

School Education in the Context of Seven Evolutionary Steps

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History of education in general and of school in particular, like any other social phenomenon has developed from an idea to a system with a certain level of perfection due to evolution. Regarding the development of education the notion of *evolutionary progress* is the most appropriate in the context of my philosophical views. I use this term for several reasons. First of all, changes in education take place over a long period of time. Education is usually quite a conservative area and the changes that are often called revolutionary have never occurred in a limited period of time and have not yielded extremely fast results because the outcome of education is always delayed in time; that is the nature of education. Therefore, there is no reason to employ the concept of "revolution in education". However, for the sake of objectivity it should be noted that some innovations in education can have revolutionary characteristics although they happen in a particular evolutionary period. Using the concept of *progress* I want to emphasize that due to building changes and their dissemination, the civilization development occurred through positive changes. In view of philosophical comprehension of historical reality and logic of education development there were six evolutionary steps of education, and now the seventh one is taking place.

Philosophers, educators and historians almost unanimously agree that the first step of education has always been a family, because, as noted by E. Kant: "The human kind should gradually, with itself, by its own efforts make all the features of human nature. One generation educates the following" [3, p. 399]. Parents in ancient times introduced their children to the living environment and sought to transfer to children their experience, eventually they would like children to inherit their lifestyle and activities, beliefs and traditions. Therefore, they taught the children everything they could and knew themselves. At this stage, teaching activities emerged in rudimentary form, teaching and education shaped as stated in "A person can become a human only through education. One is what education does to one" [3, p. 401]. In fact the family has formed the idea of school and became a prototype of it. The formation of the idea of education, upbringing and development of a child in the family, separation of relevant functions and roles became the **first evolutionary step of education**.

But serious efforts of man during thousands of years resulted in second evolutionary step of education. Humanity created the first writing signs twelve thousand years ago. Today these samples can be found in Ukraine near Melitopol City. The State historical-cultural reserve "Stone Grave" is functioning there now which in 2007 was nominated in UNESCO's list of the oldest monuments of culture and history of humankind. Russian researcher Anatoly Kifishyn, who deciphered the found samples of writing, considers them to be proto Sumerian [4]. It is well known that about 5000 years ago the first state school arose in ancient Sumer. The professional pedagogical activity was founded, as well as systematic training for a specific purpose, and clay tablets were the first means of training. The main objective of Sumerian school was teaching boys the complicated technology of writing on the clay tablets to train scribes, primarily for the management needs. Invention of writing by man and creating the school as a social institution – these are the two events that were crucial for all further development of mankind, they determined the direction of civilization's cultural development. Writing provided human civilization with means of preserving and

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transmitting information and with a way of initiating each new generation into the cultural heritage and willingness to create new models of culture. This was the **second evolutionary step of education**.

Humanity has reached the present level of development largely due to the emergence of writing and the creation of such institutions as schools; that gave us reason to believe that modern civilization is increasingly becoming a civilization of **Homo Educatus**. This **educated man has become the focus point of the present** and identifies vectors of social development.

Transforming the idea of school and search for models of its activity started in the period of antiquity and continues today. Family cherished the idea and practice of teaching, the need of education and youth development pushed to the emergence of a circle of people who were the first to make training and education their profession. Thales and individual sages, Pythagoras and Pythagorean union members formed the basis on which the profession of a teacher developed. Based on parental roles and experience of “Languishing art”, as Socrates put it, sophists and Socrates in Europe, Confucius in China, as the first professional teachers who earned money teaching young people, contributed to the **third evolutionary step of education**. Their work deployed the idea of school to a scale of social phenomenon, educational activity became professional and many schools appeared. This evolutionary progress was completed by Plato and Aristotle, who developed the idea of school, creating the Academy and the Lyceum – institutions that are basic models in implementing the idea of school and university, and moreover, standards by which schools were established for many centuries in a row. Theoretical and practical training was separated in this period, curriculum was formed, textbooks and manuals were developed, teachers’ training was launched, responsibilities of the state were defined regarding the education and upbringing of youth, the idea of legislative control of education was initiated, educational requirements for different age groups were first formulated, etc.

The **fourth evolutionary step of school education** took place under the direct and decisive influence of Christianity. The Christian church needed clergy that was trained to read, write and interpret religious texts and it prompted the opening of schools at churches and monasteries, and thus significantly expanded the opportunities for spreading education. There was a shift in education towards moral and ethical principles which were based on moral and ethical values of Christianity. A believing person able to read and write becomes an educational ideal. In this regard secular religious authorities represented by King of Franks Charles the Great (787) ordered to form schools in all eparchies and each monastery. After the introduction of Christianity (988) the Prince of Kyiv Volodymyr the Great ordered his people to educate their children.

In the late tenth century the first university of Europe was launched in Bologna (Italy). Thus the foundation for the development of school and university education in Europe was laid.

The **fifth evolutionary step of school education** was connected with the great influence of the Renaissance humanistic ideals and the era of industrial production. During this period the idea of school and education has become a multi-faceted development. Evolutionary progress in education took place under the influence of constituted pedagogy of Y. Komensky, and the classes he offered corresponded to the needs of emerging industrial society in the best way. This fact has been successfully described by the famous American philosopher Alvin Toffler: “Organized by analogy to a factory general education gave the skills of reading and writing, taught the basics of arithmetics, history and other subjects. It was an *open course*” – he wrote. “But beneath it an invisible or *hidden training course* was laid and it was more

important. It consisted of three items (and remains so even now in most industrial countries): punctuality, ability to obey and the ability to perform the mechanical, monotonous work. On the factory, especially on the assembly line skilled workers were needed that could carry out orders without questioning them. Factories needed men and women willing to be slaves at the machines or in the office, who would carefully perform heavy, monotonous operations” [7, p. 57-58].

It should be noted that school served the industrial society well, but it diversified the school too, freed it from the dominant influence of the church and entered it into the context of the needs of secular society. After the invention of printing books in Europe the way for self-education was opened, and in particular the Protestantism actively promoted it, as it was the duty of every parent to teach their own children to read the Scriptures. Typography expanded the access to education and transition to public school education, which in turn stimulated the development of school industry: building of schools, furniture and teaching aids that are very important segments of business nowadays. In addition, the spread of school education helped create many workplaces. Now it concerns not only teachers, but also workers of such areas as energy, industry, housing and agriculture, medicine, commerce, information technology, etc. Modern society spends enormous resources to create a powerful and diverse teaching industry: from chalk and notebooks, textbooks and computer technology, design and construction of school facilities to preparing teachers. Renowned experts recognize investments into education to be the most effective expense-result ratio.

So school became not only an educational institution and a mechanism of socialization, but also an important factor in social development, an important consumer of goods and services. But there are, so to say, accompanying factors of its activities. During the origin of industrial production humanism became an important asset of school, perceived as the priority of human values and liberal education. Through the efforts of European thinkers, such as Rousseau, the attitudes towards a child changed. "Education of each person, – as Rousseau wrote in his book *Emile, Or On Education* – is given by nature through the development of innate abilities". When addressing parents and educators, he urged them to develop the authentic nature of a child, promote the sense of freedom and independence, the desire to work, to respect a person as oneself, alongside with other useful and reasonable inclinations. Despite a rather critical perception of Rousseau's views his ideas had considerable influence on the spread of humanism in education. So the school had to change its orientation to the educational needs of a human, take into account one's natural abilities, individual needs, the uniqueness and personality of each being. However, for the sake of objectivity it should be noted that humanism in schooling proved to be quite controversial. Speaking about a Ukrainian school, the task of humanizing it remains relevant to this day.

Taking into account the demands of the society that was increasingly industrialized in Europe a famous Swiss teacher Pestalozzi noted: "Fundamental education which prepares for the industry makes full personality development a task of vocational training. At the time when ordinary preparation for industrial activity aims to give only the income, bringing it to sacrifice ennobling of human, elementary education for the industry knows no other way to the profession, as through a holistic development of all the instincts of our nature, since only under this condition ennobling of human can be achieved" [5, p. 315]. And although the idea of all-round development of personality is likely a *Maxima* or an ideal which one should seek the question of a combining preparation for the professional work with holistic development of "all the instincts of our nature" should be regarded as an important step in the development of school education. Also, the statement of the famous teacher that the power of the heart (i.e. human morality), strength of mind and strength of hand (i.e. physical abilities) have the tendency of self-development – is an important methodological heritage of education because there can be no pedagogical success without faith in a person and one's ability to self-development.

Significant progress in development of theory and practice of education, particularly for its humanization was made by Ukrainian teachers such as Grygoriy Skovoroda, Konstantin Ushinsky, Sofia Rusova, Borys Grinchenko, Yakiv Chepiga.

Within the fifth evolutionary step of education a network of universities and educational institutions related to the acquisition of various professions was formed, education institutions whose main task was preparing teachers was established. The history of Borys Grinchenko Kyiv University began within this trend. The spread of education and the growing needs of industrial production created a solid foundation for the development of science, which was aimed in a pragmatic direction"... for the benefit of life and practice" [5, p. 67].

Previously it was possible to talk about a specific type of educational ideal, but now it became differentiated. The educational ideal is a person of encyclopedic knowledge, but there is also an educated and enterprising gentleman (Locke), as well as an engineer, a foreman, an office worker and the employee: each of them has the appropriate level of knowledge and can embody an educational ideal in the corresponding environment.

The sixth evolutionary step of education was compulsory elementary, and later complete secondary education. Though this step was a constituting part of industrial transformation its value proved to be cardinal. This process took place in the period of the greatest industrial development in most European countries during the XIX – beginning of XX centuries. In Ukraine it occurred in the 20th – 70th of the previous century. The introduction of compulsory schooling in the Soviet Union, to which Ukraine belonged then, was a transformational turn. Certainly it had a significant impact on the historical development of the country. But at the same time it should be noted that this process was carried out within the conservative principles of communist ideology and authoritarian pedagogy so it did not provide diversity of educational models and freedom of choice in education. Nonetheless, even under the rule of authoritarian mono-pedagogy, Vasyl Sukhomlynsky managed to create his own school model, develop and implement the educational ideas of humanism that, in particular, were reflected in his explanation: "A good teacher [is primarily] a person who loves children, finds joy in communicating with them, believes that every child can become a good person, can be friends with children, takes to heart the joys and sorrows for children, knows the soul of the child, never forgets that he himself was a child" [6, p. 49].

Back to the essence of the sixth evolutionary step in school education after which the latter became not only mass but also obligatory, and then turned into a driving force of social transformation nowadays. The more the proposed models of secondary education meet the educational requirements of a **Man Educated**, the more developed the society is. Therefore, our reflection of school and its mission in a rapidly changing world is absolutely clear, because **now we find ourselves in the line of seventh evolutionary step of education.** For us in Ukraine it is important how our education meets the forefront of a new evolutionary progress of education.

Between the first writing signs in ancient times and school creation we find about nine thousand years' stretch and from the emergence of writing to the printing technology at least twelve thousand years passed, whereas now time flies so fast that any interconnected events cause massive and extremely fleeting changes. The largest evidence of that is the development of digital technology. It penetrated almost all spheres of human activity. And if the school has remained almost unchanged since its introduction for several thousand years at the same time it almost completely corresponded to the needs of society, now it is in the cycle of constant changes and has to strive to retain its relevance for society.

In fact, today we should not talk as much about the school in the classical sense of the term, but about the different models of the general secondary education acquisition. In general, educational services are being increasingly transferred to virtual space. Similar trends were described by A. Toffler in the 80-ies of the previous century. Modern means of information delivery have changed school's functions. If earlier children went to school for knowledge, today it's not so much for knowledge but for ways of its receiving, processing and using. The current school lost its monopoly on knowledge, as knowledge became widely available through various methods of accumulation and transfer of information. The seventh evolutionary step, when speaking about Ukrainian school education is called to finish with the rudimental authoritarianism of common curricula and programs and provide variety, flexibility and ultimate variety of forms, methods, technologies and techniques, thus overcoming some negative consequences of leveling and mass education, its orientation to the average student and equivocal learning outcomes.

There are a few items worth paying attention to. First of all, we should note that educational level of population has increased significantly in Ukraine, and it is constantly supported by various forms of

professional development. I mentioned above the fact that school arose from the bosom of the family. The modern model of education should proceed from the fact that the family in which the parents are well-educated takes upon itself a part of the school's functions. It is an undeniable fact that many children that enter the first year of school are already able to read, write, count and quite often use the computer. What is more, some schools (in particular in Kyiv) make these skills a prerequisite for entering the first grade. Of course, displacement of some functions from the school to the family will require the society to develop a strategy of training the family to perform these functions. This phenomenon requires research, but the conclusion might be that school should be consonant with family in matters of training and upbringing, in particular with religion, and, if possible, to transfer to the family all functions that it would agree to perform. This process should definitely be accompanied by psychological and pedagogical consulting of parents, but also if a child feels better in the family, place and method of teaching can be found, and the teacher will have more time for the children whose parents are unable to perform such functions. It should also be taken into account that in Ukraine parents have the right of vacation until the child is 6 years old and are eligible for considerable amount of money for each next child born. The challenge is that parents are prepared to perform certain educational functions and responsibilities. The concept of education, obtained within the family, is not new. The traditions of home teachers are well-known, the new thing is that significant functions may simply be put on parents, but not on home teachers, although the role of the latter also increases, because quite often parents are involved in lessons with children's educators – tutors, for example, for learning foreign languages. The question is if it makes sense to overload the child with double forms of education.

Due to demographic decline many schools in Ukraine find themselves in a rather difficult position. Demographics have clearly shaped the problems of school economy. During the last decade the number of schoolchildren in Ukraine decreased by 2322 thousand: from 6485 thousand to 4163. Among secondary schools of I and II degree (5281) – 27, 7% (1461) have at least 40 students. And among 2137 schools of I degree 37,7% (806) have less than 10 students. The situation is especially difficult in rural areas. Of course, the concept of effective school, regarding both quality of education and rational funds allocation, is irrelevant here. After analyzing the ratio of teachers and students, we can say that one teacher has 8,4 students on average, and in Ternopil region the ratio is 1 to 6.1, other 14 regions also have this figure lower than nationwide. The largest student-teacher ratio is in Kyiv – 10,5 : 1. But even in the capital almost 40 percent of schools have half or even 70 percent smaller body of students from their designed capacity. Given this fact, the quality of school education in Ukraine should be high enough. However, it's far from that.

We have a number of reasons that cause the inefficiency of the existing school system. The first is the lack of competition among teachers because of low salaries, and in rural areas we should add lack of relevant socio-cultural conditions for dignified life. Transition to the contract form of remuneration may change this situation, along with rejection of the conservative school model which can be replaced by the school-family system in rural areas, or home teacher, the idea of which began to be realized ten years ago but for its implementation nothing significant has been done. Such approach can be realized in the primary school. But for this the students ought to continue their studies in elementary school from 6 to 11 years, which is for one year more than in the existing system, so amending the relevant law and adopting regulations are necessary to stipulate the conditions of financial support for school-family house or a teacher and the appropriate pay conditions. In general, education in rural schools in Ukraine has significant advantages, as a child is in permanent contact with nature, the family engages one in feasible domestic work in gardens, animal care, etc.

Unfortunately, this advantage is not being properly used in school education, which cultivates the study of the natural world not through contacting it but through textbooks in the classroom. Studying should go beyond the premises, as Sukhomlynsky did through transferring training to school area – the kingdom of earth, school factory of organic fertilizers, garden, vineyard, apiary, mallow trees, rose alleys, dovecote, and no textbook or multimedia presentation can replace the real world of nature. In this context we should get rid of our stereotypes about the role of school textbooks, most of which

should be replaced with the maximum possible variety of didactic methods, the inclusion of the most important elements of nature and society into the learning process.

Instead of a school that gives ready knowledge, there should come a school where the worldview is forming during the process of research. Even Pestalozzi offered to follow "the natural path of knowledge, observation and research". Teaching in primary school has to be replete with forming the core competence – by definition of the academician A. Savchenko – the ability to learn that is too difficult for implementation in terms of knowledge paradigm.

I want to draw attention to one more extremely important problem of the rural ungraded schools. Paradoxically, even when a few students attend a class, the teacher pursues using class-task system. Ukrainian teachers mostly turned out not to be ready to individual training. This situation arose through the fault of educational institutions that train teachers. Unfortunately, the problem is driven into a dead end and the state represented by the local government continues to spend funds irrationally without receiving a competent person in return. But a quality of each person is especially important when we have reduction in fertility and sharp decrease in population. And in this aspect it is necessary to start a dialogue about some very important aspects of primary education in Ukraine. There are quite reasoned questions to newly approved standards for education. In my opinion, we should abandon the standards of educational content and go to quality standards.

Generally it is necessary to provide maximum possible freedom of concepts, forms and methods of educational content. First, we must talk about the concept of primary education, in which the principle of nature-conformity will be implemented to its full extend in which the priority goes to the development of a particular personality and implementation of individual educational line, but not the execution of a program or curriculum.

In Ukraine it is necessary to return again to the question of specific structure of secondary education. Under the conditions of returning to 11-year study it may be the following way:

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- primary school – 1-5 grade;
- primary school (gymnasium) – 6 - 8 grade;
- senior school (lyceum) – 9 -11 grade.

This structure will meet the social realities of society, form more efficient network of primary schools, including the cities, that is urgently needed in view of the age characteristics of students in primary and high schools. Demographic situation is in favor of this. In the context of proposed changes this structure creates facilities for receiving primary education in the place of residence of the child, thus solving the problem of transportation to school of pupils who have reached 11 years of age. The elementary school has a rather important mission in this model, because it aims to form a key knowledge competence and to prepare the student to make a conscious choice of future educational profile, and then should conceptually meet the mission. As in elementary school, here we must reject the absolute role of the printed textbook that contains prepared knowledge. Maybe it is time to abandon the centralized procurement of textbooks as ineffective action and to transfer the funds for book purchasing directly to schools, leaving the issue of providing an appropriate marking to the Ministry and National Academy of Pedagogical sciences. Unfortunately, we have to recognize that textbooks undermine the foundations on which modern school is aimed to be based on. The author of "Project of the Ukrainian School" (1913) Y. Chepiga noted: "Scientific inventions and knowledge should ... rely not on the book, but on the fact, not on the faith said and read, but on the findings from our own experience" [1, p. 35].

One of the most important and unsolved problems of the Ukrainian school is a low amount of workshops on natural sciences. Here we should refer to our national experience, in particular, to activities of inter-school complexes. Establishment of research centers on their model may be the most effective solution to the question. The concentration of all resources of natural and technological education in these

centers will create new conditions for quality education. In addition, it is economically advantageous because not every school will be provided by valuable equipment, but all students will have access to it.

It should be noted that the model of two years high school, introduced last year, cannot effectively implement the tasks of school education. In view of providing school education it is necessary to consider the potential of colleges (former technical and vocational schools) and the system of vocational education. To do this, they must be passed to local budget that will build a mobile network of educational institutions and ensure effective use of available human, financial and material resources taking into account that regional conditions and national strategy.

Generally speaking, modern Ukrainian school education should diverge from absolute and formerly effective class-task system but this move needs a teacher with a different philosophy that in turn requires a conceptual change of training and professional development of teachers. The school needs a profoundly trained teacher, interesting, relevant, competent, one that adequately responds to constant challenges and imminent changes which, most importantly, is well informed in the Humanities. I think that school teachers (at least in primary school) should be researchers, ready for psycho-pedagogical monitoring of children, make appropriate generalizations and make amendments, provide advice to parents and be able to make appropriate adjustments to the educational process. Thus, primary school requires a graduate with a master's degree. Our University will work on the concept of training of such teachers. In general, significant positive experience in teacher training was gained in Ukrainian universities. Therefore, we have to open space for the implementation of various concepts, not concentrating on just one, as it was before and still is now. Education needs to create a competitive environment of ideas, concepts, approaches, methodologies, technologies, and of course, competition for the right to occupy the position of the teacher.

I had a chance to observe secondary education from different perspectives. Like everyone else, I started it from the standpoint of school student, and later as a student of Pedagogical Institute, teacher, principal of two schools, head of district and regional education departments, deputy Minister of Education, eventually rector of the university and a researcher who studies education. This gives me reason to believe that Ukraine does not use its greatest potential for innovative development that lies in a person and its education. Human intellect has not yet become a major factor in the development of Ukrainian society. Provided we have the modernization of education that should include an orientation change of maintaining the bulky and inefficient network of personal development, targeted funding of perspective research and their introduction combined with the available natural resources and advantageous geopolitical location, we can have a different, modern Ukraine in 15-20 years.

Summarizing all of the above, it should be emphasized that in the new evolutionary step Ukraine will be able to achieve significant progress provided that the development rights will be its real priority.

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