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THE SYSTEMIC PEDAGOGY AND THE PERFORMANCE OF THE FUTURE EDUCATION

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Abstract

As we well know, the education was, is and will the most important source of the evolution dynamics of the mankind. Here, through the evolution dynamics we have to understand both the knowledge' s growing and "collapse" of this. In fact, between education, like a human activity, and the society' s development there is a dialectical rapport which represents a complex law of governing the social phenomena. In addition, in the 21st century, we face with new social phenomena, with the globalization trends, with other kinds of confrontations and struggles, with the issues concerning the natural resources, the food, the water, health, etc. In this wide context, there are some questions of increasing the efficiency and the quality of education starting from the pre-school level to the university level, from the early education to the adult education, including the education for the people of fourth age. On the other hand, account must be taken of the new requirements of a knowledge-based society that requires the lifelong-learning both for professional reasons, but also for adaptation to new information environments. Starting from all this, we intend that our paper to be a short scientific argumentation for some of the most important advantages of a possible future real reform of the national education systems based on the principles of the systemic pedagogy.

Keywords:: System, information, bioenergy, realistic self-adaptability, simulated socio-economic modelling, realistic socio-economic simulation**.**

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1. Introduction

Systemic pedagogy is the result of socioeconomic sciences' natural evolution through fundamental sciences (maternal language, mathematics, physics, chemistry, biology) synthesized in systemic philosophy. The necessity to approach knowledge in general, and the education process in particular from a holistic perspective was established from the dawn of the civilization, but the level of scientific knowledge during the ancient times did not allow for a pertinent generalization, mysticism being the main focus of philosophic research. Contemporary physical sciences, alongside the other natural sciences, highlight the fact that the known reality has a hierarchic operational and functional trait, abiding by common principles and laws, with peculiarities for each hierarchic steppingstone. The solutions offered by nature, discovered by fundamental sciences were first used in engineering, to create high performance technology, as well as products needed for continuous improvement of humankind's wellbeing in harmony with the environment. As no goods can be produced without knowledge, it appears that between education, prosperity and balance with nature, there is a symbiotic cause-effect relationship, resulting in elevating the Education Sciences without which overall progress of mankind is compromised. .

2. Problem Statement

Classical pedagogy, created through experimental development, causes education to become increasingly stressful, because of conceptual ambiguity, distancing from the results of natural sciences, lack of guidance in the surrounding informational typhoon and especially because of poorly explained purpose of education for new generations. Created in 1948, systemic philosophy framework is a summary of results of previous philosophies and objective sciences research and has continuously imposed itself as the most effective way of acquiring knowledge in all fields, by means of two distinct currents in some concept semantics, but moreover by evaluative modelling of self-tuning systems: the cybernetic current (Wiener, 1948) and the realist theory (Forrester, 1968). Systemic pedagogy proposes the use of systems' isomorphisms in the whole knowledge and consequently the significant reduction of educational stress through the coherent and convergent use of a small number of universal concepts, models and principles. Therefore, the learning, research and improvement efforts are reduced to updating and customizing for their own short-term situations or for new discoveries**.**

3. Research Questions

We can highlight some aspects of classical pedagogy lacking clarity, thus hampering the pace of synchronization of the level of education with that of the results of fundamental sciences and which require its alignment to a systemic approach, such as:

- What are the criteria for validating truths through education? Are they used in education and by graduates of higher education? For what purpose?
- How can the product of education be more clearly defined?
- What is the role of this product in socioeconomic dynamics?
- How can the intellectual stress of education be diminished in the current informational typhoon and in the foreseeable future?

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- How should the contents of the professionalizing of teaching staff be redesigned to meet the above requirements?

4. Purpose of the Study

The present paper is an invitation to reconsider the concepts, principles and models of pedagogical sciences and align their contents with the current top trends: systemic knowledge and realistic socio-economic simulation.

5. Research Methods

Given the philosophical theoretical character, which must be tailored to the specifics of the pedagogy sciences, a comparative analysis of education from the classical and systemic perspective is used in the paper so as to propose a systemic approach to education, which will be clarified by the themes highlighted below. We begin from the hypothesis that all human knowledge is a linguistic convention, in native language, sounds, conventional signs, symbols and rules of use, for qualitative and quantitative description of the realities of interest. It may be consonant or dissonant to objective reality, according to the universal systemic principle of dichotomy.

6. Findings

In what follows, a unitary, holistic approach to the connection of pedagogy with the verified (objectified) results of fundamental sciences and other socioeconomic sciences is attempted by comparing classical and systemic concepts. People have only one life, and education has to clarify their purpose, models and means by which they can use their learning outcomes for personal, group and national prosperity, in harmony with the natural environment at the systemic scale of the planet.

6.1. Pedagogy must promote viable criteria for establishing the truths that shape the personality of the trainees.

Knowing the truths according to objective reality is the educational ideal of mankind, constantly altered by the pride and greed of national or international groups of occult interests. Historically it has evolved continuously on two opposite directions, similar to the scheme of Fig. 01, in relation to the methodology of establishing the truths: scientific or dogmatic.

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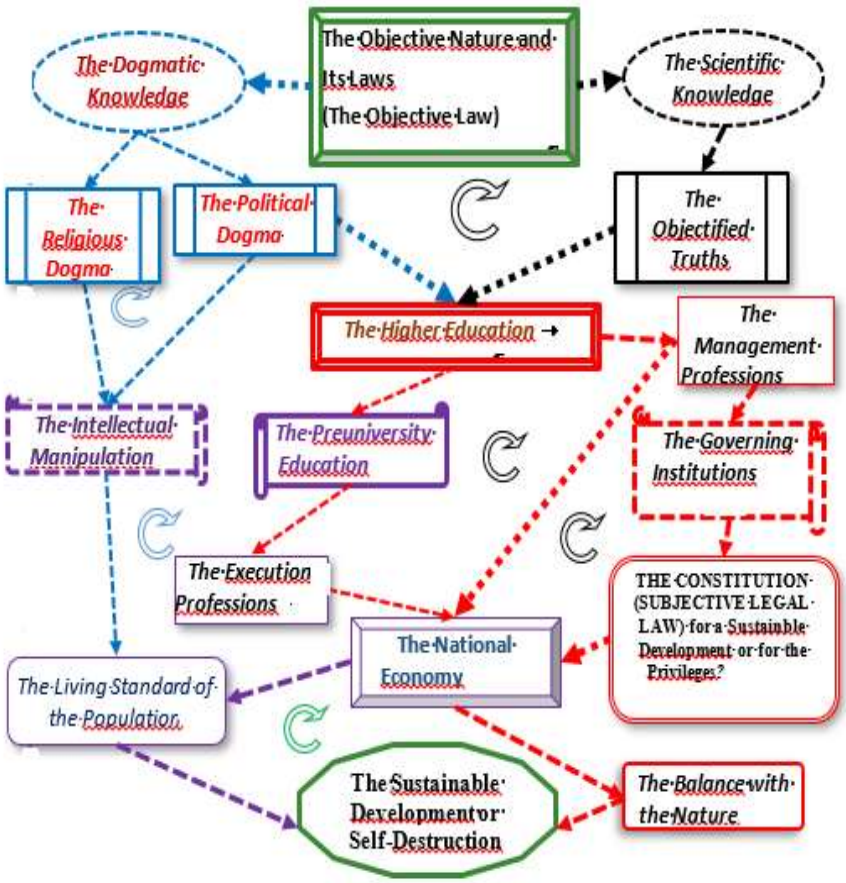

Figure 01. Establish of the criteria of values of the truth and their final consequences on the nation.

Dogmatic knowledge has as its source clergy and political parties. It is the most important factor of wealth polarization, of human disintegration, of conflicts and bio genocide, of intellectual manipulation and of self-destructive globalization (Blocker, 2014). Moreover, "the polarization of wealth leads mankind to self-destruction," is the joint conclusion of the two reports requested by the Club of Rome from the most famous Western scientists of those times, regarding the causes and solutions of the dysfunctions of human evolution over a period of 70 of years (1950 -2020), and which is today one of the truths demonstrated by the theory of dynamic systems (Meadows, Meadows, Randers, & Behrens III, 1972; Mesarovic & Pestel, 1974).

From the above, it is clear that the only criterion of truth, for the knowledge, analysis and comparison of any desired reality, is comprised by the results confirmed by the fundamental sciences (mother tongue, physics, mathematics, chemistry and biology) correctly applied in the field of interest. The most perceived educational domains are the economic, legal and pedagogical ones, due to a set of factors that include: incorrect translations, lack of content alignment at the top levels of knowledge and civilization, diffuse definitions and / or contradicting objectified truths, insinuation of dogmatism, etc.

It is worth mentioning a few suggestive examples:

- In the legal field: defining the objective right as the total normative acts issued by the state, i.e. people, is contrary to the semantics of the natural sciences and systemic philosophy, according

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to which no entity or property of an entity can be considered "objective" if it is the product of a human action! The consequences can be devastating due the natural law of the gregarious species (the totality of the natural laws by which self-regulation of the biotic and its equilibrium with the abiotic is ensured) and its correct transposition into the human space through the juridical-subjective right is neglected. In this way the principle of scientific substantiation of any legal norm, starting with the constitution, provided in the general theory of law, becomes obsolete;

- In the economic field: the doctrine of the regulation of the economy, i.e. of the whole society, by the "free market", promoted in marginal economic theory, contradicts the results of the management sciences, according to which any human structure (as a gregarious group) is centrally managed by an accepted entity by the majority of its members, called leader, manager, state, etc. Unlike the groups of evolved gregarious animals, in which self-regulation occurs exclusively on the basis of natural bioenergy of the most endowed bio individuals and exclusively for survival, human groups predominantly regulate the basis of the scientific or dogmatic intellectual energy of the rulers, with the aim of increasing public and / or private wealth, far outweighing the needs of mankind's survival. Consequently, the market, as a subsystem of the economic system, cannot be "free", being conditioned by the evolution of other economic subsystems, sectors I and II - energy production, raw materials and goods (without which the market cannot exist), but especially by the legal decision-making structures: governments, WTO, BM, etc., issuing constitutional and commercial law. The presentation of the "free market" as the free will of regulating the economy is similar to the function of divinity in mysticism, i.e. manipulation of new generations to accept an absurd as scientific truth;
- In the field of education: the introduction of the "classroom management" field of study, with the current content, transforms it into a pseudo-science, because it contradicts the results of the management sciences, according to which the teaching position belongs exclusively to the category of executive positions for which the managerial sciences have no meaning. Students are not the employees of the holder of a teaching position and therefore the relationship between the teacher and the pupil is not subject to the processes studied by the management sciences. Another nonconformity, which results from non-observance of the classification criteria (properties common to all elements of a set), consists in the classification of competences in "professional and transversal", transversality being not a property of knowledge, but of bodies, etc.

What is missing from the current classical pedagogy with regards to the necessity of introducing truth criteria in education is the awareness of the new generations about the necessity to eliminate from the mass education of dogmatic knowledge of any kind which profoundly alters the social power, that is, the fate of every person and every nation. “So, we take up one of the most fundamental and yet neglected relations between knowledge and power in society: the connection between the way people organize their concepts and how they organize their institutions." (Toffler, 1995, p. 181.)

It is increasingly necessary to add to the pedagogy sciences a new chapter that could be called "the ecology of education", to eliminate the main sources of alteration of the truths in education, in general and in higher education in particular.

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6.2. The product of education from a realistic systemic perspective and its effects.

What does the education outcome provide to its graduates? Classical pedagogy does not define clearly enough a "final product" of educational and educational processes, considering it just ".... a premeditated transfer of knowledge, skills, behaviours and values accumulated by people at a certain moment" (Manolache, Muster, & Vaideanu, 1979), which can easily be confused with the economic trading processes (sector III – services).

Physics, chemistry and biology sciences show that no transformation in nature takes place without the intervention of a certain form of energy. Even though complex systems produce transformations through multiple forms of energy, their fundamental process is due to the predominant form of energy. The natural question then arises: If education has the objective of premeditated modelling of the human personality, transforming it, what is the predominant form of energy that any teacher uses for this purpose?

In systemic vision, the product of education is the acquisition of a certain level of a certain variety of intellectual energy into formable ones, which gives them the property to create technologies capable of producing any premeditated transformation of the environment, in order to live better in harmony with nature. The decisive source of intellectual energy at national level is higher education, the configurator of the pre-university education and of the whole society, similar to the scheme in Fig. 02.

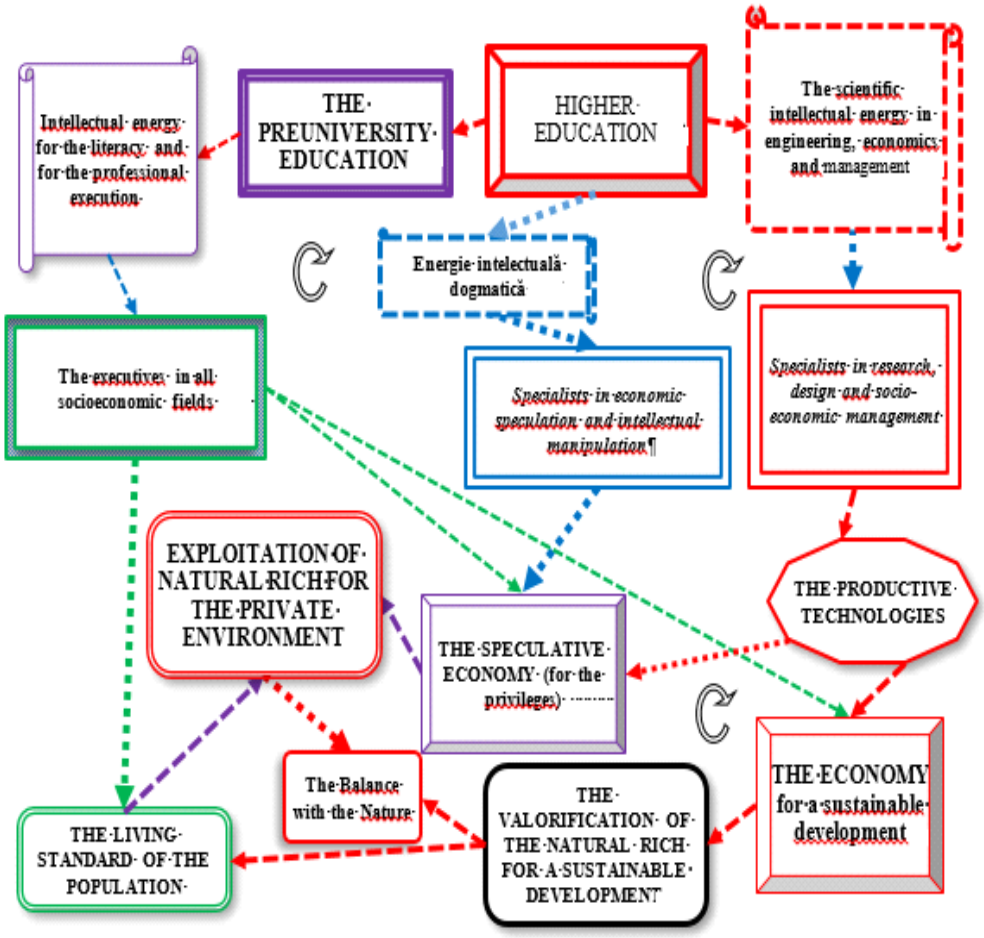

Figure 02. The systemic dynamics of the education process: product of the education and its effects

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In conclusion, the education system is the source of the vital energy of any nation - scientific knowledge, without which no good can be produced. For this reason and beyond, education should be placed economically and legally in the first sector of the economy - energy and raw materials, ie where energy and new goods are produced, and not in sector III - services, where only the money flow from one pocket into another, as established by the current legal system. Intellectual energy has as many varieties as the occupations are. Professional intellectual energy transforms its bearer into a self-adaptive energy amplifier, that is, it allocates its property to amplify its own components of bioenergy through appropriate technologies so as to produce goods in any desired quantity. Because of this property, man is positioned at the top of the food chain and thanks to it also emerged a market economy, designed to increase the welfare for all or just to obtain private privileges for some. As a result of the above considerations, the need for a socio-economic equity education is becoming more pressing, otherwise education remains the main source of imbalances of human and human harmony with the environment, more and more obvious and ignored, whether premeditated or not, by classical higher education. The systemic approach of a pedagogy for equity gains more and more force (Blocker, 2014; Moselle, 2016; Nuñez, 2013; Zlate, 1999).

6.3. How to reduce intellectual stress in education and society in the current informational typhoon and in the perspective of its virtual amplification

Classical pedagogy does not provide any solution to this increasingly evident aggression in a society where human information proliferates into geometric progression on both typologies: scientific and dogmatic. On the contrary, it amplifies stress by supporting the introduction of so-called "alternative textbooks" (which are in fact equivalent), "auxiliary" textbooks, with countless redundancies and nonconformities, or religious dogmas study subjects as a per-requisite to higher education. Moreover, human information interferes more and more with the effects of natural energies in electronic data processing systems through the development of direct human - machine interaction, with reversible effects whose consequences can be socially devastating without severe public control over the possible adverse consequences.

Human information, "as a mother-tongue description of a system that allows the bearer to interact premeditated with that system" (1 has to be conceptually and firmly delimited in the whole education by any other type of interaction based on natural energies considered as information in the systemic cybernetic current). It is human information that allows humans to position themselves at the top of the trophic chain, not the other natural components of bioenergy. Human information is the primordial energy unit of knowledge with the dual, scientific and dogmatic aspects, and therefore can produce the highest level of intellectual stress.

The systemic approach to education requires revising and completion of classical pedagogy so as to allow for a substantial reduction of the learning and practicing of an occupation, using system isomorphism similar to that of Fig. 03.

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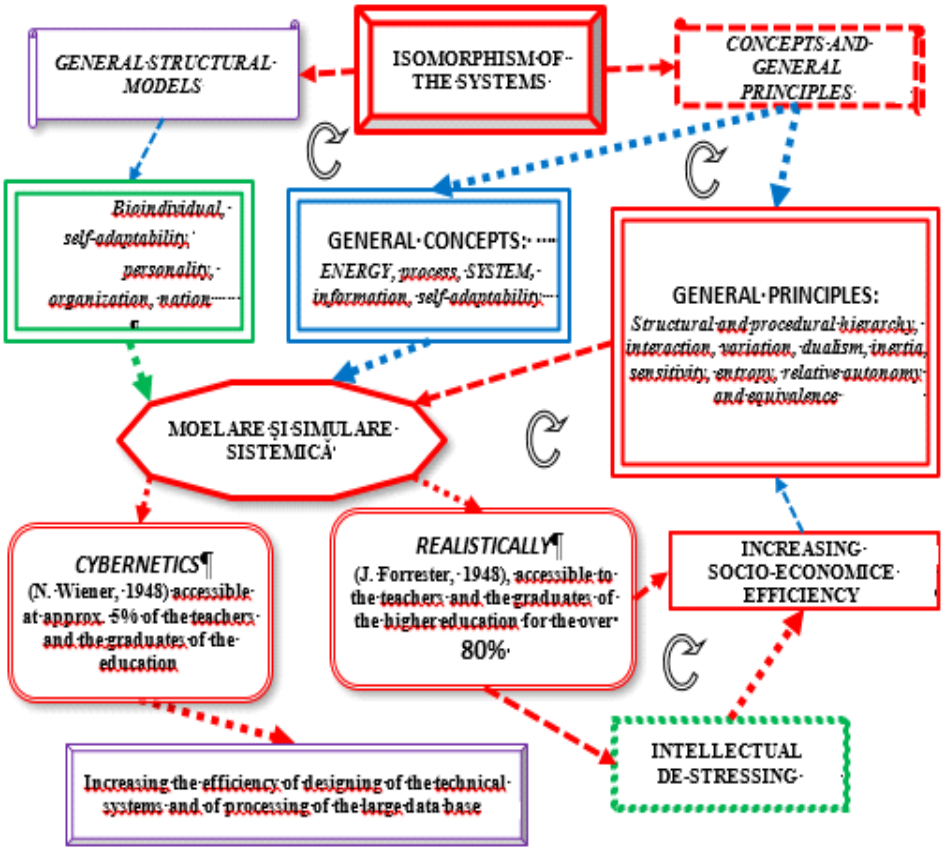

Figure 03. The ways to reduce educational and socio-economic stress

Reducing intellectual stress and increasing the socio-economic efficiency of the systemic approach to education by using isomorphism has at least the following paths:

- memorizing minimal universal concepts, models and principles and intellectual stress only for their particular application;
- elimination of informational redundancies, pseudo-concepts, pseudo theories and pseudo sciences ("economic engineering", "free market", "student class management", "free world", "international terrorism", "emotional intelligence" etc.), inconsistent with the results of the fundamental sciences and with the concepts of scientific management;
- increasing the motivation of learning, by demonstrating the concordance between theory and practice, using simulative modeling of the realities of interest, by any formable one by which the quantitative results of any human decisions can be demonstrated.

Increasing socio-economic efficiency through a realistic system approach is at least provided by:

- the accessibility of the vast majority of job holders (over 80%) to socio-economic simulation modeling in order to optimize the results of their own processes;
- increasing the certainty of predictions about the socio-economic consequences of any governmental or managerial decisions;
- the quantitative estimation of the economic outcomes of any human action;

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- identifying the variables of sustainable development available to managers (governing body) and those controlling the equilibrium with the natural environment and optimizing their use at national and international level.

From this perspective, we can talk about the responsibilities of reconceptualizing sciences such as the pedagogy (Deaconu & Jinga, 2004; Jinga, & Istrate, 2008) and the sociology (Hatos, 2006) within framework of the systemic dynamic theory (Daba, 2004). After all, the education is a social sequence for the society.

7. Conclusion

Trough comparative analysis of the contents of the classical and systemic pedagogy we can see many methods to increase the performance of education, in general, and teaching, in particular, among which are of particular interest:

1. Introducing into the pedagogical training of future teachers of the minimal elements of knowledge understanding based on systemic philosophy, with two distinct streams as accessibility level and descriptive and evaluative modeling of realities of interest: cybernetic and realistic;
2. Promote system mass flow and realistic simulation modeling based on the high level of accessibility and intellectual stress reduction;
3. Accepting and applying confirmed results of fundamental sciences as priority criteria of objective truth in all the contents of the socioeconomic education disciplines, including in pedagogy;
4. The need to introduce in the pedagogy sciences a new chapter that could be defined as the "ecology of education", by which to delimit the sources of pollution of the objectified truths used in education, especially in higher education;
5. Adaptation of the methodology of all disciplines to the needs of diminishing intellectual stress, in the context of the current informational typhoon, by using the isomorphism of the systems, at least in the following directions:
    a. Identifying a minimum number of system concepts with general applicability demonstrated by the natural sciences and their unitary application in all learning contents at all disciplines and at all levels. The paper highlights at least the concepts: system, energy, process, information and self-adaptability;
    b. Acceptance of a minimal number of principles common to the processes of all systems, highlighted by the natural sciences and applied both in pedagogy sciences and in all other socioeconomic sciences. The paper identifies at least 9 systemic principles: structural and functional hierarchy, interaction, variation, dualism, equivalence, sensitivity (threshold value), inertia, entropy and relative autonomy;
    c. Developing, accepting, and applying conjunctively a minimal number of systemic models with a high level of generalization in all sciences or disciplines so that intellectual and innovation efforts restrict themselves to their customized transfer and/or fidelity their enhancement. At least five models of universal interest for knowledge, self-knowledge and

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prosperity are identified in the paper: bio individual, personality, human self-adaptability, organization and nation.

6. Reconsider the identification and awareness of the purpose of education: increase the well-being of all the world's citizens in harmony with nature. The principle of education for socio-economic equity becomes increasingly necessary in the current trends of economic globalization for private privileges;

Re-analyzing the discipline-specific methodology for identifying the causes of educational deviations in higher education, legal, economic and educational management, in the context of Romania's continued economic involution and the level of living of Romanians.

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