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## TOWARDS A NEW PARADIGM IN EDUCATION\*\*

**Abstract:** A new paradigm in human development must be founded upon a new paradigm in education. A human-centered educational system is needed whose aim is the fullest development of the capacities of each individual. Today humanity is on the cusp of a major transition in education, our most powerful instrument for conscious social evolution. Quality education can now be made universally accessible and affordable. Equally important, future education must be made relevant to the rapidly changing needs of society, the increasingly sophisticated demands of the labor market, the growing shortage of attitudes and skills need to promote entrepreneurship and full employment, the values needed for social harmony and problem solving, and the individuality needed for leadership, independent thinking and creativity. The coming revolution in education spurred by the breakthrough in online learning has made all of these goals achievable. New technology can facilitate a shift from the drudgery of passive knowledge transfer and memorization to the exhilaration of active learning that fosters curiosity, discovery and original thinking. It can also help break down the intellectual boundaries between disciplines, making possible a more comprehensive, transdisciplinary, integrated approach to knowledge. A revolution in higher education is upon us.

**Key words:** *Education, MOOCs, Online, Genius, Global Higher education*

### INTRODUCTION

Education is the most sophisticated instrument yet fashioned by society for its own conscious social evolution. Yet, ironically, evolution of the instrument itself lags far behind the evolution of the society it strives to promote. This lag is a natural result of the fact that human progress is largely a subconscious process occurring by trial and error. Conscious knowledge of the process usually dawns only after many repetitions of the actual accomplishment, just as great athletes acquire

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\*\* Discussion paper prepared for the first meeting of the charter members of the World University Consortium at Library of Alexandria, February 12–14, 2014.

skills for proficiency long before they acquire the capacity to consciously transfer their knowledge to others. However, social change has now become so rapid that it is imposing severe pressure which the existing social fabric is unable to effectively absorb and assimilate, leading to fissures and fractures that retard smooth social transitions and threaten to undermine the stability of the existing structure. The multiple crises now confronting humanity during a period of rapid globalization are symptomatic of this widening gap. Therefore, there is greater need than ever before for conscious evolution of the instruments of education required to support the general evolution of society as a whole.

Analogies are inadequate, but it may not be inappropriate to say that the current system of higher education is akin to driving 1914 Model T Fords down modern superhighways. The Model T was the first mass produced automobile in the world. Until then cars were assembled one at a time in workshops the same way horse-drawn coaches were made in earlier centuries. Ford was the first to automate the process on moving assembly lines to produce a million a year instead of a few thousand produced by the old method. But the capabilities and quality of the Model T remained largely the same as its hand-crafted, custom-assembled predecessors.

The massification of education like the mass production of automobiles a century ago will transform global society in ways that are difficult to even conceive today. The democratization of motorized transport activated and energized all aspects of society, ushering in the rise of the Middle Class and the century of the common man. The democratization of education is having equally dramatic impact now. As the right to vote became the symbol of democratic freedoms in earlier times, the right to education has become a symbol of the right of all to a life of opportunity and prosperity.

Since 1914 the dirt and gravel roads for which the Model T was designed have been gradually replaced by four and eight lane motorways connecting major cities and production centers around the world. In parallel, the automobile has gradually been transformed from a functional horse carriage driven by an internal combustion engine into a highly sophisticated, computerized, electronic vehicle providing a range of capabilities and a level of quality inconceivable during the early days of the automobile. In contrast, both the methodology and content of higher education remain largely unchanged since the 19<sup>th</sup> century. Granted that the range of specialized subjects has increased enormously and the range of information available to instructors and students has grown exponentially, the basic conception of education and pedagogy still closely resembles what it was in the universities of old. Today we have lightning fast superhighways for transmission of information and dissemination of knowledge, but we are plying these highways of cyberspace with pedagogical methods and concepts suited to a bygone age. Open access to lecture notes, audio and video on the web, and the production of highly fragmented, capsulized massive open online courses represent the Model Ts of future education. They are welcome pioneering initiatives and an indication of the vast opportunity that has emerged, but they are only rudimentary first steps in the remarkable journey of education that we have yet to clearly envision and have only just begun to traverse.

## 1. CHALLENGE TO HIGHER EDUCATION

Scientific knowledge and the technology for processing and transmitting information are not the only things that have changed during the last hundred years. Radical changes have occurred in all aspects of human life – the aspirations, knowledge, values, skills and the practical organization of society for production, commerce, finance, employment, healthcare, governance, law, entertainment and recreation have evolved commensurately in range, variety, quality, interconnectedness, richness and depth. Each of these changes imposes new demands on higher education, if it is to continue to serve as an effective instrument for rapid, harmonious evolution of global society.

While it is relatively easy to imagine the next incremental steps that can be immediately taken to improve on what prevails today, envisioning the future of higher education is itself a great challenge and a great adventure with limitless boundaries and potentials. Indeed, the pace and range of innovation based on existing models are so rapid and varied that it is very difficult to even monitor all that is happening and likely to unfold in the coming days. It is easy to forget that the first really successful MOOCs are just two years old, and since then the number of universities offering on-line education as well as the number of courses available and students enrolled have grown exponentially. Disseminating information on these initiatives and facilitating multiplication of institutions, courses and students involved are valuable services to the field of global higher education. This was one of the objectives with which the World University Consortium's website ([www.wunicon.org](http://www.wunicon.org)) was conceived.

But this is not the only challenge that needs to be addressed, nor perhaps the most vital and important for the World University Consortium (WUC). Regardless of what organizations such as WUC may do to support it, the movement of rapid change in global higher education is already underway and it is unstoppable. A more fundamental question concerns whether the present direction of the movement is the very best course for the future development of this field or whether present circumstances present both the need and the opportunity for a more radical change based on a new, wider and more insightful perspective regarding the potential contribution of education to the future evolution of human society.

For this reason, it is worthwhile pausing to reflect on the essential nature of education as a human activity and the fundamental role it plays in human development. A discussion of first principles may appear to be an unnecessary distraction or indulgence in intellectual speculation at a time when there are so many practical steps that can be taken to improve on the status quo. However, it may turn out that pausing to reflect on more fundamental issues at this stage may reveal the potential for catalytic actions that can radically accelerate and alter the trajectory of future progress to arrive in a few years at a point which may otherwise be reached only after many decades. Such critical tipping points are all too familiar. In retrospect it is evident that the end of the Second World War provided an opportunity for founding institutions for global governance of a more far-sighted nature than

the UN system that emerged, which lacks the power needed to further the evolution of global society. Another great missed opportunity occurred in the early 1940s when US President Franklin D. Roosevelt laid plans to introduce immediately after the war a second Bill of Economic Rights in America, which included the right of every American citizen to remunerative employment; but he died before he could realize that goal. So too, at the time of the founding of the Bretton Woods institutions in 1945, a proposal was tabled by Keynes and seriously considered by both the USA and UK, before being eventually rejected, for introduction of a world currency as a common reserve fund for global development. Farsighted action then could have saved decades of global financial instability and dramatically accelerated world economic progress. Similarly, we can now look back a quarter century and see that a great opportunity was missed at the end of the Cold War to completely eradicate nuclear weapons from the face of the earth. Instead, we have seen the proliferation of nuclear powers and the extension of nuclear doctrines to re-legitimize possession and possible use of these weapons for the foreseeable future. Therefore, in our eagerness to focus on the imminently doable, let us not overlook the possibilities of a quantum leap forward for a new paradigm in global education.

## 2. MOTIVES FOR EDUCATION

Obviously our conception of education varies with the purpose for which it is intended. That purpose has changed radically since the time when only a handful of clerics and aristocrats enjoyed the luxury of more than a rudimentary education. After the Reformation, Protestant religious leaders in Europe recognized, as their Hindu and Jewish predecessors had many centuries earlier, that education is a powerful instrument for acquisition and dissemination of religious teachings. Therefore, many protestant nations spurred the spread of primary education to impart reading and writing skills to every member of the community and encouraged the development of universities to train members of the clergy. The rise of commerce in Europe stimulated the spread of numeracy for accounting and literacy for entering into commercial contracts. The growth of scientific knowledge during and following the Enlightenment fostered development of new scientific disciplines. The explosive growth of technology during the Industrial Revolution gave rise to applied technical education in agriculture and various fields of engineering as well as technical training to impart vocational skills. The development of modern corporations and sophisticated markets drove the need for those with specialized knowledge in business and finance as well as for many more people with a broad general education needed to fill positions in government and business administration. Rising levels of prosperity stimulated demand for an ever expanding range of professional services. The increasing formalization and technological sophistication of modern economies have further increased the demand for educated and trained personnel, effectively converting the college degree from a symbol of social status into a passport for employment and higher income.

All these motives continue to drive the spread of education today. But beyond the obvious utility which higher education serves, it also serves two more fundamental purposes. First, the political, economic and social success of modern society depends to a very large extent on the education of its citizenry. The type, level and quality of education have become important determinants of the quality of the citizenry and its capacity to function in increasingly democratic social environments, where external authority and pressure for social conformity are replaced by greater freedom for individual freedom, choice and initiative. Second, the capacity for individual achievement, welfare and well-being in modern society depends to a very great extent on education as well. The type, level and quality of education have also become important determinants of individual accomplishment – of the capacity to compete and cooperate with others economically, adapt to technological advances, and adjust mentally and socially to the challenges and opportunities of rapid social change.

### 3. FIRST PRINCIPLES

Education is ubiquitous in modern society – at home, in schools, in the workplace and in the media. It is one of the highest priorities and most prevalent activities of individuals, families, organizations and countries. Yet the essential nature of education, its rightful role in human life, the process by which it occurs, the most appropriate goals, methods, content, duration and applications are far from self-evident. Like the artists' conception of beauty, it is easier to recognize than define or explain. Like the proverbial six blind men who touched different parts of the same elephant and described very different discoveries, we each tend to see a part of what education is rather than the potential of the whole of what it can and should become. Therefore, it may be appropriate to start with the most fundamental of all questions on the subject: What is Education? What is its purpose? Who is to be educated? What is its process? These questions readily evoke a wide range of valid answers, appropriate to different applications and contexts.

At the most fundamental level, we may say that education is the process by which society consciously passes on the accumulated knowledge and wisdom of the past to future generations in a concentrated and abridged form, so that the youth of today can start off at the furthest point that earlier generations have attained, rather than having to rediscover the same knowledge over and over again in each generation. In this sense, education is the social institution that most clearly distinguishes human societies from those of other species, whose acquisition of knowledge is confined to the experience of a single lifetime or passed on subconsciously through heredity rather than consciously through an ever increasing breadth and depth of organized knowledge.

The life of society evolves by increasing consciousness of the challenges and opportunities presented by individual and collective life and increasing organization of its activities to effectively channel its energies and capacities to meet those challenges and opportunities. Education fosters the awakening of consciousness in the

individual and the internal organization of each individual's personality as capacity for accomplishment. Society provides the external organization needed to catalyze the spread of that awakening until it saturates the whole society and to organize all its activities to support higher accomplishment by the collective. The individual and the collective are two poles, two inseparable, mutually interacting and interdependent components of the process of social development. Education is a principal means for the integration of individual capacity with social needs and opportunities.

This definition describes the social role of education, but not the process of education itself. All too commonly we confine our conception of education to that which takes place within the walls of university classrooms and results in the awarding of a certificate of achievement. But education is not an activity confined to the classroom and the textbook. Nor does it depend on whether knowledge is delivered by a live lecturer, obtained from a textbook, acquired from an on-line course or newspaper or life experience. In its widest sense, all life is a field for education and every human activity provides opportunities to learn. The essence of education is the capacity to learn and the fundamental process of education is the process by which human beings acquire knowledge.

#### 4. DIMENSIONS OF HIGHER EDUCATION

As there are many purposes and social applications for education, so too education can take place at multiple levels that are not directly dependent on the number of years spent in formal learning. There was a time when the basic skills for reading and writing were considered clear evidence of education, or even of genius. One principal aim of education is to develop a wide range of skills – physical skills for reading, writing and mentation; social skills for instruction, communication, relationship, teamwork and leadership; and psychological skills for understanding, judging and managing oneself, other people and social situations.

The capacity to recall a wide range of memorized facts or to recite long passages from literature was a prominent attribute of the educated in previous centuries when both learning and scholarship were largely associated with the capacity for memorization. Memorization still remains a major component of education at all levels. The exponential growth of information combined with the exponential expansion of capacities for storage and retrieval have progressively shifted the emphasis from the capacity to memorize to the capacity to understand what one can recite. Understanding is a higher order faculty than memorization. It arises by coordinating two or more facts and relating them to one another as thought. At a more abstract level, the coordination and relating of two or more thoughts give rise to ideas that are several steps removed from observable fact. Most education today stops with analysis and evaluation of facts and ideas at the level of understanding. The development of other mental faculties such as observation, discrimination, comparison, and judgment is given less emphasis.

Beyond these, education can serve a still more profound purpose. It is the principal means for fostering the development of three characteristics that are essential

for the future development of both society and its members – independent thinking, creativity and individuality. Although we may flatter ourselves that we are thinking all the time, most of what we are doing is observing and coordinating facts or ideas and organizing them within the perceptive mass of previously accepted understanding. Real thinking is far more rare and rarefied. It arises from a fresh perception and inquiry into the validity of facts, concepts and perspectives that form part of humanity's commonly accepted body of knowledge. True rationality only commences when we are able to set aside the prevailing beliefs and accepted wisdom, be it scientific or religious, to see and think freshly from first principles and new perspectives, as Einstein did in challenging the reality of absolute space and time and Darwin did with respect to biological evolution. The capacity to question originally is a far more powerful form of mentation than to recite or understand with facility, a more difficult faculty to acquire but one that can still be prepared and consciously fostered through education.

The grades of purely mental education from memorization to understanding to independent thinking can be extended to include other capacities which are normally attributed only to genius, but which also can be actively fostered through education. The inordinate preoccupation of modern education with specialization, classification and analysis neglects development of higher mental capacities essential for effectively addressing the challenges and opportunities confronting individuals and societies today, including the capacity to view things as aspects of a greater totality, to perceive the complexities of interrelatedness, to synthesize and reconcile apparent contradictions and to integrate disparate aspects of reality within a greater whole.<sup>1</sup>

The conscious development of individuality and creativity is also largely neglected by current educational systems. In practice we tend to regard education in a manner similar to mass production of goods, as a process of gathering together raw materials (people and knowledge), applying energy (physical and mental effort) and fabricating finished products (knowledgeable people). We tend to measure the efficiency and effectiveness of this process in terms of the quantity and quality of information transmitted from instructors to students, rather than in terms of enhancement in the capacity of students to learn. For most people education is synonymous with a degree, irrespective of what has been learned. But the acquisition of a degree may be a poor measure of the true quantum and quality of knowledge acquired. A truer measure of education is the awakening of the student's capacity to actively seek and acquire knowledge on one's own, to question and think independently, creatively and even originally.

The transmission of values has always been one of the central aims of education. Values relate to all levels and aspects of life – physical, social, mental, psychological, ethical and spiritual. They represent the quintessence of cultural knowledge

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<sup>1</sup> Ivo Šlaus and Garry Jacobs, "Recognizing Unrecognized Genius", *Cadmus* 1, no. 5 (2012): 1–5.

for survival, accomplishment and harmonious living, which society has acquired over centuries. Family life, religious training, formal education, work and life experience all present opportunities for the transmission and acquisition of values. The advent of modern secular, scientific education has increasingly restricted the conscious transmission of values to mental, organizational and work values, leaving the transmission of core human values to informal social learning. The effort to be purely objective has stripped education of its most valuable essence.

Education legitimately encompasses this full range of objectives – training of physical, social and psychological skills; absorption of factual information; understanding of subject-related knowledge; development of higher mental faculties for thinking and creativity; and acquisition of values for social accomplishment and personal fulfillment. Beyond them all lies the more fundamental objective of awakening and fostering the latent capacity of each person to fully develop his or her own unique individuality.

## 5. PERSON-CENTERED EDUCATION

Education as it is conceived and practiced today focuses on the transmission of information, knowledge and skills from one generation and one person to another. Yet the century that is emerging is one in which information is ubiquitous and available at our fingertips (or eyelids). Technology is rapidly eliminating the demand for many physical and mental skills that were once deemed essential for survival. The compartmentalized, fragmentary knowledge of the past is increasingly inadequate to meet the needs of a society that is rapidly changing and multiplying in complexity. The essential knowledge, skills and facts needed for survival in the 19<sup>th</sup> or 20<sup>th</sup> century are insufficient for the 21<sup>st</sup>. The capacity to adapt has become far more important than the capacity to repeat what has already been learned. The capacity to innovate, invent and imagine is of greater practical utility than the capacity to retain and recall. The capacity to relate socially and organizationally to an ever-expanding physical and virtual network of others requires a shift in values from acquisition and competition to cooperation and sharing, from hierarchy and authority to freedom and equality. How far does the present and emerging system of global higher education answer the needs of humanity in the 21<sup>st</sup> century? Far less than is needed, far less than is desirable, far less than is possible.

The need for a new paradigm in education calls for a shift similar to that which is required in every other dimension of modern society, a shift from quantity to quality, from impersonal massification to personalized customization, from mechanism to live interactivity, from things to people, from collective conformity to individual innovation, from conventional wisdom to independent thinking. Fortunately, recent developments are creating opportunities to freshly conceive, design and orchestrate a radical shift to a new person-centered paradigm. The shift to a new paradigm in education involves a change in focus, emphasis and methodology in at least five dimensions:



1. *Development of capacities:* There needs to be a shift in objective and emphasis from the transfer or transplantation of information and understanding to the awakening and development of the capacity to inquire, search, learn and think for oneself.

2. *Active Learning:* As every good teacher knows, we learn most by sharing our knowledge with others. It is time to extend that privilege and opportunity to everyone. There needs to be a shift in reliance from passive learning by listening and receiving to active learning that comes from sharing, communicating and teaching others. As Wikipedia shifted responsibility for encyclopedic knowledge from a few specialized experts to the reservoir of knowledge and experience possessed by millions of people, education should enlist the interest, release the energy and actively engage the faculties of each student to learn for oneself and also help others learn.

3. *Life-Centered Knowledge:* There should be a shift from the emphasis on narrow fields of specialized knowledge related to a specific career to a more inclusive knowledge that encompasses major dimensions of human life, including the social skills and psychological attitudes needed for adjustment and achievement in a networked society, knowledge of the increasingly complex organization which modern society has become, values that promote cooperation with others and harmony with the world around us.

4. *Integration:* There needs to be a shift in emphasis from classification and analysis to synthesis and integration, from studying the parts to discovering the interrelationships and interdependences between them, from contrasting apparent opposites to reconciling contradictions within a wider perspective and conceptual framework.

5. *Individuality:* The greatest, most important type of integration needed is to relate and integrate education and its accumulated knowledge with the real needs of society and the individual, to impart to each person capacities for wider adaptation, initiative, self-reliance, leadership, cooperation, innovation, independent thinking, imagination, creativity and harmony.

## CONCLUSION

Society does not advance in a homogenous manner. New paradigms do not emerge in a day or supplant existing paradigms overnight. The new emerges under cover of the old and gradually grows in prevalence until it becomes dominant. The old persists long after it has lost its supremacy and may long continue to serve a functional purpose. Today we have arrived at a critical juncture where perpetuation and extension of the existing paradigm in education and other fields are grossly inadequate to meet the needs of humanity. Emerging technology has created the opportunity for a rapid extension of the existing paradigm in education to many who, until now, lacked sufficient access. That quantitative extension is both essential and inevitable.

New paradigms build on the old, as Einstein built on Newtonian thought. Saturation of achievement at the previous level is a condition for evolution to a new level, as agricultural revolution is an essential precondition for industrialization.

Universalization of the existing system of education is a necessary basis for elevating the quality, content and nature of education, and can be of immense practical benefit. But at the same time, there is also a pressing need to move beyond existing concepts and models to conceive and implement a system more capable of tapping the rich human potential that remains largely undeveloped and neglected by the existing system. The World University Consortium can play an important role in promoting advances in both spheres, facilitating more rapid extension of the old paradigm while creatively catalyzing the emergence of a new one.