

EDUCATIONAL RESOURCES AND THE INVESTMENT IN HUMAN CAPITAL IN PRE-UNIVERSITARY STUDIES

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Abstract: *The purpose of this research paper is to address the need to finance Romanian education considering the changes that have occurred or are about to take place in this field, both in terms of providers and beneficiaries of educational services, as well as in terms of the content and material basis inherent in the teaching of new content and teaching methods. Highlighting the changes and linking them to the costs they entail, reveals the need to rethink educational policies regarding a new funding model focused on spending targets and expected results. Investment in human capital is identified as economic value for individuals, institutions and society. The effects of these investments produce global economic mechanisms. The human capital theory extends the concept of capital, starting from the education-qualification, skills-earnings relationship. Expenditure on formal education, adult education, education services in various areas that help individuals to get into the labor market is considered an investment in human capital.*

Keywords: *education; resources; finance; investment; human capital.*

JEL Classification: *I2.*

1. Introduction

Education, a process carried out in various forms and with various methods and purposes, is present in society's life since ancient times, proving its effectiveness as a builder of attitudes and behaviors, as well as personal, social, and professional skills and acquirements. The individual's personality depends fundamentally on education, with two other factors associated: heredity and the environment, according to the pedagogical theories of Comenius and Pestalozzi onwards.

At the beginning, teaching was organized at home with private teachers, and it was accessible only to wealthy families, precisely because it involved financial, material and human resources that only these families could have. Subsequently, education was institutionalized by the State and began to take place in schools. Later it became even compulsory because, on the one hand, it proved beneficial not only for the individual, but also for society, and on the other hand, because institutionalization allowed the State to control the contents, teaching methods, teachers and, finally, the type of person desirable to society, as the finality of the educational process (Arries).

Regardless of how it was organised and carried out, education involved investments that conditioned the quality of the resources involved in this process, as well as the achievement of the fundamental goals pursued. In many countries (the UK, for

example) higher education funding is transferred from the state to students' attribution (Johnes, Johnes, 1994). In such countries, there is a culture among parents that consists of saving money since the birth of the children in order to have the funds needed to access higher education by the time they will grow up. Besides, students receive advantageous loans to support higher education fees, loans that they must repay after graduation and employment. At the same time, there is a concern in ensuring a system and level of salary for graduates of higher education that is motivating and allows the repayment of the accessed loans.

Nowadays the resources needed for quality education are increasingly varied and sophisticated, whether we are talking about human, material or financial resources. The purpose of education in schools is to guarantee the workforce for the future, and this scope requires the school to be one step ahead, the teachers to have forward-looking and creative skills and abilities as well as material resources and the most advanced learning technologies. All of the above implies considerable financial resources.

For the first time, the concept of human capital has been emphasized by Beker (1975), that it is worth trying to invest in human capital, consisting of expenditure on education, training, and healthcare, with the role of increasing labor efficiency and economic development. Most of the expenditure has to be investment in human capital, i.e. investment in training that will increase the income of individuals depending on the level of their education. It supports its theory with convincing examples of direct expenditure on education, health, and internal migration that have been converted into work opportunities. As an example, we can mention the earnings of adult students who are studying and later get employed or are trained at their workspace.

2. Human resources

The human resource theoretically is composed of the entire population, that is, the active and inactive member of a geographical location. To achieve the objective of work, it coordinates a weighted duality: Schooling and improvement, thus affirming the social and economic nature of the concept. In the everyday world, this is corresponding and growing in proportion to the social ability of the human being, with the force of integrating the purpose into the employment. Ability and human strength are in direct connection with labor resources which on the other hand have a deep economic nature.

Human resources symbolically reveal an economic branch of an institution, and from a practical point of view, they put in a common context all the people who bring or do not bring income to society. Human resources are suffering major changes as the population grows globally and are standardizing, as we taking into account the volume of work.

The term of human resources is given special importance in foreign specialized literature, both in terms of organizational management as well as at a macroeconomic level. The economist Jean-Didier views human resources as material points in the advancement of the economy, and economic demography

defines it as: "the study of the possibilities of integrating the population in economic analysis and the consequences that result" (Lecaillon, Jean-Didier, 1992) moreover, he states that "the notion of human resources must be placed at the center of economic analysis.

The concept of human resources is given great importance and attention by specialists in the period 1920-1930, a period of economic flourishing, preceding the great economic crisis. Big companies employ economists to analyze institutions from a human point of view. Thus Western Electric entrusts Elton Mayo with an experiment at one of their factories in Hawthorne. The experiment took place over eight years, between 1924 and 1932, and concluded the following: there is a Hawthorne Effect that led to a change in human behavior; the influence of the group on the individual is strong; recognizing the importance of the individual's need to be integrated into a group are much more important factors than the salary and working conditions.

Teachers, auxiliary teaching staff, non-teaching staff, pupils, parents and members of the local community are the human resources of an educational establishment. Specifically, the concept refers to staff employed in schools and draws attention to the development and practical use of human resources (Davidoff, Lazarus, 2002).

If in the past one teacher per class was enough until the seventh grade, nowadays, there are specialized teachers in each discipline not only starting from secondary school, but even some of the subjects of the primary cycle are taught by specialist teachers. With the diversification of the requirements needed in the labour market, new specializations have appeared, and therefore new disciplines that need specialized teachers. Alongside schools, new related institutions have been set up, such as Children's Palaces, sports schools, after-schools, etc. which were focused on developing children's vocational skills, at the same time taking over some of the family's tasks in preparing lessons and doing homework. Institutions for children with disabilities have also been established in order to meet specific social needs.

Education plays a crucial role in the preparation of human capital and its development. The importance of education is also relevant for A. Krueger who shows that the differences in human capital stock are due to half of the gap between resident's income in the US comparing to the income in developing countries, which leads to the conclusion that this factor is more important than all the other factors together (Krueger, 1968).

We are considering two categories of changes that are required regarding teachers: quantitative changes and qualitative changes.

Quantitative changes refer to a correlation of the demand with the supply of teachers in special fields, this way it wouldn't be a shortage of teachers in some school subjects, in which case we will have to turn to unqualified teachers, as opposed to an overage in other subjects in which case some of them would not be needed any longer. This relation between the demand and the supply can be possible with rigorous planning of the staff needed in education, based on demographic studies at a national and local level.

Qualitative changes target closer recruitment and selection of teachers presently with their adequate scientific and psycho-pedagogical training. To this end, they can

implement educational policies and strategies according to the demands of future society.

All these needs and their associated institutions require a specialized and motivated human resource to carry out its activity in this field. For this great purpose is essential funding, mainly from the State, starting with initial vocational training, wages and also for continuous vocational training, in order to be up to date with the latest developments in the activity's field and to update the curriculum to this news.

Teachers must demonstrate competence, i.e.: the proven ability to select, combine and use appropriately the knowledge, skills and other information available to them, consisting in the ability to responsibly solve situations arising in the teaching activity for professional development chasing the purpose of obtaining the performance (www.formare.eu, without year).

The professional standards for advancing in the didactic career are represented in

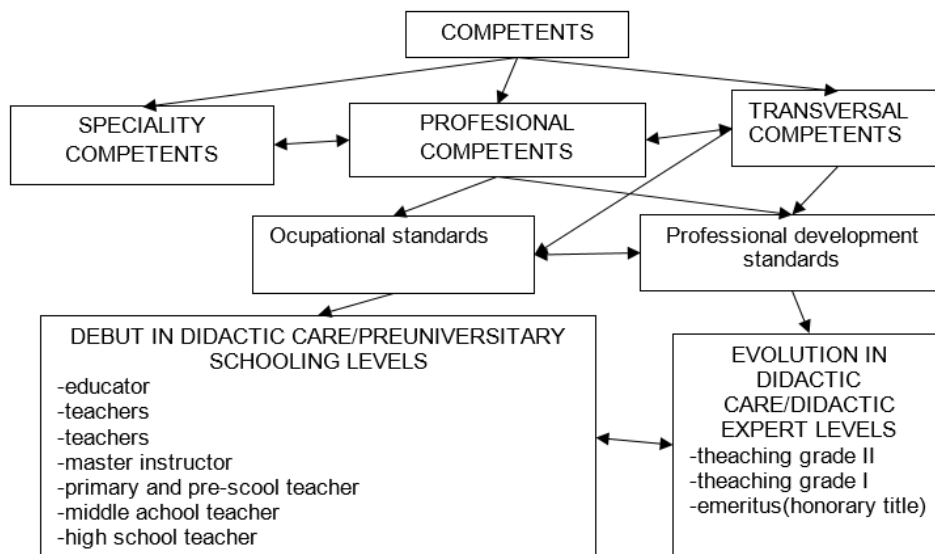


Figure no. 1: Professional standards for advancing in the didactic career

Teacher's motivation and productivity levels may become a concern of society as financial resources allocated to them will continue to be less in a service model economy and teachers' professional requirements will continue to grow due to social change (Robert C .;, Judith, no year)

3. Material resources

Along with human resources, material resources are also of major importance in the educational process. From blackboard and chalk, textbooks available for several generations, to computers, tablets, internet, servers, learning platforms, access to

online learning resources, cameras, teaching software, etc., these resources become more, better improved, but also more essential.

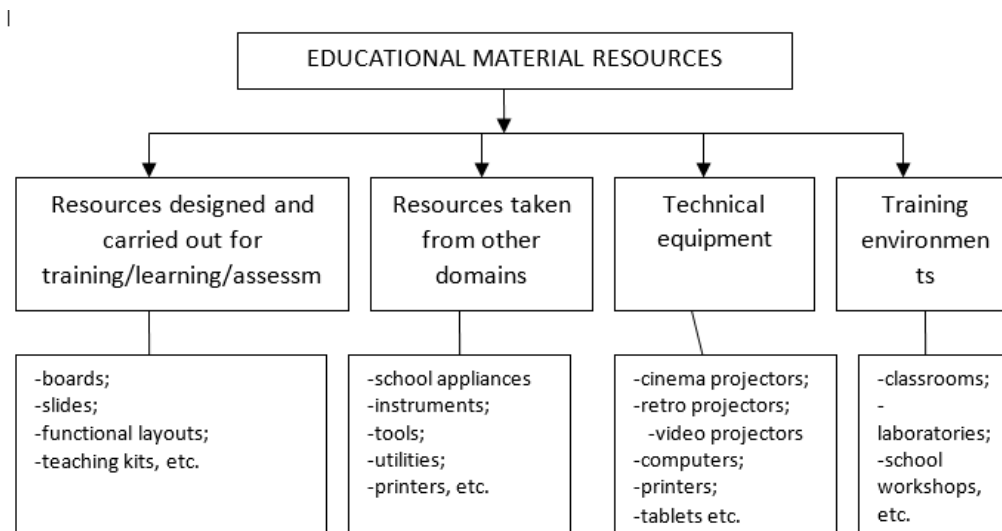


Figure no. 2: Educational Material Resources
Source: processing by, (<https://www.academia.edu/>, 27.10.2020)

4. Financial resources

Nicholas Barr, in his paper, *Higher Education Financing: Lessons from Economic Theory and Reform in England*, pointed out that "education funding faces a clash between technological advances, increased demand for skills and fiscal constraints". (Barr, Nicholas, 2009)

In Romania, according to the Law of National Education (Law No. 1/2011, with subsequent amendments and additions), community education is free and includes *basic funding*, based on the standard cost per pupil, according to which "financial resource follows the *student*", without the additional *instatement* providing capital expenditure, social expenditure and other expenses associated with the state pre-university education process and additional *funding* (funding of national programmes of the Ministry of Education and Research, financing of national social protection programmes, financing of competitions organised for pupils, sports competitions, national and international Olympics, expenditure on the issue of study papers, scholarships for pupils, organisational expenses and conduct of national exams, vocational training, etc.). (Education Act, 2011)

The financing of pre-university education is provided from the state budget and the local budgets: the state budget provides staff costs, increases of any kind, the food norm and contributions to the social security budget, and the administrative-territorial units with material expenditure, expenditure on the staff professional training, social assistance, repairs and investments in educational establishments.

In the countries of the European Union, the funding responsibility lies in the school's management, with exceptions where teachers are also involved in decision-making. The full Director's responsibility for financing the educational establishment can be found in countries such as Hungary, Slovakia and Estonia. In England, Slovenia, Belgium, Northern Ireland the responsibility lies in the Director's hands, in Germany, Austria, Scotland and Malta, teachers and the Director are responsible for funding. The only countries where the system financing decisions are not taken at the school level are Romania and Cyprus. The schools' responsibility is related to the operational expenses and the purchase of the technological materials and equipment necessary to carry out the teaching activity (Tuşa, Voinea, Dumitrascu, 2012).

5. Human capital

Along with the term "human resources" another term was conceptually analyzed in the seventh decade of the twentieth century, named "human capital" by Kiker, B.F., This term was used long before the economic and social life as we know it. Kiker, B.F. aimed at estimating the monetary value of the human being, identifying two methods: the production cost procedure - estimating the net costs of the "production" of the human being in its development, without taking into account the "maintenance" costs; and the capitalized earnings procedure - estimating the current level of past and future income (Kiker, B.F., 1971). Referring to the same concept of "human capital", Adam Smith defines it as the skill and training necessary for man represented as a mechanism involving expenditure, but also profit through his ability to produce (Adam Smith, 1962). Employees were observed, in the traditional theory of the institution, as per their ability to perform in a "disciplined" certain predetermined working tasks, used certain machines and technological devices or carried out certain activities. This is how the concepts of "labor" or "labor force", unfortunately, are used today. The objective was to carry out the decisions of the leaders, according to the pre-established rules.

Three other theorists: Theodore Schultz in the 1960s and Arthur Lewis followed by Gary Beker in the 1980s and 1990s developed the concept of human capital. They issued and supported the idea that people, in addition to a reachable financial capital (bank accounts, stocks, reserves) have other kinds of capital that consist of knowledge, skills, abilities, and qualities. Based on this idea, Gary S. Beker (1975) pointed out, for the first time, that it is worth trying to invest in human capital, consisting the spending on education, training, health care as a tool to increase work efficiency and respectively, economic development. Most of the resources should be invested in human capital more specifically investment in training and education that will increase the income of individuals following their education level.

Gary S. Beker considers education and training to be the most important investments in human capital. Analyzing this aspect, he finds out the following: the earning of an individual increase; as they get older but usually at a decreasing rate. The growth rate has a positive correlation with the qualification level; unemployment rates tend to be inversely correlated with the level of unemployment; those who change jobs more often are younger people, who also benefit from more training and preparation

at work compared to older people. The distribution of earnings, in the case of specialists and other qualified employees, has a positive rate. The beneficiaries of education and other types of training are more professionally prepared; market dimensions limit the division of labor; the employers who invest more in the human part of the business have a clearer vision of the market and therefore it is possible to have an advantage over the employer who pursues only the financial / material part of the business (Gary S. Becker, 1997).

He sustains his theory with compelling examples of direct expenditure on education, health, and internal migration that have capitalized job opportunities. Such are the earnings anticipated by the adult students who attend to school, get hired and are trained in the workplace.

Scientists along with the creators of the concept advocate the correct use of the two terms: "human capital" and "human resources".

They define the human element in the institution as human resources, this is different from the financial, informational, material resources, which are useful to the institution through what they can do. Human capital is something that someone owns, it has an intrinsic value for individuals and society, while the resource is what can be transformed, used or exploited in order to have a benefit.

The governments and the private institutions in the market economy (private schools, consulting firms, departments/services for employee training within institutions) play an important role in directing the human capital formation and development, they pursue a higher human capital formation. The financing is made from the public budget and the people's private expenses. The main beneficiaries of human capital development are the participants in training and development courses.

Among the physical capital, the knowledge capital can be acquired through education and can be improved through continuing education, as well as the physical capital, and it can make a profit in the form of productivity, which is the wealth of anyone who owns it. Human capital cannot be separated from its holder, while other types of capital can be detached, and its value depends on the ability of the human capital holder to apply their knowledge in an economically profitable institution.

6. Investing in education, premise or effect of economic development?

The transition to a market economy requires changes on the problems of training and ability to increase professional level. In order to achieve a satisfactory result in this domain, efforts must be made so that the process to be a natural one and have a great quality and especially to concorde with to expected goals of the set by the general manager in this field. New employees and young members must be guided in order to become independent as soon as possible, to be able to demonstrate their capabilities, to be prepared to take on technical-productive and economic-social responsibilities.

The professional training of the active population is of major importance for the entire national economy, but also for the economic success of the organization from which is part of. As a result, investments in vocational education will prove profitable in the

medium and long-term, being considered investments for the future. This ascertainment is the basis for the decision of the organizations and administrative bodies to ensure, at their expense, the vocational training of adults and to allocate considerable resources for professional development.

The quality of the entire process of training and raising the professional level is, without doubt, the result of a set of interdependent actions related to modernization; speed; ensuring the intellectual mobility in which the capacity of the graduates' preparation process competes according to the current experiences/expectations, arming them with the necessary knowledge, with study and lifelong learning skills, forming prospective, anticipatory thinking; structuring the training process; endowment with teachers, with the technical-material base and didactic equipment; monitoring; obtaining a higher yield of the entire permanent education, etc.

Consequently, all these requirements imply convergent actions and prompt reactions to the development needs in order to reach the performance standards pursued in the scientific and technical training of human resources (Petrescu Ion, 2003).

Countries such as Finland and Switzerland are recognized through the performance of a quality education offered to children of all levels, so the main factor that prevents early school drop off is the quality of education.

Therefore, investing in education is inevitable and adds value to the beneficiaries in the first place and to society. Educational policies should focus on quality, efficiency and performance.

Ensuring quality teaching services, the activity of teachers from all levels of education has a medium and long-term influence on the evolution of student training and also for society. Teachers are required to have a high level of training, skills and complex skills to fulfill the role of trainer. Vocational training links the level of training of teachers with quality services in interaction with students and society. Hence the need for continuous professional training of teachers in the process of the resilience of skills that require modern but realistic approaches to education reforms

(https://aid-romania.org/wp-content/uploads/2020/02/A.3.1_livrabil-final-fara-anexe.pdf, 2019).

Adam Smith, in "The Wealth of Nations" states that "an educated person by his extraordinary dexterity and skill can be compared to an expensive machine" (Smith, 1962). A 1974 study reveals the correlation between the increase in lifetime earnings and the number of school years (Mincer, Schooling, 1974).

Investments in education, training and migration, but also a part of the current living expenses (food and journeys' costs if the beneficiary of the educational service cannot commute daily) are elements identified in the structure of investments in human capital.

The inclusion of the investments in productive human capital increases their corresponding benefits and leads to a surprisingly increased real labor income.

Due to the ignorance of the role of human capital in general, in poor countries nonhuman capital has been slowly absorbed (Shultz Theodore, 1968), (Gary S. Becker, 1997).

Investments in human capital are identified as economic value for individuals, institutions and society. The effects of these investments produce global economic mechanisms.

The theory of human capital extends the concept of capital, starting from the relationship between education-qualification, skills-gain.

Expenditures on formal education, adult education, education services in various fields that help individuals to place on the labor market, are considered investments in human capital.

Investment in education is characterized by the attribute of producing effects that cannot be separated from the people's knowledge, skills, health or values, as may be the case with other forms of investment in tangible or financial assets, which may have a different movement than their owners.

Monetary and non-monetary efforts have as a result an improved human capital. Its effects are complex and there are not just gains in the labor market. So investments in human capital are preferably measured in terms of their effects because it is difficult to identify the contribution of different categories of monetary and non-monetary efforts and to delimit investment effects from those of a consumer and mixed nature. This alternative is based on the assumption, supported by the classical theory of human capital, according to which any capacity acquired as a result of investing in human capital, which influences its earnings, although it cannot be sold, results in increased income (Fabricant Solomon, 1959).

Education and training play an important role in the European strategy, especially in the integrated guidelines, the Member States 'national reform programs and the country-specific recommendations, to guide Member States' reforms. One of the main objectives of the Europe 2020 strategy is an early school leaving and the rate of graduation from tertiary education or equivalent (strategic, 2012).

The specialists, Ana Popa, Anghel Nicolae and Mirela Cristea claim that education is an unproductive field, and the efficiency of investments made in this field follow three main elements: the investment effort necessary to achieve the goal; the effort to maintain and capitalize on their operation; the effects achieved following the execution of these objectives.

Investments made in education produce direct and indirect effects: direct effects: - social nature such as increasing the quality of education, which are difficult to measure; -economic nature, assessed in terms of various incomes and savings as well as reducing the time which requires a better identification; and indirect or propagated and very complex effects, which are considered to be the economic effects, evaluated according to the increase of the gross and net domestic product, the decrease of the material expenses and the increase of the economic agents' profit.

In education, the indicators of assessing the efficiency of investments are natural and valuable.

Education is considered by all states as a decisive factor in economic development and a significant investment.

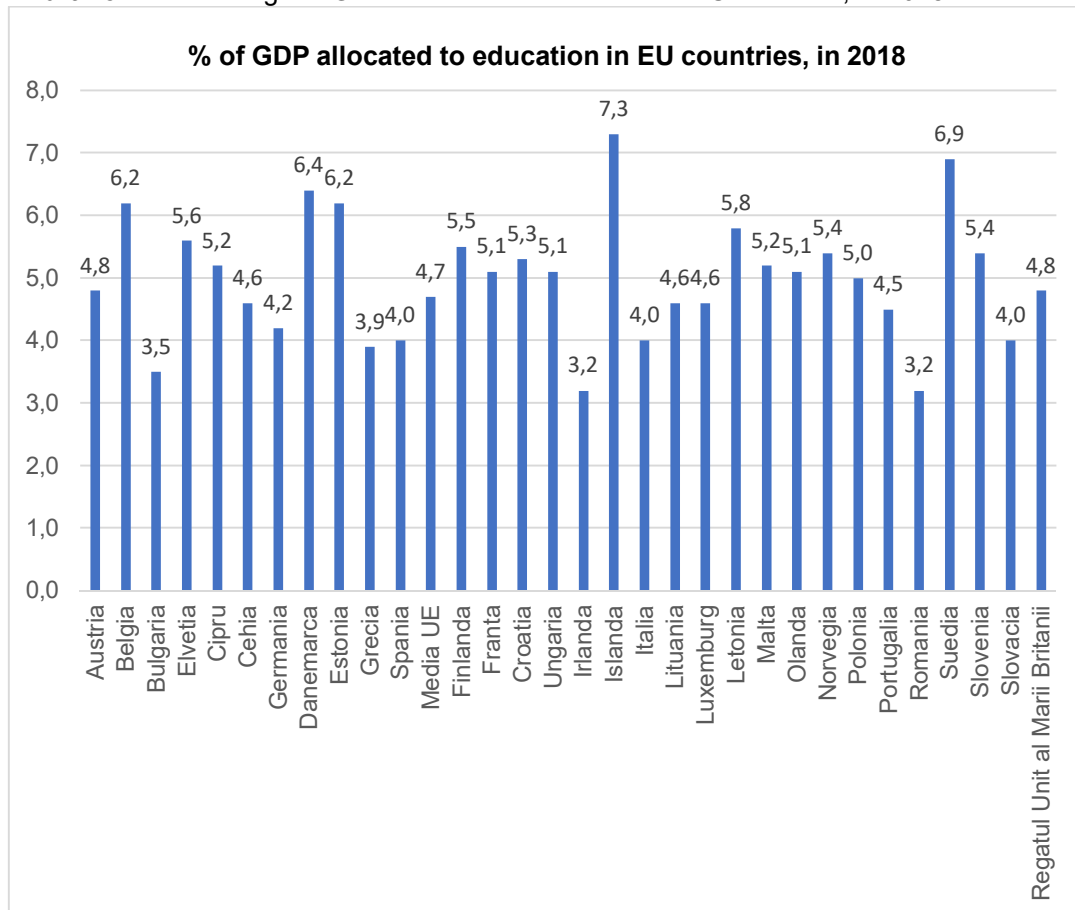
By including the productive population in educational activities, the expenses regarding the cost per student and the expenses regarding the material investment

for the good functioning of the educational process and the expenses for constructions are considered as investment effort.

The direct effects are recognized at the economy's national level as well as at the individual's beneficiary level by the numerical determination of the educated individuals on various levels, and indirectly are found in the increase of the national product, the increase of the export, etc. (POPA. A., NICOLAE, A., CRISTEA. M., 2000).

There is no doubt that developed countries provide more consistent funding to education, as presented in the following graph:

Chart no.1: Percentage of GDP allocated to education in EU countries, in 2018



Source: Eurostat, <http://appsso.eurostat.ec.europa.eu> 28.10.2020

It can be observed that countries such as Iceland, Sweden, Belgium, Denmark and Estonia allocate more than 6% of GDP to education, Iceland even 7.3%, followed by Switzerland, Cyprus Finland, France, Croatia Hungary, Latvia, Malta, the

Netherlands, Norway, Poland and Slovenia, countries where education funding represents more than 5% of GDP, therefore above the European average of 4.7%. The level of the rest of the countries corresponds to the European average or even lower, Romania allocating only 3.2%, the same as Ireland.

However, there is also an emphasis on the economic effects of quality education, and this has been demonstrated by numerous studies (...).

The relationship between education and economic growth is going in two-ways: education ↔ growth

In these circumstances, the question is *what should we start with?* With sustained economic growth which, in turn, allows for a consistent investment or with a major investment in education leading to economic growth. Some theories support one or the other of the two alternatives.

In fact, there must be a perpetual balance, flexibility and adaptation of educational and economic policies, a correlation of them so that the two wishes can be achieved.

7. Conclusions

Education, to a greater extent than other fields of activity, is under pressure and needs a change, which is the reason why it is constantly looking for solutions that could make possible the preparation of the present generation for the demands of the future. The anticipatory nature of education involves creativity and innovation both curricular and methodologically. This can be achievable with a solid initial training of teachers, conjunctively with continuous vocational training with the help of material, financial, informational and methodological resources.

Government policies face the dilemma of increasing spending on education, versus allocating funds for several punctual and imminent problems. Investing in education shows its effects in a long period of time and it should not be lost from sight of this reason. The future of a nation depends on the quality of education, and quality education requires expensive resources.

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