THE ROLE OF LIFE-LONG EDUCATION IN ACHIEVING SUSTAINABLE DEVELOPMENT

Maria-Simona NAROŞ*
Mihaela SIMIONESCU**

Abstract

Considering the role of education in achieving an important objective of any national economy- the sustainable development- this paper brings as novelty a new concept on education- sustainable education model. In this context, the sustainable development is defined from the perspective of education contribution in improving the economic and social development. A particular attention is assigned to education for sustainable development and to the correlations between education and macroeconomic and social indicators (economic growth, productivity, income, trade, political system, demographic trend).

Keyword: education, life-long education, sustainable development, economic development, sustainable education

JEL Classification: I21, I23, I25

^{*} PhD Student, School of Advanced Studies of the Romanian Academy, E-mail: simona.naros@yahoo.com

^{**} dr. habil., Institute for Economic Forecasting of the Romanian Academy, Centre for Migration Studies in Prague Business School, E-mails: mihaela mb1@yahoo.com, simionescu@pbseducation.cz

I. Introduction

The link between sustainable development and lifelong learning is very strong, since the latter, given the rapid dynamics of the real world sectors, is a pillar of the 21st century society that underpins sustainable development (Ortan, 2002) The rapid dynamics of society raises major issues in the educational, social and economic fields. The answers to these problems must allow their solution on the one hand and, on the other, create the possibility of subsequent economic and social development. Individuals' ability to adapt to changes in social systems occurring in every evolutionary period of society and especially to changes occurring at the level of the education system, can be relatively easy. Any transformation at any given moment has been perceived as a paradigm shift, with inevitable effects within the school institutions, at the community level and even at the individual level. Regarding the education system, various models have been developed over time, different effects have been analyzed, and pertinent interactions and responses to problems arising both inside and outside the system have been analyzed. Any success in resolving the problems of the education system was a step forward in putting into practice the drawn conclusions, and similarly, all encountered failures determined new models to respond effectively and more elaborately to the current challenges. The educational system in our country reflects the level of socio-economic and cultural development, being the expression of national traditions and being based on the valuable experience accumulated by other countries (Nicola, 1994).

Preparing graduates to integrate them into the labor market is a priority not only for university management but also for policy makers and employers whose efforts can go towards the development of common policies for the training of graduates of higher education. The aim of this paper is to analyze the role of education in achieving sustainable development. The first part of the article defines the concept of sustainable development from the point of view of the human capital, followed by an outline of the contribution of education to the achievement of economic and social development. Finally, a sustainable model is proposed and some conclusions are provided.

II. Sustainable development from the perspective of human capital

In the last decades, the interest for human capital and sustainable development at European level has increased. Particular attention is paid to digital inclusion and digital competences of human capital. These will shape the viability of human capital in the near future. The European Commission has even created the "digital competence indicator", which takes into account information skills, communication skills, problem solving skills and content creation skills. (European Commission, 2015). Another approach of the European Union is based on the human capital dimension of the Economy and Digital Society Index.

The concept of human capital has been expanded today at the societal level and even globally, being recognized as a factor of economic growth (Krueger and Lindahl, 2000). Emphasis is placed on education, labor market dynamics and income inequality. A reference paper to this effect is Piketty's "Capital in the 21st Century" (2014). The author argues that the efficient use of capital in developed countries is consistently higher than the economic growth rate, which will generate an increase in wealth inequality in the future.

Two types of human capital could be distinguished. The first type refers to the use of human resources as a labor force in relation to the production of economic added value, where labor is the generating factor along with other factors of production such as financial capital, tangible assets and working time. The other type of human capital is viewed as an objective investment in education and training. Scheffrin (2003) considers that human capital is "an inventory of skills and knowledge embodied in the ability to perform work to produce economic value." In this paper, human capital is viewed from both perspectives, primarily as an investment in education, then as a labor force.

At present, the most complex and used definition of human capital has been developed by the Organization for Economic Cooperation and Development (OECD, 2001: 18): human capital consists of "knowledge, skills, competences and attributes incorporated into individuals facilitating the creation of personal well-being, social and economic ". In other words, human capital incorporates productive labor, skills and knowledge.

Immediately after the Second World War, research into human capital has taken on a major role as a result of plans to help war-warited regions (Western Europe, Japan) and other underdeveloped regions (Africa, Asia). These plans involved capital and technology transfers whose efficiency and purpose were strictly dependent on the level of education of the native population that used them. At the same time, research in the United States has concluded that, historically speaking, over 40% of per capita income growth in this country is the result of educational investment. However, at that time, the results of analyzes and research had no implications for educational policies. The effect was more to create within society the view that it was beneficial to increase investment in education in both developed and less developed countries, without indicating an instrument for choosing the optimal investment option and without it is specified how education contributes to the development process (Cicea and Dobrin, 2005).

Later on, on the basis of human capital studies, Anderson and Bowman (1963) hypothesized that primary education (where literacy in society is practiced) influences more the level of economic development than secondary or tertiary education. This optic proved to be erroneous. Human experience has shown that it is not enough to develop primary education (providing little and general information) to achieve economic growth.

At the same time, Harbison and Myers (1964) have developed a system of human capital indicators. Despite what their predecessors have said, these indicators are built to highlight the importance of secondary and tertiary education to economic development. Unfortunately, the use of the above-mentioned indicators has had disastrous effects on the development of certain countries. More specifically, it has led to a large discrepancy between the funds allocated to primary, secondary and tertiary

education. The first of these was regarded only as a provider of secondary education. Thus, the idea that the technical and scientific training, carried out in secondary and tertiary education, would have a greater contribution to economic development proved to have no foundation.

In the late 1970s and early 1980s, a new way of analyzing the relationship between education and economic development emerged. This new trend was based on cost - benefit and profitability analysis. The conclusions and political implications were first analyzed by Psacharopoulos in two major studies (1973 and 1981). In short, the conclusions were as follows:

- a) in all countries the rates of return are maximum at the primary level;
- b) in less developed countries, rates of return on education (which express the effectiveness of this activity) are higher than in developed countries;
- c) profitability rates for general education are higher than profitability rates for technical or scientific education.

The political implications of these conclusions are obvious for both developed and less developed countries. Both must facilitate the development of lower-education (primary) and pay more attention to secondary and tertiary education due to the higher costs involved. Particular account should be taken of the danger of massive subsidization of tertiary education, where individual rates of return may be high, but with uncertain social benefits (eg. emigration of people with higher education in other countries).

If in the beginning the concept of sustainable development aimed to solve the ecological crisis and to implement solutions to diminish it, in order to achieve an optimal balance between the socio-economic systems, the scope of the concept was later extended to all levels of human life. In this context, all areas of activity require the application of sustainable development, as a regulator of the quality of life and the supporter of the fundamental needs of all mankind. In the wake of this idea, Zaman (2010) projects sustainability at the intersection of the three pillars of sustainable development: society, the environment and the economy. The complexity of sustainability, supported by the synergy of several disciplines, implies a variety of interdisciplinary research methods through the concepts of multidisciplinarity, interdisciplinarity and transdisciplinarity, with long-term implications and effects on economic development.

The higher education system must become sustainable in a sustainable society, where education becomes a priority (Lugoj and Constantinescu, 2014) in building the future on a sustainable basis, requiring skills to perceive and understand things in their complexity (Chicinaş and Blaga, 2013).

A definition that centers on education can be formulated on the basis of Agenda 21 objectives on education. An education that ensures sustainable development also allows a better insertion of qualified human capital into the labor market.

"Sustainable development implies promoting and improving the quality of education, reorienting existing educational programs, promoting environmental education, and a practice-based education and awareness that satisfying current needs must be achieved without compromising the ability of future generations to meet their own needs". (Leal Filho et al.,

From the multitude of definitions of sustainability we opted for this variant, which aims at a global, systemic and open approach, because, in Cristea's vision (2012), the answer to the prospective demands required by the knowledge society, development education is a the strategic dimension of the human personality training activity.

In defining education from the perspective of sustainable development, the two approaches described by Vare and Scott (2007), complementary approaches to quality education, will be taken into account.

"Education for Sustainable Development requires the promotion of those qualitative behaviors and useful ways of thinking in the short term, when needs are clearly identified and assumed." (Vare and Scott, 2007)

"Education for Sustainable Development reflects the ability to build critical thinking about expert opinions and the verification of ideas, exploring contradictions and dilemmas inherent in a sustainable way of life." (Vare and

The first approach of education in the context of sustainable development corresponds especially to decision-makers of education. This approach presents, according to Vare and Scott (2007), a series of limitations, since people rarely change their behavior as a result of a rational external demand, and individual actions reduce the individual's ability to exercise their liberty in shaping their own behavior. The second approach is a complement to the first approach, asking the individual to understand what they are communicating and to determine what information is of the greatest importance.

On these grounds, the concept of sustainable development becomes a challenge for education and a great opportunity, in learning the essential purpose of education, namely to prepare young people for their own future in which they will design their subsequent roles and responsibilities (Chicinaş and Blaga, 2013). Through education, the needs of human capital to integrate into the labor market are met, but

also the needs of employers who require skilled human resources. The evolution of sustainable development has taken place over time, as resolving and reformatting the problems that have taken place permanently in the process of changing society. Through its quality of continuous improvement and sustainability, sustainable development can be a solution to the current educational crisis, driven by permanent changes that occur both at the level of the whole basic structure of the education system and at the level of the educational process. In this sense, the change in education is objective and continuous. On the one hand, it is an integral part of the process of general transformation that is recorded at the level of the entire social system and, inevitably, at the level of its main subsystems (natural, economic, political, cultural, community). On the other hand, the change in education is influenced by the inevitable transformations that occurred at some point in society (Cristea, 2010).

III. The role of qualitative education in achieving economic and social development

Roşca (2009) considers that a balanced economic growth, promoted by the dynamic and sometimes unpredictable changes that occur in higher education in Romania, is aimed, on the one hand, at developing human capital a ballanced use of pedagogical resources (informational, human, didactic -materials, financial) at the level of modern education systems (Cristea, 2012). On the other hand, balance can also be achieved by shaping the social system in relation to existing resources. In support of this idea, Lungu and others (2013) are of the opinion that all participants in sustainable development must be stimulated through active dialogue and active participation in the sustainability issue in order to provide prerequisites for increasing economic competitiveness.

In turn, the competitive attitude required by the current social, economic and political context is causing a constant tension among both decision-makers and those who have to cope with these competitive requirements (students, teachers). Economic growth depends directly on education and training, on the way in which the education system is structured, organized and funded, and on the priority given to it in country policies, as stated by Midari (2016). In the context of the globalization process, which calls for the development of a competitive economy, balancing the educational offer promoted by the educational environment with labor demand can be achieved by creating mobility programs for students and teachers by continuously reviewing teaching-learning methods, by introducing the goal of lifelong learning. In this way, economic progress is influenced by the educational process. A sustainable society with high employability is being built by developing skills that aim at sustainability among graduates, who will later become employed with the responsibilities and roles of supporting a culture of quality education. That is why Grecu and Deneş (2012) consider education as one of the most effective means available to society to shape the future,

even if it does not solve all the problems specific to the current economic, social and educational context.

Although economic literature has many arguments about the role of quality education in economic development, it did not specify the ways in which school influences individuals to become more productive, nor did it sufficiently study those non-quantifiable effects indirectly contributing to economic development (Cicea and Dobrin, 2005).

Studies on how schools influence individuals to become more productive have been made since the 1970s: McClelland and Winter (1969) and Inkeles and Holsinger (1974). These analyzes have led to the idea that education influences changes in the attitudes of society members, with direct effects on development. McClelland has been able to demonstrate that the historical periods of economic and social development have been accompanied by an increase in the "need to accumulate" felt by the population, which can only be satisfied by education. At the same time, Inkeles suggested that "modernizing society" cannot be possible without an appropriate individual attitude that is, to an overwhelming extent, the result of education. According to A. Inkeles, the main contribution of education to the development of society is based on the ability to transform individual attitudes and values from "traditional" to "modern". Undoubtedly, there have been other authors studying the link between education and economic development. Thus, Goody and Watt (1968) have argued that the existence of a tradition of literacy is essential for a "rational" attitude in any society, which in turn contributes to economic development.

Based on studies of literature the correlation between education and other macroeconomic variables such as growth, productivity, income and trade will be explained

a) Education and economic growth

In the early neoclassical models, education was not considered as an explanatory variable for production and was therefore not included in growth models (Harberger, 1998). In the 1960s, empirical evidence stimulated "the revolution of human investment in economic thinking"

(Bowman, 1960). The works of Schultz (1961) and (Denison, 1962) led to a series of studies where education explains economic growth in Western European countries.

Other studies have analyzed the impact of education on earnings or profit rates (Becker, 1964; Mincer, 1974). The data from a 1984 survey of 29 developing countries revealed the contribution of education to economic growth, with a percentage of explanation ranging from less than 1% for Mexico to 23% in Ghana (Psacharopoulos, 1984).

Glewwe and others (2014) showed that some studies indicate a strong impact of education on growth, while other studies suggest a reduced influence of education on output growth. However, analyzing 56 literature studies, Benos and Zotou (2014) showed that most of them indicate a significant impact of education on growth.

a) Education and productivity

Few studies have analyzed how the educational structure of the workforce affects the productivity of the firm (Galindo-Rueda and Haskel, 2005, Haegeland and Klette, 1999, Haltiwanger et al., 1999, Moretti, 2004). Empirical evidence of the contribution of education to productivity and wage growth is subjective and inconclusive. being affected by possible econometric techniques. The endogenity of education and the presence of unobserved and constant heterogeneity over time at the firm's level can be controlled. Most estimates of the link between education and productivity and the existence of possible differences in productivity and wages caused by education are thus inconsistent. Using panel data for Belgium, Kampelmann and others (2018) analyzed the impact of education on productivity, wages, and productivity and wage gap. The authors have shown that educational credentials have a greater impact on productivity than on wage costs. It seems that business profitability increases when workers with a lower level of education are replaced by workers with higher education. This effect is more pronounced among young workers and women. The results thus suggest that the productivity ratio compared to the wage costs of low-skilled workers is detrimental to their employability, especially when they are young or women.

Educational resources in any given country are one of the main determinants of the structure and growth of production and exports. These resources are an important component of the system's ability to lend foreign technology efficiently. Secondary and tertiary education are critical elements in the development of key institutions, the government, the legislative and financial system, among others, all of which are essential for economic growth. Empirical evidence is at both macroeconomic and microeconomic level. Thus, at a microeconomic level, numerous studies indicate that income increases are associated with additional years of education, with rates of return varying according to the level of education (Behrman, 1990; Psacharopoulos, 1994). In agriculture, empirical evidence suggests positive effects of productivity-based education among farmers which use modern technology. In the case of farmers using traditional methods, the impact of education is lower. For example, in Thailand, farmers with four or more years of schooling have three times more chances to adopt modern farming fertilizers and techniques than less educated farmers (Birdsall, 1993). Similarly, in Nepal, the completion of at least seven years of school has increased productivity in wheat by over a quarter, and in rice by 13% (Jamison and Moock, 1994).

Education is also an important factor in the development of technological capacity and technical change in the industry in Europe. The statistical analysis of Sri Lanka's clothing and engineering industries showed that worker and entrepreneurial qualification and education levels were positively correlated with the company's technical change rate (Deraniyagala, 1995).

At the macroeconomic level, "new growth theories" aim to endogenize technical progress, focusing on education, learning and R & D. According to Lucas (1998), for example, the higher the level of labor education, the higher the overall productivity of the capital, because the most educated are more likely to provide innovation and thus

increase productivity. In other models, a similar externality is generated, since increased education of individuals raises not only their productivity but also that of other people with whom they interact, so that total productivity grows on average as the level of education increases (Perotti, 1993). Another way in which human capital development affects macroeconomic performance is through the influence of education on the nature and growth of exports, which contributes to aggregate economic growth.

b) Education and income

There is a positive influence of higher education level on income equality, which favors higher economic growth rates. As more people have access to higher education, those with low incomes will seek economic opportunities. In a study analyzing the link between income inequality, schooling and poverty in 18 Latin American countries in the 1980s, it turns out that a quarter of the variation in workers' incomes is explained by variations in schooling. Therefore, education is variable with the greatest impact on income equality (Psacharopoulos, 1992). In another study, Bourguignon and Morrison (1990) showed that with a percentage increase in the labor force that has at least secondary education, revenue increases between 6% and 15%. Education can affect income growth per capita through its impact on the denominator, ie population growth. For example, a study of 14 African countries in the mid 80s showed a negative correlation between female schooling and fertility in almost all countries. Primary education has a negative impact in about half of the countries and not significant impact in the other half. Secondary education invariably reduces fertility (Birdsall 1995, Behraman and Wolfe 1987). The three successful countries in terms of reduced fertility, Kenya, Botswana and Zimbabwe had the highest levels of female education and the lowest infant mortality rates (Ainsworth, 1995). In a recent study Abdullah Others (2015) review the effects of education on inequality through a comprehensive meta-regression analysis of existing empirical literature. Moore (2016) noted that education affects the two income queues: education reduces the income share of high-income earners and increases the share of those with low incomes. Education has been particularly effective in reducing inequalities in Africa. Some of the results suggest that secondary education appears to have a stronger effect than primary education, although this finding is not always robust. Heterogeneity of reported estimates can be explained largely by differences in specifying the econometric model and by the measure of inequality and education.

c) Education and commerce

Some countries have successfully combined the openness of the economy with investments in learning and education, forming a virtuous circle: opening the economy creates demand for education and learning, and education makes the export sector of a more competitive country. Accumulation of knowledge influences the commercial performance and competitiveness of a country (Grossman and Helpman, 1989). Commerce, in turn, increases the accumulation of knowledge, especially through

imports (Ben-David and Loewy, 1995). To support any kind of knowledge accumulation, a country has to be outward oriented and to a significant exporter (Lucas, 1998). Keller and Yeaple (2009) consider that trade itself cannot be the engine of economic growth but must act through a certain mechanism, such as human capital formation, to hinder economic growth. A study by the World Bank found that growth rates in a sample of 60 developing countries between 1965 and 1987 were particularly high where there was a combination of high levels of education, stability and macroeconomic opening (Tilak, 1989). The impact of trade openness on economic growth in the long term thus depends on people's ability to absorb and use information and technologies available through trade and foreign investment. In terms unquantifiable effects of education, analyzes focused on two main directions:

1) Education and the political system

Studies conducted to date suggest that education contributes to economic development only if there is a democratic political system that ensures a correct and normal power transfer. The interference of the two notions (education and political system) is also supported by analyzes conducted in developed countries that political stability associated with a normal and low transfer of power is limited to in those countries whose population has a high level of education. (Cicea and Dobrin, 2005).

2) Education and demographic growth

The analyzes carried out have demonstrated the thesis that demographic growth is necessarily based on increasing life expectancy. In turn, life expectancy is based on education, due to improved nutrition and diagnostics, reduced working time and work difficulties, and so on. (Cicea and Dobrin, 2005).

However, it must be acknowledged that, despite the numerous social sciences research on the role of education in the development of a society, its implications are not so obvious. Moreover, in the past, in almost all the developed countries today, one of the main weaknesses of the development plans was that they used selective research conclusions to justify the educational policies of those times that were adopted for entirely other reasons (most often, political).

The Sectoral Operational Program Human Resources Development specifies that the link between the economic and social dimensions of sustainable development is achieved through a high level of employment and high quality jobs. In order for quality education to contribute to social progress and a prosperous economy it is necessary to create opportunities for each student. In this respect, Roşca (2009) identifies the decisive role of the higher education system in the development of the young graduate, given that many of the knowledge and skills were acquired during the didactic activity carried out within the courses. Adequate development implies the economic development of the country, since universities must be linked to the labor market in order to further prepare the graduates to integrate their requirements, especially if we take into account Cristea's (2012) conception, according to which the correlation between

development education and sustainable society is based on economic growth. Thus, adapting the education and training of individuals to the needs of the economy has become an essential preoccupation with the governments of the world, companies or institutions interested in hiring graduates who have trained their educational programs, skills and competencies to meet the challenges of the global economy, as well as competition.

In addition, the care for the quality of education is a constant for all responsible countries, who are constantly proposing solutions to ensure a prosperous future and who regularly adjust their education programs according to the imperatives of the moment, after Frangopol (2011). It is worth noting that all National Reform Programs, which address the issue of educational, economic, cultural phenomena, aim at defining development priorities in order to achieve the objectives of the Europe 2020 Strategy, which imparts to them a static, scriptic feature if they remain only at this level of prioritization.

At EU level, the role of tertiary education in capitalizing on human capital intensified in a more social and economic context in 1988, when Bologna adopted the Magna Charta Universitatum. In this document, the founding principles of higher education in Europe have been established to ensure, in the context of academic autonomy, greater involvement of the academic environment in supporting the progress of scientific research, promoting social mobility and cohesion, and better adaptation of workforce to major changes in the productive system.

IV. The sustainable education model - a new education model

Postmodern society needs a new educational model, a sub-centric model, which is projected into the continuation of the curriculum. The approach of contemporary society as a knowledge society requires paradigm changes at educational level, generating new theories and currents on education and quality of education systems.

Eşi (2014) traces the coordinates of the society, which is based on the current social-economic reality, centered on a theoretical and practical dynamism. On these coordinates, the actors of the educational approach are stimulated to identify those dimensions of a dynamic education, demanded by the educational-social-economic context, which impose educational strategies specific to social and economic pragmatism.

Essential changes in education, in order to improve its quality, have contributed to "a global transformation of the educational system (...) according to today's and tomorrow's demands of society, as well as the aspirations of learners" (Cristea, 2010). Education needs to be open to the current issues and respond to new information and technological challenges, as it is inextricably linked to community life, to the economic, social, political situation. A preoccupation for dynamic, open education specific to the current dynamic society and the opening to new education required by the actional, processual and relational perspective of education are observed by the tendency to

design the mission of education for a future not necessarily predictable, as can be seen from the definition which Jacques Delors, author of the 1996 UNESCO Report gives to education (Mark and Marinescu, 2002). Education has the difficult mission of conveying a culture accumulated for centuries, but also a preparation for a largely unpredictable future. In their turn, Mark and Marinescu (2017) opt for the use of this definition in order to raise awareness of those responsible for the educational act of their mission to prepare the younger generation in accordance with the requirements of the future without, forgetting the cultural values of the past that deserve a continuous emphasis in order to support a quality education.

As regards the new education it is necessary to form a global and realistic vision of them, assigning them an interdisciplinary and transdisciplinary dimension, since all the promoted forms of education are not a field of study for a single discipline, but are complex realities whose clarification requires the co-operation of a large number of dimensions and perspectives of knowledge. These involve several areas of research, offering the advantage that it helps connect several disciplines and different fields of research, with specific ways of combining different disciplines (Zaman, 2010).

That is why the issue of the contemporary world carries out the positioning towards a global vision of interconnection between disciplines and research fields and towards the perspective of the future effect (Marinescu, 2013). By virtue of this goal, Marinescu (2013) r points to schools as the main educational agent, to form young people with critical thinking, with the ability to understand and respond appropriately to the various challenges of society, to become more and more agents of their own training.

According to Vasile (2009), the young graduates enter the labor market unprepared, without practical skills, with incomplete and obsolete theoretical knowledge and less developed generic and specific competences. Their integration into the labor market has a significant economic and social impact and ultimately represents a measure of the external efficiency of the education system.

A new type of education content, which was developed as a school subject, designed in a disciplinary or intradisciplinary way, but especially interdisciplinary, multidisciplinary and even transdisciplinary, states that economic education is an answer to the economic problems of the contemporary world. The priority of this type of education is to integrate young people into the labor market and prepare them for integration into modern society, with appropriate attitudes, critical thinking and fundamental economic practices (Cucos, 2014). On the other hand, it is also necessary to develop the personality by acquiring economic knowledge and economic capacities in the context of new economic values that anticipate quality education in the knowledge society (Cristea, 2010).

At the end of the 20th century, the education and educational policies have undergone significant transformations, allowing for educational recommendations and programs, as well as educational progress (Vasile et al., 2009). With all the processes of renewal and reformation carried out by the education system, with all the stimulations to openness and permissiveness to the neighboring educational practices, made to resonate with them, and in order to gain popularity and recognition in the world, the national educational system continues to retain a certain rigidity (Cucoş, 2014). The

Romanian educational system has the tendency to isolate itself from the evolutionary directions existing at a global level. In this context, it is a priority to know the social realities (economic, cultural, political, etc.) and the responsibilities that education specialists, and not only education, become, a fundamental component for many educational strategies and programs.

It is important to note that the Lisbon objective projects lifelong learning at the heart of EU policy (Vasile et al., 2009). In his turn, Cristea (2010) projects permanent education as a principle of education policy, which includes among its priorities the reorganization of the education system at the level of its basic structure or its relation with the social environment. These priorities will provide lifelong learning opportunities for development under different socio-economic and cultural conditions. Moreover, lifelong learning as a key principle of Cristea action (2010) and as a prerequisite for achieving the goals of the Lisbon Strategy (Vasile et al., 2009), aimed at transforming society, requires the support of all social organizations and human communities. In the postmodern society, life-long learning is promoted towards the curriculum paradigm. Under these conditions and with this long-term goal, permanent education will become an opportunity for all, in order to achieve high quality human capital. As shown by Pert and others (2005), the learning paradigm is modified in relation to the content and the amplitude of the learning process, the interdependence between these elements, the learning mechanisms and the financial support. Life-long learning has the role of stimulating productivity and competitivity on the internal and external markets, of balancing the competency demand and offer on the labor market and of participating in the life of society, strengthening the economic and social cohesion (Pert and others (2005).

V. Conclusions

Although many programs and strategies have been promoted at European level to support quality education for social and economic development, the results have not been the ones expected from the perspective of achieving a sustainable future. Intelligent development, sustainable development and inclusive development are the three priorities demanded by the European Union and have a major impact on supporting the three pillars of sustainable (economic, social, environmental) development.

Permanent education must be designed as a principle of education policy, which includes among its priorities the reorganization of the education system at the level of its basic structure or its relationship with the social environment. These priorities will provide lifelong learning opportunities for development under different socio-economic and cultural conditions. Moreover, lifelong learning, as a main principle of action and as an essential condition for achieving the goals of the Lisbon Strategy to transform society, requires the support of all social organizations and human communities (Vasile et al., 2009). In modern society, continuing education is promoted in the direction of the curriculum paradigm. Under these circumstances, with this long-term goal, lifelong learning will become an opportunity for all to achieve a high quality of human capital. As

Pert et al. (2005) pointed out, the learning paradigm changes according to the content and magnitude of the learning process, the interdependence between these elements, the learning mechanisms and the financial support. Lifelong learning has the role of stimulating productivity and competitiveness on the internal and external market, adjusting demand and supply of skills in the labor market, increasing employment and participation in society, strengthening economic and social cohesion and others, 2005). As long as these objectives, aimed at economic growth and competitiveness, are not put into practice by appropriate means, economic development cannot be promoted in the achievement of a sustainable society.

References

- Abdullah, A., Doucouliagos, H. and Manning, E., 2015. Does education reduce income inequality? A meta-regression analysis. *Journal of Economic Surveys*, 29(2), pp. 301-316.
- Ainsworth, M., Beegle, K. and Nyamete, A., 1995. The Impact of Female Schooling on Fertility and Contraceptive, LSMS Working Papers 110, Washington, DC: World Bank.
- Anderson, C. A. and Bowman, M. J. (Eds.), 1966. *Education and economic development*. Aldine Pub. Co.
- Becker, G.S., 1964. Human Capital. New York, Colombia University Press.
- Behrman, Jere R., 1990. Human Resource Led Development, *Review of Issues and Development*, New Delhi, India: ARTEP/ILO.
- Ben-David, D. and Loewy, M., 1995. Free Trade and Long Run Growth. CEPR working paper 1183.
- Benos, N. and Zotou, S., 2014. Education and economic growth: A meta-regression analysis. *World Development*, 64, pp. 669-689.
- Berger, M.C., 1989. Demographic cycles, cohort size, and earnings. *Demography*, 26, No 2, May, pp. 311-321.
- Birdsall, N., 1993. "Social Development in Economic Development", World Bank Policy research working Papers, WPS 1123, Washington DC.
- Blaga, P., 2013. Educarea şi formarea profesională a resurselor umane în România, în perspectiva dezvoltării durabile. *Şi noi putem reuşi (2) Sinteze tematice*, 93.
- Bourguignon, F. and Morrison, C., 1990. Income Distribution, Development and Foreign Trade: A Cross-sectional Analysis. *European Economic Review*, 34.
- Chicinaș, L. and Blaga, A., 2013. Ghid metodic interdisciplinar Educație pentru dezvoltare durabilă. Proiect de cercetare e-Formare: Competențe integrate pentru societatea cunoașterii, pp.145.
- Cicea, C. and Dobrin, C., 2005. The Contribution of Education on the Economic Development. *Economia. Seria Management*, 8(1), pp. 44-53.

- Comisia Europeană., 2015. Background Document on the Digital Skills Indicator 2015. [online] Available at: http://ec.europa.eu/newsroom/dae/document.cfm?action=display&d oc id=9979[Accessedin 3 April 2018].
- Cristea, S., 2010. Fundamentele pedagogiei. Editura Polirom, București.
- Cucos, C., 2014. Pedagogie. Editura Polirom, Bucuresti.
- Davies, A., Fidler, D. and Gorbis, M., 2011. Future work skills 2020. *Institute for the Future for University of Phoenix Research Institute*, 540.
- Dension, E.F., 1962. Sources of Economic Growth in the United States and alternative Before Us, New York, Committee for Economic development.
- Deraniyagala, S., 1995., Technical Change and Efficiency in Sri Lanka`s Manufacturing Industry, D. Phil, Oxford.
- Eși, M.C. and Clipa, O., 2014. *Incursiuni didactice în dinamica educațională*. Editura Didactică și Pedagogică, București.
- Frangopol, P. T., 2011. *Mediocritate și excelență o radiografie a științei și învătământului din România*. Casa Cărții de Știință, Cluj-Napoca.
- Galindo-Rueda, F. and Haskel, J., 2005. Skills, workforce characteristics and firm-level productivity: evidence from the matched ABI/employer skills survey.
- Glewwe, P., Maiga, E. and Zheng, H., 2014. The contribution of education to economic growth: A review of the evidence, with special attention and an application to Sub-Saharan Africa. *World Development*, 59, pp. 379-393.
- Goodhart, A.E. and Hofmann, B., 2008. House Prices, Money, Credit, and the Macroeconomy. *Oxford Review of Economic Policy*, 24, pp. 180-205.
- Goody, I. and Watt, A., 1968. *The Consequences of Literacy*. Cambridge, Cambridge University Press.
- Grecu, V. and Deneș, C., 2012. Managementul sustenabil: o soluție creativă pentru armonizarea stilurilor de management. *Analele Universității "Constantin Brâncuși" din Târgu Jiu- Seria Inginerie*, 4, pp. 1-20.
- Grossman, Gene M. and Helpman, E., 1989. Growth and Welfare in a Small Open Economy, NBER working paper 2970.
- Hægeland, T. and Klette, T. J., 1997. Do higher wages reflect higher productivity?: education, gender and experience premiums in a matched plant-worker data set.
- Haltiwanger, J. C., Lane, J. I. and Spletzer, J., 1999. Productivity differences across employers: The roles of employer size, age, and human capital. *American Economic Review*, 89(2), pp. 94-98.
- Harbison, F. H. and Myers, C. A., 1964. *Education, manpower, and economic growth:*Strategies of human resource development. Tata McGraw-Hill Education.
- Hawley, J., Hall A.M. and Weber, T., 2012. Effectiveness of policy measures to increase the employment participation of young people, Research project: Youth employment: Challenges and solutions for higher participation of young people in the labour market, Eurofound.

- Inkeles, A. and Holsinger, D.B., 1974. *Education and Individual Modernity in Developing Countries*, Leiden, Brill.
- Kampelmann, S., Rycx, F., Saks, Y. and Tojerow, I., 2018. Does education raise productivity and wages equally? The moderating role of age and gender. *IZA Journal of Labor Economics*, 7(1), 1.
- Keller, W. and Yeaple, S. R., 2009. Multinational enterprises, international trade, and productivity growth: firm-level evidence from the United States. *The Review of Economics and Statistics*, 91(4), pp. 821-831.
- Korenman, S., Neumark D., 2000. Cohort Crowding and Youth Labor Markets: A Cross-National Analysis, in Blanchflower and Freeman, eds., *Youth employment and joblessness in advanced countries*, University of Chicago Press and NBER.
- Krueger, A.B. and Lindahl, M., 2000 "Education for growth: Why and for whom?", *Nber Working Paper Series*, Working Paper 7591.
- Leal Filho, W., Manolas, E. and Pace, P., 2015. The future we want: Key issues on sustainable development in higher education after Rio and the UN decade of education for sustainable development. *International Journal of Sustainability in Higher Education*, 16(1), pp. 112-129.
- Lucas, R., 1998. On the Mechanics of Economic Development. *Journal of Monetary Economics*, July 22(1).
- Lugoj, M. and Constantinescu, R., 2014. Educația factor cheie în procesul de dezvoltare durabilă. *Ecostudent -Revistă de cercetare ştiinţifică a studenţilor economişti*, 4, pp. 1-15.
- Lungu, I., Caraiani, C. and Dascălu, C., 2013. Educaţia pentru sustenabilitate premisă a competitivităţii economice postcriză cu inferenţe posibile pentru România. *Economie teoretică şi aplicată*, 5(582), pp. 49-68.
- Marcu, V. and Marinescu, M., 2002. Implementarea tehnologiilor în educație sau educația tehnologică. [online] Available at: https://www.1educat.ro/resurse/software.../tehnologii_in_educatie.
- Macmillan, L., 2012. *The cost of youth unemployment*, Department of Economics and CMPO, University of Bristol for Youth unemployment: the
- McGuinness, S., 2006. Overeducation in the labour market. *Journal of economic surveys*, 20(3), pp. 387-418.
- McClelland, D. C. and Winter, D. G., 1969. *Motivating Economic Achievement*. New York, Free Press.
- McGuinness, S., 2006. Overeducation in the labour market. *Journal of economic surveys*, 20(3), pp. 387-418.
- Meakin, S., 1992. The rio earth summit: summary of the united nations conference on environment and development (Vol. 317). Library of Parliament, Research Branch.
- Mincer, J., 1974. Schooling, Earnings, and Experience. New York, Colombia University Press.
- Moore, J., 2016. Higher Education Reflecting Income Inequality. *Explorations in Adult Higher Education*, 35.

- Moretti, E., 2004. Workers' education, spillovers, and productivity: evidence from plant-level production functions. *American Economic Review*, 94(3), pp. 656-690.
- Nicola, I., 1994. Pedagogie generală. Editura Didactică și Pedagogică, București.
- OCDE, 2001. The Well-being of Nations. The Role of Human and Social Capital, Centre for Educational Research and Innovation, OECD Publications, Paris, [online] Available at: http://www.oecd.org/site/worldforum/33703702.pdf [Accessed in 4 January 2018].
- Orțan, F., 2002. Educaţia permanentă realizări şi deziderate, Conferinţa Internaţională "Instituţii de Educaţie a adulţilor: atribuţii şi competenţe", CREA-Centrul Regional de Educaţie a Adulţilor şi Institut Fur Internationale Zusammenarbeit des Deutschen Volkshochschul Verbandes Bonn, laşi, 26-28 aprilie 2002, ISBN- 973-579-011-4, pp. 151-154.
- Perotti, R., 1993. Political Equilibrium Income Distribution, and Growth. *Review of Economic Studies*, 60.
- Piketty, T., 2014. *Capital in the Twenty-First Century*. The Belknap Press of Harvard University Press.
- Psacharopoulos, G., 1984. The Contribution of Education to Economic Growth: International Comparisons. Cambridge, Ballinger Publishing Co.
- Psacharopoulos, G., 1994. Returns to Investment in Education: Aglobal Update. *World Development*, 22(9).
- Psacharopoulos, G., 2014. The returns to investment in higher education. In *Using Data to Improve Higher Education*, pp. 121-148. SensePublishers.
- Psacharopoulos, G. and Hinchliffe, K., 1973. *Returns to education: An international comparison* (Vol. 2). Jossey-Bass.
- Roșca, Gh., 2009. Universitățile și dezvoltarea capitalului uman, Analiza diagnostic, Panelul nr. 1. [online] Available at: http://www.fundatia.ro/sites/default/files/Parte%20de%20Carte-Raport%20de%20Cercetare.pdf
- Schultz, T.W., 1961. Investment in human Capital. *American Economic Review*, 51(1). Sheffrin, M. S., 2003. *Economics: Principles in Action*. New Jersey: Pearson Prentice Hall.
- Symonds, W. C., Schwartz, R. B. and Ferguson, R., 2011. *Pathways to Prosperity:*Meeting the Challenge of Preparing Young Americans for the 21st

 Century, Report issued by the Pathways to Prosperity Project, Boston,

 Mass: HarvardUniversity, Harvard Graduate School of Education.
- Tilak, J.B., 1989. Education and its Relation to Economic Growth, Poverty, and Income Distribution: Past Evidence and Further Analysis. World Bank Working Papers 46.
- Vasile, V. (coord), Prelipcean, G., Sandru, D-M., 2009. Improving vocational competencies among graduates and youths: A chance for the future, SPOS 2009 nr.4, Institutul European din România, 2010, Bucureşti, joint author, bilingual edition, ISBN 978-973-7736-95-6.[online]Available at:http://www.ier.ro/documente/spos_2009/Studiul_4_RO_site.pdf.

Vasile, V. (coord), Zaman, Gh., Pert, S. and Zarojanu, F., 2008. Restructuring Romania's Education System Considering the Evolutions from the Domestic Market Perspective and Impact on RDI Progress), Institutul European din Romania (European Institute of Romania), Strategy and Policy Studies, 2007, Study no.2, coordinator and joint author, Bucharest, bilingual edition – Romanian and English, ISBN 978-973-7736-57-4, Ed. Alpha Media Print SRL Bucureşti, pp.312 [online] Available at: http://www.ier.ro/documente/SPOS2007_ro/Spos2007_studiu_2_ro.pdf .,http://www.ier.ro/en/publications.html?categorie publicatii id=415928

Zaman, G., 2006. Dezvoltarea Durabilă, imperative pentru prezentul și viitorul României. în *Dezvoltarea Durabilă în secolul XXI, Revista*, 22.