would expect lower test performance on screen compared to on-paper reading under both time conditions, fixed and free control of study time. If, on the other hand, learning management is less effective on screen compared to on-paper study, we would expect lower test performance on screen compared to on-paper reading only when participants were permitted to manage their study time.

**Study Findings**

The main findings are presented in Diagram 1. First, it was found that time allocated under the first condition, 7 minutes, was shorter than the time participants chose to invest in each article when they could manage their study time (9.6 minutes on average). Furthermore, the findings support the second proposed possibility, showing that the ability to manage learning time was less effective on screen compared to on-paper study. The same test score level was achieved under both media when learning time was fixed and short, suggesting that the various
technological factors do not necessarily result in lower test scores in on-screen learning. This finding is reinforced by the fact that no differences were found between the media with respect to use frequency of markup and note-taking tools. On the other hand, when participants were given free control of study time, lower performance was found on screen compared to on-paper learning, despite the fact that under this condition, and contrary to commonly-held belief, on-screen learners used markup and note-taking tools even more than their peers who studied from print. A comparison of participants under the two time conditions indicates that on-paper learners took advantage of their ability to manage learning time and invested the additional time, when it was available, to achieve higher test scores than when study time was fixed. On the other hand, on-screen learners did not succeed in achieving higher scores when they devoted an average 9.1 minutes to every article compared to their score when allowed only 7 minutes. In other words, the additional time they invested did not result in improved test scores.

**Diagram 1:** A comparison between predicted performance level and actual score in on-screen and on-paper learning under the condition of fixed study time (Table A) and under free regulation of study time (Table B).
Diagram 1 shows that the predicted text performance in on-screen learning under both time conditions was higher than actual performance. In other words, the participants were overconfident, while their predictions of performance were more accurate in the case of on-paper learning. This finding contradicts the commonly held notion that people expect their learning to be less efficient on screen relative to on-paper learning. Indeed, in the survey conducted prior to the study, participants who assessed on-screen versus on-paper learning and the learning environment in general, thought that on-screen learning is less efficient than on-paper learning. According to the test scores of participants under the free time condition they were right – performance in on-screen learning was poorer than on-paper study. However, the general notion regarding less efficient on-screen learning that emerged from the survey was not reflected in the participants’ prediction regarding every article separately, when they were unaware of the comparison between the two media. In this case, a substantially different picture emerged – participants’ self-predicted test scores after on-screen learning were exaggerated under both time conditions, when learning time was fixed as well as when study time was self-managed.

It is interesting to analyze the effect of overconfidence on time allocation under self-managed time conditions. When reviewing participants’ predictions in both media under this condition, it appears that on-screen learners stopped studying when they thought they had reached a knowledge level similar to that on-paper learners thought they had reached. This finding enables us to reject the possibility suggested above, that people expect to achieve lower scores in on-screen learning. However, it is important to note that while on-paper learners thought they had reached this level after 10 minutes of study, on-screen learners thought they had already reached this level after 9.1 minutes. At this point in time they stopped studying, however their knowledge level did
not progress as they thought – this is the result of overconfidence, the illusion of knowledge which leads to under-allocation of time and lower performance levels.

**Summary**

Why are people inclined to print articles they need to study? It seems that this decision is based on a general feeling regarding the media rather than an assessment of actual learning of a particular article. And why do people think that on-screen learning is less effective than on-paper learning? Overconfidence accompanying on-screen learning and the fact that individuals do not utilize the freedom to manage study time suggests that their learning process on screen may be less rigorous, as described at the study by Liu (2005) mentioned above. If individuals feel that they cannot trust their ability to manage study time effectively on screen, there is a good reason for them to prefer study from printed material. Thus, they transfer the learning task to what they consider to be a more reliable learning environment, where they have greater trust in their ability to manage their learning.

As to the benefit to be gained from the used analysis methodology in comparing learning situations, the study conducted by Ackerman and Goldsmith (2011) demonstrates that by using the metacognitive approach for examining learning processes it is possible to systematically delve into knowledge acquisition effectiveness, self-assessment accuracy and study time allocation and to distinguish between them, beyond looking at the final outcome as reflected in test scores. As stated above, this methodology can be used to compare completely different learning situations. For example, we can examine whether progress achieved following cultivation of knowledge or a skill is simply the result of increased knowledge per se, or perhaps stems from the learner’s knowledge
assessment or time allocation efficiency. It also affords comparing populations, for example those with learning difficulties compared to regular learners, in order to determine whether the differences derive from knowledge, self-assessment or time management. In the same way, an in-depth comparison can be conducted among versions of study material and varied teaching methods, just to mention a few possibilities.

This study demonstrates the importance of accurate self-assessment of knowledge as a central component of effective learning regulation. One of the challenges we face as researchers and educators is to find ways to improve self-assessment accuracy. This challenge is relevant to on-screen learning, as shown by this study, but is also relevant to a variety of other fields, since in general people tend to be overconfident (Pressley & Ghatala, 1988). Moreover, this tendency is more characteristic of weaker students (Kruger & Dunning, 1999) – exacerbating their situation because it breeds complacency that hinders their ability to improve their achievements.
Bibliography


Technology for the Benefit of Individuals with Special Needs

Ofra Razel

The huge technological development of our time has the potential to widen the gap between the ‘regular’ population and individuals with special needs. At the same time it also offers a wonderful opportunity for these individuals to bypass difficulties and improve their ability to function – relative to the past. The Internet has become an integral part of our life – from checking train schedules and receiving medical information to an update about the marriage of the neighbor’s daughter to her sweetheart in New Zealand. Yet it is supposedly inaccessible to many people with special needs, including the blind and the visually impaired, the physically handicapped that cannot use a mouse, dyslexics and many more. There are however wonderful technological solutions for these population groups which I will discuss, along with representative examples from various fields.

Reading Assistance

There is no need to describe the importance of reading. However the ability to read, that is taken for granted by most of us, is missing from the life of individuals who are a part of our society, people that make an effort to become integrated and function in society like others. It is obvious why

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it is difficult or impossible for the blind and the visually impaired to read from a printed page. Yet for those with learning disabilities in general and for dyslexics in particular the difficulty is deceptive. Individuals who do not look as if they have a disability nevertheless cannot read: for neurological reasons they have difficulty identifying letters, following one word and one sentence after the other; everything ‘jumps’ and ‘seems a mess’. New technology brings help in a variety of ways to all those individuals that have difficulty reading or who for various reasons cannot read at all.

**Automatic Narration**

TTS – Text to Speech software: this software can translate written text into automatic speech. It is a very big challenge to develop such software in Hebrew because it requires two unique components: first, the ability to decipher unvowelized Hebrew text (consider the difficulty deciding how to pronounce the word שמן – (in Hebrew the word can be pronounced shemen, shamen, shemin, shuman and shimen, just to mention a few options – each with a different meaning). The second component has to do with difficulty producing sounds that will not sound mechanical, will be narrated with the correct intonation and will maintain the sense of separate sentences, just to mention a few issues. By overcoming these challenges, and developing TTS, the blind and dyslexic can now ‘read’ text, inaccessible to them before the software was developed.

The blind require another component known as a ‘screen reader’ – software that enables users to move around the screen and read ‘actively’, for example: operate various functions, skip something that does not interest them and use links to surf the Internet. The screen reader activates the TTS software which in turn reads the text.
Conversion to Braille

Another option available to the blind is conversion to braille. Until technology supplied solutions, Braille texts were produced manually. Now there are technologies that can convert printed text to braille automatically: (a) using a software program that activates a braille printer which automatically embosses braille letters on paper; or (b) using a special display on which the blind person puts his fingers, feeling pins that move up or down creating braille letters and translating the computerized text into braille display. The picture below shows a braille display that is an add-on to the regular keyboard, where blind users place their fingers in order to read.

Audio Books

When discussing reading assistance it is also important to mention the current availability of audio books on MP3 players or mobile phones. Individuals can listen to an audio book anywhere without the need for heavy equipment.
Narrated text is utilized in various learning contexts, for example by websites and software packages for students with learning disabilities - the text is narrated as it is highlighted on the screen. This enables students to follow the narrated text with their eyes while listening. Examples can be found on the ‘Shetef Kriya’ website (http://shtef.cet.ac.il) or the ‘Kol Basefer – Tanach LeBagrut’ (Bible for matriculation exams) website (http://kol-basefer.cet.ac.il).

Display Adjustment

Many visually impaired individuals and those with learning disabilities have difficulty reading because, among other things, letters are too small, lines too close to each other or the color contrast between foreground and background is insufficient. The computer provides users with the ability to change and customize size, color, background color and font type.

Reading with Picture Symbols

There are individuals who cannot read or write but can be taught to read picture symbols. There are several accepted symbol languages in the world (which of course enable users to use symbols unique to them – for example to insert a picture of their mother for the word ‘mother). Symbol language is usually taught to children with autism, with mental retardation or with a combination of physical and developmental disabilities. Software that translates written text into symbols is available: the teacher or parent writes the text or ‘imports’ it from any source with ‘copy and paste’ and the software immediately places the appropriate symbol above every word. The user who knows the symbols can use them to ‘read’ the text.
Writing Assistance

Writing, just like reading, is a significant part of our life. People have difficulty writing for a variety of reasons: physical disabilities that do not enable them to hold a writing device; blind individuals who do not see what they are writing; individuals with learning disabilities in general and those with dysgraphia in particular (dysgraphia is a serious writing disability). The fact that the computer has become the most common writing instrument has made it easier for many of them.

Word Processor

Use of a word processor and writing by means of a keyboard has certainly solved the writing problem for the blind and the visually impaired. There
are also physically disabled individuals who cannot hold a pen but are able to type using a keyboard. Among those with learning disabilities the use of a word processor solves many problems such as illegible handwriting, deleting text and organizing and formatting text on a page.

**Spell Checker**

Most of us are familiar with and use the spell checker in WORD. For people suffering from dysgraphia that make many spelling mistakes the spell checker may provide at least a partial solution. Individuals who make spelling mistakes are embarrassed and often avoid writing. Others fear that they will not be understood because of their many mistakes and were it not for the spell checker would avoid written communication. The spell checker enables them to write and to communicate in writing (provided the mistakes are not too serious and that they select the correct word from the various options suggested by the spell checker).

**Translation of Speech into Written Text**

Speech recognition software that translates speech into writing is available now in many languages including Hebrew. Individuals with writing difficulties due to physical disabilities that prevent them from using a keyboard or those who suffer from severe dysgraphia, can speak to the computer or to a mobile phone and their message is immediately translated into written text that can be saved or sent. The problem with these tools is lack of accuracy, but these things advance over time.
**Communicate, Respond and Influence**

Imagine a disabled individual that cannot control his body movements, cannot willingly move his hands and legs, cannot speak, is fed by others and only has control over moving his head to the left. Whether born with a severe disability or the result of a car accident or a disease these individuals are imprisoned in their body. They cannot respond to the world as ‘regular’ people do and cannot impact what is happening around them, or are very limited in doing so. Steven Hawkins, the famous scientist, is an example of just such a person, but there are many like him. However if these individual can willingly move even only one muscle – blink an eyelid, move the ‘pinky’ finger or their eyes – their life can change dramatically with a computer operated by one or more switches.

The active muscle activates the switch which in turn operates the computer. How does this work? a special software scans the computer screen, using a color frame that moves from one element on the screen to another, at a speed set in advance by the user. The user waits until the frame reaches the element he wants to choose, and than he activates the switch which in turn operates that element.(for example: turn on the speaker, exit the program or write a character). The more switches an individual can activate, the greater the scanning efficiency and the faster the ability to operate the desired element (for example one can use switches that function as arrow keys, thus can get to the desired element more quickly).

Here is how an individual that activates a single switch can write or even speak using the computer: a virtual keyboard with a number of rows is displayed on the screen: the software begins scanning the rows. It scans the keyboard one row after another. When the scan reaches the desired row, the user activates the switch to select that row. Now the scanning process begins within the row, moving from one character to the next in
the specific row. When it reaches the desired character the user activates the switch and the character is written. Tiresome? Definitely. However if this is the only way individuals can express themselves then we have changed their life.

Here is a picture of a virtual keyboard with the scanning frame on the second row.

![Virtual Keyboard](image)

After the message is written the user can also activate Text to Speech software of the type described above, and the computer will read it out loud. This is one alternative form of communication which the computer affords. Other possibilities are the use of symbols: instead of writing words, one letter at a time, users select picture symbols by using ‘communication boards’ that contain the symbols organized specifically for their needs.

**Internet Accessibility**

At the beginning of this paper I indicated that technology may widen the gap between ‘regular’ people and those with special needs, and as an example mentioned Internet use. Extensive efforts are invested daily to persuade website designers to design their websites enabling access to individuals with disabilities. The definition of an ‘accessible website’
was set by an international organization that defined various levels of accessibility and provided guidelines regarding their technological implementation. This issue is in various stages of legislation in Israel and when passed will require website design to address the needs of individuals with disabilities.

What is an accessible website? Here are some examples:

- The color contrast between the characters and the background is heightened to facilitate reading by the visually impaired.

- There must be a verbal explanation ‘behind’ every picture so that a blind person using a screen reader will know what is displayed on the screen.

- Text is not displayed as a graphic element (for example names and logos), because automatic narration software programs used by the blind do not ‘understand’ these graphic elements and therefore cannot ‘read’ them out loud.

- The screen structure is organized such that the ‘screen reader’ can follow the logical arrangement of the elements (a screen reader cannot operate when screens are overcrowded with advertisements, articles, news, etc. displayed alongside each other).

Since implementation of laws for accessibility take time, CET, with the support of the National Insurance Institute, recently developed the ‘Resisim’ website, an accessible RSS reader. What is RSS? It is a standard and widespread technology commonly used on the Internet, that enables websites to provide content and information updates conveniently and quickly. It works like this: many websites prepare summaries of their content in a format called RSS. Users can choose websites from which
they wish to receive these summaries, according to their areas of interest, and these are then collected for them in a private account in a website that is an ‘RSS Reader’. When information is uploaded in the selected website, a summary of this content is then available in the user’s personal account. The content also contains a direct link to the source.

The uniqueness of the ‘Resisim’ RSS reader is that it is fully accessible to individuals with disabilities. Users can access the reader through different and varied access modes such as screen readers, braille, touch screens, switches, varied scanning formats, customized mouse and more. The website fully supports Hebrew and the display can be adapted to the user’s needs.

Through the ‘Resisim’ website users can read information summaries from a wide variety of websites, without unnecessary information load on the screen. After reading the summary users can use a link to go to the original information source. Thus users can browse the Internet relatively quickly and access diverse information previously inaccessible to them.

The website has a database of about 2,000 channels in Hebrew that provide information summaries (RSS updates) on a variety of topics divided into categories. Users can create a personal channel list from a channel library and organize it according to personally selected categories. They can also add their own channels in any language and organize the information in a format convenient to them. Furthermore, information can be tagged and cataloged and users can prepare a list of favorite websites to access.

There is a significant gap in computer and Internet use between individuals with disabilities and the general population. The ‘Resisim’ website cannot eliminate the digital gap but can contribute to its narrowing, particularly among individuals with disabilities that use a
computer but find it difficult to use the Internet on a regular basis. In this case technology that created the digital gap also helps narrow the divide.

**Summary**

This article presented a small sample of technological solutions for different types of special needs. Thankfully the majority of the population does not need these solutions, however, for those that do need it, it means everything. The problem is that Israel is a small country, the number of Hebrew-speakers in the world is limited and commercial entities are wary and reticent when it comes to technological developments with limited economic benefits. For this reason the involvement of entities such as the National Insurance Institute and relevant government ministries is so vital for developing solutions. Activity by philanthropic organizations (such as the CET – the Center for Educational Technology) is significant but insufficient. On this backdrop, the recently announced initiative of the Israel Ministry of Finance in collaboration with the Ministry of Industry, Trade and Labor to allocate an earmarked budget to fund the development of technological solutions for special needs individuals in Israel is particularly uplifting.
New Technology and a Changing Perspective about Teaching Hebrew
Using New Technological Tools to Teach Hebrew as a Second Language in the FSU

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The rapid development of technology in the last decade fosters renewed thinking about how it can be harnessed for educational projects in general and for teaching the Hebrew language in particular. The use of technological tools for teaching Hebrew abroad is especially significant. In the former Soviet Union (FSU) countries Hebrew is studied in various frameworks, among them universities, Ulpan (intensive Hebrew language program) and other adult education courses, Jewish day schools and Sunday schools. This paper will present several projects which use technological tools that contribute to their effectiveness and without which some projects would not be possible.

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The status of a school as a Jewish school, that requires inclusion of Jewish subjects in addition to the general national school curriculum, is inherently difficult. Both parents and children naturally tend to attribute the utmost importance to general subjects that can, as they see it, advance the young learner in the future. They perceive the status of Jewish subjects as secondary, sometimes even negligible, and as a result this is often the perception of school management. The work of Hebrew teachers under these circumstances is of course difficult, as they must also contend with pupils’ low motivation and the disinterest of other entities, including parents and school management.

Who are the Hebrew teachers that teach in Jewish schools in FSU countries? They are shelichim (emissary)-teachers from Israel as well as local teachers. All shelichim-teachers hold an Israeli teaching certificate, yet in most cases did not gain experience in teaching Hebrew as a second language prior to embarking on their mission. Most local teachers do not have training or experience in this field as well and their command of Hebrew often requires improvement. Therefore, both groups of teachers need, whether they recognize it or not, professional training and support in second language teaching methods, and many local teachers must also improve their command of the Hebrew language. Add to this the high turnover of teachers for varied reasons such as the limited time that Israeli teachers are allowed to stay abroad and the low wages paid to local teachers. Under these circumstances the heightened need for teacher training and supervision is evident.

This paper will only describe the professional training provided to Hebrew teachers that teach according to the NETA ("Youth for the good
of Hebrew") program as part of the Aleh (‘Hebrew for Youth’) project.\textsuperscript{2} The principles however are suitable for every graded program.

The NETA program targets 6\textsuperscript{th}–11\textsuperscript{th} grade pupils and its goal is for learners to acquire a good command of the language. It goes without saying that the teachers’ high professional level is vital to this task. In the program orientation course teachers learn NETA program principles, get acquainted with program material and teach sample lessons. Despite the importance of this course, it is only the first step in the training and support process.

In the first stage of NETA project implementation (which preceded the ALE project) the responsibility for teacher supervision and support in 12 Jewish schools in Russia,\textsuperscript{3} the Ukraine and Moldova (2005-2009), was placed on two trainers from Israel. Part of their duties entailed visiting every school several times a year, observing classes and providing feedback to teachers. Despite the supervisors’ high professional level, the new professional horizons they opened for the teachers they worked with and their diligence, their work was not sufficiently effective since the newcomers needed more frequent supervision. Moreover, it is vital for teachers to work jointly with supervisors at the lesson planning stage, something that requires considerable investment from both parties. For the most part this visit format did not provide the teacher and the supervisor with time enough to design the lesson together before it is observed by the supervisor. It was also not feasible to recruit additional supervisors from Israel due to lack of funds as well as the small number

\textsuperscript{2} The ‘Hebrew for Youth’ Project (ALE) is implemented as part of the Hefziba (formal Jewish Zionist education in the FSU) project, with the financial assistance of the Pincus Fund for Jewish Education in the Diaspora and the Genesis Philanthropy Group (GPG).

\textsuperscript{3} The NETA project was operated in 2005-2009 with the funding of the AVI CHAI Foundation, Ohr Avner Foundation, the Israel Ministry of Education and the Jewish Agency for Israel.
of experts trained to supervise the NETA program and who were willing to take upon themselves the intensive travel regime it required. As for local teachers, some gained extensive experience during the project operation period, were trained to supervise and even awarded a supervisor certificate by the world NETA project. Their integration as project supervisors seemed beneficial and even necessary, at least as supervisors in the school in which they taught. Yet paradoxically, their employment as supervisors interfered with their ongoing teaching responsibilities and forced school management to replace them, at least part of the time, with less experienced teachers. It is not surprising that the idea was not received favorably by the schools, not to mention their displeasure regarding the possible travel of these teachers to other cities which would interfere with the school routine even further.

Only the development of video communication technology enabled far-reaching change in the field of teacher supervision. It was decided that most supervision would be conducted from a distance via videoconferencing between the supervisee and the local supervisor. Thus supervisors would not be absent from their place of work and would only need to schedule time convenient for both parties. Since introducing this change, every ‘supervision cycle’ is conducted in three stages. In the first stage the supervisee presents the lesson plan and when needed the supervisor suggests improvements when needed. In the second stage the observed lesson is recorded and the recording sent to both the supervisor – so that the supervisor does not have to observe the lesson in real-time. The third stage includes joint analysis of the lesson and planning of the next observed lesson. It is important to note that observation of the lesson via video eliminated the problem of teachers who were also supervisors since the teachers no longer have to choose between the two activities.
In this supervision process extensive effort must be invested in accompanying the supervisors in their ongoing work. This endeavor requires the attention and scrutiny of world NETA project supervisors. The project supervision map was redesigned in light of the change: the supervisor’s professional abilities rather than political borders or geographic distances are now the key determining factors. For example, supervisors from Moscow can supervise teachers from Kazan and Kishinev, a supervisor from Kiev can supervise her colleague who is a beginning supervisor in St. Petersburg who in turn supervises a teacher in Kiev.

**Recording a Hebrew lesson conducted in a distant location:**
the NETA program “ALE - Hebrew for Youth” project

Despite the pronounced importance of the project’s supervision component, at the outset we faced some tension among teachers, some of whom did not see observation of their class lessons as support and support but rather as a test of their professional qualifications. Several teachers also felt that the joint planning of a lesson with the supervisor is an unnecessary burden and made efforts to avoid this task. This required supervisors to balance necessary criticism with sensitivity.

It is interesting to note that the teachers adjusted quite quickly to having the camera in the classroom and at times even tried to contact...
the project manager recording the lesson. Inevitably, a conversation in Hebrew with an individual in another country will become an attraction for pupils and will motivate them to invest greater efforts in their Hebrew studies. Clearly a language that is only used in a class context is not perceived as having great value which is a challenge for the project. Informal communication with native speakers may seemingly be the key factor in mastering a language, however it is difficult to design an effective class framework that will motivate native speakers the same age as our pupils to participate in such a project. A feasible solution would be to initiate communication between pupils in Jewish schools from various Diasporas (Russia, Australia, United States, Mexico, South Africa, etc.), since Hebrew would be the only language children studying in the same NETA program could use to communicate between them.

**Improving Teachers’ Command of Hebrew**

As noted above, in addition to cultivating the teachers’ teaching methodology skills, some local teachers also need to improve their command of Hebrew. This holds true not only for Hebrew teachers in Jewish schools but also for Ulpan and Sunday school teachers. Most teachers from these three groups recognize the importance of improving their Hebrew.

As far back as 2004 we developed and implemented the ‘distance learning’ project with the participation of more than 100 Hebrew teachers in various frameworks every year (see bibliography). The project structure enabled the participants to improve their reading comprehension, grammar, essay writing and to a lesser extent listening comprehension. Speaking skills were not included in the project as it is difficult to improve these skills through distance learning.
Clearly the problem could only be solved with the development of video communication technology with only moderate requirements regarding a typical user’s computer capabilities and available network bandwidth. The necessary software and hardware development level was reached about 4 years ago and provided the infrastructure for implementing an experimental project. The project initially targeted Jewish Agency teachers from Khabarovsk located in the far eastern part of Russia. The fact that these teachers were so geographically far from where the seminars were conducted meant that they could not participate since travel costs were very high compared to the cost for teachers from closer locations. The teachers’ high motivation level and desire to improve their mastery of Hebrew required an urgent and adequate solution.

The first classes were held in the Jewish agency office where teachers would huddle around the computer screen and learn from a teacher located in Moscow via Skype. Despite numerous difficulties, they continued their studies in this manner for four years, while technology gradually advanced. The support of the Pincus Fund for Jewish Education in the Diaspora, the Jewish Agency for Israel and at a later date the Dutch Jewish humanitarian fund, enabled us to open new virtual classes for teachers in ulpans, day schools and Sunday schools. The curriculum in all classes was corresponded to that of the program taught by the Division of Hebrew Language Instruction at the Hebrew University Rothberg International School. All Hebrew levels, except for basic Hebrew, were taught. Another program, ‘ooVoo’, provided the technological infrastructure through which it was possible to connect a teacher to 5 students in a virtual classroom (with the latest version of the program a virtual lesson can be conducted with 11 participants). Compared to the Hebrew Online project in which students see the teacher but the teacher does not see the class (see Rodovsky’s article in the bibliography), in the classes described
here, students see each other as well as the teacher, and the teacher sees everyone (see Dr. Maryanchik’s lecture in the bibliography). While the chat feature can be used, it is more convenient to show the desktop on the screen and on it a prepared presentation or a Word document in which the teacher types in real-time.

It is important to note that a relatively small number of pupils in a virtual class increases considerably the lesson cost per participant. Thus it is advisable to find ways to save time without undermining the students' progress. One part of the lesson, which at first thought should not be discontinued, is checking homework. After all, how can a teacher advance the class without checking that everyone has learned the study material from the previous lesson? Yet this takes up a lot of time which should be saved in a regular lesson, not to mention a video lesson. There are undoubtedly homework assignments that must be checked in class. Furthermore, students must also devote time to other exercises such as: conjugating nouns and verbs, syntax exercises and clozes as well as...
reading and listening comprehension. Checking these assignments can be computerized.

We recently developed a method to use computerized exercises (see Dr. Maryanchik’s lecture in the bibliography). These exercises can be designed using a simple software program. The advantage of most computerized exercises is the immediate feedback students receive when they make a mistake that is corrected by the software program. Using this system changes the nature of homework assignments. Now the assignment not only asks to ‘do the exercises’, but rather to ‘repeat the exercises until they are performed without mistakes’.

With SunRav, the software program selected to design the exercises, different types of questions can be formulated:\(^4\)

- Single-choice question (the user can choose only one correct answer from a list of possible answers);
- Multiple-choice question (the user chooses a number of correct answers from a list of possible answers);
- Fill-in questions (the examinee enters a word or a combination of words in a specified field that is compared to a list of templates – the list of correct answers);
- Arranging items;
- Matching items from two lists.

Text, pictures, a voice file or a video file can be included in the questions. The exercises can be designed in such a way that questions will be asked randomly or in a predetermined order. If needed, student answers will be checked and even sent to the teacher via email for

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\(^4\) According to the terminology of the Academy of the Hebrew Language, the first two types of questions are called ‘choice questions’. To distinguish between them we will use the following terms in this paper: single-choice question and multiple-choice question.
additional assessment. Writing exercises using the software is quick and simple: technically, an entire booklet of exercises can be converted into a computerized format within a week at the most.

We would like to stress that while using computerized exercises under regular study conditions can improve the effectiveness of learning process, which is vital in the virtual format.

Let us return to the video lessons. Infrastructure development will soon provide the ability to conduct a lesson in a virtual classroom the size of a regular class, however the lesson structure will be different and will utilize all the advantages the computer offers.

With respect to virtual teaching of Hebrew to beginning level students, an important question should be asked for which there is no unequivocal answer as of now: should time and effort be invested in practicing handwriting, or is typing in Hebrew sufficient in this day and age? On the one hand, the effectiveness of cultivating handwriting skills is dubious, particularly in a virtual lesson in which the teacher cannot see what students are writing in their notebooks. However, lack of this skill may turn into a disadvantage for students because almost everyone will encounter a situation in which handwriting is required. Beyond this issue, when it comes to virtual teaching there are no substantial differences between teaching beginners and teaching students with higher level knowledge of Hebrew.
**Online Tests**

To increase the effectiveness of class learning and teacher training advanced means of assessing student progress are needed. Due to the geographic range of the various ulpans throughout the FSU along with technological developments in conducting virtual lessons, it was important to design a virtual test system.

In light of the curriculum we adopted we also chose the Hebrew University’s level testing model as an effective achievement measurement tool. These tests, written by Ms. Olga Dubova\(^5\) under the supervision of Ms. Varda Yishai,\(^7\) were already been used to assess students' progress at the Moscow State Maimonides Academy as well as the language mastery level of Jewish Agency teachers at the beginning of the century.

The new task we faced involved converting these tests into an online format. The idea and its implementation were based on a technology similar to that used to develop computerized exercises, in this case using the webserver version - SunRav WebClass. It was decided to start by developing level A tests for ulpan students to be followed by tests for higher levels – for both ulpan students and teachers. We also took advantage of additional capabilities the software offered to address additional aspects of online testing:

- To assign a point value to every question reflecting its difficulty level in relation to other test questions.

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\(^5\) See article written by the authors of this paper in *Hed HaUlpan Hachadash, 99* (in the bibliography).

\(^6\) Ms. Olga Dubova is a senior Hebrew teacher who has worked for many years in Moscow State University and at the Moscow State Maimonides Academy.

\(^7\) Ms. Varda Yishai is a senior teacher in the Division of Hebrew Language Instruction at the Hebrew University.
• To ensure that test questions are in a secure protected database on the website
• To utilize advanced user authorization capabilities.

Similar to computerizing regular exercises, computerizing test exercises is not technically sophisticated, however ideationally we first had to develop computerization principles as well as guidelines for conducting the online test.

The Hebrew University level test is divided into four sections: reading comprehension, cloze, grammar exercises and an essay. The first three sections can be computerized, however the fourth section, an essay, cannot be checked automatically. To clarify, we will examine each test section separately.

1. **Reading comprehension**

In a regular, offline level test, the ‘reading comprehension’ section includes an expository text followed by comprehension questions. There are usually three types of questions: single-choice, multiple-choice and questions that require expanded answers. The first two question types do not pose any problem in converting them into a computerized format however the third question type, with expanded answers, cannot be assessed automatically. Computerizing this type of question requires substantial changes, even reformulation. Taking this into consideration, questions of the third kind were rewritten in the format of one of the other two question types. This reformulation of questions of the third kind into choice questions requires the person writing the test to select the alternative question type (single or multiple choice), and to word the question sagaciously. Furthermore, these types of questions are easier for
the examinee compared to their original format, and must therefore be assigned a smaller value.

Seemingly it would only be natural to use single-choice questions in the reading comprehension section due to the extensive use of such questions in American test format, usually with four possible answers. Using this system in Hebrew level tests seems ineffective. For example, an examinee who answers one-third of the questions correctly in the ‘reading comprehension’ section can choose a strategy of random guessing on the remaining questions. In the ‘American question’ model this student will receive an additional 17% that will be added to the 33% he should get, and will receive a passing grade that he does not deserve. Therefore we can conclude that computerization of the ‘reading comprehension’ section should be based on multiple-choice questions that address the guessing issue while assigning point values close to those that would have been obtained on the original expanded-answer questions.

2. **Cloze**

   In the cloze section the examinee inserts missing words based on the context. This section assesses reading comprehension ability as well as correct use of morphological forms and idioms. In the non-computerized format the exercise is evaluated based on an assessment of the words inserted with respect to these criteria, and this assessment determines whether the answer will be accepted or rejected. Computerized assessment of this section requires an expanded list of possible templates for all the options that would be considered reasonable. The examinee’s choice sometimes demonstrates understanding of the context and correct use of the word in terms of its form, yet the answer would not sound right to the native Hebrew speaker. In tests evaluating low level Hebrew knowledge,
there is no choice but to accept these answers, even if the collocations are incorrect. Therefore, automatic assessment should initially be combined with manual assessment in order to expand the list of templates. This is possible if reasonable answers given by examinees are included in the computerized list.

3. **Grammar**

The grammar section can be computerized without making substantial changes to the original version of the test. Similar to the regular test, examinees tested in the electronic format receive many questions related to conjugation forms and syntax. Examinees must assign the correct preposition form, write several words, use one or another grammatical combination, etc. Questions in this section are single-choice or fill-in questions, usually with more of the latter. Examinees may encounter technical difficulties in this section as extensive typing without mistakes is required due to the numerous fill-in questions.

4. **Essay**

As stated, the essay cannot be checked automatically, yet cannot be eliminated since it is the only test component that assesses written writing skills. Examinees can choose to write an essay in handwriting or type it on the computer. If they choose the first option, the essay must be scanned.

Since our main goal was to assess ulpan students’ language mastery level, initially only beginner level tests (A level) were converted into an electronic format. For the first cycle of tests conducted during the period between the end of May and the beginning of June 2011, all Jewish Agency ulpan students in the FSU who had already completed their level
A studies were invited to take the test. Almost 200 individuals residing in 21 cities in seven FSU countries registered to take the electronic test, and some tests were conducted simultaneously in several cities. Distant supervision of the test and video recording of the classroom during the test were conducted using the oovoo software described above. Cameras were positioned such in a way that all of the examinees in the room could be seen as shown in the following pictures. In addition to observing from a distance using cameras, Jewish Agency representatives were also present in the room during the test.

Test results are encouraging: more than half the examinees passed the test (the passing score is 50% of the maximum score for every question and 65 points out of 100 on each test). The tests helped identify issues requiring further attention in the learning process. For example, writing the essay was found to be a weak point among many of the examinees. In certain instances this stems from the examinees’ difficulty expressing themselves in writing even in their mother tongue. Nonetheless, greater emphasis should be placed on this aspect as part of the learning process.

**Level "Alef" (1st) test in the city of Vilna (Lithuania)**

**Level Alef (1st) test in the city of Minsk (Belarus)**
Summary

This paper reviews the projects that use new technological tools, discusses the effectiveness of these tools and their contribution to advancing Hebrew teaching processes in the FSU and presents existing challenges. We have shown that the use of technological tools helps all parties of the language learning process: students, teachers and those in charge of the system.

We undoubtedly face a far-reaching system change in language instruction. Owing to this change, command of the Hebrew language, currently the province of only a small segment of Jewish people in the Diaspora, may become the province of many.

Bibliography


Parents and Children in an Online World
Parents and Parenting in a Developing Digital Reality: The Challenge of Significant Parenting in the Internet Age

Elizabeth Galon and Rina Cohen

The paper will focus on the new challenges posed by digital reality for adults in their role as parents. The Internet is playing a growing role in the life of children, offering them many opportunities but also exposing them to quite a few dangers. Many parents are not familiar with the subtleties of their children’s experiences as Internet consumers and leave them to deal with their joys and frustrations on their own. Parents themselves may experience helplessness and anxiety in the face of this reality or alternately complacency. It is therefore vital that parents adopt relevant engagement modes. The main modes are presented here.

Ms. Rina Cohen holds a Master’s degree in Education and certification in parent and family group leadership and organizational behavior. She has over thirty years of experience working with parents and developing this field. She is the founder of the Public Council for Parents in Israel and is a Council member. She lectures at David Yellin Academic College of Education on adult learning, parenthood and family.

Ms. Elizabeth Galon holds a Master’s degree in educational counseling, supervision certification in assistance and prevention programs and in life skills as well as certification in the narrative approach to mediation and counseling. She has supervised counselors and educational psychologists in formulating and implementing work principles with respect to psychological, social and family aspects of Internet culture and in online interventions. She managed the website of the Psychological-Counseling Service in the Ministry of Education.
Introduction

Developing digital media is currently an integral part of the reality of children, youngsters and adults, and to a large extent influences and shapes everyone’s life, separately and together. This digital reality is present everywhere – in social education systems, work organizations, cultural and leisure systems and family systems in homes, with many implications for the behavior of individuals, the relationships between them and society as a whole.

This digital reality is reflected in media consumption: watching television, using computers and smartphones, listening to radio and reading newspapers or consuming news on the Internet. About half of media consumption time - 49% - is devoted to surfing the Internet. A Google survey about media consumption habits shows that the average Israeli surfs the Internet 4.5 hours a day (The Marker, January 2012). Among children and adolescents the findings were similar: children ages 6-12 surf the Internet about 4.2 hours a day, while among those ages 13-17 exposure to the Internet jumps to 5.4 hours a day. This is in line with data in the 2012 annual statistical abstract published by the National Council for the Child in Israel. The chapter on children and leisure states that: “The main channel for information of youngsters 15-18 years of age in 2010 was: the Internet – 82.8%, television – 7.2% and newspapers in print 3.6%. In 2009, among children 3-12 years of age, 52% used the Internet. Most did so to play online games (73%), surf to children’s websites (51%), search for information for study purposes (45%) and to search for general information and listen to music (36%). Among youngsters 15-18 years of age, 69.8% reported that they use Facebook. The parents of most 15-17 year old adolescents do not limit the amount of time they watch television or surf the Internet. More than two-thirds do
this with their parents’ knowledge. Children watch television with their parents in more than half the cases (58%), however this is not the case regarding Internet surfing. Only 6% surf the Internet with their parents.

This paper will focus on the new challenges posed by digital reality for adults in their parenting role, in other words for parents. Among the many facets of the digital reality, we will underscore the big parental challenge as we understand it - dealing with the effect of the Internet on the life of children, of their parents and on relations between them.

This topic is increasingly present on the agenda of parents, the education system and entities responsible for maintaining and protecting law and order. It is becoming evident that the Internet plays a growing role in children’s life, presenting them with many possibilities but exposing them to quite a few risks. The question is: where are the parents – the responsible adults – in this reality? What role should they play in their children’s Internet environment, what are the questions that parents ask themselves and what helps them function beneficially as parents in the face of this new and changing reality?

Our approach to this issue is based on the apprehension that parents carry the primary responsibility for raising and educating their children (Report of the Israel Academy of Sciences and Humanities, 2011) and on our awareness of the inter-generational digital gap between parents and children. This gap is reflected in differences in the ability of parents and children to navigate and use the Internet.

**Children and the Internet – Web 2.0 Generation**

Web 2.0 is the second generation of the Internet revolution. It appeared in 2005 when it became apparent that there is a common denominator to various technological phenomena and their use. The common element is
the shared intelligence and knowledge of the ‘smart mob’, that creates Wikipedia and blogs, participates on YouTube, exchanges ideas and experiences on social networks and more (Idan, 2008). In the reality of Web 2.0 users are the main content producers and the Internet affords the opportunity for discussions with many participants and exposure to various contents, some dangerous and harmful.

The Internet offers new types of activity arenas in everyday life, in other words, the social group is no longer comprised only of individuals from the user’s geographic area. Meeting face to face is no longer the exclusive prerequisite for an intimate conversation; time and place take on varied meanings.

Activity in social networks involves creating profiles through which participants brand themselves, their characteristics and preferences, upload statuses where they publish ongoing updates about events and experiences in their life, select the friends to whom they give access to this information and receive responses that supply ongoing and accessible attention.

These activities create an additional culture that is integrated into the existing culture. In this new culture, familiar concepts such as closeness, intimacy, public arena, friendship and influence take on additional meaning.

Naturally, dangerous situations exist in daily life, and as in the physical space, there are risks alongside proper behavior in the virtual arena too. However, owing to the unique characteristics of Internet communication, for example greater physical distance and higher levels of ambiguity and exposure compared to regular communication, risky phenomena may often turn out to be confusing and confounding. In interpersonal interactions on the Internet, due to lack of eye contact and visual feedback provided by body language, there is often a feeling that things are illusory, in other words there is a false impression that
what is transpiring is not really happening. Children involved in abusive behavior on the Internet are not always aware of the implications of their actions. Internet victims on the other hand experience these behaviors as genuinely painful. Feelings of confusion and loneliness may be exacerbated. A new question arises with respect to parents: how can they help their children identify and maintain boundaries in an environment in which these boundaries are invisible?

Children’s activity arena and attitudes have undoubtedly changed and continue to vary. Life situations created in this arena differ from those we encountered several years ago. Optimal engagement in this reality demands increased awareness and unique tools adapted to children’s developmental stage. Intra-personal and inter-personal dynamics with which we are familiar in the physical space differ in the Internet arena. These new dynamics create new needs that are not the exclusive domain of the Internet arena and color all areas of life – including physical reality. These needs are growing and expanding in the face of the digital divide between adults and children and pose a big challenge for parents responsible for their children’s healthy growth and development and for preparing them to lead a satisfying and propitious life.

Parents face a new familial, educational and social reality requiring them to reexamine parenting in general and parenting in contemporary reality in particular. Furthermore, this reality calls for formulating ways to deal with the challenges created in the practice of everyday parenting. Parenting challenges are compounded since a great many parents are not familiar with the Internet or with the new worlds in which their children engage.

In order to identify parenting challenges in the digital reality we will review parenting in general as the basis for characterizing contemporary parental reality and the effects of the digital world on this reality.
**Parenting Forever - A Role for Life**

Parents and children, as it is known, came to the world bound together and perform what can be seen as a ‘joint performance’. With every child that is born, an active mother and father are also born. Parents and children develop and change together through a shared learning journey in which they serve as growth and development agents for each other. The role of parent in all places and at all times is to raise and educate their children and prepare them to function in adult life – as authentic, autonomous, independent and responsible human beings. One of the known definitions of the parental role is: ‘The role of parents is to reduce risks and increase possibilities’. Professor Jonas Salk, the known pediatrician, defined the role of parents somewhat poetically: ‘Good parents give their children roots and wings. Roots to know where home is and what it is, wings to fly as high and as far away as they can’. Another definition (Cohen, 2006) states that: ‘the role of parents is to reveal the secret to their children’. The secret has three parts: to reveal to children who they are – their identity and belonging; to reveal to them what the world is – the society and environment in which they live; and to help them discover the relations and connections between them and the world. In professional terms we can say that parents’ role includes driving individuation, socialization and culturization processes, in other words: to raise a child who is a discrete, individual and unique person, to develop this child’s life skills and to instill values and culture. This means connecting the child with respect to three relationships – to himself, to society, and to the generational chain. To this end parents and children set out on a shared journey of growth that begins at the station of the newborn’s full dependence on the parent raising him and proceedstowards the final destination which is the station of independence in which the child that grew and matured can stand on his own and lead himself and even others.
The joint journey of parents and children is based on building attachment, the special relationship between the newborn – and later the child – and the parent raising him. Since the 1950’s when Bowlby (1988) spoke of the existence of the nurturing relationship, it has been shown that such a relationship is the prerequisite and vital condition for children’s healthy development (Winnicott, 1972; Siegel and Hartzell, 2005).

In order to realize their role in practice, to shape and strengthen attachment, parents act on the basis of two main themes: leadership and responsibility, which are the essence of parenting.

Leadership in general, and parental leadership within it, is defined as the psychological phenomenon of influencing beliefs, opinions, feelings and behavior. Regarding parental leadership the question is: by what means and how do parents apply parental leadership? How do parents exert influence in practice? What is parental abundance – the nurturing material that develops children, and what is the incline – the way, the path – through which this abundance can pass from parent to child?

Parents exercise leadership through two components that create parenthood: potency - the ‘paternal’ component – the strength, power, guidance and authority parents have by virtue of their role and status; and compassion [in Hebrew: Rachamim], originating from the word Rechem (in Hebrew: womb) – containing, nurturing, strengthening, encouraging and supporting – the ‘maternal’ component. In reality, the two components are found simultaneously in both parents, father and mother. The combination of potency and compassion enables the growth of the child and at the same time the development of parenting and parent leadership. Different proportions of potency and compassion produce parental behaviors that travel between two poles: from resoluteness and
assertion to containment, compassion, encouragement and sometimes even complete concession. Parental leadership can be illustrated graphically.

The parenting leadership graph outlines the leadership path through four leadership styles that in effect reflect parenting: (1) Asserting style – parents determine the way of life at home, its culture, laws and rules, it is their right, and in fact their duty, by virtue of their role and status; (2) Persuading style – parents use their leadership to interpret laws and rules and develop children’s understanding and acceptance of the desired way of life and their responsibility to maintain and abide by the rules. Parents act on the basis of their parental authority; (3) Advising style – this parental style is intriguing and is expressed mainly through discussions and by presenting various options before deciding on a course of action. In this style parents try to appeal to the child-adolescent and transfer responsibility to them; 4. Releasing style – in this style the parent and
child-adolescent are close to their journey destination: independence. A large share of the responsibility is on the young person, and this is the measure of independence. Differences between the styles are found in the relationship between parental authority – the potency component - and parental softness in the compassion component. The art of parenting lies in the ability to show flexibility in using all styles and in matching leadership style to the child –his development level and abilities.

Parental responsibility, which is an integral part of parental leadership, is also found in parenting components. “The concept of parenting can be studied phenomenologically by observing the phenomenon of motherhood and the birthing process, because observing motherhood affords a description of relations with the other, from the inside. [This is] a relationship that goes further, beyond love, in the direction of responsibility for another person as it is a part of you, even though it is not a part of you... The phenomenon of pregnancy is the extreme phenomenon of responsibility towards another and towards the otherness of the other. The question of responsibility is raised from within, not as looking to what is outside that may endanger me in the encounter with it, but rather precisely the Other that is inside, that which the space given to him enables its growth, and at the same time creates the necessary tension that only within it can it grow (Levinas, 1979, in Ben Pazi, 2008). As part of the discourse of rights taking place in modern culture, parental responsibility appears as ‘the right of the parent to realize his responsibility towards a child’ (Rotlevi, 1997).

All researchers repeatedly emphasize the functional aspect of parenting: ‘the idea of ownership helps the individual perceive parenting. I am not the owner of my child’ (Levinas, 1979, in Ben Pazi, 2008). The Hebrew language also underscores this aspect of parenthood: it is created through entrustment (‘and God entrusted Sarah...’)[the Bible uses the Hebrew word ‘pakad’ = entrusted], and therefore the newborn is
an entrustment [in Hebrew – *pikadon’*] to the person to whom he was entrusted [in Hebrew – *hufkad alav*] and emanating from this has received a role, the parental role.

In order to fulfill their responsible parental leadership role parents are equipped with two parental resources: **love and wisdom**.

Love is the big catalyst of parenthood. In the words of a popular song in Hebrew: ‘nothing compares to a mother’s love’. The root of love is in the complete trust the mother has in her newborn and in herself as the person that can and is able to fill the parental role of nurturer; she identifies the ‘good’ found in both of them and that can develop within them. To this end she continuously engages with herself, her child and her surroundings. Trust, recognition of good and engaging in communication create **love** (the first letter of each of these words in Hebrew spell the Hebrew word for love) which is a significant component of parental leadership – the substance and spirit that grows human beings. This love is the expression of the unique attachment that evolves between children and their caretakers – parents. Attachment creates the parent-child dyad as defined by Winnicott (1995), and from it, as modern psychology tells us, derive to a large extent the child’s future relationships and relations (Seligman, 1995; Seigel and Harzwell, 2005). Wisdom is a resource and a tool for applying purposeful parental leadership. This leadership is assisted by wisdom in order to reconnect to the parental dream and often even to build on its foundation a parental vision, to examine existing and required parental tools, strengths and abilities, set goals, detect obstacles, and finally – identify opportunities, determine success and accommodate concerns. This wisdom is the wisdom of life, parents’ accumulated knowledge and experience that helps them apply discernment and make decisions in the course of the parental act of raising a child.
So far we described the essence of parenting, its components and resources. It has been so from the beginning of time to the present. As we saw, the parenting role is always the same; however, parental practice is time and place dependent since the parental endeavor stems from the social-economic-cultural reality in which it takes place.

**On the Growing Need for Meaningful Parental Leadership**

Many professionals are in agreement regarding the need for parental leadership in dealing with the myriad challenges involved in growing up and developing in the new complex reality. Moreover, recognition is growing among professionals, slowly but consistently, that parental leadership is a unique and non-transient resource in the task of raising and educating children. Profession Yohanan Peres already wrote about this in the beginning of the 1990’s: *there is no substitute for the love, commitment and investment of parents in raising children*. After that, and after decades invested in prevention, professionals now concede that their extensive, varied and devoted activity addressed mainly the symptoms of the problems and troubles experienced by children and youngsters. Professionals are realizing that the factors which protect children and develop their resilience have to do first and foremost with a significant adult who is permanently and consistently in contact with them. In most cases the parent is this significant adult. The factors that cultivate resilience also provide meaningful experiences that create a sense of belonging and protection, feelings of self-worth that develop as a result of feeling needed, the ability to contribute and experience responsible interpersonal relationships. Parenting plays a decisive role with respect to these resilience factors. Their development – as well as their absence – depends to a large degree on the act of parenting.
It is becoming increasingly apparent that parents applying parental leadership and maintaining parental responsibility create an environment for growth and development that is nurturing, containing, holding, protecting and secure, offers a vision, provides support and creates resilience. Such an environment creates conditions that enable children’s optimal development. In his special book *Home for the Soul*, Matari (2005) expresses this idea in a touching way: ‘Parents are the home of children’, and after all we all need a home in order to survive and of course in order to grow and develop. The breeding ground for children’s growth and development is found therefore in their parents.

**The Weakness of Parent Leadership**

The need and demand for parental leadership paradoxically underscores its current weakness.

It can be said that at this time parental leadership and responsibility – the substance from which children and parents grow and evolve – are often found to be weakened among many parents, preventing the formation of relevant and optimal parental functioning. Parenting often does not succeed in expressing its voice and positioning itself in a way that will enable it to exert its influence and realize its significance. This reality is the backdrop and basis for the ‘great hunger’, the emotional hunger in society we know it (Israeli society and western society in general). The report on the state of poverty in Israel that was not written is the poverty report about the emotional hunger of children and youngsters. We observe this symptomatic phenomena revealed in their behavior: increased violence, substance abuse, poor scholastic achievements, a growing sense of missed opportunities, alienation and loneliness in Israeli society in general and among children and adolescents in particular. In recent years
all of us, health, mental health, education and community professionals, as well as parents themselves, are searching and contemplating the sources and causes of parent and parenting weakness in order to gain insights that will help us identify and apply means and methods to empower and strengthen parents.

We maintain that there are two main sources of parental weakness:

• **The parents themselves** – in meetings with many and different parents we found that most of them are unaware of the pronounced significance and importance of parenting in general and of their own parenting. We learned that many parents lack basic knowledge about the parental role and the parental processes they themselves experience, and some lack an understanding about children - their development, growth and education. Many parents lack effective and relevant parenting skills, and many experience considerable loneliness and do not know who can help them and how to receive assistance and support. Furthermore, when parents find themselves in an environment which for the most part is not supportive, and certainly does not exhibit empathy, it is there that weak and weakened parenting is formed. Such parenting often feels threatened by the children as well as by professionals and the community. It withdraws into itself and creates a contracted parenthood that has difficulty functioning and is incapable of applying parental leadership and responsibility.

• **The social environment** - an examination of the social environment in which parents function shows that parents and parenting lack status, rights and visibility. In Israeli society, across all its system, parents do not have a defined position and their rights are unclear. In fact, it can be said that parents are the transparent class in Israeli society. They are not seen, certainly not as subjects (rather than objects)
with needs, abilities and desires. Through them we see mainly the undesirable behavior of children and young people. In instances when they are visible, parents are mainly perceived as ‘vessels’ through which the educational and social goals we have for children and youngsters can be achieved. Undoubtedly, in order to exert parental influence and leadership the status of parents must be recognized, clear, appreciated and backed by their environment. The social reality of parents, as we understand it, in many cases undermines recognition of parents, their place and rights, and in doing so often excludes them from their parental role.

**Parenting in the Digital Age – At Risk Parenting**

The weakness of parenting on the backdrop of digital reality creates at-risk parenting. This means parenting that does not succeed in realizing its purpose to raise and educate children and prepare them for life as healthy, independent and authentic adults with resilience to deal with its demands.

It is the way of the world that parents have always prepared their children for the world in which they themselves grew up and with which they were familiar, such that they had the knowledge and tools needed to fulfill their role. In our complex and rapidly changing reality, parents are perplexed as to how to function and therefore seek knowledge and tools as well as the support of the environment in order to fill their parental role and succeed in doing so as they perceive and understand.

Current digital reality is to a large extent a new and even surprising reality for many parents. Some see parents as tourists in a new country. Children and youngsters were born into and grow up in a world in which the physical and Internet arenas are intertwined. They engage in this world as a way of life. They feel comfortable in this world. Alongside them are the adults who find themselves somewhere on the continuum
between immigrants, those acclimating and those who are ‘aliens’in the Internet arena.

Children of the Internet age, for whom the significant adults in their life are not familiar with the nuances of their experiences, may find themselves alone as they face the excitement, pain and frustration that are part and parcel of their life in the vast expanses of the Internet. At the same time, their parents, those of whom are not familiar with the customs and influences of this arena, may experience helplessness, frustration and anxiety, or alternately may be too calm and confident regarding their children’s command of the technology and how to use it.

However, it appears that the digital age, and mainly the Internet and social networks, pose real danger, particularly for parents and parenting. The danger is the undermining of the foundation of parenting – the attachment between children and parents. The Internet affects the direction of children’s attachment. They tend to be increasingly ‘peeroriented’, and to a lessening degree ‘parent oriented’ (Neufeld and Mate, 2006.) The decreasing attachment between children and parents significantly hinders parents’ ability to guide and give direction. When an entire and growing life arena is fully controlled by children and their peers, and when parents do not have a foothold in this arena, their ability to exert influence in this arena is very limited or virtually non-existent. Consequently, and in order not to feel that they are alone, children shift the direction of their attachment, at least in part, from their parents to those who are familiar with the arena in which they engage – their Internet peers.

**Parenting with Opportunity**

In this reality parents face a weighty question: how to be significant parents? In other words, how to be leading and influential parents? How
to maintain a relevant and effective dialog with children regarding their Internet activity as well? There are no simple answers, however we will attempt to outline several avenues of thought and action:

According to Neufeld and Mate (2006), it is very important to raise parent awareness once again to six universal attachment modes which, in current culturally-diverse reality, have eluded them and which they supposedly lack. Neufeld and Mate indicate six attachment modes, from the simple to the complex. Peer-oriented children tend to use only the basic modes in their attachment to one another. Parents’ role in the peer-oriented Internet age is to master these attachment modes and apply them to protect their children and ensure their proper development. Command of these attachment modes is the way to return parenting to parents and children to their parents’ lap. According to this approach, the six attachment modes are:

**Senses** – physical nearness is the first goal of attachment. Although it begins in infancy, the hunger for physical closeness never disappears. Children talk to each other in search of physical contact, but talk does not satisfy this need. Parents can offer physical closeness at home as part of the family’s practices and culture.

**Sameness** – children seek to be like those they are attached to – their parents. Identification is a familiar way to create attachment. Identification with friends, singers or other performance artists decreases attachment to parents, and parents should consider ways to deal with this cultural-social phenomenon.

**Belonging and loyalty** – to be close to someone and feel belonging and attachment to them. Peer-oriented children are fervently possessive of each other and strive to claim each other as their own, not allowing anyone else to come between them. In the past by comparison, children’s attachment was usually to their parents and to significant adult figures with whom children and youngsters could feel safe and secure and
therefore feel free to engage in new experiences in a protected space that also provided guidance.

**Significance**–the fourth way to ensure closeness and connection is to find significance, to feel meaningful for someone. The problem with this form of attachment for peer-oriented children is that they become vulnerable. Seeking someone else’s approval may lead to being hurt when reaction towards them is unfavorable.

**Feeling** - emotion is always involved in attachment. Children that experience emotional intimacy with a parent can tolerate much more physical separation yet still manage to feel close. They also internalize a model of emotion-based relations. Peer-oriented children feel that by opening their heart they risk having it broken and experience difficulty creating intimate relationships as adults.

**Being known** - means to feel a sense of being seen and heard. The experience in this case is psychological rather than just physical as is the case with senses attachment.

All six attachment modes are in effect different expressions of the urge for connection on which they rest. The individual to which the child is attached will have a greater impact on his life. A parent absent from an arena which is significant to the child, the Internet arena, abandons the child to the influences of those who operate in this space – different types of friends. Children undoubtedly need friends, however peer-orientation competes with parent-orientation and excludes parents in a reality in which they are not sufficiently vigilant or present in their children’s life. Consequently, it is vital that parents adopt relevant ways of engaging in the digital reality by striving to:

1. Become familiar with and personally experience opportunities to share content which the Internet offers and experience first-hand what their children feel.
2. Acquaint themselves with their children’s perspective – speak to them, hear what attracts them, what they enjoy, what intrigues, tempts, scares and disappoints them in their activities on the Internet and be cognizant of the differences between their perception and that of their children.

3. Discuss with their children values that are acceptable at home and how they will maintain these values in the Internet arena. At times the customary judgment tools we apply as adults, and the discernment we employ in the physical arena, are insufficient in the Internet world, and perhaps there is a need to clarify troubling issues and to reformulate them to fit Internet norms and culture.

4. Remember not to paint everything black, even when encountering dangerous situations and behavior. It is important to recognize the advantages and benefits of this medium, while also addressing its dangers.

5. When considering the dangers, such as exposure to harmful information, it is important to remember that information on the Internet takes many and varied forms: not only written texts but also pictures, advertisements and text in Internet jargon that changes frequently. A great deal of information is not necessarily found on websites, but rather in blogs, chats and forums.

**Summary**

Since the beginning of time parents are parents are parents, and there is no substitute for them as those that raise children. Parents and children continue to need each other in the Internet age. Not being knowledgeable about the Internet arena should not exclude parents from their parental role. To the contrary: as we saw, in the Internet age children need their
parents more than ever to accompany them in the new expanses of life. Parental functions – commitment, investment and love – are necessary in order to raise children in a reality of accelerated change. Basic parental abilities continue to be relevant, yet they must take a new form suited to place, time and the newly emerging culture. For parents to fill their parental role in the face of this challenging digital reality we suggest that parents themselves learn and remain up to date, and even use new media to do so. New media can also be used to form parent communities and to alleviate parental loneliness. Parents and professionals can also take advantage of this media to develop relations based on discussion and engagement between them and to promote nurturing educational activity with partnering strategies, with each person contributing to this partnership.
Bibliography


