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## **Studies directed at specific changes of education**

*Education is at the heart of both personal  
and community development; its mission is  
to enable us, without exception, to develop  
all our talents to the full...*

UNESCO Task Force on Education for the Twenty-  
first Century – the Delors Report, 1996.

### INTRODUCTION

How millions of people are distributed among hundreds of thousands of jobs has long been of interest to behavioral scientists and to counseling practitioners. Sociologists, particularly those interested in social stratification, and psychologists interested in behavioral traits have accumulated a wealth of data about occupational and educational attainment.

Several approaches to theory or conceptual frameworks exist in this area. There are explanations of the individual responding to powerful forces from without (D.C. Miller and Form, 1951), or responding impulsively to powerful unconscious drives from within (see Butler, 1968). In hundreds of studies, one or several variables about the person have been matched to one or several variables about work or education. However, the more global explanatory attempts are still developmental in nature. Schools and family are the two great “socializing agents” in our society. The schools may influence later educational and occupational choices by offering special sorts of training. The family plays an important role in the vocational development of the individual by shaping needs and values; by providing positive and negative role models for work, play, and interpersonal relations; and finally by providing resources for implementation of the individual’s self-concept-resources of information, contacts, and money (Super, 1957). Academic ability and performance have a good deal to do with a person's desire to continue in school and with whether higher institutions will select that person. Class rankings can affect vocational opportunities

## CHANGING ECONOMY

Consider basic changes in the economy. In economically more developed countries, agriculture is only a tiny sector of the economy (3 percent in OECD countries, 2 percent in USA). This has been well established. Recently, even the industrial sector has seen dramatic decline in its relative weight. In the past decade, from 1989 to 1998, the percentage of industrial output in OECD countries has dramatically declined from 40 percent to 17 percent. The net effect is that the service sector is now almost 80 percent of the economic output in OECD countries. Although the service economy is not exactly all knowledge-based, it is safe to say that the service-sector in such countries requires a considerable level of knowledge. Typically, a taxi driver, a cleaner, an office messenger or a domestic helper has to have some knowledge of basic technology, some sense of management, or some level of a foreign language. Even in economically less developed Asian countries, the growth of the service sector is spectacular. In the years from 1980 to 1997, in China, the service sector has grown from 21 percent to 30 percent; in India, from 36 percent to 45 percent. In almost all countries, the trend is obvious: there is a shrink of the agricultural and industrial sectors and a growth in the service sector. Although this is no news to economists, not many have noticed that the growth of the service sector also indicates the increasingly importance of knowledge or information in human lives. Dr. Yang's presentation highlighted a very important fact that the change we are facing is not just another minor adjustment of society. Instead, we are facing an overhaul in the basic economic and social infrastructure of humankind, comparable if not more fundamental to the turn from the Agriculture Era to the Industrial Era. Families, societies and international relations will be reorganized according to new orders of life. Following this argument, it is perhaps legitimate to call this the coming of the Information Era. Living at this beginning of such an Era, we are yet to observe the more dramatic changes in the society. Hence, it is perhaps difficult for us to fully understand the changes ahead of us and depict a comprehensive picture of the implications of such changes. However, some drastic changes are already felt in many parts of the world. We shall concentrate on what are relevant to education.

We now live in an information rather than industrial age, where forces of globalization and new technologies continually shape the structure of the labor force. High schools have traditionally served as sorting and sifting mechanisms, moving a small fraction of students on to higher education, a larger fraction of students into vocational or service work, and failing to graduate a still larger fraction who typically would enter the unskilled labor force. The number of vocational jobs has dwindled with the advent of new technologies. The new labor market puts a premium on cognitive rather than manual labor – the ability

to manipulate ideas creatively and in teams, as opposed to the ability to manipulate machines on a routine and by oneself. Education is the crucial pass to success. Whereas once a high school diploma was sufficient to secure a stable and relatively well-paying job, today a college diploma is a virtual necessity to secure a well-paying job, or more likely, a series of well-paying jobs. The gap between earnings of college graduates and high school graduates is large and growing quickly; college graduates earn on average over double the salary of a high school graduate, and three times that of a high school dropout. Given the increasing significance of obtaining higher education, high schools are now expected to educate all students to high academic standards.

The problems of our schools go deeper than the need to improve student achievement in different areas or to attract new and qualified teachers to the profession. Our task is to transform, not merely to reform. For contrary to popular opinion, high schools are not failed institutions; they are obsolete institutions. The question is not how to reform the problem areas of different high schools. The question is how to build rich, opportunity-laden, and effective learning communities that are responsive to the economic, political, and social conditions of the new era. We must re-think the purpose of the institution and transform it for the demands of the current age. In calling for such radical change, we are fully aware of the obstacles before us. First, the institution of the high school is deeply entrenched, and nearly immobilized by the collective weight of generations of fragmentary reforms. Second, efforts at transformation are paralyzed by criss-crossing and ever-changing currents of interests and requirements among parents, students, educators, the workplace, and higher education. And third, the high school possesses a sort of iconic status in popular culture and in the lives of the millions of adults who attended the institution in their own youth. To transform the high school would be to wreck the icon so firmly embedded in the minds of adults, as well as students. We can no longer afford to rely on antiquated instruments of communication, nor of education. Times have changed dramatically. For many years now psychologists have been working at this problem, and elaborate intelligence tests have been devised and carried out.

### CHANGING DEMOCRACY

Demographic facts give new urgency to the task of forging a tolerant, active, and unified citizenry, historically one of the central functions of schools. Levels of civic participation, especially among youth, have dropped precipitously over the past fifty years. Not only people Plural people vote with less and less frequency, it is the youngest age-cohort that is least likely to vote. Moreover, The population of the countries of all ages are increasingly unlikely to join vo-

luntary associations and participate in local, state, and national organizations that structure community life. This level of political participation raises fundamental questions about the very legitimacy of our democratic institutions.

### CHANGING COMMUNITY

Consider basic changes in community life. Beyond the decline in civic participation, which means that fewer community organizations are available for youth, we must also recognize the ways in which new structures of the workplace, the family, and leisure time have profoundly affected what we could call the culture of childhood. Workers now change jobs more often and work more hours, with the consequence that children are frequently uprooted from their neighborhood and school to move elsewhere, and spend less time with their parents. The declining amount of time spent with parents is compounded by the rise of single-parent families and dual wage earning couples. Then factor into this equation the staggering number of hours that children spend watching television or playing video games (current estimates of television viewing for the average youth peg the rate at a staggering 6 hours per day). In short, when once children could rely on an array of meaningful and ongoing relationships with several adults in their lives, today they are far more likely to spend time alone or with their peers.

Factoring significantly into each of these changes is the enormous and still evolving technological revolution. Information technology and biotechnology have altered, and promise to alter still further, almost every facet of our lives. So quickly have these changes arisen those revolutionary technological advances such as the internet, email, and the cracking of the human genetic code are best measured in days rather than years. We can hardly predict what the near-term much less the long-term future augurs for the very nature of work, of democratic citizenship, of communities, and of life itself. One thing is certain: we have to prepare students for an information rather than industrial society. Given these fundamental and formidable new challenges and demands, and the intractability of high schools, we must transform, not merely reform. Despite the enormity of the task, we are driven by an urgency borne of two sources. First, the obsolescence of the high school institution becomes ever-more apparent and ever-more damaging with the increasing pace of change around us. Second, we are spurred by a moral call to assure the equal opportunities of all students and to leave no child behind. After many years of narrowing the gap between minority and white student achievement, a slow but steady widening of the gap has emerged over the past decade. At a time when academic standards and expectations are rising and the value of a rigorous high school education has never been greater, this achievement gap demands our full attention.

In short, unless we transform the high school, we will seal an unhappy fate of many for our youth, for our economy, and ultimately, for democracy itself. The stakes are this high. There is no shortage of reform models, nor a lack of good intentions on the part of educators, community leaders, and parents. What we lack is a clear understanding of how to overcome the entrenched nature of the institution in order to effect system-wide change.

As a first step at understanding how to think about igniting system-wide change, we offer the following core principles of transformation. These are guideposts to evaluate the success of any effort.

- Place youth at the center, especially in light of the manifold ways in which the culture of youth has changed.

- Forge new connections between schools and local communities, linking teachers and youth workers, school buildings and community organizations, formal and informal educational opportunities. While youth are at the center, the broader community and all its attendant institutions and agencies – not the school building or the school district – must be the context in which re-design occurs.

- Act in the interest of all students, but focus clearly on schools that are least successful with low-income students, students of color, and immigrant children.

- Touch and reach all children. We must not rest content with random and scattered acts of innovation.

- In order to be effective, we must build a path whereby all stakeholders can move from “what is” to “what can be.” Hearts and minds, not to mention institutions, are not changed overnight.

- Provide time and tools for adults to develop capacity for ongoing, data-driven, multiple form of assessment, and provide time and resources for in-depth, subject-specific professional development.

- And we must, in all of these challenging endeavors, stay focused on the primary and enduring objective of sustained high academic performance for every student. Nothing should compromise this goal.

## AN ERA OF CHANGE: REDEFINING LIFELONG LEARNING

The continuous expansion of information and knowledge soon makes one’s past knowledge-base obsolete. There is always a need to acquire new knowledge. There is no saturation point for knowledge. As such, one has to rethink the notion of “graduation” in education systems. The conventional notion of “graduation” assumes that there is finite body of knowledge, and that body of knowledge is to be “completed” by the students before they could move out of the education system.

Upon graduation, one is supposed to have enough knowledge to adequately handle matters in a specific discipline or profession for the rest of one’s life.

This is true in almost all walks of life. There are very few occupations that could stay for long with the same kind of knowledge, skill and technology. Different sectors of a nation may feel the need differently. If one may use China as an example, major metropolitan cities such as Shanghai are already on the par with many of the cities in the developed world. Lifelong learning is already a necessary part of the working life. It is sometimes a need even in retirement life.

Such a need is felt to various degrees in cities of differing levels of economic development. The waves have already hit the rural towns and the more developed rural villages. Only the least developed rural areas are less influenced, but their turn will soon come. Change does not only occur in knowledge per se. The frequency in which people change their occupations has increased. In Europe, an average person experiences 3 to 4 occupations in lifetime. The situation in US is similar. It is increasingly difficult for anyone to foretell his/her career path in the future. It is therefore commonplace for a person to learn, mid-career, a new trade. Even if the person remains in the same occupation, the change in the technology, clients, management styles and environments all cause changes that demand continuous learning. The notion that education provides training of a lifelong skill is again being challenged.

This has posed new challenges to the notion of “vocational training.” Traditionally, in many systems in Asia, vocational training is seen as an alternative route of education for those who are academically less able. The idea is to provide them with a skill that would keep them economically survive. This is increasingly difficult. First, there is no such skill that could be permanently valid. Second, most vocational training programmes are designed as a dead-end to learning. In most cases, they are designed against the need for lifelong learning. It is also a world of new ideas. Success stories in an Information Era often hinges upon innovations and creativity. Ideas change very fast. The motto for G2000, a chain fashion shop in Asia, is “When it works, it’s obsolete”!

This poses another kind of challenge to education, particularly education in Asian cultures. Asian schools are not known for being creative. Many Asian societies have their cultural roots in uniformity and conformity. These cultures treasure collectivity among individuals, which explains the adaptability and perseverance of the Asian people, and such values as hard work and adaptability are often seen as the causes of economic successes in Asian countries in the 1980s and early 1990s. Adaptability and hard work alone, however, would not yield much success in the Information Era. What might be seen as a virtue in an industrial society may soon be challenged in the Information Era and networks are ever renewed. Education has to cope with such changes. Learning is continuous in order to cope with all the changes. Lifelong learning has therefore been given a new meaning. It is not only a synonym for adult education, but is also a broad term to embrace the continuous renewal of one self in order to face changes in knowledge, in career, in ideas and in social networks. This Commu-

nication contributes to the establishment of a European area of lifelong learning, the aims of which are both to empower citizens to move freely between learning settings, jobs, regions and countries, making the most of their knowledge and competences, and to meet the goals and ambitions of the European Union and the candidate countries to be more prosperous, inclusive, tolerant and democratic.

This development will be facilitated by bringing together within a lifelong learning framework education and training, and important elements of existing European level processes, strategies and plans concerned with youth, employment, social inclusion, and research policy. This does not imply a new process, nor can it involve the harmonization of laws and regulations. Rather, it calls for more coherent and economical use of existing instruments and resources, including through the use of the open method of coordination. In order to achieve the Lisbon aim of a knowledge based society, close links will be established between the European area of lifelong learning and the European research area, particularly with a view to raising the interest of young people in science and technology careers. The building blocks are consistent with the lifelong learning assessment criteria used in the Joint Employment Report 2001.

A partnership approach is stipulated as the first building block. All relevant actors, in and outside the formal systems, must collaborate for strategies to work 'on the ground'. Gaining insight into the needs of the learner, or the potential learner, along with learning needs of organizations, communities, wider society and the labour market is the next step. Adequate resourcing, in terms of financing and the effective and transparent allocation of resources, can then be addressed. The analysis then proceeds to how to match learning opportunities to learners' needs and interests and how to facilitate access by developing the supply side to enable learning by anyone anywhere, at any time. There is a clear need here for the formal sector to recognize and value non-formal and informal learning. Creating a culture of learning depends ultimately on increasing learning opportunities, raising participation levels and stimulating demand for learning. Finally, mechanisms for quality assurance evaluation and monitoring are suggested, with a view to striving for excellence on an ongoing basis.

## THE MODEL

We believe in the following four axioms, each with its corollary.

1. No dichotomy should necessarily exist at the secondary level between general and vocational education; most people need both kinds. Thus, a program is general education by the very definition "general" and must also include a vocational experience.
2. Learning depends on perceiving relevant relationships which may be introduced in the formal process of school through a vocational experience. Thus,

the evaluation of general education, as well as its reinforcement, might be in the performance of such learning in a vocational process.

3. Each of the academic and vocational disciplines has significant contributions to make to each of the other disciplines. Thus, general and vocational education should go hand in hand, incorporated into a single program in all stages of a youngster's school career.
4. Is more difficult to define, but it goes something like this. Each individual has the right to do whatever he can do best. Thus, we need techniques for recognizing and evaluating equivalent performances of children without special verbal skills. We need to supplement the customary methods of evaluating knowledge. Much of what we teach our youngsters is confined between the covers of textbooks, because of our inability to put learning in an action setting.

The basis for further change in both vocational and general education in the secondary schools will begin with the recognition that little is learned through mere stimulation of the senses. The learner must be a participant, not merely an on-looker. Vocational educational programs and facilities may be the answer to the general educator's search for activities which will allow the learner to participate actively in the instruction he receives.

## CONCLUSION

Lifelong learning is not the same as recurrent education within the framework of the formal educational system; lifelong learning is interdisciplinary, it overlaps the borders of different policy sectors. From a state perspective the battery of tools available is expanded; there are a number of alternative ways of investing in and creating conditions for education and learning.

Educational policy, labour market policy, industrial policy, regional policy and social policy, all have a common responsibility. Communication and co-ordination between ministries, authorities, agencies, institutions and organizations at the national and municipal level are important. The converse also applies that the traditional division into sectors can create structural obstacles, especially at the national level; the municipal level has more experience in handling different policy areas under the same "hat". There were times in the history of human thought when it was seriously believed that knowledge, or intelligence, or enlightenment (as it was often called) was in itself a supreme good, and capable of rectifying everything. The next period of education change will require all of us to be at the cutting edge, not "reacting" to social and economic change. No longer can general educators turn their backs to vocational education. For better or worse, it will always be around, separately today, but merged tomorrow; over-emphasizing training today, but emphasizing education tomorrow. This change, if made successfully, will put vocational education in



a new place—a better place—to fill a vital role alongside of and in conjunction with the present roles of the public school.

How shall we respond to this first glimpse of lifelong learning? Two contradictory, but perhaps equally reasonable responses can be predicted. In the first, lifelong learning can be seen as a paradigm shift in EU education policy. The tight monopoly of the formal education system is being released, the education system is expanding by recognising learning outside the formal system, often privately provided with a multiplicity of organisers; a reform which it could be argued is perhaps more far-reaching than the “municipalisation” of 1991. On the other hand, the opposite can be argued that there is nothing new in this; adult education, popular adult education, workplace education and civil societies have been in existence for some time. However, it can be argued that if a lifelong learning system is to be developed in EU, initially.

## REFERENCES

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### *Summary*

What will education be like in the year 2025? Major theories about educational and occupational attainment have stressed the final choices as the results of a development process. We tend to see our institutions of higher learning as relatively stable entities. Their form may change but we expect there will always be a need for universities and academics; interpreting, making sense of the world and indicating ways of improving it. However, with rate of change ever increasing, stability is a short-term forecast from extrapolating short-term data.

## **Badania specyfiki zmian w obszarze edukacji**

### *Streszczenie*

Jaka będzie edukacja w 2025 roku? Artykuł przedstawia główne teorie dotyczące osiągnięć edukacyjnych i zawodowych. Podkreślona została istotna rola ostatecznego wyboru oraz jego korelacja z procesem rozwoju. Zazwyczaj postrzegamy uczelnie wyższe jako podmioty stosunkowo stabilne. Pomimo tego, iż jesteśmy świadomi faktu, że ich forma może się zmienić, oczekujemy jednak, że zawsze będzie istniało zapotrzebowanie na usługi świadczone przez uczelnie oraz na pracowników naukowych. Wierzymy w celowość ponoszenia nakładów na interpretację zjawisk przyrodniczych, badanie sensu świata oraz poszukiwanie sposobów poprawy naszej rzeczywistości. Niestety, wobec ciągle przyspieszającego tempa zmian, dostępne dane krótkoterminowe pozwalają jedynie na przeprowadzenie prognoz krótkoterminowych.