

Places and Possibilities of Higher Education Concerning Life Long Learning (New Challenges – Change of Paradigm)

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SUMMARY

Life Long Learning (LLL) has a very important role in the 21st Century in everyday life. LLL is becoming more meaningful and important, and consequently the higher education sector is progressively increasing its provision of lifelong learning worldwide. This study analyses the main factors which are closely connected with accelerating time (with the learning process) and gives a global picture of the role of higher education institutions in LLL.

INTRODUCTION

First of all, it is a kind of contradiction that in the 21st Century, which is the age of the knowledge-based economy and society, there are serious debates all over Europe about the role, place and future of higher education. In the new 'region of knowledge' the universities and colleges are seeking to enhance their reputations by developing new educational programmes to meet the high social and economic expectations.

One of the most well-known outcomes of this process has been the introduction of the two-level qualification known as the Bologna process. This has been a comprehensive restructuring of the higher education system in Europe in order to develop a practice-oriented education. (The first results of this restructuring are about to appear since the first bachelor year which has experienced Bologna is graduating now, but actually it is obvious that there is a kind of dismay in relation to the Bologna process).

These days, perceptions of the role and expectations of higher education institutions have been modified. This is because the production and reproduction of knowledge now also takes place outside the universities. For example, the huge research laboratories of the enormous multi-national corporations have a size, and possess materials and a level of technical support, that cannot be compared to those of the universities.

In the developed world, even in Europe, a process is emerging that contains dangerous elements, i.e. the decreasing birth rate. This will result in higher education institutions facing crucial functioning problems in the near future. A competition for students

has already started between institutions and it is becoming more dynamic internationally as well. (At the moment 21 foreign higher education institutes have departments in Hungary and on the top of that they attract our students with exemption from tuition fees together with the planned arrangements that aim to give governmental funds to the foreign institutions established in our country).

It is evident that the need for traditional graduate programs is steadily declining. Therefore, the future functioning problems and difficulties of the utilization and the running expenses of personnel and material infrastructures of the significant university centres have become visible.

In this way, Life Long Learning (LLL) is becoming more meaningful and important. Consequently, the higher education sector is increasing its provision of lifelong learning worldwide. It is not by chance that the European University Association accepted and published the European Universities' Charter on Life Long Learning last June, in which suggestions are summarized for the European universities and governments.

The Charter's main idea is about the fact that there is a need for a new way of thinking and a change in paradigm so that higher education in Europe should meet the new challenges of adult training. Unless these suggestions are put into practice, higher education in some countries will be striving with considerable operational problems.

In this monograph the emphasis is placed on the significance and importance of adult training and during my lecture, based on this work, I aim to highlight the special roles of universities and colleges.

Life Long Learning, regarding its content, is not a new definition. As a matter of fact, age-old traditions and examples prove that besides acquiring human knowledge through periods spent studying in schools, constant learning was always declared important afterwards.

Namely, this phenomenon had two causes: firstly, manual work required continuous preparation due to ever-changing new challenges, and secondly a person's essential desire for knowledge.

This last cause was humorously described by Fridrich Schleger, a German writer and linguist (1772-1829) who explained, "the more they know, the more they have to learn. Between knowledge and not-knowing there is a direct ratio or between the knowledge of what one may not know".

According to a Hungarian proverb: "A good priest has to learn all through his lifetime." In English it sounds like "It is never too late to learn" which corresponds with our topic.

It should be remarked that today, in the first years of the 21st Century, Life Long Learning has almost become a cliché. There are not any academic and professional conferences, dissertations and monographs in which this term is not mentioned.

Also, it is vital to clarify that Life Long Learning is not a kind of 'trend' or a researcher's 'fancy' but an objective process that has received an essential role nowadays in a knowledge-based society and in the foundation of the new knowledge economy.

In the history of mankind, knowledge did not have such a significant and direct role like today. The added value is the basic component of a nation's competitiveness; furthermore, institutions involved in knowledge production and its reproduction are major players in society and the economy.

All in all, this is what counts from the aspect of international competition.

It is also not by chance that in the European Union's current and future programmes, the cost of which is equal to the Research And Development (R&D) per GDP ratio of the United States of America, LLL has a key role regarding the different parameters of knowledge production.

At the same time, the ratio of the people participating in Life Long Learning is also meaningful. Truly, in the economic and social improvement of the developing countries, i.e. the poor countries of the South, more and more emphasis is put on creating the basic conditions of studying for the adult population. It is certain that today the usage of the most simple appliances requires a kind of basic knowledge and, through the revolution of information technology, digital literacy has become compulsory.

To tell the truth, from the point of view of the future of the world, some fundamental questions must be raised: for instance, the colossal inequalities, the chasm between the rich and the poor, and the unacceptable

contradictions between deaths from starvation and abundance. This goal is reachable only with those people who possess the minimum skills that are obligatory in these times.

In the developing countries this knowledge can be achieved by adult training and Life Long Learning, because billions of people have grown up without studying in elementary schools.

For the sake of completeness, I would like to point out that implementing the ideas and practices of Life Long Learning is a major challenge even in our country since the proportion of the population involved in this learning process is below the ratio of the European Union average. Actually it is 4% at the moment. Although attaining the present 10% ratio of the European Union can be found in the aims of the programmes of 2013, it will not be enough for the expected international standards of that time.

I would like to emphasise that people's way of thinking, their lifestyle and sensitivity to the future are of primary importance. It seems that it is not an accepted and acknowledged fact in our country that people change their professions several times during their lifetime and beside their university degrees, other qualifications have to be obtained so as to conform to the required needs of the labour market with the help of special retraining.

Perhaps this phenomenon is not the result of a crisis or a lack of success in people's lives, but rather an adaptation to the objective challenges of the market economy and a rapidly changing world.

What factors have caused the fact that nowadays we have arrived at the point when Life Long Learning has such a definite role?

I would mention two main factors. One of them is accelerating time, and the other one is the emergence of a new economy, along with an abundance of knowledge and a knowledge-based society.

EXPONENTIONALLY ACCELERATING TIME

"People of this age have to experience more changes during their lifetime than 100 generations following each other in Ancient Mesopotamia", said George Marx, a philosophy professor. There is no doubt that in every field of life we are witnesses to the future getting closer to the present and we feel that the present rapidly blurs into the past and the future develops into the present.

Too many events impinge on today's people and they cannot absorb one memorable event before experiencing another (for example, a trip abroad) which almost deletes the impressions of the previous one. (An average person experiences the fact of accelerating time in the sense that festivals, e.g. Christmas and Easter etc. follow each other so quickly that one has no time to prepare for them).

Accelerating time brings more and more problems and there is less and less time available to solve them. Globalisation increases these problems since the cause and effect connections (in vertical and horizontal meanings as well) result in a non-transparent system that renders scientific research and the possibility of quantification more difficult and less viable.

This phenomenon is called the ‘snowball effect’. A small snowball rolled down from a mountaintop starts as a ‘game’ but as it descends its weight becomes gradually heavier and it speeds up steadily. It may arrive in a valley as a powerful avalanche.

Today’s people meet ‘the snowball effect’ more often in the case of unexpectedly appearing dangers. (They participated in the formation of these dangers, but did not recognize the real risks) These dangers could threaten the existence of mankind.

Let us elaborate on the basic problems of today by using the examples of environmental pollution, the despoliation of the non-renewable natural resources of the Earth, the destruction of forests and flora and fauna etc.

The statements explained above are well demonstrated by Heinrich Siedentopf, who was a German astronomer. In his ‘model year’ calculation, from the conquest of the ‘terra firma’ the events of 170 million years were summarised into a calendar year according to its units of time (month, week, day, hour, minute and second) and he located certain events accordingly:

- In January: vegetation
- In March: the first species of birds
- In September: the first primates
- In the middle of November: the anthropoid ape
- On the 30th December: the ancestors of the stone-tool-using human being
- On the 31st December:
 - At 8 p.m. the prehistoric man of the Neander Valley passed away
 - At 11:30 p.m. human beings began cultivating land
 - At 11:59:24 p.m.: the industrial revolution began
 - At 11:59:48 p.m.: the car and the aeroplane were invented

This model was prepared in the 1960s. So now it is apparent that the scientific innovations and the new events of the past 40 years – for instance, humans on the moon, space flight, the achievements of biological and information technology e.g. the internet – show an incomprehensible progress of development.

The best examples of ‘the snowball effect’ in connection with accelerating time are the data on population growth, since the question of the increase in population is a public matter nowadays.

The following table contains data concerning the world’s population:

Table 1.

<i>Time</i>	<i>World population (billion people)</i>	<i>Years passed since the duplication of world population</i>	<i>Average density of world population (people/sq km)</i>
2085	10200	97	20,00
1988	5120	38	10,03
1950	2500	100	4,90
1850	1200	100	2,35
1750	660	850	1,29
900	320	900	0,63
0	140	1000	0,31
1000 B.C.	80	1500	0,16
2500 B.C.	40	2000	0,08
4500 B.C.	20	2500	0,04
7000 B.C.	10		0,02
10000 B.C.	1		0,004

According to the data in the table, it is noticeable that the almost invisibly slow growth was changed by an increasingly perceptible shift. The time of duplication is often used to express acceleration.

In the case of population, during the first thousand years a measurable duplication was not noticeable but this is true for the following hundred years, too.

A change rapidly came about at the end of the 19th and the beginning of the 20th Centuries and real panic arose when duplication time decreased to the half of a generation. What does the future hold?

To a large extent, the rate of duplication predicted in table 1 presents an optimistic vision of the next 100 years. Perhaps there are other pictures of the future that give much more pessimistic views, speculating that the expected population in 80-100 years might not be 10 billion but several times more.

The exponential population growth can be illustrated best by taking as a basis the previous century. This demonstrates that a person who is 80 now has experienced the fact that the population of the Earth has tripled. As a consequence:

- In 1927 world population was 2 billion
- In 1960 it reached 3 billion (33 years passed)
- In 1974 it became 4 billion (14 years passed)
- In 1987 it increased to 5 billion (13 years passed)
- In 1999 it grew to be 6 billion (12 years passed)

On the 12th October 1999, two minutes after midnight, the 6 billionth person was born in Sarajevo. This day was called ‘THE DAY OF SIX BILLION’.

In the case of the rapid growth of the world population it is crucial to emphasize that the problem is not caused by the definitely increasing numbers but by factors resulting from social and economic structures.

All experts agree with the fact that the carrying capacity of the Earth is able to provide twice as much as the needs of the world population when there is rational economy. However, everybody has the same opinion that the

developing structure, i.e. 'the rich North and the poor South' ratio leads to unsolvable oppositions. Regarding the future, it is unmanageable that in the poor, starving and undeveloped countries the population is growing and 75% of human beings lead a miserable life while 25% are well-off.

The following chart depicts the figures indicated above:

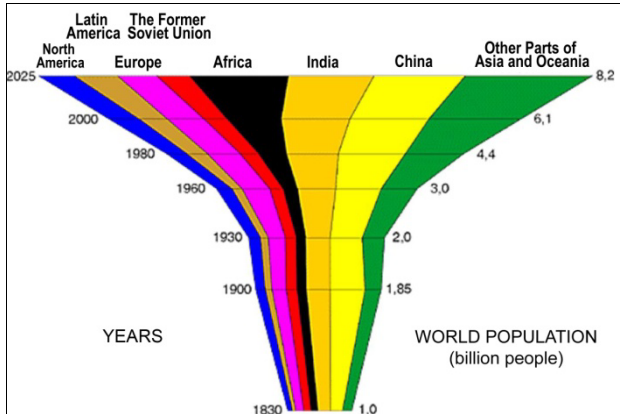


Figure 1. The Formation of the World Population by Continent

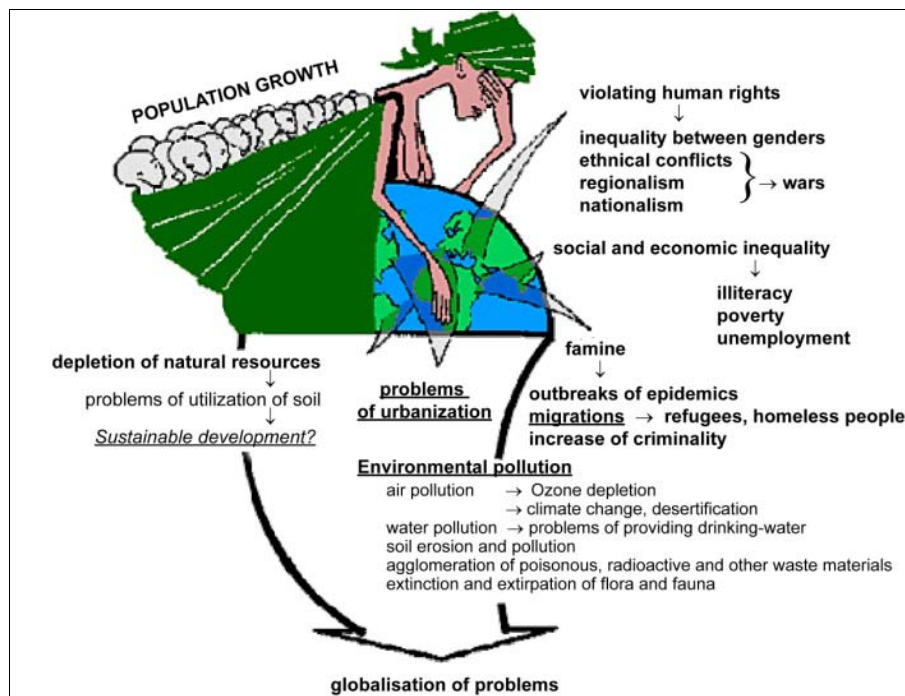


Figure 2.

It is possible to illustrate the fact of accelerating time not only with the example of world population, but also with those of science, technology and the economy. Although in these areas the results are especially spectacular and convincing, from another perspective they are threatening. (As the Roman Club determined from their evaluation of the developments of science and information technology, these phenomena may become either driving or destructive forces. When watching the outcomes of rapid development, we can observe both satisfying and worrying factors emerging).

'The snowball effect' of population growth is interpreted by today's people as causing a number of life-threatening problems which are increasing in parallel and entering into a critical period. It should be recognized that people are biological beings and their lives have basic criteria that need to be provided for the sake of staying alive.

In this sense, air, water and food play crucial parts. All of these three basic resources are in serious danger. It is getting more obvious that 'Spaceship Earth' is not a scientific game but rather a reality.

Our Earth is a small fragile planet that can be flown around in a few hours, studied from the space, and with today's military technology eliminated in minutes.

Those in 'the spaceship' are in danger when there is not adequate clean air with proper pressure, the ozone layer happens to be destroyed, and there is also a lack of clean water and food.

'Mother Earth' is carrying a larger and larger weight on her shoulders, which is represented by the next illustration:

This is in line with the research of Leon Lavalée, who examined how much time is spent from the beginning of an experiment (the emergence of an innovative idea) until the introduction of a product. This work was elaborated on in the 1960s and it is relevant today when considering what results might emerge. Essentially, there are cases when the time would be zero since – during the period in the laboratory – the product becomes out of date because of the appearance of a new, more modern and up-to-date version.

Table 2. A data table is displayed for presentation purposes

Camera	1727-1829 (102 years)
Telephone	1820-1876 (56 years)
Radio	1867-1902 (35 years)
Television	1922-1936 (14 years)
Radar	1926-1940 (14 years)
Atomic bomb	1939-1945 (6 years)
Transistor	1948-1953 (5 years)

More examples could be enumerated. However, the previous ones are sufficient to support the original hypothesis that accelerating time directly effects the sudden growth connected to the needs of human knowledge acquisition. This takes into account the facts that in such a turbulent economy and society, people are obliged to change their occupations, enhance their competences, complete their fields of knowledge, and, in short, are directed to Life Long Learning.

A NEW SOCIOECONOMICAL FORMATION

The motivating factor of the need for Life Long Learning is the economic pressure on people compelling them to take part constantly in retraining programs and to acquire new and additional knowledge. This is due to the changing demands of the market economy and people's careers – factors which result in job modifications.

Therefore, it is true that in the 21st century the constant enhancement and renewal of knowledge serves as a basis for success. This can be illustrated by picturing the following scene. Through study a person nurtures the growth of a 'Tree of Knowledge' and that person may soon be sitting satisfied beneath its shade. However, a revelation may come when the 'leaves of the tree' begin to fade and fall. One soon realizes one remains without shelter and protection from the dangers of rough weather. In our age, it is characteristic that economic and social centres are being transformed into the spheres of the production, reproduction and distribution of knowledge. In this way, knowledge itself has become a direct force of production.

In a period when there is a revolution in information technology – which we could call the world of microchips – material itself seems to be almost invisible. Indeed the knowledge provided by it dominates. Not to mention small discs (a few grams only), on which several gigabytes can be written, even on pen drives whole offices, all the data of companies, the results of research, and monographs can be carried.

This definite change is indicated with the help of the table below that was compiled according to the economic and social specialities of certain periods.

Table 3. The Economic and Social Centres of Some Significant Ages

<i>Ages</i>	<i>Economic and political centres</i>	<i>Social basis</i>	<i>Preferred capital investment</i>
The Middle Ages	Agricultural large estates	Agricultural society	Agricultural investments
Modern Age	Industrial centres, institutions	Industrial society	Industrial capital investments
Ultra-Modern Age	Competence centres, institutions	Knowledge-based society	Knowledge-based capital investment

The economy of the Middle Ages profited from the soil and that meant subsistence for the world's population of that time. 80% of the people worked in agriculture and that was the most important sector for producing income. A country's economic, political and military power was based on the quality and quantity of the soil and perhaps the agricultural large estates were the main users of the scientific and technical developments of that age.

In this sense, that society can be called an agricultural society because from those circles originated the members of the political and economic elite. Therefore, agriculture was the preferred opportunity for investment. Success, wealth, prosperity and positions were connected to agriculture.

The beginning of the Modern Age, i.e. the period after the industrial revolution, can be characterized by special changes and structural shifts.

Agriculture as the most important productive factor receded into the background. New factories appeared, and carbon and hematite mining came into the foreground. Larger centres were built that reached their peaks in the 20th Century.

Society started to move from an agricultural to an industrial one, most of the people gained their incomes from industrial production and similar activities, and that is how, next to the large industrial centres industrial colonies existed. As a result, people's lives were strongly connected to industrial activities.

The whole school system, from elementary to higher education, was reformed. Generally, polytechnic training was favoured, and the knowledge required by economic and business life was emphasized, even in the fields of law and economics.

As the Industrial Age progressed, it became increasingly suited to its name. The large industrial capitals represented the roles of the economic and political centres, and a political and economic aristocracy emerged from the industrial strata. A country's economic and political power was tightly connected to its industry and its resources of raw materials.

At that time capital was invested not into agriculture but rather into industry, while most profits were gained from factories, mines and plants.

Subsequently, the society of the Modern Age can be called an industrial society.

The major characteristics of the Ultra-Modern Age can be underlined in the same manner as in the previous age. Specific structural changes of the workforce can be observed. The number of industrial workers is decreasing in accord with the increasing figures employed by service companies, in the sector of information technology and in those sectors related to knowledge-production.

Today, most of world population works in those fields that are strongly connected to knowledge-production, and high-tec focused industries.

Robot mechanism and the automation of activities are linked to the processes of production.

Only a few people are enough to operate the whole manufacturing process, the other tasks are fulfilled by the knowledge of software, programmes, technology and techniques.

Institutes and centres of knowledge, or innovation research centres, have become the focal points of economic and political life and also the preferred places of capital investment. Funding the acquisition of knowledge is the most pleasant investment for a person and its usefulness can be benefited from through a lifetime.

The society of the Ultra-Modern Age can be called knowledge-based.

The main opportunities for success, career progression and enrichment are provided by this field.

It is not by chance that among the richest people in the world the number of active representatives working in the fields of services is increasing.

On the 2007 list of Forbes Magazine the first three positions were:

- No. 1 Warren Buffet (stock exchange)
- No. 2 Carlos Slim (telephone)
- No. 3 Bill Gates (Microsoft).

The youngest person on the rich list was Mark Zuckerberg (then 23 years old) co-founder of the Facebook website.

Among the billionaires of 2007, 50 of them were people under 40 years old who deal with software and information technology. This indicates that there is an innovative generation utilising a new expansion of knowledge production and information technology.

This aspect is relevant even today. In this age the traditional models of knowledge-production have fallen apart and besides the classic educational institutions there are new competitors in the market economy involved in knowledge production and its reproduction. For this reason, the connection between higher education institutions and Lifelong Learning is heightened.

The question is whether higher education institutions intend to improve or can participate in improving adult training. The present situation is not showing a promising

picture because of several objective and subjective reasons.

For example, who should teach in the process of Life Long Learning?

An answer may be that in the training sessions of the educational system, the given educational institutions are accredited and entitled to issue certificates or degrees on many levels.

Today there are 71 higher education institutions in our country in the following sectors.

Table 4. The Partition Coefficient of the Hungarian Higher Education Institutions

	<i>Universities</i>	<i>Colleges</i>	<i>All</i>
State	18	12	30
Private, Denominational	7	34	41
All	25	46	71

The table should be completed with those higher education institutions operating in Hungary whose centres are abroad. Indeed, they are mushrooming. Actually, there are almost 20 foreign higher education institutions in Hungary.

Higher education in Europe is being forced to find ways to survive somehow the demographic crisis overtaking the whole of our continent.

It is an outstanding opportunity for a British, German or French higher education institution to expand to Eastern Europe, thereby multiplying our problems.

The situation in the training sessions of the non-educational system is not so simple, but for the higher education institutions it is absolutely a disadvantage.

In this present study the reasons cannot be discussed but at the same time it is true that the higher education institutions' ways of thinking portray an important element of aristocratic behaviour.

To fulfil the needs of the market economy concerning Life Long Learning adult training, enterprises have been founded. Today in Hungary 1408 accredited adult training enterprises are operating and there are more than 1000 smaller, non-accredited companies and training centres (around 10,000). There are more than 3400 programmes in different training centres. Quality assurance is a key question and a statement is risked that in reality this question has not been dealt with. The educational accreditation of numerous programmes happens from the input side, perhaps in a hurried way because of the large number of centres.

What is exceedingly important is examining the output side: how the accepted programmes are completed and whether these are put into practice to meet the requirements of the market economy. For instance, in what way the job opportunities of the students are increased.

In my opinion, this is the most critical aspect of adult training and Life Long Learning as well as a basic problem to be solved in the near future.

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