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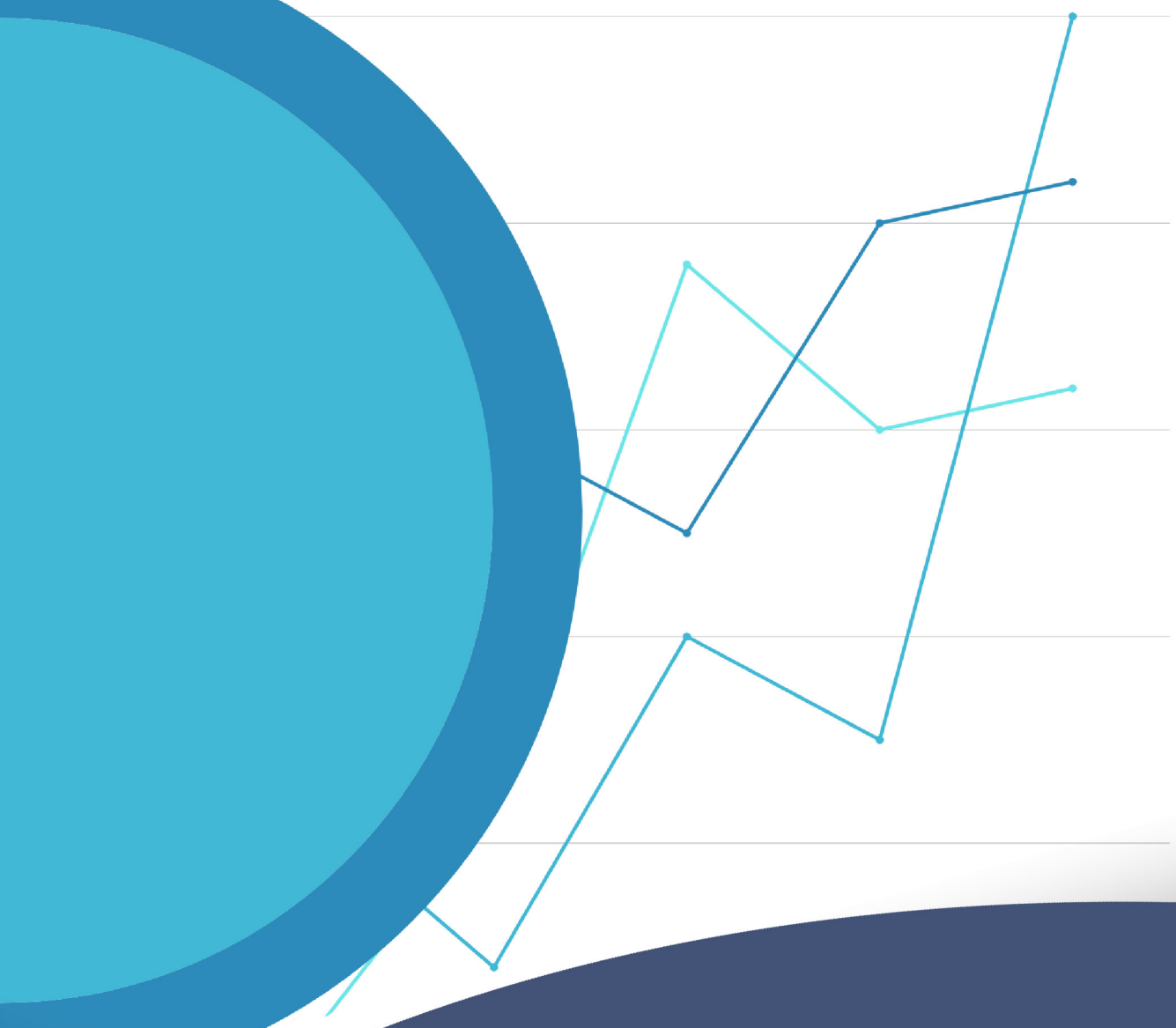

PROSPECTIVE PEDAGOGY: CONCEPTUAL AND METHODOLOGICAL FUNDAMENTALS

ISBN 979-8-88722-627-9
DOI 10.46299/979-8-88722-627-9

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Monograph

2022

UDC 37.013

TECHNICAL UNIVERSITY OF MOLDOVA

The paper was published with support
the scientific project "Postdoctoral Programs" for the period 2021-2022. Social Challenge Priority, entitled: Conceptual and Methodological Foundations of Prospective Education no. 21.00208.0807.10 / PD

Editor:

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Lungu V. Prospective pedagogy: conceptual and methodological fundamentals. Monograph. – Primedia eLaunch, Boston, USA, 2022. – 117 p.

Library of Congress Cataloging-in-Publication Data

ISBN – 979-8-88722-627-9
DOI – 10.46299/979-8-88722-627-9

UDC 37.013

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CONTENT

PRELIMINARY

The necessity for prospective training of specialists is determined by the fact that solving global problems, rapid social change and solving professional problems are closely related to prospective skills and it is oriented towards achieving the professional goal with anticipatory methods.

In this regard, the European Union plans priorities for the years 2020-2023, including the study from the perspective of civil society: "Work of the future: ensuring lifelong learning and training of employees", and the Republic of Moldova makes forecasts of the labor market from the perspective of the employer, where the knowledge of the real situation and the prediction of changes will take place, taking into account both the influence of demographic and economic factors on employment and unemployment. In this sense, NAFE (National Agency for Employment) highlights that "the forecast identifies the economic activities where jobs will be created/ liquidated and signals the discrepancies between supply and demand, current and possible future." It is important to note that this document highlights as a major obstacle in the activity specific to the workplace, is the lack of *learning to learn competence* (desire to learn something new), digital skills and social-civic competence (communication and teamwork) for employees. [122]

Another factor is highlighted by the National Strategy "Moldova 2030" [123] which refers to the fact that the current system of initial and in-service training of teachers does not ensure the necessary quality to meet the challenges of a changing society. Where, the emphasis is on the quantity of educational programs and less on their quality. Some teachers are trained according to outdated professional programs, and the discrepancy between the theory learned and the skills required for employment does not motivate students to have a persevering attitude in the educational process.

The national PROGRAM in the fields of research and innovation for the years 2020-2023 [124] adopted in 2019 by the Government of the Republic of Moldova, provides different results for each strategic priority. One of the expected outcomes of

the Strategic Priority Plan: Societal *Challenges is to increase employment and forecast skills in areas and occupations* in line with labor market requirements.

In this regard, the Organization for Economic Co-operation and Development (OECD) has launched the Future of Education and Skills 2030 project. The aim of the project is to help countries find answers to two major questions:

● What knowledge, skills, attitudes, and values will today's students need to thrive and shape their world?

● How can training systems develop this knowledge, skills, attitudes and values effectively?

In the *National Qualifications Framework* we identify a special emphasis placed both on preparing educational beneficiaries with the requirements of the labor market, and *anticipating future requirements by planning predictive goals, decision making, etc*. Thus, the compatibility of specializations, training system and curriculum will be achieved, which requires a thorough analysis of the infrastructure for education and research, training of human resources in the medium and long term.

However, the National Employment Strategy for 2017–2021 approved in 2017 highlights that "the labor market is strongly influenced by internal and external socio-economic factors, and in this context the quality of the workforce is gaining great importance. The education system must be adapted to the requirements of the labor market, so as to generate a labor force with a high degree *of adaptability to the rapid changes of the labor market* and to the increasingly diverse requirements of employers." At the same time, the same strategy stipulates "the reduced capacity of the public and private system *to predict development* at the sector level and *anticipate the need for qualifications* at the national and sector levels." [122]

The listing of various policy documents both internationally and nationally claims the need to anticipate the specifics of future professional activity, intervention in the particularities of work with reference to the emergence of new skills, others become obsolete, but also the determination of professional and personal qualities. of the student, necessary to face the educational/work process of today and in the future, planning his / her actions in order to analyze the risks and make decisions.

However, as V. Popa [86] sustains in *the Report on specific objectives of the education and training system* (Brussels, 2001), the representatives of the European Council started from the hypothesis that the society assigns to the education different points of centering, since what particularizes our times is not the existence of change, but *its superaccelerated rhythms*. Thus, it emphasizes the need to substantiate theoretically and methodologically a new field – Prospective Pedagogy (PP).

Upgrading the educational process in the light of PP requires a responsible analysis, as the future creates increasingly higher requirements. These requirements need changes depending on PP trends, which will substantiate the elaboration of the new educational policies and the university education system.

Thence, the scientific approach for a possible theoretical and methodological substantiation of the PP became one of the key matters of the modern pedagogy. The need to explore this field in the present is dependent on several factors: [64]

1) the accelerated rhythm of the change, the globalization, the challenges of the 21st century, the innovations and the creativity, the internationalization of the university education;
2) the need to ensure the quality and the performance of human resources at the global, national and local level;
3) the lack of a sustainable policy at the state level in the field of PP;
4) the shortage of prospective investigations in relation to the education;
5) the weak information level of specialists in the field of education as the report between the demand of labor market, society and the university offer;
6) the skills of the specialist needed on the labor market.

Simultaneously, when different aspects of education science are explored, the Prospective Pedagogy as fundamental field is not researched in details, is not conceptualized. This situation is seen as a dilemma or a shortcoming of the education sciences. The emphasized prospective character in education confirms its importance in training the personality to integrate into society, and the labor market.

1. CONCEPTUALIZATION OF PROSPECTIVE PEDAGOGY

The development of the contemporary world is largely related to how education can meet the requirements of this development. It is important to note that the education sciences system explicitly, structurally, and functionally focuses on educational practice that is complex, inter-, and multidisciplinary.

There is a widespread notion that education systems need to provide beneficiaries with the skills to cope with ever-changing situations. Skills such as critical thinking, problem-solving, collaboration skills, innovation, digital literacy [58, p.239] and adaptability. [53] Education will have to give the individual that "inner compass" that will better guide him in the future. [3, p. 21]

1.1. Prospective pedagogy (PP) in the system of education sciences

Pedagogy is defined from different perspectives presented by N. Silistraru in his book "Ethnopedagogy and education", later presents its own definition of pedagogy as the science of education that studies, conceptualizes, explains, prospects and presents in descriptive and normative terms the essence and features of the educational phenomenon organized and conducted for the formation and shaping of the human personality, in accordance with the educational ideal, educational purposes, content and major tasks, educational value and limits, instructional-educational, pedagogical principles, educational strategies, methods, forms of organization and development of educational processes. [96, p.153]

Although there have been some oppositions between pedagogy and the sciences of education, it is emphasized that pedagogy as a distinct field of knowledge is a complex and contradictory process, and presents its evolution from a historical perspective. [104, p.13-14]

We realize the situation that, “with the changes in society, with the technical-scientific progress, with the diversification and development of the object of study of pedagogy, education has objectively increased the need of the educational phenomenon

from several perspectives, depending on the stages of its realization. of various aspects, led to the emergence of a new phrase - pedagogical/educational sciences. ” [104, p.14]

We agree that, “the leap from pedagogy to the sciences of education reflects the situation evoked with all the direct and indirect effects recorded in time and space, which, in principle, should confirm the epistemological unity of the field, its identity and consistency. It is a topic that must be in the attention of any model of education sciences classification. And those who reject the legitimacy of the expansion of pedagogical fields and subdomains as well as those at the opposite pole, inclined to place the sciences, and sciences of education above pedagogy itself, can not avoid the idea of classification criteria as landmarks of analysis, and epistemological definition of the researched field ”. [104, p.17]

In this sense, T. Marin argues that the link between pedagogy and education must be interpreted from the perspective of two planes, namely: -science report (pedagogy) – the topic of study (education); - relationship theory(pedagogy) -practice (th process of education). [78, p.9]

In a conclusion, T. Marin continues, pedagogy is the science of education and it studies “the laws, the essence, the ideal, the content, the methods, the means and the forms of education.” [78, p.9]

Taking into account the particularities of educational activities, it can be estimated that pedagogy is an essentially positive science, philosophical and at the same time praxiological. Pedagogy, as a science of education, aims at two fundamental, complementary coordinates, namely coordinates the finality of the educational action; coordinates the technology of its realization.

From the perspective of the first coordinate, pedagogy aims at transposing the social order into a system of pedagogical norms and principles, while the technology coordinate indicates the concrete ways of putting into practice that is involved in the elaborated pedagogical norms and principles. [78, p.10]

Following the analysis of the literature, it is observed that Prospective Pedagogy is located differently in the system of education sciences, based on certain criteria. As an

argument, we propose a table in which we present the fact that Prospective Pedagogy is placed as a fundamental theoretical field:

Table 1 Framing PP into System of Educational Sciences [98, p.116]

Authors	Criteria	Framing of prospective pedagogy
Șt. Bărsănescu [6]	Degree of generality	In the subjects that form the core of the general pedagogy
Model of Pedagogy Course proposed by the University of Bucharest [80]	the trends found in the process of diversifying the field of study of pedagogy, which requires the leap from pedagogy to the system of education sciences	sciences that study some special aspects of education imposed at the level of pedagogical research
E. Macavei [76]	Degree of generality	Fundamental theoretical field
N. Silistraru [98, 99]	deepening research methods / interpreting education problems	methodological pedagogy science

The placement of PP in the fundamental field of the Education Sciences System is also identified in I. Jinga and E. Istrate, [58] but these authors cite Șt. Bărsănescu. O. Dandara is of the same opinion, who in the course support "Pedagogy", published in 2010, [21] and T. Șova [104, p.18] present the classification of education sciences adapted according to E. Macavei, in which frames *Prospective Pedagogy in the fundamental sciences*, which are the basis of the system of pedagogical sciences, with an aspect of analytical approach in a temporal context, or, studies in advance the education and school of the future. [76] However, we find that a good part of the authors of the Romanian area does not have research in the prospective field.

It should be noted that in M. Gaston's Model, the philosophy of education, and the planning of education are proposed as sciences that aim at the reflective and prospective analysis of the future. And at C. Bîrzea we find the planning of education at the criterion: the predominant research methodology. [apud 67, p. 116]

These aspects of the classifications lead us to the idea that education planning is a component part of prospective education, because in our research planning or design is closely related to the term "anticipation" [67, p.116].

Prospective pedagogy being approached as a fundamental field of education sciences, allows us to mention that its object of study is prospective education.

In our opinion, the orientation on prospective education (PE) as an object of study of prospective pedagogy (PP) as a field, requires awareness of new conditions, deciphering probable situations, encouraging future trends and innovations, transformative, "preparatory" actions for the future. Therefore, in the educational institutions, the presence of the PE must be made more and more felt, through which to rethink the present from the perspective of the future, and ensuring the quality and performance of human capital must become a priority.

At a theoretical level, PE is a fundamental pedagogical concept, which directs all aspects of the educational act towards preparing the educational beneficiary for the future, and an operational pedagogical concept, which extends its applications to all aspects. Consequently, *the content of the PE concept* reflects three new phenomena, defining the status of postmodern education: [66, pp.110]

- ✓ PE tends to precede the level of economic development, anticipating the directions of evolution at the level of human and technological resources;
- ✓ PE aims to prepare people for the society of the future;
- ✓ The PE faces the contradiction between the products of education, the requirements of society and the requirements of the labor market.

At a general level, the PE proposes several studies on the effects of knowledge of society in terms of the structure and process of education, relies on technological forecasts, as well as on the synergy between education and researchю. [66**,** p.38]

At the level of educational policy, starting from the theoretical generalizations and practical openings highlighted above, PE, is based on the principle of prospective planning, which by action, guides the development and formation of personality and through it of society towards the future. In this sense, the significance of the finality in the normative and managerial plans is highlighted.

Normally, the finalities confer a prospective character assumed at the level of education policy by classifying the relations between the value orientations proposed in different contexts (system and process) and the general pedagogical principles

(principle of creativity, the principle of knowledge, the principle of communication, etc.) based on the design of the educational action depending on the context. [66**,** p.38]

At the managerial level, the aims of education confer an efficient character, assumed at the level of educational policy, by clarifying the relations between the proposed value orientations - existing pedagogical resources and the results obtained in time. [66**,** p.38]

In this order of ideas, the functions exercised by PE were deduced: anticipation, innovation, adaptation, planning, integration in social life, orientation. [71, p.50]

In this context, it is very important to understand the main innovation and effectiveness of the prospective approach to the educational process, specify its essence and, make a clear delimitation of the prospective approach in education.

In this sense, the inclusion of PP as a field in the educational system requires a new interpretation of academic success, which essentially must be explained in terms of social, cultural, economic success, etc. Thus, taking into account the prospective field would also mean a better connection of the education system with social issues, a connection which, in fact, is the foundation of social transformations.

Thus, we deduce that the interest in the future training of specialists is increased, being generated by the multitude of changes produced in the economy, technology, and, social, and political sphere both globally and nationally.

1.2.The theoretical basis of the elaboration and development of prospective pedagogy

The theoretical basis of prospective pedagogy is constituted starting from the laws, theories, principles, conceptions, ideas in the field of pedagogy, philosophy, psychology, philosophy of education, pedagogical anthropology, ethics and sociology of education, etc. the research was based on ideas, concepts regarding prospective education: the problem of selecting the content of science for the organization of educational objects (B. O. Smith, W. O. Stanlet, J.H. Shores), the content of education, teaching methods and educational goals viewed in interaction (Philip H. Taylor),

philosophy of experience and pragmatic instrumentalism (J. Dewey), socio-economic problems of the masses (O. Ghibu), approaches to the relationship between education and society (E. Faure), socio-pedagogical conception (E. Durkheim); The theory of personality development (Maslov), Theories of decision making, developed by Vroom. [apud 66**,** p.p.96-97]

A special role in this regard belongs to the theories of preparing human resources for the future, J. Dewey [34], A. Tofler [116], R. Dottrens [35], Dm. Todoran [115], the prospective triangle (M. Godet) [42] theories of change (Venera-Mihaela Cojocariu) [21], theories of social change (Geertz, V. Turner) [112], theory of globalization (R. Robertson), theory of perspective (Kahneman and Tversky) [111], theory of expectations. (V. Vroom), et al. [105]

Theories of change. In the contemporary world, social change takes place all over the world with a variety of effects, change is the result of innovation, planning, deliberation, technologies, and strategies that play an important role in social change. [117, p.76] The genotypic and phenotypic characteristics that prevent change in education are: [71, p.18]

- *exogenous factors of resistance,* which prevent the penetration of change in the school system (ex, the conservative lifestyle of the beneficiaries, the bureaucracy in the education system, etc.);
- *endogenous resistance factors,* which prevent the change from within (eg, demotivation of subjects, low level of communication, etc.);
- *limiting factors*, which are obstacles to the dissemination of new ideas and new practices throughout the education system (ex lack of exchange of experience or quality standards for implementing change). [5, p.84]

Regarding the external factors, M. Stanciu points out that the future of education depends more on external factors, [101] because internal factors (teachers' position, educator-educated relationship, the school's relationship with the outside world, etc.) block the change. And, R. Singh argues that there are internal causes and external causes of change. [apud 66, p.14]

Social change - is a change in mechanisms in the social structure, characterized by changes in cultural symbols, rules of behavior, social organizations, or value systems. Theoretically, sociology presupposes two obvious levels of change change (macrosocial) of the global society, with references to growth, development, evolution, progress, and, regress; change (microsocial) of certain subsystems or components of society. [117, p.76]

Change can be seen as modernization when interventions made from different perspectives have as consequence progress. Respectively, Morariu C-M. & Ignat M-D., Argue that "the new constructivist perspective has become more and more popular lately in explaining the processes of change, regionalization, globalization because it offers the possibility of analyzing the interaction between local or international structures and social actors. Social change is perceived not only as a result of "historical forces" but also of the actions and interactions of social actors. [81, p.14]

Social change is the result of scientific knowledge that has led to technological advances. Regardless of the form of social change, any type of change is the transition of a social system, a component of the system from one state to another different state, qualitative and quantitative. [117, p.80, 81]

In our opinion, the geopolitical changes of the twentieth century and the awareness of the need for fair and sustainable development, have given weight to the problem of globalization and its effects, and have led to the improvement of education systems, so that today they are in step with socio-human development and technical-scientific trends.

The modernization of societies involves two contradictory processes: the need for specialization of human resources and the need for cooperation to produce competitively. [81, p.12] Thus, the university environment has generated the application of modern tactics and strategies, viable to implement, dominated by the principles of sustainable economic growth.

Currently, the development directions of education are determined by cultural mutations and scientific advances, economic changes, the issue of natural resource management and the use of the ecological environment (contemporary world issues),

and socio-political changes, which highlight both the trends of the future society. , as well as highlighting the facts that carry the future. [71, p.83]

In this sense, figure 1 has been elaborated.

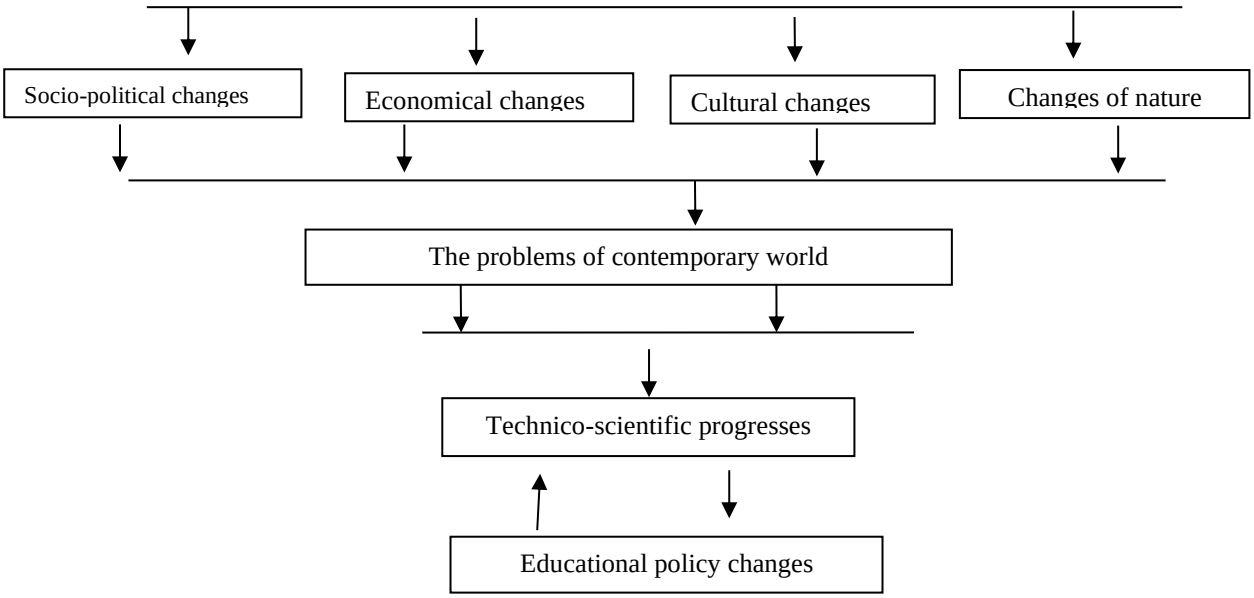

Fig. 1. The relationship between the process of chaotic change and those caused

In figure 1. we illustrate the mechanism of chaotic change compared to that caused by change. At first we are influenced by a chaotic change (*theory of social change*) through socio-political, economic, cultural changes, contemporary world issues, then by the intervention of changes, produced by various educational policies (*caused change*), we cause technical-scientific progress that, in turn, can influence changes in educational policies. Thus, we prepare to meet the demands and challenges of the future.

In our opinion, the change in education requires an approach from a futurological and global perspective. The assimilation of change in the education system involves taking over the directions of change, but also the adequacy of the curricular content to the content and rhythms of change in that field, which can be achieved only by applying invention, initiative, and innovation by educational institutions and teachers.

The theory of change – O. Dafinoiu. According to O. Dafinoiu, "the change may be small but, intervened at the right time and maintained in time, it will generate a gradual departure from the results we would have reached from inertia, heading

towards the area of the desired result. If this second change is delayed, a more substantial change will be needed, which is more difficult to achieve. And if it is not done (either because it is too late or because it becomes too difficult), the desired result may be missed. [apud 71, p.18] According to O. Dafinoiu, [apud 71, p.18] time has become a pressing issue, a wide and sudden change is needed, which requires too much effort and the environment may no longer provide all the necessary conditions, or that change depends on certain environmental factors that no longer have the same rhythm.

V. Anghelache, trying to explain *what* and, especially, *how* change is achieved, argues that it involves three major approaches: *people-centered approaches, task-oriented, and technology-oriented approaches, and structure- and strategy-oriented approaches.* [66, p.16]

A number of behavioral specialists (A. Huberman; R. Singh; D. Hopkins; M. Stanciu;) advance the idea that schools are, by their nature, stable and homeostatic and, consequently, incapable of innovation, of change. [apud 71, p.18] We are of the same opinion as D. Hopkins, who remarks that if a change is to make sense, then it must have an impact on educational processes, to penetrate the hearts and thoughts of education agents (pedagogues, students). In the absence of such a reality, the author continues, we are threatened by the danger of "appreciating non-existent events", because the reality of change does not depend on strategies, although they provide the necessary framework for action, but on the implementation of strategies, to understand how they are interpreted by students, pedagogues and others [apud 71, p.19]

The assimilation of the change in the education system supposes the taking over of their directions, but also the adequacy of the curricular content to the content and the rhythms of the changes in the respective field, the fact that can be achieved through adaptability and innovation, based on education.

Theory of social changes. Geertz seeks a synthesis between modernization and tradition, emphasizing, thanks to this interaction, that change is not a deterministic process but a dynamic, multi-dimensional, and unpredictable process. V. Turner agrees with the same opinion, showing the inconsistency, discontinuity, contradictions, paradoxes, and conflicts that characterize the process of social change. [112]

Turner did not address the causes, origins, goals, or effects of social change, but how communities and groups react to that change, and the strategies of those groups to adapt to change. Showing the types of tools of this adaptation, Turner discusses how human groups cope with social disorder, crises, and disasters (thus approaching the theories of crisis or catastrophe). [112]

The ambiguous link between the past and the future goes through the present state in which the former regulations and hierarchies no longer function and the new ones have not yet been established. However, "politicians and intellectuals have turned to history to motivate their actions." [22, p. 209]

These changes are considered natural actions because they are associated with the general principles of *planning*, *organization*, and *evaluation* in the field. [71, p. 23]

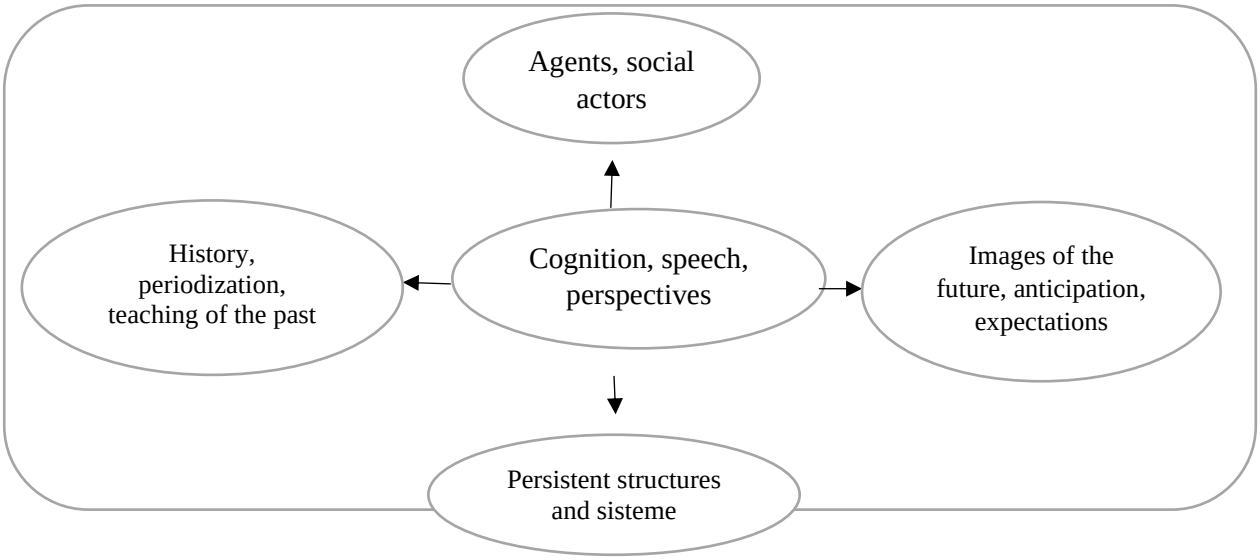

Fig. 2. Framework for the analysis of social change and cognition [37, p.940]

Cognitive discourses can have notions of temporality, both past (how we got here) and future (where we are going). A discourse contains key notions of structure (what is real and sustainable) and social actors (who / what has the power to create change) that underlie an epistemological dimension, who and what role it plays in knowing social change. Thus, theories and discourses for change do not necessarily explain reality. "Action is based on deep assumptions that create systems of the future" [37, p.840] rather than explaining the future. These discourses give rise to distinct notions of strategic action and generate modes of strategic action that help shape the future.

Theory of modernization is one of the first theories of development to explain it in cultural terms [94] Modernization refers to a model of a progressive transition from a "pre-modern" or "traditional" society to "modern" society. The theory of modernization arose from the ideas of the German sociologist Max Weber (1864-1920), who provided the basis for the modernization paradigm developed by Harvard sociologist Talcott Parsons (1902–1979). The theory analyzes the internal factors of a country while assuming that, with assistance, the "traditional" countries can be developed in the same way as the more developed countries. Modernization theory emphasizes not only the process of change but also the responses to that change. It also analyzes the internal dynamics as it relates to social and cultural structures and the *adaptation of new technologies*. [94]

The theory of perspective, promoted by *Kahneman* and *Tversky*, was built on analysis of the contradictions and inconsistencies of human behavior in the process of negotiating and *making decisions in situations of risk and uncertainty*. As a result of practical research, *Kahneman* and *Tversky* conclude that the development of rational decision-making and risk-taking skills are two key segments in identifying the relevance or irrelevance of the company's financial protection. The theory of Perspective has shown that the thinking, skills, and abilities of educational beneficiaries, as an intangible economic resource in decision-making can be measured when measuring their benefits as a result of business activity in financial and/or material resources. [109] The theory is considered fundamental in the field of a *behavioral theory of decision*, especially in *conditions of uncertainty and risk*, opening new interdisciplinary approaches to issues related to the activity and development of human personality.

Prediction theory. According to E. Hideg, “critical studies of the future evolved in the 1990s, characterized by the fact that the future is interpreted as something that already exists in people's thoughts and emotions. These future thoughts and perceptions affect present events and form an organic part of the "whole world." Future thoughts are formed and reformed in the process of discourses so that the present future is open

and is a human construction. Thinking about the future and having a notion of the future can no longer be seen as separate forms of thinking. [54]

All human perception and meaning are always characterized by an original future intention, which is invariably linked to experience, and intentions rooted in the past. To think about the future and to develop future perspectives is the ability, called in future critical studies, *foresight.*

Slaughter was the first to define prediction in the literature of future studies. He defined the prediction as "... a universal human capacity that allows people to think ahead. Thoughts and ideas about the future of the community are developed among the subjects of social discourse and are incorporated into *the process of social innovation* until they reach the *shaping phase of the future."* [apud 54]

The study of alternative perspectives of the future has flourished through the use of hermeneutics, critiques, and discourses on various topics of the future, including human responsibility for the future, ethical issues of the future, etc. The purpose of these practical forecasting activities is to develop the future direction of people and groups/organization and to stimulate them to shape their own future, and ideas and take responsibility for the future. [54]

As A. Suceveanu mentions, using in a broad sense the concept of *forecasting* is interpreted as an *anticipation* of a new fact. Relating to a new fact, the forecast covers the anticipation of any object, event, or process that has not entered the objective of a cognitive operation, or has not yet been the object of observation and experiment on the part of the knowing subject. If the scientific prediction refers to timeless relationships (ex. predicting that a particular chemical element will react with another known chemical element). Historical prediction anticipates states of fact or final states that will be realized in a certain time, or results that depend on the actions of human agents, [apud 104, p.68] is the teacher of life, having the mission of education. [22, p.213] Because the theoretical prediction anticipates the final tailings by disregarding their situation in real physical time, it is considered to be timeless. And, for the rational and scientific expression of the future, the term prediction is mainly used. [104, p.69]

In parallel with this approach, another type of forecasting practice has emerged, which response to the needs of social practice, namely the needs of decision-making. Miles & Keenan explain the forecast as a systematic, participatory process of gathering future information and building medium- and long-term vision, aiming at current decisions and mobilizing joint actions. „Foresight involves bringing together key change agents and sources of knowledge to develop strategic visions and anticipatory intelligence. The forecast aims to establish networks of agents that respond better to policies and other challenges .” [apud 54]

In Europe, the aims of foresight are to create information about the future to help the *decision-making process*, to encourage reflection on the future, and to bring together stakeholders to form visions for the future at the Community level. Its main objective is to influence the political decision-making process so its only task is *to shape the desired future* at the communal or social level. "Because the concept of forecasting is young and has emerged from the practical need to improve the strategic planning process and to participate in decision-making, the concept itself is theoretically rather poorly reflected." [54]

The practice of forecasting is reflected in the various practical guides of technology or regional forecasting, which have been compiled with common European research papers, without adequate theoretical background, and trends.

The theory of rational anticipation is initiated after 1980 by Robert Lucas and Thomas Sargent. [87, p.503] According to this theory, economic agents, possessing the property to creatively analyze the information they have, have the ability to predict the evolution of concrete phenomena and situations and to adopt more concrete, more efficient decisions than those adopted by public institutions. By extension, the theory of rational anticipation thus appears to be based more on its relevance than on the realism of the hypotheses. Hypotheses highlight the role of information and uncertainty, and the purpose of decision makers is to reduce uncertainty by acquiring additional information at some cost, called the cost of adaptation. [113]

The theory of operational anticipation is based on Piaget's ideas which demonstrate the staging of intellectual development where S. Vornicescu started from the study of

physics, shows the invariance of the amount of substance achieved at 8 years, weight around 10 years, and volume at 12 years as a basis for addressing learning problems. In fact, the experiments were repeated where the same results were found, but it was noticed the need for a mediation between the weight invariant that can not be scientifically understood even at 10 years, as it remains dependent on weight perception. The need for mediation can take the form of a visual model and fulfills the role of anticipation. Proposing that the weight invariant can be achieved by the child at a younger age, if, through "modeling training", the necessary operational schemes are built in advance. [87, p.503-504]

According to P. Popescu - Neveanu, “we notice that both Piaget and Nuttin, absorbed by the adequacy of the knowledge of functional needs, do not pay enough attention to the motivational structures installed at the level of personality, without taking into account these factors that contribute to strategies. and “forces” accommodation, it will be very difficult to address the problems of learning and creative thinking”. [87, p.503]

We consider it important to point out that the training of the prospective personality is based on the theories of development: *the theory about the duration and living space* of D. Super in which he based his statements, on the observation that the sphere of qualities, personal characteristics and other traits necessary for those more occupations, is limited. On the other hand, it presents the sphere of qualities and characteristics of most people so widely that each person meets the requirements necessary to be successful in many spheres. [66**,** p.97]

The theory of learning through discovery was developed by J. Bruner and refers to the independent action of the learner in perceiving connections. For J. Bruner, "the process of discovery consists in the fact that the student generates certain information on his own, which he can then control or evolve, using the source and thus obtaining new information." [apud 87, p.508]

Contributions to the development of prospective pedagogy by explaining changes, and innovation in education also brings the theory of social learning (A. Bandura). Albert Bandura and his followers, which mentions the importance of observing and

motivating the behaviors, attitudes, and emotional reactions of others. The theory has been applied to understand aggression, particularly in the context of behavioral transformations, explaining human behavior in terms of continuous mutual interaction between cognitive, behavioral, and environmental influences. [66, p.97]

1.3. The conceptual system of prospective pedagogy

Following the perspective of determining the various approaches regarding PE, the study of its genesis and evolution was used.

Pedagogy has to "get used" to new ideas, but one of the problems is the unequivocal interpretation of notions and contents in terms of foresight, which can lead to controversial situations, when people, use the same notion, refer to different things.

The term *conceptualization* is explained by the dictionary as transposing a theory into a concept, to elaborate starting from something, to transpose a theory, an idea into concepts.

The introduction of the notion of “prospective” in the educational process is of fundamental importance because in educational institutions many ideas are formed regarding professional self-determination, vital strategies, access to resources, and power, which are based on the prospective character.

These needs highlight the importance of education, the quality of which depends, in large part, not only on the future well-being of a nation but also on its power, influence, and even its existence as a distinct entity worldwide. [86, p. 4]

The conceptual analysis of the proposed terms requires the delimitation of both the notions and the respective contents. In the literature we find the use of several terms: *prospective pedagogy, prospective education*, etc. each having a common spectrum of problems, but also a specific one of analysis of the educational field.

This perspective leads to the analysis of different approaches to prospective education. For these reasons, it is necessary to clarify the conceptual differences between them. The PE approach is based on three existing concepts: *prospective education* [115] *prospective pedagogy* [76] and the *prospective nature of education*

[98]. Although the delimitation of these concepts was partially addressed, no comparative analysis of them was performed from a theoretical-practical point of view.

Prospective education is a type of education that supports the idea that prospecting society, and anticipating the future from diverse and complex scientific perspectives is a necessity in education today. [8, p.64]

We join the opinion of the researcher V. M. Cojocariu, who mentions that in the conditions of the current society, characterized by the acceleration of the rhythms of evolution, it is necessary to form a type of personality capable of solving the problems of life and activity. [21]

Regarding the term **prospective education**, D. Todoran defines it as the formation of man for the future and in the future. The author argues that the prospect of education, in a broad sense, includes any future research and construction, and in a narrow sense, refers to research and studies on the possible future in this field. [115]

The next term that needs to be explained is **prospective pedagogy**. According to E. Macavei, the object of prospective pedagogy is the prospective, futurological study of the objectives, organizational tendencies of training and education, of educational policies. [76]

The phrase **Prospective Pedagogy** was first introduced into the pedagogical language by G. Berger, who suggested the idea of a new direction of investigation - prospective pedagogy, but did not develop it. His ideas were taken up by the promoters of lifelong learning. [7]

The above definitions clarify the difference between them, noting that **prospective pedagogy** aims *to orient education towards the requirements of the future*, and ***foresight education*** *is a systematic study of models of education systems*, processes, and future education systems, which achieves certain concepts on future education.

It is important to mention that the need to capitalize on new notions in pedagogical science is due to several factors:

1. Significantly increasing the importance of the prospective nature of education and the prospective dimension in shaping and evaluating the processes of social and personal development along the way.

2. The need to establish in the field of education the field that would capitalize on the relationship between past and present - future educational actions, related to the present and future needs of the personality of the individual and society as a whole. The education system must offer the beneficiaries opportunities to develop their individual abilities and interests, with a prospective focus. In this sense, teachers must be sensitive to information management, operate with the relevant methodology, clarify the relationships between the proposed value guidelines - existing resources and results obtained over time, create opportunities, and as a solution S. Baciu and V.Vrabii propose the continuous development of teachers. [4]

3. Inadequacy of the traditional pedagogical notions used previously ("forward-looking education", "forward-looking education", "education planning", "education for change and development", "education for tomorrow" and other variations), which do not reflect the essence of the object, it even restricts its understanding, because the local culture comes with multiple and controversial connotations of the term "prospective."

The above information does not diminish the importance of prospective education in the pedagogical field, in capitalizing on prospective training from a psychosocial, economic, managerial, and pedagogical perspective. In this context, we can say that PE depends on the general purpose of the prospective study, which is to contribute more effectively to understanding the contemporary world by exploring transdisciplinary and holistic current issues and addressing the possible future by considering current policies and strategies. And these aspects are confirmed in the literature, where, “all transdisciplinary lessons will consist in solving problems based on situations. The problem is posed, the knowledge of reality does not take place at random, it is inserted in thought and structured activity." [41, p.29]

Significant in our research is also the ***prospective character of education*** that requires double conditioning: adequate reporting of the characteristics of the future society and the functioning of the present society. Due to its prospective nature, education not only adapts to the specifics of anticipated changes but also prepares the conditions for the occurrence of these changes, it models through the present actions the very specifics of the future society. [99]

In this sense, S. Cristea reports that one of the internal characteristics of education policy, is the prospective character that highlights the fact that the education activity always aims at a future situation, potential, strategic, superior to the present one, current and conjunctural. [29, p. 16]

Starting from the idea that “prospective pedagogy investigates education from the perspective of the future” [66, p.99] and that prospective education is the type whose explicit goal is transformation and future, we arrive at the core of the same antinomy that shakes the field of education: tradition or modernity, adaptation for maintenance or innovation for overcoming. The passage beyond it, possible by appealing to the unity of the opposites of the discontinuity type, will also generate the solution of building the type of autonomous personality, "fit for freedom by ensuring the evolution of the proactive personality." [66, p.99]

Ortega Y Gasset divides humanity into two categories of people: on the one hand, those who do not have the slightest expectation of themselves, do not impose anything special and on the other, those who impose and have high expectations from themselves, self-imposing standards and responsibilities, [apud 66, p.99], and the second is precisely the one able to prevent and overcome the shock of the future.

Educated seen this way, in the opinion of N. Silistraru, is inseparable from social evolution, being one of the powers that condition this evolution. That is why the aims, content, and methods of education must be dynamic, to correspond to the changing needs of society. This treatment of education as interaction is more modern than influential education. [99, p. 20 -21]

In our opinion, the accelerated pace of change orients the education for the preparation of the ”prospective personality” [74, p.66-71], which would help the person to achieve a higher level of performance and productivity required by the employer, but projected one. The ideas presented above, ensuring the methodological foundation, come to confirm the need for prospective education both at the personal level (at the individual level) and social (at the level of educational system, professional and organizational levels).

A *methodological* benchmark for the establishment of prospective pedagogy is the *curriculum theory*, with multiple approaches to the term, key components, characteristics, etc. (Cristea S; Gremalschi A, Gutu V. etc.). The conceptual framework is relevant by defining the concept of the curriculum at the level of a fundamental pedagogical notion, which becomes possible in the conditions of capitalizing the theoretical and methodological evolutions. The notion of the curriculum is defined by G. Mialaret, as being conceived as an experience, content, or "list of elements to be taught, which is structured following a selection, depending on the essence of the discipline and the essence of the beneficiary." [apud 66, p.102]

Reorganizing schools to be more prospective, and more equitable from a futurological perspective often leads to changes in curriculum, textbooks and teaching materials, the physical and psychosocial climate of the institution, active involvement of society in education, reassessment of norms and behaviors of adaptability to change, and its design. [66, p.104]

Usually, in educational institutions, curricula are overloaded and it is quite difficult to implement something new, including special disciplines in the field of prospective education. And the transdisciplinary approach at the curricular level represents the most important degree of integration, often reaching the point of fusion (unification) - the most complex and radical phase of integration. At the same time, the following aspects must be kept in mind, which, being anticipated, can facilitate the prospective education of the entire educational process.

The implementation of PP can be established by reporting it to the level of modern education systems, thus outlining four *institutionalized pedagogical approaches*

1. *The disciplinary approach* - the approach of PP within distinct school subjects (for example, as a university/school subject integrated into the curriculum/optional, with institutionalized objectives at the level of study programs).

2. *The modular approach* - the creation of specific modules within the traditional disciplines with an interdisciplinary character, integrated at the level of different school levels, but also at the level of education dimensions (for example, approached as a

module within the discipline Personal development, in high school education) within a university discipline at an educational cycle, with specific objectives in the field of PP).

3. *The infusion approach* - integrating messages about prospective education in traditional subjects, addressing the issue of new education in vocational education (for example, the issue of prospective education is addressed simultaneously in geography, physics, etc., but also in education: intellectual - moral - technological – sanitary, etc.). *This approach* - engages PP in the field of different disciplines by integrating the information related to PP in the structure of university programs, avoiding its juxtaposition only as an annex, at the end of the chapter or textbook, achieving a curricular synthesis between different types and information circuits*;*

4. *The transdisciplinary approach* - the approach of prospective education at the level of scientific syntheses proposed annually or quarterly/semester by teacher teams (for example, the approach of global problems of prospective education from the perspective of a team of teachers of psychology, biology, chemistry, physics, geography, economics, sociology, philosophy, personal development, etc., in synthesis lessons, ethics seminars, thematic debates, school competitions, etc. [66, p.104]:

We adhere to the introduction of PP in the university education system both as a study discipline and as an infusion element or integrative approach, depending on the specialty.

Pedagogy is a theoretical-praxiological science, where knowledge and action, explanation and application, theory and practice, are inseparable sides of the perspective from which it assumes education as its own object, sides that coexist imprinting the pedagogical specificity of education research. This distinctive note of pedagogy is emphasized by several authors. In this sense, R. Hubert shows that pedagogy is science and practical thinking; E. Planchard considers that in pedagogy we distinguish the descriptive plan (of knowledge) and the normative plan (of action); J. S. Bruner, refers to the theory of instruction, points out that this is, unlike the theory of learning, not only descriptive and explanatory, but also prescriptive and normative, and D. Todoran stressed that "the science of education, pedagogy, tends to discover the

laws that they intervene in the development of educational phenomena so that, gradually, they can master, direct and plan them ." [apud 66, p. 106]

General epistemology studies state *four main conditions that a certain field of knowledge must meet in order to acquire the status of science:* [66, p.106]

- To have its *own research object*. Prospective pedagogy is a fully justified field of education sciences with its own object of research - *prospective education*, this being not only a really complex field but also of utmost importance, which requires an appropriate scientific and rational approach.

- To develop its *own conceptual and explanatory system*, consisting of concepts, reasoning and laws (statements), able to go beyond the descriptive phase and allow access to explanation, and prediction. Prospective pedagogy in the Republic of Moldova at the present stage is in the phase of establishing its own conceptual and explanatory system, which requires the development of an accurate and stable pedagogical language in terms of meanings. Even if the degree of conceptualization does not reach the rigor and precision of other sciences, the scientific status of concepts and prospective pedagogical statements can not be questioned because it has been validated through formal and non-formal educational practice, but also highlighted some concepts in the literature. [64, p.77]

- To have their *own methods and techniques for investigating the object of study, brought together in a scientific methodology* capable of providing and producing truthful, verifiable, and relevant information about the reality that science studies. Prospective pedagogy has its own methods and techniques for investigating the object of study, brought together in a relevant scientific methodology. Even if many of the methods are taken from other sciences, especially from psychology and sociology, and economics, these methods are integrated into a unitary pedagogical methodology, adapted to the objectives, requirements and particularities of the research of the educational phenomenon through the prospective dimension. In fact, prospective pedagogical research itself contributes to the development of methods, to the validation of new research techniques, and making transfers with sociology, psychology, and

other sciences that participate in the interdisciplinary investigation of prospective education, and specialty. [64, p.77]

- To have a *praxiology of the field, ie, principles, norms, and rules of practical action, tools, and methods*, in the sense of influencing, directing, and controlling the phenomena they study. Prospective pedagogy has a praxiology of the field, and norms and principles of practical action. This is, without a doubt, the condition and, at the same time, the peculiarity of prospective pedagogy. For before being established as a scientific theory, prospective pedagogy was approached in practice: in the field of planning, business, environmental studies, economics, and politics, in the development of technology, or anticipating the directions of evolution in human and technological resources by applying principles and methods, experimentally verified, partially conceptualized by philosophy, pedagogy, sociology, etc. In this sense, prospective pedagogy (PP) is the theoretical conceptualization of the experience of prospective education, and specialty. [64, p.77]

Based on the gained analyses and experiences, we find that PP develops and establishes its status as a science, both based on taking into account the data on education provided by certain sciences (philosophy, psychology, sociology, economics, etc.), and especially based on a generalization of the prospective educational experience based on the use of the results of their own scientific research on the prospective vision of the young generation, which led to the formulation of some principles and, on this basis, to the establishment of the sciencific status of pedagogy.

1.4. Prospective pedagogy relations with other sciences

The interdisciplinary relations of prospective pedagogy derive from the general legitimacy - the universal connection, which highlights the fact that the phenomena of objective reality, especially those that have a series of similarities, of connections, are in interaction, are mutually conditioned. This phenomenon is accentuated in the conditions of the contemporary scientific-technical revolution when solving some scientific problems objectively requires not only interdisciplinary relations but also multidisciplinary relations. The interdisciplinary character of prospective pedagogy is

generated by the fact that man - object and subject of education, is studied from certain points of view and other sciences - such as philosophy, psychology, sociology, statistics, cybernetics, etc. The study of the laws and strategies of prospective education cannot be done in depth and completely without taking into account the laws and data of the sciences that study man from certain angles. Of course, the interdisciplinary nature of prospective pedagogy must take into account the qualitative differences, the specific difference of the data provided by one science or another with which it enters into relations, approaching them in close connection with the specifics of the pedagogical, educational phenomenon.

The relationships of prospective pedagogy with other sciences have led, like other fields of knowledge, to the emergence of new scientific disciplines, as a result of the mutual influences of related disciplines, called "border (frontier) disciplines", scientific studies, including. [66, p.130-131]

PP - Psychology in preparation for the future, it is necessary to prepare for action based on self-confidence, which is directly concerned with psychology, "willingness to act" is often referred to as "potential" capacity of the future.

PP - philosophy as a specific way of knowledge and prospective thinking of man to the present and future social reality is a human projection on reality, a supreme assertion of human self-awareness, philosophy gives prospective education meaning in human consciousness and practice by identifying individual values in relation to social ones, in accordance with certain rigorously elaborated, and carefully oriented objectives.

PP - statistics - includes the collection of quantitative and qualitative data on the possibility, probability and desired change;

PP - history - as a science of the laws of evolution and development of society, prospective education interacts, first of all, out of *the need* to perceive oneself, because knowing the past in order becomes a *means* of influencing the analysis of the present to determine the future;

PP - cybernetics (gr. Kübernetes, helmsman) which has as object of study the mathematical analysis of the functioning of self-regulating systems, characterized by

command and control relations. The applicability of the principles of cybernetics in the educational process is based on the characteristic of its functionality to act as a *system of self-regulation*. In recent decades, an application of cybernetics in the knowledge and organization of learning has been *programmed instruction* which, combined with problematization, modeling, or heuristics, contributes to increase school performance.

PP - economics aims at the formation-development of the personality through technological, applicative values, which engage its capacity to carry out socially useful activities in different social contexts, in an immediate and medium, and long-term perspective. [26] It also involves changes and adaptations in education, the capacity for receptivity, and flexibility of the school system in relation to the directions and rhythms of social development.

PP - political science or civic education aimed at the formation-development of personality through civic values that regulate these relationships with the world and with oneself in conditions specific to each school and psychological age. The role of vocational education and training is crucial in this process, as human capital, designed as a strategic resource, involves education and training policies designed to support lifelong learning while promoting greater participation of citizens in the process of social inclusion. and economic development.

PP - Management is correlated through the basic functions they perform planning, and personality orientation towards achieving goals.

Of course, prospective pedagogy is related to other fields such as ecology, economics, mathematics, art, etc. which causes the efficiency of the educational process through transdisciplinarity. From a pedagogical point of view, the value of a coherent social response to the worldwide challenges recognized at the political level are: economic stagnation and decline, rapid population growth, and environmental degradation ... which in turn form a direct link with prospective education.

We can conclude, emphasizing that, apart from the relationship with the contents and concerns of these sciences, prospective pedagogy, as a field of educational sciences, would be insufficiently prepared to guide the formation of the personality of the individual according to the demands of the contemporary world.

Along with other pedagogical sciences, PP can be considered a theoretical, gnoseological science, which answers the question of what is prospective education and, by developing prospective pedagogical theory, contributes to the development of human knowledge in general. PP is an action science with a praxiological character, coming to answer the question of how prospective education is achieved and thus, based on the laws of education and pedagogical theory, it develops strategies and technologies (methods, forms, means) of training and education of the young generation, thus manifesting itself as a science of effective educational action.

PP is a prospective, dynamic science, open to change and innovation, prospectively projecting the right theories and strategies for the future. In the context of the above, we propose the complex definition of prospective pedagogy:

***PP** is a fundamental field of education sciences that, based on the general and specific prospective educational laws and strategies, adequately studies and capitalizes on the process of forming the prospective personality.*

In a broad sense, PP is a fundamental field of theoretical, praxiological and, prospective education sciences, which studies and directs the process of value change and adaptation and aims to form a fully developed and prospective personality, able to cope with social transformations. fully capitalizing on their potential and skills, contributing to the achievement of the educational ideal.

In a narrow sense, PP studies the organized and designed educational process of personality development for the future, the formation of awareness, and the proactive behavior of active integration in the ever-changing social life.

Functionally, PP is the totality of strategies, aimed at ensuring a psychosocial comfort, sensitivity to change, and orientation of the personality towards anticipation and planning for the future.

At the managerial level, PP represents the direction of the process of orientation, anticipation, and planning through prospective education, the statement of which contributes to diminishing the influence of chaotic changes in favor of capitalizing and developing the personal vocations of the individual to adapt and transform.

In our opinion, PP at *the level of educational policy*, is an **area** that is based on *the principle of social stringency and global approach, orientation, and prospective design of education*, which can successfully contribute to increasing the efficiency of teaching, thus increasing actions and the influences exerted on the educational beneficiaries from the perspective of both the social and individual axiological principle and the anticipatory one, which, in their turn, will contribute to the economic, political development, etc.

Thus, PP is more than a paradigm or a pedagogical norm, it involves the interference of a concrete social system that includes *the strategy of PE* which has a general purpose the design, implementation, and development of PE from the perspective of the curriculum paradigm. The strategy in this sense proposes fundamental directions of educational action (correlation of system finalities that guide the design process - training/development of prospective personality, achievable according to general and specific objectives that need to be achieved, etc.); the temporal dimensions of the PE; horizontal size and; vertical dimension; PE objectives; the contents of the PE and the methodology for making the PE.

In our opinion, the definition of PP at the level of a fundamental pedagogical concept presupposes its conceptualization as a field of education sciences. Constituting an important field of education sciences, PP has developed/adjusted and continues to develop its specific categories, which make up the fundamental language in knowledge and educational action. PP categories are various dimensions, aspects, elements, or their relations, such as prospective education; prospective training; ideal, prospects and prospective educational principles; PE curriculum; methods and forms of teaching activity, etc.

2.METHODOLOGICAL FOUNDATIONS OF PROSPECTIVE EDUCATION

2.1. Conceptual delimitation

The methodology of the educational process is defined in a *broad sense*, as a *training technology* that applies in the educational process the concepts, axioms, and principles established in the general theory of education, which is the basis of all education sciences (or pedagogical sciences), and in a *narrow sense*. as a *didactic technology* or *didactic methodology* defined an operational plan by the fact that "it includes the set of methods, procedures, means, strategies (teaching – learning – assessment, if we consider the theory of the curriculum)", from this perspective there is a certain synonymy, conventionally acceptable between the formula of training technology and training methodology and even between that of teaching technologies and teaching methods [27, p. 206] Methodology, as a component of general science, contributes to a deeper understanding of the phenomena and methods of study of all particular sciences, including pedagogical ones, highlighting, "especially the continuity and epistemological unity between theory and practice, necessary into any science. " [25, p.54]

The analysis of the PP concept would be incomplete without clarifying the appropriate **methodology**. It is well known that all science *is a unit of theory and method*. In this unit, *the method* deals with the provision of information on which the theory builds its descriptive, systematizing, and explanatory approaches. The method is constituted together with the theory, being more or less a "*theory in action*". Therefore, the method, as part of science, is in fact a methodology, implying a *theory about the method*. The theory, in turn, is dependent, in terms of truth and validity, on the quality of the methods used. [71, p.64]

In the paper "Methodology of research and psycho-pedagogical creativity" Dm. Patrașcu, L. Patrașcu, A. Mocreac have presented some explanations of the term methodology, we will refer to the methodology in a broad sense: the principles of approach and the ways of acquiring knowledge, which continuously reflect the changes in the psychological and pedagogical reality in the conditions of the society that is

constantly developing.” [85, p. 123] In a narrow sense, the same authors propose the definition of methodology to be “the science of psycho-pedagogical research methods. This definition reduces the object and tasks of the methodology to the analysis of the possibilities of research methods. ” [85, p. 123]

The term method comes from the Greek "methods", which means way, mode of action. [84, p. 123] The appropriate method of teaching incorporates a series of logically ordered procedures. Each process is an acting technique and remains a particular component of the method, a tool for the effective application of the method. The teaching methods are based on the didactic principles and act in close connection with the techniques, means, and forms of didactic activity.

An optimal combination of methods is based on criteria, related to the pursued objectives. [85, p.123] Research methods, says Dm. Patrașcu, is also classified in purely pedagogical, purely psychological methods and methods of other sciences (with transdisciplinary valences); ascertaining and formative methods; empirical and theoretical methods, qualitative and quantitative methods; general and particular methods; formal and content methods; methods of description, explanation, and prediction. [84. 123]

2.2. Methodology for training prospective skills in framework university

The specialized literature presents various methods of developing the active spirit, methods of independent activity, etc., [9, p.161- 462] methods that can be involved in the teaching-learning process of the student to prepare him for the future. However, the various methods and prospective studies have determined the methods of training prospective skills.

Many theories directly bear the imprint of *prospective* methods: prospective analysis, the Delphi method, alternative modeling of the future, and so on. In this sense, by implementing PE we resort to procedures of hermeneutic analysis and ideological criticism integrated into the philosophical and methodological horizon of education sciences in order to develop prospective skills, along with *empirical and theoretical*

methods of future study [115, p. 205] are highlighted *future design and modeling methods, learning methods, and assessment methods.*

A wide range of forecasting methods can be used in the prospective methodology, which is used in the instructive-educational process. [88]

One of the prospective methods is forecasting - science-based prediction, used in various fields of human activity: economics, sociology, demography, political science, meteorology, genetics, etc. The actual use of predictions on a scientific basis requires the application of certain techniques, including a variety of forecasting methods. [79]

I*nformation-based forecasting* - is a scientific method of forecasting: from the present to the future. This type of forecast is of 2 types: tradiţionl – extrapolated; innovative – alternative [79] The extrapolar method assumes that development takes place continuously and fluently, and therefore the forecast can be a simple projection of the past into the future. This method shows the evaluation of the activity indicators of the past institution/organization, their development trends and the transition of these trends in the future.

Modeling the alternatives of the future [39]. The use of alternative scenarios - of the future, reflects a probable/desirable reality. Using qualitative and quantitative methods, as well as a wide variety of possibilities, the future is shaped rather than simply estimated. Outlining the alternative future begins by establishing a number of scenarios, with several stages. One of these steps is *to study trends.*

Anticipation-Action-Reflection (AAR) is an interactive learning method in which students continuously improve their thinking and act intentionally and responsibly, over time towards long-term goals that contribute to collective well-being. Through planning, experience, and reflection, students deepen their understanding and broaden their perspective. [83] *Anticipation* requires more than just asking questions; it involves projecting the consequences and the potential impact of doing one thing or another. *Action* is a bridge between what students already know and what they want to bring to life. Through *reflection*, students gain a sense of perspective and power over future actions that lead to development. Reflection, says J. Hattie, does not mean looking back at where we are or thinking we were. It is more of a "disciplined way of thinking", it is

"seeing your learning through the eyes of others", seeking and using feedback on progress, checking our cognitive biases (especially confirmatory bias), and adjusting learning to achieve more. effective development of expectations developed in the anticipation phase. [56] The AAR cycle is based on and integrates a number of other learning processes. Information on social development, learning theories, and other learning cycle models used in a range of contexts through which information informs, complements, and strengthens knowledge, [83] of this field that will contribute to the decision-making on various issues and to designate new ones. [121, p. 112]

In the anticipation phase, students use their skills to anticipate by shortening the long-term consequences of actions, understand their own intentions and the intentions of others, and broaden their own and others' perspectives. The next phase is when students propose measures for specific goals, contributing to well-being. Whatever the motivation, the consequences of any action can vary greatly. An action, in itself, can be neutral, but it could result in any very positive to very negative results for the individual, society, or the planet. It is therefore important that the actions taken are both intentional and responsible - hence the need for anticipation before the action and for reflection after the action. [83]

The combination of general and specific educational methods applied in the PE must be done flexibly and creatively.

From the broad spectrum of classifications of pedagogical research methods, we will use in our research *direct methods*, from the cross section proposed by S. Stanciu, observation and experiment, and indirect methods, from the same section - survey method, [101], prospective analysis, etc.

The experiment involves the actual intervention of information on some variables (independent) and then seeing what happens to others (dependent). The experiment is a method of researching cause-effect relationships (called causal relationships), which exist between various stimuli (variables). In PE, the experiment helps to research (educational) marketing on the one hand and to investigate various types of labor market reactions on the other. The PE *survey* aims to uncover elements and factors of the organization (university) that have helped it succeed in the past. [71, p.66]

Pedagogical theory and practice show that the most effective are the methods by which the knowledge and skills to apply them in practice are formed simultaneously.

Particular interest is the phenomenon of *foresight* as a way of reflection placed within the general field of strategic analysis. The independence of representation from the current presence and action of external stimuli gives it new regulatory functions, which will be further amplified at the level of thinking, namely anticipation, and planning. At this level, the anticipatory-projective and planning function of consciousness takes shape for the first time.

Prospective *analysis* falls within the field of action sciences insofar as they aim at elaborating strategies for transforming or adapting to social and economic reality. In addition, it favors the collective expression of an in-depth reflection of the economic and social agents involved in the object of study, using various techniques, which we mention: *the technique of creativity, the technique of elaboration of projects, and own images as attempts to represent a given situation. in different possible contexts.* [88]

Taking into account this approach, we support the opinion of M. Profiroiu who insists on highlighting the restrictions, risks, inertias, and dangers, but also the phenomena favorable to the future, the opportunities for action, or the virtual changes of the "rules of the game". In the conduct of the intervening social and economic agents. The author states that the prospective analysis consists of long-term thinking in order to react more effectively to short-term decision-making mechanisms, based on a time horizon and that allows the reorientation of the economic and social system [88, p. 43]. In this context, the prospective analysis aims to establish links between the existing decision-making process, the images of the agents involved in the socio-economic system, and the strategic choices that constitute the future. [71]

M. Profiroiu mentions that within the prospective analysis there are three types of possible approaches: [88, p.66-67] *the prospective cognitive analysis; participatory prospective analysis; prospective decisional analysis.*

a) prospective cognitive analysis has only two important objectives: the understanding of the reality; making hypotheses about the possible future.

The first objective is the starting point of the prospective analysis, as the main tool for interacting with the different disciplinary fields - systemic analysis. Systemic analysis plays an important role in prospective analysis, insofar as it allows the "mobilization" of different approaches, traditionally separate, in order to highlight the relationships between different areas and the strategic stake. The second objective in prospective cognitive analysis is to build hypotheses on the possible future of the reality we are studying, in other words, to create "scenarios", which means the coherent construction of hypotheses, on variable time horizons, highlighting important strategic contradictions and stakes.

b) *Participatory prospective analysis* is equally important. A prospective analyst is first and foremost an animator of a collective debate, of a collective reflection. The use of a matrix of strategic analysis aims to "rationalize" the set of views and create a coherent collective image. Analyzed from this point of view, the prospective participation is in the sphere of action of the techniques of putting in direct relation of the experts in the field with the civil society. [88]

c) The main objective of the prospective decision-making analysis is to support the social, political, and economic agents in the decision-making process. The realization of this analysis is done in the form of strategic planning or programming. In order to express themselves with a certain probability of veracity, specialists in the field have developed various methods of analysis, for example, Delphi-type surveys and the development of scenarios. The Delphi survey method is mainly used to set priorities and make necessary forecasts and predictions in planning decisions.

In general, *prospective analysis* means thinking globally about all the interconnections that exist in the dynamics of the process under analysis, action-oriented thinking, and long-term thinking, in order to be able to make decisions as quickly as possible. [88]

Prospective thinking is presented as meaning with the role of forecasting, deepening, and modeling future actions. I. Hohan-Renar argues that prospective thinking involves: to act instead of reacting, to anticipate and consequently control the process, thus avoiding unpleasant surprises; to prepare all the actions as a whole, to

solve the problems identified in order to save time and to have the means to solve problems that are still unknown; increased interest in the process, more than in the result, as the result is the consequence of the previous process. [apud 71, p. 67]

In making decisions, scenarios are used, based on a distinct philosophy of the decision-making process, a philosophy according to which in strategic decisions, in order not to be vulnerable to the occurrence of unforeseen events, it is necessary:

a) explicit consideration of several possible evolutions of the "state of nature" and

b) the design, consequently, of a number of appropriate action alternatives.

A scenario can be defined, in the context of decision-making processes, as a form of a narrative description of how events that are relevant to the decision to be made will occur in the future. Estimating technical, legislative, political, economic, or social trends and developments that may have an impact on the decision-making process is a major step in developing scenarios. Because these trends and evolutions are sometimes unrelated to the decision to be made, they are difficult to estimate and imagine, and overcoming this situation depends on the degree of diversity of the composition of the group developing the scenario. [81, p.67-68]

The *script/design method* can be useful in several stages of the decision-making process. First, in the information stage, the scenario can serve as an approximate forecasting technique of a "bundle" of possible evolutions of the problem or trend.

As heuristic teaching methods, we also use our research the problematization, the project method, etc. Of particular interest to the prospective dimension is problematization. The main objective of problematization as a teaching method is to train the educational beneficiary in the abilities to perceive, pose and formulate and solve problems [90, pp. 296 - 297] within a process of prospective thinking. *[61, p. 25]*

Problematization is based on *decision making,* developsind the ability to identify the solution/solutions of the problem, and analyzing the positive and negative consequences. This method helps the student to make decisions when answering the question: why does it need to be solved? The *combination of critical thinking, problem-solving, decision making, and collaboration* could be combined into one complex set of tasks that leads to the formation of the “collaborative problem solving” skill. [47,

p.7] The problem-solving or problematization method can be applied using the *brainstorming technique*, where each answer is analyzed in terms of positive or negative consequences in the decision-making or application process, which will lead to the use of debate to select the best solution.

In order to use problematization, the teacher needs to involve "emotional competence, which is more important than technical or intellectual skills" [17, p.91] with the argument that "emotions are closely related to needs, motivations", or that, "emotion translates maladaptation and effort, etc. " [17, p.92]

A problematic aspect is that it produces change, and in the conditions of rapid change in our society, the high level of emotional intelligence has become an imperative and predictive factor of teacher success. [91, p.70]

Problematization as a heuristic technique/method is interconnected with discovery learning and can be achieved through virtually any training method. Problematization and discovery allow the use in the educational process of mental strategies and activities that stimulate the operations of thinking: analysis, synthesis, comparison, abstraction, etc., judgments, and reasoning of educational beneficiaries, giving them the opportunity to think prospectively. Problematization is one of the key coordinates of modernizing education at all stages and at all levels, stimulating the creativity of teachers, pupils, and students. Furthermore, the researcher T. Repida claims that "the notional apparatus involved in problematization is varied: problematization, problematized learning, problem-solving learning, problematized teaching, problematized strategy, etc. [90, p.89] Problem solving involves taking the following steps: determining the problem, understanding the nature of the problem, planning the solution by selecting the right strategies, and evaluating the plan that estimates the chances of success before applying the plan and the level of success after applying it [82, p.161]

Another *forward-looking method* is strategic forecasting, which involves thinking [10] about possible futures, and scenario planning/design is one of the techniques.

Prospective thinking is presented as meaning with the role of forecasting, deepening, and modeling future actions, thus being an important reflection that

essentially presents deeper thinking on ideas, goals, actions, conditions, processes, methodology, and results generated by a theoretical problem or practice, thus contributing to professional performance. [60, p.475]

Strategic forecasting - the ability to feel, shape, and adapt to what is happening - requires interactive exploration, either through scenario planning or another method. [92]

Scenario planning involves several steps: identifying the forces that will shape the future of the market and the conditions of operation; exploring how these drivers can interact; imagining a variety of plausible futures; mental review models of the present based on that future; and then using those new models to devise strategies to prepare organizations for whatever the future holds. [92]

Preparing for the future requires constant reassessment. An effective teaching method, identified by the American author J. Dewey and developed by the pedagogue W. Chilpatric, is the *project method*, which must be related to the interests of students and develop knowledge activities through practical development and solving real problems. [apud 71, pp. 65]

The use of the above-mentioned methods forms the prospective competencies such as: *anticipatory competence* with its aspects such as the anticipation of changes, risks, and consequences; *planning competence* with its aspects: the object of the operation, risk assessment, decision making, time management, interpersonal communication and personality development; *orientation competence*, is designed according to the needs of the present and the future, having as aspects: time and information management, highlighting the orientation of university education policy. [71, p.68]

These methods have been widely used in PE and are distinguished by: focusing on the student - not only in terms of methods but also his knowledge interests, on the formation of his pragmatic competence; the use of debate - dialogue as an act, involves a continuous process of critical and creative exploration; development of critical thinking; promoting a holistic approach to problems; identifying the need of the institution, organization, community.

We find that the specificity of interactive methods promotes the student's interaction with the learning situation, thus training him in his own training and development process, emphasizing participation.

The participatory mode uses tools and methods that include previous approaches: identifying emerging trends and issues (predictive), developing scenarios (systems), and constructive (critical) approaches. Participation forms the basis of generative conversations about our future and is a path to transformative action. [37, p.826]

In this session, the literature proposes some methodological suggestions.

• Orientation of learning towards the formation of abilities and attitudes through the development of one's own problem-solving skills (situations - problems), as well as through the use of participatory strategies in didactic activity.

• Placing learning - as a process - at the center of school efforts (what matters is not what the teacher has taught, but what the student has learned).

• Adapting the learning contents to the daily reality, as well as to the student's concerns, interests, and skills.

• "It is important not only what, but how well, when and why you learn what you learn, but also what the purpose of what was learned in school is later." [106, p.58-59]

• Considering the student as a subject of the instructive-educational activity and his orientation towards the formation of specific competencies which implies the observance of some exigencies of the sustainable learning, such as the use of active methods (discovery learning, problem learning, cooperative learning, simulation, role play), which can contribute to the formation of the ability to communicate, to manifest critical, tolerant aspiration, to the free and reasoned expression of one's opinions; practicing teamwork in designing research, in compiling the sample, analyzing, processing and implementing the results; operating with different explanatory alternatives in the interpretation of facts, phenomena, processes; formulating research hypotheses according to the field of research, forming the habit of noticing possible interrelated correlations, educating the spirit of observation.

The methods also involve enormous changes in the teaching techniques, thus organizing systematic activities that will help the beneficiary to define, explain and

verify by evaluating his own values [71, p.68]. And emotional development, which involves traversing the path from the value orientation of the individual to the consolidation of higher needs and value aspirations, depends not only on response to favorable or unfavorable conditions but especially in *response to current social aspirations and changes*. Thus, social changes generate the amplification of emotional life, the psychological consequences of social transformations being personal development through affective knowledge, social success, etc. [17, p.13]

Therefore, one of the conditions for the successful implementation of the curriculum focused on prospective skills would be the training of teachers, in accepting the paradigm shift, through a prospective methodology and/or their transversal design, aiming, through the same disciplines, to achieve prospective goals. necessary for the graduate both now and in the future, by respecting certain conditions and various educational principles.

2.3. Principles and conditions for the implementation of prospective education within the university

The purpose of education is to prepare the competitive personality at the request of the labor market and to develop in students the need for personal and professional self-development. The solution depends on the process of affirming and applying the educational principles. [104, p.53]

Traditionally, the notion of "principle" (didactic) is associated with the legal character of education, through a generalization of practice, on which depends its organization and coordination, guidance, and regulation. action and highlights the internal logic of its development supports the avoidance of improvisation, empiricism.

In general, the principles reflect general requirements for the organization of the educational process. J.A. Comenius and K. Uşinschi in sec. XX explicitly formulated and theorized educational principles. The system of basic didactic principles includes:

1) consciousness and activity; 2) visibility; 3) continuity and systematicity; 4) durability; 5) availability; 6) scientific character; 7) the connection between theory and practice. [apud 120, p. 77]

The principles of teaching in higher education are:

1) focusing on the development of the personality of the future specialist;

2) the correspondence of the content of higher education with the modern trends and those predicted in the development of science and production;

3) the optimal combination of general, group and individual forms in the organization of the university education process;

4) the rational use of modern methods and teaching aids in different stages of professional training;

5) the conformity of the results of the professional training of the personality with the requirements presented by a certain field of their professional activity, the assurance of their competitiveness. [120, p. 77]

The principles ensure the general orientation of the educational process, in its intimate, concrete, practical realization, precisely to achieve the efficiency of its actions (teaching, directing learning, application of methods, use of means, relationship with students, control and evaluation, etc.) needs a re-evaluation of the place and role of the norms, didactic rules. It is not an opposition between the two concepts, but a relationship from theoretical to general to particular. [25, p.12]

In the Report on the concrete objectives of education and training systems (Brussels, February 14, 2001), says V. Popa [86], the representatives of the Council of Europe started from the hypothesis that society assigns different points of focus to education because what particularizes the era ours is not the existence of change but *its accelerated rhythms*.

The formation of prospective personality is possible by respecting certain educational principles.

The training technology must be analyzed at the level of some models built in relation to the fundamental pedagogical concepts, which allow the approach of the activity at a global and open level: purpose, objectives; contents/knowledge; didactic communication; teaching-learning-assessment; realization situation/context. [25, p.56]

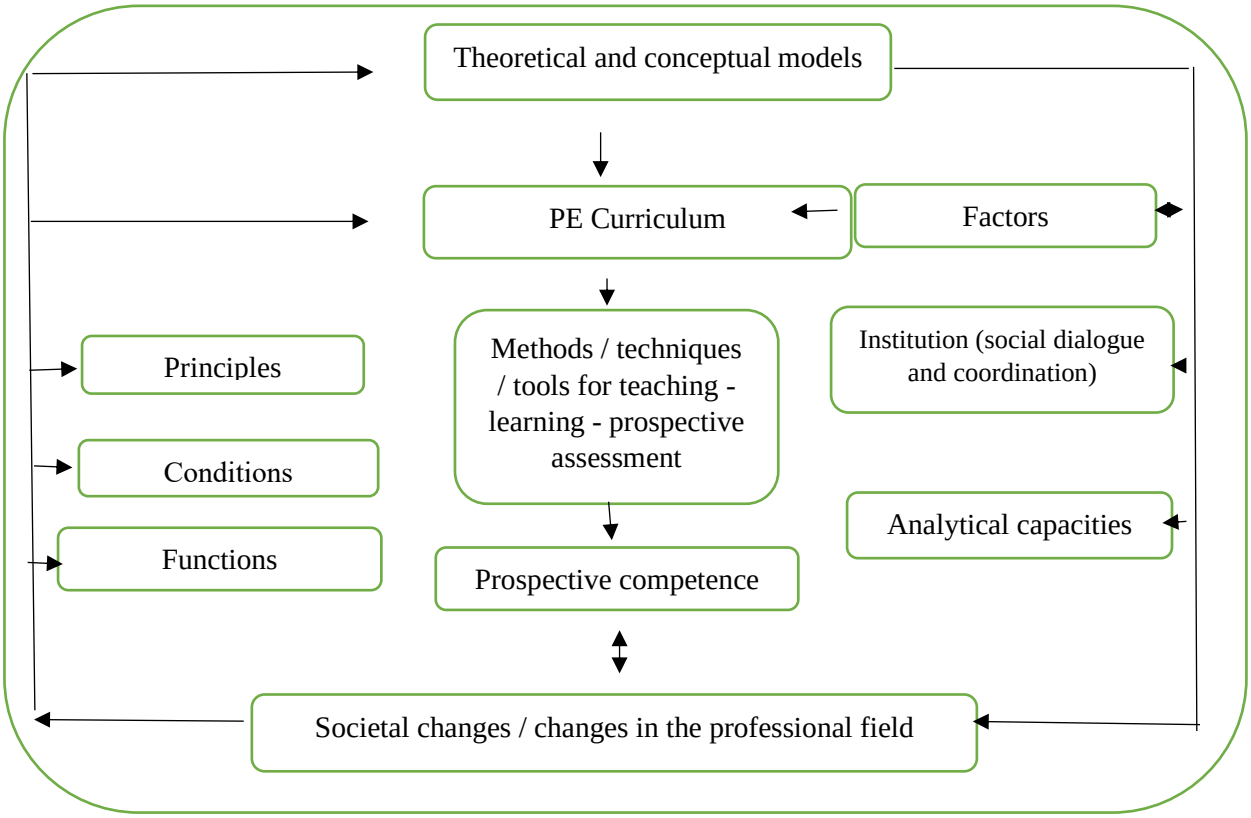

Figure 3. The Technological Micromodel of Prospective Education

Social dialogue is a cornerstone of the skills to anticipate needs: it is essential for those informed in decision-making, as well as for the implementation of findings and recommendations. Promoted approach to identify relevant factors influencing the institution and the PE curriculum data and methods/techniques /tools in training/ developing prospective skills, which are dependent on both social and professional changes, arrangements that are favorable to match supply and demand skills through systematic social dialogue.

Factors that substantially influence the educational process, constitute the following hierarchy: motivation; the teacher's personality (includes professional competence, attitude towards students, teaching-learning-assessment style, civic behavior, etc., etc.); students' intellectual abilities; the intensity of the study process; independent practice (individually or in pairs) of the studied subject; number of hours; the manual; individual learning pace (removal of “limited time”, “optimal learning pace” - B. Bloom) varied and effective teaching materials at different levels (with varying degrees of complexity), etc., [15, p.15] innovations and reforms.

The acquisition of prospective skills depends on several factors: personal and professional values prospectively oriented; the system of principles applied in the educational process that should prospectively guide the student's personality; pragmatic and problematic learning with the effect of creativity and innovation; designing prospective competencies as an infusion, integrated and disciplinary approach.

Conditions for the implementation of Prospective Education in the university. The concept of "condition" is defined as a fact, a circumstance on which the occurrence of a phenomenon depends or which influences the development of action, which can slow it down or stimulate it. [24]

The structure and functions of the psycho-pedagogical conditions were reflected in the works of the scholars Бабанский Ю., Ковалев В., Лернер И. and so on. Thus, "psycho-pedagogical conditions" are explained as factors that ensure successful learning. Лернер И. considers that the most important didactic condition is the awareness and elaboration of all the content components of the study discipline [apud 102, p. 233]. Бабанский Ю.К. determined the pedagogical conditions as circumstances, in which the components of the learning process are presented in a unit with the best relationship (discipline, teaching, and learning), giving the teacher the opportunity to work productively, manage the learning process, and students, learn successfully. "That is why," says the author, "in any study it is important to consider the unity of content, forms and methods of information, combined activity, and learning of teachers and educators. [apud 102, p. 233]

Specific conditions: ensuring the efficient interaction between the past - present - future; taking into account the links between existing goals and objectives but also setting priorities depending on societal changes/challenges; effective application of methods, prospective techniques in the teaching-learning assessment process.

Particular conditions: strengthening the theoretical and praxiological basis for the formation of prospective values; developing the capacity foresight - creation - innovation; training prospective skills in students.

Methodical conditions: correlation of the university curriculum in different specialties with the current and future issues of the society at the national and international level; application of prospective methods in the formation of the personality of the educational beneficiary; focusing on the principles of PP.

These conditions are associated with both the content and structure of the competencies and the prospective values.

Learning conditions - internal (emotional states, age, subjective situation), and external conditions, which are directly involved in learning (learning space, society, objective situation); applications of learning (pedagogy, educational policies) [56, pp. 22-23], [43, p.175].

Viewed from the perspective of epistemological foundations, PP is based on a series of principles characteristic of prospective education.

Principles of prospective education. If the world changes so fast that we cannot predict exactly what kind of activity the educational beneficiaries will have after graduation, strict specialization becomes less effective, which is why "education must take precedence over instruction," thus educating the younger generation. "A certain inner attitude, the first of these qualities is calm, followed by imagination, team spirit, enthusiasm and human sense" [66, p.52], there is a need to approach and complete educational principles prospectively.

Prospective pedagogy is based on educational principles, by taking into account the specifics of prospecting. Thus, we propose the following prospective principles: *the principle of a global approach, the principle of temporal perspective, the principle of social stringency, the social and individual axiological principle, the principle of learning from experience, and the principle of anticipation*. [62, p. 74-75]

The analysis of the literature guided us *to complete* the list of PE principles with *the principle of lifelong learning, the principle of prospective orientation, the principle of innovation, the principle of globality,and the principle of constructivism and the principle of transdisciplinarity.*

- ***The principle of the global approach.*** The reforms of education, carried out in the second half of the twentieth century, are determined by the magnitude of the

transformations registered at the global social level, in geopolitical and pedagogical contexts. On the one hand, contemporary national issues have become universal and need to be addressed globally. On the other hand, the problem can be solved from many perspectives, in various fields. The global vision develops foresight.

- ***The principle of temporal perspective.*** The need for rational time management as a non-resource due to speed causes accelerated wear and tear of knowledge, which justifies the need for PE and the reparation of youth for a series of tasks that can not be accurately predicted, but which influence their decisions over time.

- ***The principle of social stringency.*** This principle expresses the need for teaching activities to provide sufficient strategies to support diversity and the rapid dynamics of social life. The educational process needs to be focused on solving situations - real problems, with immediate solutions and reducing the share of social failure and the consequent frustrations of this failure. ***The social and individual axiological principle.*** The need to focus on educating the values of today's and tomorrow's society will protect what society has gained and pass it on to the next generation. By emphasizing individual values, the beneficiaries will find the connection between personal and social values and their applicability. Thus, it will tend toward the development of personality and society. ***The principle of learning from experience.*** This principle is characterized by a continuous evaluation and improvement of the actions that can be performed indefinitely based on Deming's cycle: "Plan-Execute-Verify-Act". This principle of continuous improvement focuses on the action of feedback and involves a strategy for achieving the goals pursued according to past experience.

- ***The principle of anticipation*** starts from the presumption that the (mental) map anticipates reality. In other words, it is very important for the social worker to have change projects [107, p.171] and in order to educate a change project is needed, the situation or behavior will change if there is anticipation, vision, optimism. Anticipation entails some specific elements, such as change forecasting and forecasting, meant to ensure knowledge of the evolution of events, as well as the

forecast of the evolution of an event according to the elements that determine it. Anticipation is directly responsible for the possible influence and control of future events.

The future as a principle of the present action is highlighted in Slaughter (2005) by the idea of "foresight" as a human capacity. Slaughter located the future in the human consciousness, in the human capacity to know *the consequences, the change, the difference, the temporality.* The images we have of our future can and should inform the wise actions of the present. " [apud J37, p.824]

At the same time, these principles are dependent on two other fundamental principles related to the impact of factors that aim to increase the coherence and efficiency of the instructional-educational process: *the principle of lifelong learning [45, p. 22], and the principle of prospective orientation of education, innovation, globalization, and constructivist principles.*

The principle of lifelong learning emphasizes the qualities of learning autonomy and contributes to the rapid adaptation of personality to emerging realities, has a strong intention to learn in order to cope with new situations;

- **The principle of prospective orientation** ensures the orientation of the finalities in the direction of social and pedagogical innovation (as opposed to pedagogical and social reproduction) - a firm, permanent orientation, achievable in any context. [71, p.51]

- **The constructivist principle** highlights the fact that students learn not only by reflecting on their own experience but also by interacting with colleagues. Reflecting together on the learning process, they can extract from each other strategies and methods, based on observation, on formulating hypotheses to reach mental constructs in order to solve problems, changing the way of understanding reality, "*design an appropriate environment architecture to facilitate the construction of one's own knowledge. Constructivism highlights in the foreground the process of knowledge and how it is done. "* [11, p. 16] The learner plays a central role in constructivist knowledge, because in learning it is not *what* and *how much* you learn, but *how* you learn, and as a

result your own cognitive experiences occur: they face cognitive conflicts, reflect on problems, formulates hypotheses etc. [11, p. 17]

- **The principle of transdisciplinarity** comes as a necessity to the changes and cognitive accumulations in various fields of knowledge, as well as from the complexity and diversity of the problems facing humanity, but also favors a saving of learning time, according to the relationship between knowledge and learning. This principle addresses issues that cross the boundaries of two or more disciplines, aiming for a holistic approach. It occurs when a general hypothesis is creatively applied to other fields of science and forms a new complex of systems, laws, relationships, and structures. [119, p.15]

- ***The principle of globality*** claims the approach of each component must be related to the whole and to each of the other components and highlights the global, permanent character of the training-development activity of the prospective personality.

- ***The principle of innovation*** aims at creating, implementing innovations and innovative products in the training-development activity of the human personality to create the future.

In formulating the PP principles, it was taken into account that the formation of the human personality is conditioned by various pedagogical, neuropsychic, and socio-cultural mechanisms. These mechanisms interrelate with the complex laws of natural, social, and psychological order: laws of knowledge, laws of social development, laws of neuropsychic development, laws of communication and information, laws of education and learning, ethical laws of human behavior, etc.

The proposed principles serve as a *theoretical and normative basis* for obtaining the expected effect in accordance with the objectives of the PP and represent the core of the developed model.

According to the specialized literature, it is found that pedagogy fulfills several functions:

• *The scientific-theoretical function*, which studies the essence of the pedagogical process, the structure, mechanisms, and specifics of personality formation in the

process of (inter) influence of factors subordinated to certain purposes, the conditions for creating a favorable environment for the development of individual potential. As a result of performing this function, principles, theories, and conceptions are outlined.

• *The constructive-technological function* implies the elaboration of the technologies of the studied phenomena and processes. From such a perspective, pedagogy is a practical-applied science, it not only explains the phenomenon of educational influence but is concerned with finalities/ objectives, methods, forms of organizing the educational process, and means of educational influence.

• *The prognostic function*, through which it studies the perspectives of the evolution of science as a whole or of some branches. Through this function, pedagogy is concerned with the evolution of the educational system, emphasizing its strategic development as a whole or on some stages and levels [104, p.11]

2.4. Functions of Prospective Education

In focusing on functions, we understand the fundamental directions of the action of the prospective pedagogical mechanism, in the fulfillment of which the whole educational system, policies, principles, as well as the specially empowered courts with attributions in the educational field, participate. In other words, the functions of prospective education is meant how the attributes of education are capitalized in order to develop the personality/prospective society. [71, pp.50-51]

• **The function of anticipation/prognosis** means to foresee an end point of an act, to have a base of ideas through which to observe, select and put in order the objectives and one's own abilities.

• ***The planning function*** designates the preparation for planning future actions, based on data, detailed needs analysis, and stakeholder consultation. This ensures that development will have a long-term positive and sustainable impact on members of society. It also provides the opportunity for improved management, effective and efficient planning, evaluation, and monitoring of the implementation of the strategy in line with objectives and priorities.

By this, we mean: decision-making in an open, transparent manner, through consultation and evidence-based; accepting responsibility for one's own actions and, introducing the management of “optimal value” performance measurement practices to maximize the positive impact of strategic changes.

- ***The innovative function*** is characterized by the orientation of the finalities in the direction of social and pedagogical innovation (as opposed to pedagogical and social reproduction) - a firm, permanent orientation, achievable in any context. Innovative learning, as well as creativity, are essentially important for the training of the prospective personality. [Thesis, p. 51]
- ***The function of continuous adaptation to*** change involves the ability to learn from experience, and to select what is useful to cope with difficulties in a later situation. This means the ability to change actions based on previous results. Adapting to the constant novelty will help the person not to be stressed by the emergence of the new, to control their actions to meet the requirements of society and anticipate change.
- ***The function of active integration in social life*** refers to the capitalization in the practice of theoretical knowledge with reference to pressing social issues, by providing as many concrete situations as possible for application models, transpositions in practice, confirmations, and experiments.
- ***The orientation function*** - the role of innovation, anticipation, planning, etc. are prerequisites for future orientation, which means orienting the educational process towards personality development (destination - person), as well as orienting personality development to meet the requirements of the future (destination - preparation for the future, for the labor market). By virtue of this function, the development of internal mental processes is subordinated to finding the appropriate means to achieve the goal.

All these functions must be seen in unity and interdependence. They represent, at the same time, a relationship that reflects the specific reality that it satisfies, aiming at its permanent adaptation to the requirements of the global social system and its main subsystems. [71, p. 51]

The analysis perspectives of PE, presented the degree of complexity in terms of *the characteristics* that were inserted in the research as conditions of PE conceptualization.

Thus, the detailed analysis of the acceptances of researchers in the field of education sciences allowed us to establish the specifics of PE. [71, pp. 40-41]

- ***PE involves a holistic approach***, therefore the complete instructional-educational process must address all the data of the problem, to adopt an eclectic perspective - through the methods and procedures used, through the level of approaches and connections to the latest developments in the field.

- ***PE has a transdisciplinary character*** which means that it orients the educational process towards the integration of the contents from various disciplines and their study in conjunction with the real problems, which ensures the transfer of knowledge in various contexts. The transdisciplinary character of the PE offers a unitary image of the phenomena and processes studied within the disciplines.

- ***PE has a probabilistic character*** which implies the study of current educational phenomena, analyzing the processes that take place at their level, their movement, and evolution. It is an attribute of future existence, of events, not of things. Therefore, the state of probability is objectively peculiar to some evolutionary educational processes, it determines, in the process of knowledge, a principled probabilistic description of these processes, independent of the degree of completeness of our knowledge about the object.

- ***PE has a cognitive structure*** based on the prediction of an event or phenomenon of education, expressed as an association that will occur in the future. It is obvious that the interpretation, the use of an association as a prediction derives, rather, from the general knowledge of the connoisseur regarding the situation in question.

- ***PE is a type of emerging knowledge.*** As a result of the rapid changes, registered in the development process, new qualities appear, absolutely spontaneous and unpredictable. Emerging knowledge appears as a new higher order property, a form of change seen as an actual appearance of something entirely new.

- ***PE has an anticipatory character,*** in relation to training, and development for the near future by society and the individual, but little known, with effect on how to

anticipate, from formulating goals to designing and opening appropriate training programs for the younger generation.

- ***PE has a dynamic character*** that is determined by the accelerated pace of change, progress, innovation - all related to the general purpose of education (personality development) oriented towards the future and the educational ideal of society, with the aim of transmitting values. G. Vaideanu defines the change in education as "a global and relevant transformation of the educational system designed and applied according to the exigencies of today's and tomorrow's society, elaborated by specialists and assumed at the level of education policy." [apud 71, p. 41]

- ***PE has a participatory character.*** Participation means solving problems. The solutions, in this case, become clearer, enjoy wider support, can be implemented more quickly and have fewer unwanted repercussions.

- ***PE has an operational character*** that implies logical and systematic rationalization. Operationalization offers the advantage of accuracy, concreteness, and measurability. Thus, at the end of a training period, the exact level of learning and teaching performance can be established, and the teacher will be able to know what measures to take to increase the efficiency of the pedagogical activity.

- ***PE has a heuristic character*** which means a specific way to solve a general problem. It can include in its structure several processes, these being details with reference to methods, with a narrower goal of applicability. Heuristic processes can be defined as mechanisms of prospective thinking that suggest and stimulate the generation of effective conjunctures during the solution or allow the shortening of the way to solve the problem**.**

- ***PE has a creative character*** in the process of solving some problems, it needs to be detected, stimulated, and finalized in ideational and practical inventiveness. The creative product is, in essence, a new element in relation to a person's previous social experience or life experience. In order to create, we must first produce successive and interchangeable images of the future, make predictions about the work activities, the professions needed in the future, predict the type of family and human relations that

will prevail, the nature of ethical and moral issues. which will be put in place, the technique we will be surrounded by, and the organizational structures in which we will have to train.

• ***PE has an innovative character*** [19] of different types, related to the introduction of changes, expressive and productive creativity, but it brings a new solution that increases productivity. Represents the highly specialized creative intelligence of the personality.

The characteristics refer to the criteria that we can apply in the evaluation of PE efficiency. In essence, at the concept level, the PE was related to the current and perspective requirements of society, by orienting the school to a new way of education, which will ensure the individual the opportunity to cope with unforeseen events, through anticipation and participation.

As a result of the observance of the PP principles in educational institutions, the PE will make its presence felt more and more, thus achieving the desideratum of the educational process of rethinking the present from the future perspective and, implicitly, ensuring the quality and performance of human capital. curricular approach.

2.5. Curriculum focused on skills/prospective goals

The curriculum represents the paradigm of postmodern pedagogy, affirmed in the postmodern, post-industrial, informational, knowledge-based society. As a paradigm, the curriculum promotes a specific approach to the "discipline matrix", the "strong epistemic core" of pedagogy, set at the level of fundamental pedagogical concepts defined in general theories of the field – the general theory of education, general theory of training. [28, p.168]

R. L. Neagley and N. D. Evans define the notion of curriculum as "all rigorously planned experiences to be provided in school to beneficiaries to achieve the goals of learning to the highest standards of performance allowed by their individual abilities" – after. [apud 13, p.10]

Curriculum is defined from different perspectives: broadly, narrowly, and these categories include various classifications and perspectives, "depending on educational policies, the projective type, or methodological type, etc." [50]

The importance of a curriculum for an educational system is paramount because it guides and ensures the organization of pedagogical and administrative action plans of an educational system [97, p. 202]

In general, the curriculum is developing due to the challenges of the contemporary world, crises at a national level, but also due to the current curricular state, with the shortcomings mentioned in the National Curriculum. Thus, there is a need for curricular change as a result of adjusting curricular policies to national and international educational standards, ensuring continuity, but also depending on the regulation of the malfunctions identified in the process of monitoring it. [13, p.5]

In a narrow sense, the prospective education curriculum refers to the set of official documents that establish and regulate the unitary reference framework for the formation of prospective skills achieved by designing objectives, contents, learning, and assessment activities, based on which the educational process is organized in educational institutions. The mentioned documents include the curricula, the textbooks, the teaching materials, the evaluation methods, etc.

Thanks to technical-scientific development, education as a priority field of human development appears as an action to guide behavior and as an intervention in the formation of personality, able to cope with solving future problems in the development of society. In contemporary society, there is a problem with improving the distance between the content of education and the spirit of modern society. The answer to these requirements may be provided by Prospective Pedagogy. [67, p. 116]

International experience shows that assumptions about what is more relevant for the future can undermine the prospect of education. For example, many companies, including in Moldova, circulate the idea of creativity and innovation, while prospective education is a methodical investigation of the future, using an approach that favors change and renewal, putting into play the imaginative potential. Unlike futurology, foresight aims to avoid the rupture between past and future. [66, p. 103]

Due to the change as a defining principle of education, the education system is continuously subject to current or global reforms, caused by various social, economic, scientific, informational, and spiritual factors. But the most important of them - education - causes a change in the educated, in the environments in which they work / will work, but also in the professional capacity and in the axiological framework of the subjects of education - trainees, pedagogues, parents.

Starting from the idea that the source of curriculum design is the culture that is transmitted through study, we consider the introduction of the prospective field in education, of all components of the school curriculum, university, continuous pedagogical training, etc. as an important condition for capitalizing on the potential of educators/trainees in a prospective sense. [66, p.103]

The quality of the curriculum depends largely on how it is implemented by the teacher. Despite the changes in society, teachers can contribute to overcoming or perpetuating them in school. Teachers, being seen as facilitators of learning, are obliged to prepare children not for the past but also for the present and the future.

In the curriculum monitoring process, the conceptualization as a stage of this process is based on *prognosis* and diagnosis to design or redesign it. [13, p.14] At the same time, in this process of generating changes, it is necessary to take into account the interconnection between the other curricular elements.

In this sense, E. Coropceanu claims that “the contemporary educational system has orienting tendencies in the direction of approaching integrated visions on the world. In addition to the classical subjects, it is necessary to use transversal themes, project elaboration, and curricular intersection of new dimensions of education. In order to reach the level of an integrated approach to content, it is necessary to form a sound basis in the field of fundamental disciplines, which would penetrate disciplinary boundaries, forming through multiple connections an open network of knowledge and thinking. These realities open premises for the transdisciplinary approach to the instructive-educational process. [23, p.184]

The paradigm of the curriculum, according to S. Cristea, conceives the training technology as “praxiology of pedagogy, constituted by a network of interdependencies

between theory and practice", engaged in the realization of a higher formative praxis. [25, p.55]

Determined and unified, a curriculum specifies above all its bases through major aims and orientations in a document entitled Curricular Guidance Framework. [apud 97, p.202]

From a functional perspective, education has a finalist character, thus, the finalities inscribe the personality model to be formed according to the social requirements but also to the psychological mechanism of human learning. The aims of education are *predictions* regarding the way of accomplishing education, in a certain time interval with the role of the director and regulator for the educational activity.

The aims of education define the value orientations of education at all levels of the education system. The aims of education are designed on a macrostructural scale (ideal and goals) and microstructural (general, specific and operational objectives) [26, p.8], presuppose the theoretical and mental anticipation of the necessary results to be achieved, but also the awareness of the necessary projection to be transposed into the circumscribed practice of forming personality.

At the level of fundamental pedagogical concept, the finality reflects the prospective character by anticipating the permanent evolution of education confirmed in the short and long term, in the context of permanent optimization of the relations between the requirements of present and especially future society. [26, p.45]

Competence can be seen as a *projected objective* (what the teacher intends to achieve in the teaching process) and/or as a *terminal objective* (what the student must achieve in the learning process), as *an evaluation objective* (result, which represents the actual acquisition of the student). In this sense, the "goal" is seen as the final one. [13, p.20]

Competence is a behavioral acquisition (psychological approach to competence). Thus, competence is a complex, indivisible, inoperable one.

As characteristics of the competence, N. Silistraru and L. Calmuțchi present to be: [97, p.205]

- *complex* - integrates knowledge, strategies, skills, attitudes in a complex process of manifestations;

- *relative* - cannot be fiat, but develops along the way, moving from a lower to a higher level, frequently mobilizing the same skills, but ensuring progress in the diversity of contexts or complexity of purposes;

- *potential* - competence can be designed and evaluated, the possibility of its mobilization generating various performances in the future, in different contexts, when the student will be faced with a task to be performed, must produce results, but this (product or performance) is not a guarantee competencies, it is based on the processes that generate results;

- *exercised in a certain situation* - the development of a competence is carried out essentially in the management of more and more diversified and complex situations, with the help of more and more specialized resources;

- *it is complete and inseparable* - the competence is not divisible, it generates a situation, so it is a non-competence, a simple resource, the development of competences cannot be carried out in a sequential or segmented way, given in a concentric way;

- *transferable* - because the competence must generate a diversity of performances in a diversity of complexes, it is not reduced to a project, a result or a performance, but assumes that the beneficiary is able to reuse the processes, adapting to a new context;

- *aware* - the person must have the ability to manage their competence, so the concept of meta-knowledge, self-assessment, various mechanisms to raise awareness of the contents, because they are essential in transforming, in the process of reflection, experiences in skills.

Viewed from a methodological perspective of the systemic approach to the educational process, the content is the main resource that ensures the achievement of the objectives pursued. It ranks first in the strategy of improving today's education system and designing tomorrow's. In this order of ideas, studies in the literature (A. Arseniev, A. Crişan, N. Radu, etc.) indicate that the principles of content selection must

correspond to the requirements of society and the educational beneficiary. [apud 66, p.109]

In designing the PE content, the following criteria are taken into account: [66]

• observance of the system of principles specific to education, in general, as well as to the prospective dimension, in particular.

• building the educational process based on the established epistemological landmarks: the "prosective triangle" theory (M. Godet); the theory of change (O. Dafinoiu); theories of social change (C. Geertz, V. Turner); globalization theory (R. Robertson); perspective theory (D. Kahneman and A. Tversky), etc.

• achieving the level of training of prospective skills: anticipation, planning, direction.

PP has at its disposal the general technology of curriculum design, the technology of curriculum design for secondary, vocational education in the Republic of Moldova, the technology of elaboration of the university pedagogical curriculum, etc. [84, pp.173-184]

In order to design the curriculum, the specialized literature [13, p.8] proposes some general principles: capitalizing on modern educational paradigms in correlation with the vision and mission of university vocational education; ensuring the correlation with the requirements of the labor market; the functional complementarity between the traditions of university education, the imperatives of modernization and the conditions for carrying out the educational process; ensuring continuity and coherence between educational levels; the possibility of accessing higher levels of professional qualification; correlating the functional stages of curriculum development: design, implementation, evaluation; ensuring an open character to the renewals in combination with the invariance of the conceptual landmarks; orientation of vocational training towards goals, expressed in terms of learning outcomes; - harmonization with European trends in the development of vocational education; flexibility in curriculum development (disciplinary, modular, etc.).

Consequently, the content of the concept of prospective education reflects three new phenomena, defining the status of postmodern education: prospective education

aims to prepare people for the society of the future; prospective education faces the contradiction between the products of education, the requirements of society and the requirements of the labor market; prospective education tends to precede the level of economic development, anticipating the directions of evolution at the level of human and technological resources. [66, p.110]

The specific content of the PE corresponds to the specific objectives engaged in the training-development activity of the prospective competencies of the personality, which can be operationalized according to the conditions of the reference pedagogical environment (for example, resources of education age and individual of the beneficiary. The specific content of the PE reflects two defining coordinates, which aim at relating man to society (educating specialists for the future according to the demand on the labor market) and to himself (educating the person to solve problems according to causal factors, determining change, minimizing risks action). [66, p.110]

In this sense, from the perspective of the functions of education, the prospective orientation requires restructuring and modernization at the level of the processes of selection of the learning contents, at the level of the ways of their psycho-pedagogical organization, the ways of transmission, etc. The training of young people must be carried out in such a way that graduates can quickly integrate into a changing world, and be able to respond appropriately to unpredictable situations.

In the same vein, a methodology was developed to involve respondents in the experiment by deducting the necessary resources, presented in the table below: [66, p.110]

Table 2. Methodology of respondents' involvement in familiarization with the prospective field

Students	**Teachers**	**Management staff**
Resurse	**Resurse**	**Resurse**
- Informational - bibliographical, - electronic, - strategies - audit tasks - independent work	-additional sources: (Specialty magazines); - conative sources; - monographs	-Tangents of trends; - Hysteresis factors

This methodology helped us to identify the method of involving the respondents in the training experiment. The analysis of the two coordinates, with the value of indicative landmarks, involves the identification of specific, predominant elements, achievable in time and space, which support their interdependence and complementarity. It is undeniable that PE has content that is expressed mainly at the level of interference with the dimensions of education that foreshadow the evolution of society as a result of the analysis of current factors and trends. Thus, the competencies on which the PE focuses direct the personality toward better integration in the society, at the workplace, and in the personal life. In order to meet these conditions, we consider it necessary to configure the PE competencies in accordance with the requirements of the constantly changing society.

The curriculum focused on prospective skills. In the psycho-pedagogical literature [71, p.53] there are numerous definitions of the concept of competence, sometimes incomparable, depending on the fields of use and the point of view of the authors. In the opinion of S. Marcus, for any field, competence is the condition that ensures the efficiency of human activity, and the effective exercise of activity is the basis of behavior and is conditioned by a series of characteristics of the individual [apud 71, p.53].

In general, the notion of competence can be defined by the following characteristics:

• mobilization of a set of resources such as knowledge, experiences, representations, schemes, automation, capabilities, various savoir (to know): savoir-vivre (to know how to be), savoir-faire (to know how to do),] savoir-etre to know how to become); [71, p. 53]

• the relationship with a set of situations, which involves the mobilization of the individual in certain situations related to the issue of directing the educational beneficiary;

• the completed character that denotes the social utility;

• the disciplinary character, which results from the fact that the competence is often defined by a category of appropriate situations arising from the specifics of the special or auxiliary disciplines, which include modules on the formation of prospective competences.

Today, socio-economic realities require a managerial approach to the goals in education and require to be formulated not only in concrete and pragmatic terms but especially from the perspective of the real training needs of the educated person and the social demands of the labor market. According to the theory of pedagogical aims, the elaboration of pedagogical goals must be correlated with the evolutionary tendencies of the society, ensuring the overcoming of the current state by adjustments of improvement, structuring, restructuring, and reforms in the field of education. [71, p. 53-54]

In this sense, "it is clear that the composition and level of development of skills that the education system must form are closely linked to the future structure of the economy in general and the labor market in particular." [48, p. 185]

The vocational training model focused on competencies involves the achievement of objectives related to the object of work, the achievement of concrete functions, and the interdisciplinary requirements integrated into the outcome of the educational process. The professional training must offer the student the possibility to solve situations in business and in life, manifesting: social-professional skills related to interacting with other people; general - professional skills (informational - obtaining information and processing it; algorithmic - the ability to solve professional tasks using appropriate knowledge; managerial); special skills - professional, which ensures the realization of general - professional skills in a specific field of work. [105, p. 63]

Depending on the professional training, it is “the resultant component - the appreciation of the results of the educational activity through the prism of the student's competence to adapt to the changing conditions in the society and to the high dynamism in the professional activity.” [105, p. 64]

According to A. Gremalschi, at present, no sociological research has been carried out in our country, which would have had as an object of study the relevance of the competencies included in the curriculum. [48, p. 185]

When we refer to competencies, we do not refer to experience, especially since "between experience and education there can be no sign of equality", because any experience is a wrong path from an educational point of view, in situations where it has the effect stopping or distorting the growth of future experience. It all depends on the quality of the experience. O. Ghibu is of the same opinion, stating that his own experience is not enough. [apud 71, p. 54]

In this order of ideas, we consider that regardless of the social context and the level of economic development, it is necessary to train personalities with prospective skills. In order to prepare human resources for the future, several authors (J. Dewey, A. Tofler, R. Dottrens, Torsten Husen, Dm. Todoran) have highlighted a number of objectives that are still valid today both individually and socially. In our research, we relied on the concept of researcher Vl. Gutu The goal of determining goals as *inputs*, and competencies are considered as *outputs*. [51, p.44].

It should be noted that, both in terms of pedagogical theory and practice, the education sciences in the Republic of Moldova have already adopted a pedagogical language of competencies, including prognostic ones. In this sense, researchers Vl. Guţu, E. Muraru, and O. Dandara propose a series of prognostic competencies for initial professional training in university education [apud 71, p. 54]. V. Cojocaru, in his work *Reform of Education* (1995) analyzes the objectives [20, p. 36] focused on the prospective dimension.

Depending on the accelerated pace of change, it is believed that tomorrow's man needs *adaptability*. We agree with the vision of the researcher Venera-Mihaela Cojocariu, who considers that it is not the competence of adaptation that is important, but that *of anticipating the meaning and rhythm of changes, elaborating the possible future*, articulating perennial values against these transformations and above all, human development through the cultivation of humanity, dignity, and responsibility. [21, p.17] Also in this context, J. Botkin considers that the *competence of anticipation* includes

the inherent responsibility in the influence and possible control of future events, therefore it can be considered one of the prospective competences. [apud 71, p. 55]

For some countries, special emphasis is placed on skills anticipation, as a policy objective to create the necessary skills development system in the labor market. Effective anticipation and matching of skills, based on the labor market and quality data, can interfere with education, training, and employment. [65, p.29]

There is no agreed definition of the need to anticipate competencies, and the term is often used interchangeably with "early identification of required competencies", "competency needs assessment" or "forecast". In a broad sense, the anticipation of skills needs refers to activities to assess future skills needs in the labor market in a strategic way, using consistent and systematic methods. [49]

The development of prospective skills [69, 70, 71] is important because a number of factors globally influence the evolution of the demand and supply of skills, and if left unaddressed, they are likely to contribute to inappropriate skills in the future.

Approached from an educational perspective, prospective competence contributes to the formation/development of the following specific competencies:

Anticipatory competence as finality is a necessity of the contemporary personality in order to find concrete and fast solutions in solving the multiple apparent problems in the daily life (*anticipation of the changes, of the risks and of the consequences).* The deepening of the problem and the probability in the contemporary economic, social, political, and cultural structure generates risks and a special receptivity towards the respective problems. J. Botkin considers that the competence of anticipation includes the inherent responsibility in the influence and possible control of future events, therefore it can be considered one of the prospective competencies. [63, p.4]

Anticipation mobilizes cognitive skills, such as analytical or critical thinking, to predict what may be needed in the future, or how actions today might have consequences for the future. Both reflection and anticipation are precursors to responsible actions. [114, p.6] Anticipation aims to provide information to everyone in the labor market about potential future skills.

Today, it is not enough just to anticipate and forecast changes that occur in one area or another of society, but it is necessary to intervene in their flow to cause the desirable effects, or avoid the undesirable ones, in order to avoid risks. [69, p.107]

Another forward-looking skill is ***planning skill***. *Planning* has several stages. The first stage is *anticipatory* and involves the ability to develop prospective studies, forecasts, strategies and policies, plans, programs, and projects in order to establish well-defined tasks for carrying out the proposed activities. *Decision making* is another stage of planning that has been determined by action. In this sense, research was conducted by V. Cojocaru and M. Vladu, [18] which highlights the importance of decision-making in educational management.

Decision-making is another necessary skill both now and in the future, where the most important step in the decision-making process is to identify alternatives. The *forward-looking decision* applies to the formulation of objectives, planning, scientific and technical research, and innovation functions. [63, p.9] At the same time, forward-looking decisions are strategic in nature.

Intervention for change involves, to some extent, planning for change (clear goals, realistic goals, and deadlines).

Intervenţia pentru schimbare implică, într-o oarecare masură, şi planificarea schimbării (obiective clare, scopuri şi termene realiste): *to elaborate the solutions for crisis situations of the education and of the society of tomorrow; decision making; transferring strategy into action* (there is a multitude of strategies, but they are more theorized. Today strategy requires not only to act on a process, phenomenon, but for it to be activated); *to adapt behavior*; *invention and innovation; the elaboration of public policies and strategies for sectoral, community, national development.*

Innovative competence. One of the goals set for the European Year of Creativity and Innovation [36] was to develop creativity and innovative capacity, followed by the creation of an innovation-friendly environment in a changing world.

This competence is also highlighted by the 2030 Education Project, only that it has placed it in the category of transformative competencies, ie together they address the

growing need for young people to be innovative, responsible, and aware by creating new values; reconciling tensions, and dilemmas; taking responsibility. [114, p.6]

Innovation can provide vital, affordable solutions to economic, social, and cultural dilemmas. Innovative economies are more productive, more resilient, more adaptable, and better able to withstand higher living standards. To prepare for 2030, people should be able to think creatively, develop new products and services, new jobs, new processes and methods, new ways of thinking, new businesses, new sectors, and new social models. Innovation comes through cooperation and collaboration with others to build on existing knowledge to create new knowledge. The underlying competencies include adaptability, creativity, curiosity, and openness to thinking. [114, p.6]

In order to train/develop innovative competence, K. P. Waychal [118] drew attention to the fact that the functioning of innovation depends on processes, technology, and individuals. While much work has been done to develop processes and technologies, less work has been done to develop individuals for innovation work. Thus, P. Waychal proposes competence units of innovative competence: visioning, skills to generate ideas, decision making, focus on tasks, etc.

According to P. Waychal, [118] the two aspects of innovation - fresh thinking and value delivery require student-centered learning. It is important for them to be involved in real-life situations in order to understand the problems and generate various ideas.

It is important to note that innovation is based on creative, repetitive thinking, involving a plan of change. Thus, the formation of prospective competence will facilitate the function of anticipation, planning, innovation, and active involvement in social life. The capture and condensation of the general tendencies of the socio-economic evolution in the form of educational aims, constitutes only the theoretical context of the realization of the instructive-formative approaches, being necessary for the doubling of this framework with concrete activities, corresponding to the effective endowment of assumed teaching. Prospective skills guide/direct us towards prospective personality formation.

Competence in adaptability to change is characterized by rapid learning, which is due to the fact that you know how to adapt. Trying new things and provoking the ability to solve problems in different circumstances. [72]

For example, *adaptability - soft skills*, requires a number of other soft skills in order to be successfully applied. You need to be able to learn quickly and put it into practice. In addition, you need to be able to remember what you have discovered so that you can identify trends and make decisions accordingly.

Depending on scientific, technological, etc. innovations, there is a need for another skill, namely ***information management***. In fact, the information age is generally considered to comprise three major periods: the information society, the knowledge society, and the consciousness society. The knowledge society will lay the foundations for a future society. [22]

This is identified by specialists in the field [66, p.113] as a unit of competence of learning competence, which is the identification, evaluation, and appropriate use of the information we have at a given time to solve problems and make optimal decisions.

The competence of information management [71, p.57], [63, p.33] is identified by specialists in the field as a unit of competence of learning competence, it represents the identification, evaluation, and appropriate use of the information we have at our disposal, at some point, to solve problems and make optimal decisions. It includes the development of the following skills: identifying information; efficient exploitation of information: evaluation and processing of information; efficient use of information.

In our opinion, the critique and the permanent revision of the information are necessary for the certainty that the curricular content is adequate for the destination but also for the time. It is likely that this represents the values of adults, rather than young people, or those of students of a past generation, than those of students today. From theare, we must not deduce that the motivational value of a subject for the student (either intrinsic or instrumental) is the same as the fact that the beneficiary is aware of its value, or that he is able to argue the value of this object of study. All these are essential elements of education and of the aims provided by the educational process.

Targeting/direction is another prospective skill. Targeting can be done in many ways, both in terms of time - future, and in terms of the essence - personality development. With the accelerated pace of change, there is a need for time management. This competence can be considered as a unit of competence of the planning competence, but in its essence, it is *a prospective competence that is oriented* towards action over time. Approaching time is not just an economic issue. It has, at the same time, connotations related to the level of mentalities, the type of economic and social integration of the person, the level of opportunities offered by society, and the correct understanding of freedom. The nature and evolution of a society depend on the way time is used. [71, p.57] Therefore, it is important to determine developments and development trends.

Diversification and compilation of time, implies an increase in the autonomy of the persons in the differentiated management of the durations. The ability to self-organize time is strongly correlated with the feeling of success in a field or another one with anticipation. What we have begun to feel, at the macro level, is the growing need to be trained to cope with change, to succeed in putting it under genuine values, and to lead, individually and socially, on the path of self-development. Depending on the time, there is another issue that needs to be addressed to the company/personality combined with the argumentation of the necessary actions to be performed.

With the accelerated pace of change, there is a need for another skill - ***time management.*** Rational time management as a non-resource due to speed, causes accelerated wear and tear of knowledge, which justifies the need and training of the young generation for a series of tasks that they can not accurately predict, but which influence their decisions over time. For efficient time management, it is necessary to focus on objectives, but also on relationships, planning, spontaneity, prioritization or delegation, but also on work. In other words, it is very important to maintain a balance between all these elements for efficient time management - a perspective related to the success of personality formation / self-formation. [63, p.9]

It is important to note that the list of prospective skills can continue depending on the evolution of society, the accelerated pace of change, and the requirements of the

labor market. All this has guided us to the idea of broadening the horizon of the future specialist not only in his professional field and also in any life situation. Thus, prospective education also develops specific skills, just as important, skills to learn how to learn, problem-solving skills, taking risks and responsibilities for a particular activity, and adaptability, which essentially expresses the essence of foresight.

In order to be prepared for the future, students must learn to think and act in a more integrated way, taking into account the interconnections and interrelationships between ideas, logic, and contradictory or incompatible positions, both in the short and long term, either they must learn to think in the system. [114, p.5]

At the same time, it is important to understand that dealing with novelty, change, diversity and ambiguity means that students can think for themselves and work with others. Creativity and problem-solving also require the ability to consider the future consequences of one's actions, to assess risk, and accept responsibility. This suggests a sense of responsibility, and moral and intellectual maturity, with which a person can reflect on and evaluate his actions in the light of his experiences and personal and societal goals, what they have been taught, said and what is right or wrong. Acting ethically involves asking questions about norms, values, meanings, and boundaries. Central to this competence is the concept of self-regulation, which involves self-control, self-efficacy, responsibility, problem solving, and adaptability. [114, p.6]

It is important to note that the list of prospective skills can continue depending on the evolution of society, the accelerated pace of change, and the requirements of the labor market. All this has guided us to the idea of broadening the horizon of the future specialist not only in his professional field but also in any life situation. Thus, the PE also develops specific skills, just as important, skills to learn how to learn, problem-solving skills, taking risks and responsibilities for a particular activity, and adaptability, which essentially expresses the essence of foresight.

In the elaboration of the professional training standards, it is necessary to include the prospective competence, from the perspective of the development of the prospective personality that would allow the awareness of the flexible character of the company's demands but also the anticipation and adaptability to change.

In our opinion, the PE emphasizes and brings to the fore the need and possibility to take control of the formative concerns, in a global and value-oriented way, of building change and the future through the activity of design, realization, conscious pursuit, and evaluation of transformations. different levels and degrees, as a vector of development. Unlike the differentiated aspects involved in achieving prospective competence, the educational process presents a wide range of experiences whose satisfaction is designed in accordance with a number of new guidelines, techniques, and ways.

In order to create such an education, it is necessary, first of all, to produce successive and interdependent images of the future, to foresee the necessary professions, the type of family and human relations that will predominate, the nature of the ethical and moral problems that will arise. which we will be surrounded by and the organizational structures in which we will have to train, which has the de facto innovative character of prospective education. [75, pp. 21 - 22]

In conclusion, we deduce that the need for prospective personality training is imposed by: infusing the prospective dimensions within the university disciplines, or by anautonomous approach, aiming at the development tendencies of all specialties.

Fusion is the most complex and radical phase of integration, and transdisciplinarity represent the highest degree of integration of the curriculum, often going as far as fusion. [50, p.24]

The specific aims of the PE, the contents, and the learning activities form *the curricular frame of reference of the PE* that develops with the evolution of the curricular progress.

Thus, the aims of the PE are determined by: the need to adjust the graduate to the expectations and requirements of employers and those of society; the performances and the quality of the educational offer that ensures the viability of the institution in a market that has become national and global; the need for the recognition of educational institutions on the European and world market.

They ensure the quality of the educational process and the performance of the specialist to respond as adequately and fully as possible to the demand of the labor market.

2.6. The paradigm of prospective education in the education system as a component part of prospective pedagogy

In the notional area of PE issues, it is necessary to clarify the meaning of using the notions of paradigm and education, in order to structure the PE paradigm as such.

There are several interpretations of the notion of "paradigm". Thus, in Greek translation paradigm means model. In the philosophy of science, the term was introduced by G. Bergman, but the essential contribution to the scientific use of the term belongs to Thomas Kuhn. T. Kuhn defines the paradigm as a set of ideas, and beliefs shared by the scientific community, based on a scientific "achievement" with priority, which defines the problems researched and solved - taken from the practice of normal science. The urgency of a new paradigm can be stimulated by a new "discovery", but only when the professional community re-evaluates their traditional procedures, after which their conception of entities with which they have long been acquainted and, in the process, changes " the network of the theory by which it deals with the world." [apud 66, p.176]

In pedagogical science, "the paradigm in pedagogy (pedagogical paradigm) - represents a contoured point of view, established, a determined standard, a model for solving educational and investigative objectives." [apud 68]

The most accepted interpretation of the term "paradigm" is that of "model", which tends to reproduce the essential elements of the original phenomena and processes, natural or social, studied according to the specific and concrete objectives of the respective teaching activity. In this order of ideas, the pedagogical paradigms can be classified conventionally, having as reference the ideas proposed by Maubent respectively: [apud 66, p.176]

- behavioralists, who emphasize the behavior of the individual, from which derived the pedagogy of objectives and the cult of tools and methods of controlling progress;

- humanists and personalists, who put in the foreground the relationship educator - educable / trainer - formable;

- constructivists, who insist on the learning process.

As a matter of fact, Dm. Patrașcu, the paradigm is limited to what the new research in the philosophy of science support. Paradigm - 1) is an initial conceptual scheme, the model of problem- solving and research methods, dominant during a historical period; 2) theory (model, type of problem- solving), accepted as an example in solving research tasks. By pedagogical paradigm (from the Greek - model) we mean the general picture of education, but as a model for pedagogical actions. [84, p.46]

In the literature we find examples when using the notion of paradigm, and exploring its algorithmic value. Thus, a systematized complex of principles, techniques, and methods applied at the level of the education system and process is considered in order to achieve concrete contents. [apud 66, p.176]

According to T. Callo, the paradigm is approached in the plural, which means a variety of ways of approaching and solving real problems of various education. The pedagogical paradigm in the singular, aims at the science of education, the analysis of education from the epistemological perspective, or, the paradigms, in the plural, aim at the dimensions of the effective realization of the pedagogical paradigm. [14, p.5]

As scientific achievements that provide models for formulating and solving problems, says T. Callo, paradigms are complex entities that include elements of a theoretical, instrumental, and methodological nature. Next, says T. Callo, meaning of the word paradigm is given by the Germans: perspective. The term is used to describe a set of experiences, beliefs, and values that influence how one perceives reality and acts. [14, p.8]

It is important to mention the vision of the researcher M. Hadîrcă who claims that the transition from the paradigm of reproductive education to that of innovative education, reformulating the educational ideal, setting new goals, objectives, and purposes for the educational process [52, p.228] are examples to highlight the need for PP.

An effective pedagogy must be constructivist, ie to value and be based on the application of constructivist strategies of knowledge and to offer new constructivist developments. The premise from which constructivist pedagogy starts is that there is no authentic knowledge unless students build it themselves, adopting cognitive and noncognitive behaviors according to the unpredictable situations they face, gradually reinvesting them to develop skills. [9, p.57]

All the transformations have determined what we call in current terms the "paradigm shift" in education, which focused more on modernizing the training contents, not on a refocusing of the educational component of the educational process on a new value axis [52, p. 228] prospective. Thus, young specialists encounter difficulties in the process of professional adaptation, taking into account that some skills formed in the university, become obsolete until they reach employment.

For the formation of the prospective pedagogy paradigm in the post-industrial and informational society, necessary premises are created.

As Dm. Patrașcu affirms, first of all, that the post-industrial society needs an essential leap of training, of increasing the intellectual level of the requirements towards the beneficiary. Secondly, the existence of the new type of scientific rationality is manifested objectively in all spheres of human life, at the same time are the approaches with humanistic orientation and modern means of education. Thirdly, there has been an objective leap in computer technologies that allow us to return to the methods of individual training but also to give up the class-lesson training system. [85, pp. 52 - 53]

In our view, prospective *education (PE)* is one of the areas of activity for the formation/ development of skills or cognitive, affective, psychomotor structures ... necessary in the future activity of the personality, designed and realized based on human fundamental values. We consider that prospective education as an object of study of prospective pedagogy can be interpreted from several perspectives:

• as a field of science, addressed to the study of factors, mechanisms of prospective construction, development of prospective and competent personality for current and future, etc.;

• as a dimension of the education system and other systems;

• as a continuous process of accumulation and construction of values (involving especially the non-formal and informal component of education), of positive transformation and long-term formation of the perspective personality:

• as a study discipline/subject of the general educational process, meant to involve the beneficiaries in prospective behaviors;

• as a component/mode of integration/application in other disciplines;

• as an infusion element in the area of different disciplines, eliminating its juxtaposition only as an appendix, at the end of the chapter or manual one.

• as an object of public policy, the development of which depends directly and indirectly on the political will of the government on sustainable development but also the implementation in the education system of theoretical and methodological foundations in the prospective field;

• as a component /mode of integration/application in other disciplines, etc. [71, p. 43]

In the literature we identify various approaches to PE.

In essence, at the concept level, prospective education has been related to the current and prospective requirements of society, by orienting the school to a new way of education, which will ensure the individual the opportunity to cope with unforeseen events, through anticipation and participation.

In the education system, all the actions and pedagogical influences are represented by the general forms of education, carried out, successively or simultaneously, within the activity of formation-development of the human personality. Thus, the forms of education are classified according to [71, pp. 48 - 49]:

a) *design criteria:* institutional education, with specific institutionalized objectives (formal / non-formal education) and non-institutional education, carried out implicitly, without specific institutionalized objectives (informal education);

b) *the criterion of organization:* education realized on the basis of explicit actions and implicit influences (formal / non-formal education) and education realized only on the basis of implicit influences (informal education).

In our research, when we refer to an action, we will focus on the design criterion and the organization criterion.

Often, participation happens at random, and so even the noblest intentions can produce unwanted results in the absence of anticipation. It is clear that the skill for effective participation needs to be improved and that the right to participate will have to be accompanied by the duty to accept the involved responsibilities. There is a close connection between anticipation and participation - anticipation determines participation, and participation, in turn, will mobilize to anticipate future actions, arising from the consequences of participation.

Another aspect of the PP domain is the *destination*, according to the explanation in the dictionary, which designates *a place, a person to whom someone is heading or where something is being sent.* In the educational activity, the destination has the sense of orientation towards the development of the personality (*the destination-person*), as well as the development of the personality in order to face the requirements of the future (*the destination - the preparation for the future*).

In this sense, we have highlighted M. Golu's theory, in which he presents the role of orientation-direction, developed on the basis of the analysis of information about the object through which the state of necessity can be satisfied. [44, p.101] Thus, M. Golu argues, "due to his projective-anticipatory capacity, man tends to broaden the sphere of the two qualitative sides of information (semantic and pragmatic)." [44, p.102] We support the author's opinion, in human behavior should be considered a directed activity and not a reaction, the goal is the one that largely regulates this direction. In order to achieve its specific regulatory-adaptive effect, it is not enough that the action is simply triggered; it is imperative that it be oriented towards a certain outcome or goal, that is, to become a finalist, *teleonomic*. Otherwise, it would unfold and consume in vain, chaotic and confused.

As objectives in the development of prospective education, through the integration and processing of knowledge gained by other human sciences, are proposed [66, p.137]

- the expertise of the theory and practice of education and teaching through the perspective of the prospective dimension;

- highlighting the pedagogical aspects of the process of forming the prospective personality in university education, the influence of partnership interactions or combining research with the economic environment in solving contemporary problems but also promoting innovation;

- analysis of the school as a prospective institution, overcoming the most rigid educational stereotypes (reproduction) in pedagogical practice;

- identifying the legitimacy and methodologies of the pedagogical influence on the prospective formation of the beneficiaries, so that in the process of pedagogical interaction, through problematization, correcting the influence of the environment and extending the possibilities of self-realization of the beneficiaries etc.

Summarizing the ideas presented above, we define *prospective education* as a concept in the field of educational sciences, which brings together educational practices, representations, judgments and, strategies for the formation and development of personality. Therefore, the organization and development of prospective education must lead to the redefinition of teaching objectives and technology, to new ways of selecting and structuring content.

The selection and processing of knowledge will be done predominantly according to the principle of interdisciplinarity, heuristic teaching/learning strategies, and technical means will be used that will allow a better differentiation/individualization of learning with emphasis on the factors involved to determine the efficiency or inefficiency of learning. [43, pp. 181]

In order to configure the objectives of the PE, it is necessary to see where we really are and what skills we want the young specialist to possess after university studies. This underlines the fact that the rejection of the philosophy and practice of traditional education raises a new type of difficult educational problems, which have their origins in the past. In order to be solved, it is necessary to specify the importance of the past experience, as well as its relation with the future. [66, p.139]

In this regard, we consider that regardless of the social context and the level of economic development, it is necessary to train the prospective skills of the beneficiaries. In order to prepare them for the future, several authors, J. Dewey, A.

Tofler, R. Dottrens, Torsten Husen, Dm. Todoran, N. Silistraru, O. Dandara, Vl. Guțu,) [apud 66, p. 114] highlighted a series of objectives.

The pedagogical objectives of prospective education can be classified according to their degree of generality. The resulting model includes: a) the general objective of prospective education: the formation-development of prospective culture; b) the concrete objectives of the prospective education, resulting from the operationalization of the specific objectives, achievable within some formally or non-formally organized educational activities, usually within the educational process.

Objectives are a synthesis between what is necessary and what is possible, between what is needed and what can be achieved at a given time and under the given conditions. The systematized totality, of levels, domains, and categories of the objectives form the taxonomy of the educational objectives. [66, p. 139] There are various ways and criteria to build a taxonomy. In practice, however, two main types of taxonomies have been established:

a) taxonomies organized vertically, the objectives according to their level of generality; [26, p. 82]

b) taxonomies organized by domains (which define a "training profile": cognitive, affective/ attitudinal and behavioral) [115, p.140], [1, p.14].

Only by making predictions, defining them, debating them, systematizing them, and constantly updating them, we can deduce the nature of the cognitive and affective baggage that tomorrow's people will need to survive accelerated evolution. [66, p. 139]

Dm. Todoran states that in the coming decades, education will not focus on pleasure, and leisure, but on useful social action (professional and unprofessional). We must not only "learn to be", but "learn to be able" to invent and innovate lifestyles, interpersonal and societal relationships, and so on. To learn, *to solve individual and collective problems* to master science and technology, to introduce them into everyday social action in order to obtain solutions in accordance with the values and goals that we can define; secondly, it is a matter of *inventing and using new technologies* applied in the productive field. [115]

Dm. Todoran [115, pp.138-139] quoting Torsten Husen states that the latter determines the prospective field of education through the following three objectives:

a) Identifying the future consequences of political decisions on education and teaching.

b) Analysis of the statistically expressed trends regarding the change of directions and their evolution.

c) Investigating the social and political values of education and exploring their possible change.

In the Report on the concrete objectives of education and training systems (Brussels, February 14, 2001), says V. Popa [86], the representatives of the Council of Europe started from the hypothesis that society assigns different points of focus to education because what particularizes our era is not the existence of change but *its accelerated rhythms.*

Thus, the finalities of the PE within the university are determined by: the need to adjust the graduate to the expectations and requirements of employers, as well as those of society; the performance and quality of the educational offer that ensures the viability of the university in a market that has become national and global; the need for the recognition of educational institutions on the European and world market.

These needs highlight the importance of education, the quality of which depends, in large part, not only on the future well-being of a nation but also on its power, influence, and even its existence as a distinct entity worldwide. [78, p.4]

In the post-industrial era, the change and development of society have accelerated, have become almost uncontrollable and they endanger the global destiny of mankind. Opinions, beliefs, interests, and personality needs to change depending on the changing, unusual social conditions. Thus, it is proposed to anticipate changes in various professions related to the disappearance of some and the emergence of new professions, and skills, related to technical and scientific development (Intellectual Property Management) [40, p.30], Labor Market Analyst, etc.), but also the need to forecast skills, transformations in the labor market through technology, climate change, and demography. Due to the fact that in the post-industrial age the change and

development of society have accelerated, it has become almost uncontrollable and they endanger the global destiny of mankind.

By configuring the objectives of prospective education, individual skills will be contributed to skills to be able to compete in the labor market; developing the psychological potential of the person with reference to time and stress management; development and improvement of teaching-learning methodology; transmitting the dominant cultural values to today's society.

Contribution at the local *level* can be provided by: supporting community issues by implementing various projects; developing the learning capacity of young people, through their involvement in the social life of the locality; supporting the development of local cultural values; facilitating the exercise of certain rights and responsibilities as a citizen.

At the *international* level, the configuration of the objectives of prospective education will lead to the formation of competent adults and open to change in a human community; training of young people in the spirit of international harmony; forming society in the spirit of tolerance and social cooperation; development of interpersonal social relations; participation in cooperation in the field of education in a super-industrial society.

Prospective education represents simultaneously: **a fundamental pedagogical concept**, of integrative type, which includes all the resources of the training-development activity of the prospective personality (perspectives, contents, forms, factors); **an operational pedagogical concept** that extends its applications "to all aspects of education - global, temporal, transdisciplinary, systemic, praxiological, strategic, etc."; a **methodological principle** that supports the global management of the educational system, open to all types of education; **an orientation at the level of education policy**, which follows the improvement of the training-development activity of the prospective personality through the full capitalization of its resources of self-training, adaptability, and innovation.

Thinking about the purpose of prospective education - the formation of prospective skills, we proposed to invoke two basic variables in order to identify their level of training, proposing its Technological Micromodel. (Figure 4. 5)

The methodology of capitalization of PP, as a field of education sciences, included the strategy of elaboration of *the pedagogical Micromodel of PE*. (figure 4. 5) In this regard, it is necessary to clarify the meaning of using the notions of *model* and *prospective education* to structure the model. Thus, in Greek translation model means a *simplified representation of a process or a system, a theoretical scheme developed in various sciences to represent the fundamental elements of some phenomena or things*. Th. Kuhn defines the paradigm/model as a set of ideas, and beliefs shared by the scientific community, based on a scientific "achievement" with priority, which defines the researched and solved problems - taken in the practice of normal science. [apud 66, p. 140]

Starting from the theoretical considerations presented, in order to optimize the educational action, we decided to elaborate and approve a pedagogical construct that would combine all the epistemological and praxiological aspects approached in our research. The theory of change, the theories of social change (Geertz, Turner), the philosophy of experience, and pragmatic instrumentalism (J. Dewey), were the basis for the elaboration of the pedagogical model of PE, proposed by us, a fundamental pedagogical concept, of orienting type, which directs all aspects. the educational activities for the preparation of the educational beneficiary. [66, p.71]

The pedagogical micromodel of PE represents a theoretical-praxiological construction necessary for the successful realization of the training and education process in accordance with the aspirations, competencies, and possibilities of the teacher, with those of the educators, but also with the social needs.

In essence, the pedagogical micromodel of the PE demonstrates through all the components the character of the system and indicates the appropriate methodology for the formation of the prospective personality, it promotes a fundamental concept: the prospective competence. In elaborating the pedagogical Micromodel of the PE, the

specifics of the influence of global changes on society and the current requirements of the labor market were taken into account.

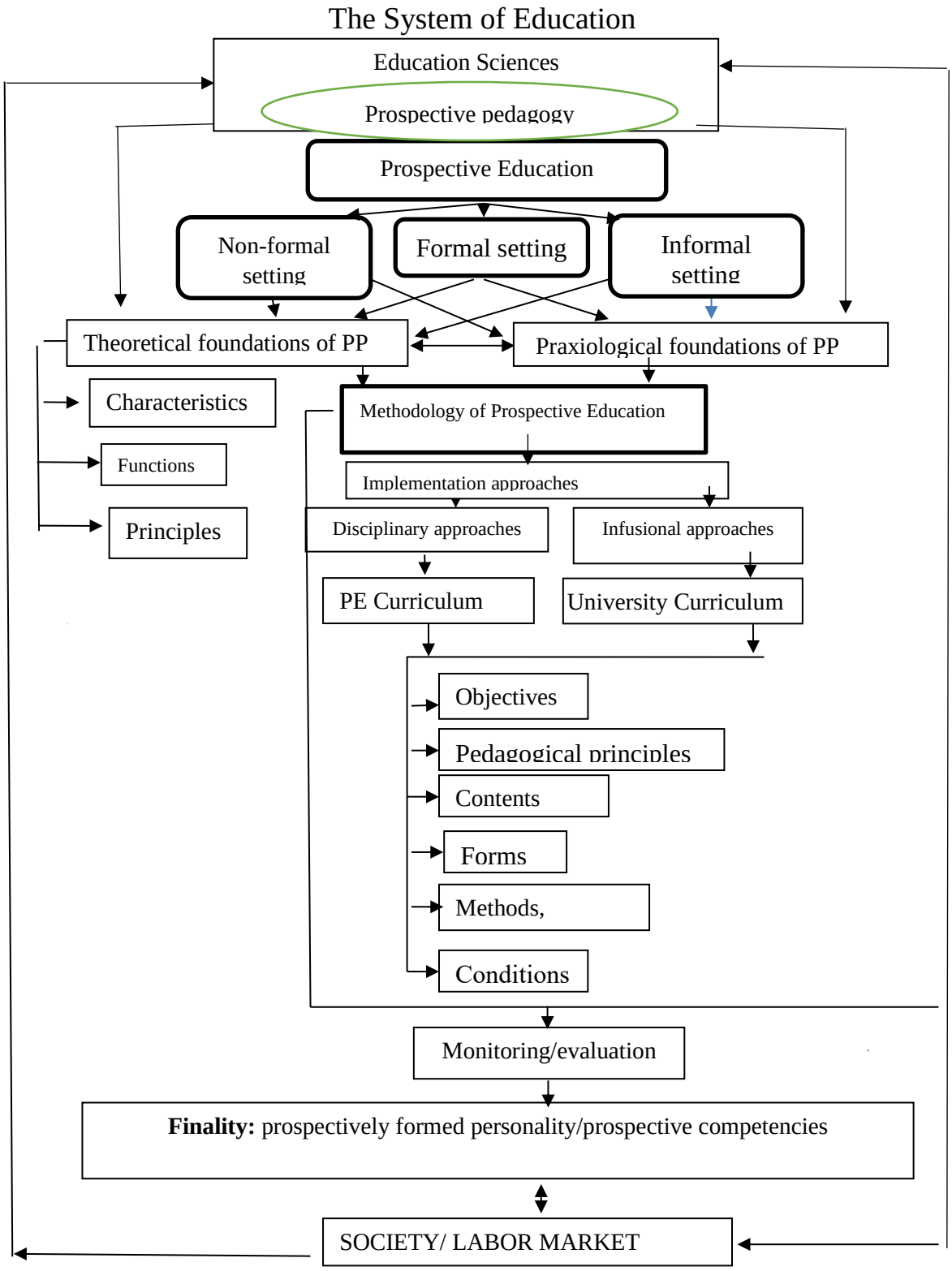

Figure 4. Pedagogical Micromodel of Prospective Education

Prospective pedagogy as a field of education sciences, through the object of study, specific methodology, its functions, and reference objectives, through contents,

supports the capitalization of the potential of present and future human resources. PP is focused on two components - theoretical and praxiological, which are capitalized by two approaches - the infusion approach and the autonomy approach.

Education aims at the development of human qualities and the exploration of horizons, it is predominantly oriented toward preparation for life. Education in the university must open to all new dimensions of existence, to develop all kinds of skills and areas of action, to promote all forms of personality development in order to be prospectively prepared to meet the demands of the labor market.

The structure of *the pedagogical Micromodel of the PE* includes [66, p.72-73] *theoretical foundations* - part I of the model, represented by: 1) the characteristics of the PE; 2) PE functions and 3) PE principles; *praxiological foundations* - part II of the model focused on the curriculum.

The infusion approach capitalizes on PE by infusing it into the university curriculum. ***The disciplinary approach*** capitalizes on PE by focusing on the curriculum at PE, as an autonomous discipline. Both the theoretical and praxiological foundations are based on the integrative character in the formation/development of the prospective personality: through *the PE curriculum*, applied according to the autonomy approach, represented by: 1) the PE objectives; 2) PE contents and 3) educational technologies 4) principles, 5) forms and through *the university disciplinary curriculum*, applied through the infusion approach, represented by 1) disciplinary objectives; 2) contents and 3) educational technologies, 4) principles, 5) forms.

The two basic parts of the model - the theoretical and praxiological foundations of PE - require a broader presentation, which we will make in the following sections.

Theoretical Foundations

1) ***The characteristics of the PE*** include criteria for evaluating its effectiveness. PE is characterized as a holistic, probabilistic, prediction-based approach, emerging knowledge, dynamic, heuristic, creative, innovative, anticipatory, and operational one.

2) ***The functions of PE*** - anticipation, planning, innovation, continuous adaptation to change, active integration in social life, and future orientation - form a unitary whole, revealing that PE aims at both the development of the human personality and its

preparation to capitalize on the maximum resources at its disposal, in order to respond to the requirements of the society in which it must actively and creatively integrate. Only in this way can an education system be conceived from the perspective of the future, designed according to desirable reasons and options.

3) ***The principles of PE*** are deduced from the philosophical, pedagogical literature and educational experience. Analyzing several theoretical perspectives - the theory of the prospective triangle (M. Godet), the theory of change (O. Dafinoiu), the theories of social change (C. Geertz, V. Turner), the theory of globalization (R. Robertson), the philosophy of experience and pragmatic instrumentalism (J. Dewey), approaches to the relationship between education and society (E. Faure) - the principles of PE were determined. In order to ensure the methodological functionality of the PE, a set of principles has been proposed, the realization of which will contribute to the efficiency of the educational process as a whole. Principles work in a permanent interconnection and intercorrelation. [71, p.74]

Analysis of principles: *the principle* of a global approach, *the principle of temporal perspective*, *the principle of social stringency, the principle of social and individual axiology, the principle of experiential learning, and the principle of anticipation*, being complemented by the principle of lifelong learning, the principle of prospective orientation, the principle of globality, the principle of innovation transdisciplinarity.

In our opinion, PE in the educational process depends, to a large extent, on the way we will apply the PE principles, on the way we will recognize the essential factors in obtaining the quality and performance of human resources, these turn into an "absolute optics" of education at the current stage in the accelerated pace of change.

Praxiological foundations [71, p.75]

1) The Prospective Education curriculum is determined by certain factors such as the challenges caused by social dynamics, complex issues both in terms of causes and effects and due to their impact on society. The implementation of the curriculum depends on the observance of the mentioned principles, streamlined by approaching the contents, and depending on the application of the methodology analyzed in this chapter. The objectives, the content, and the PE technology are a theoretical-

praxiological argument in the university education process, aiming at its efficiency, in order to form the prospective personality.

2) University disciplinary curriculum - set of university documents that plan the contents of professional training; represents a tool for social efficiency of the university activity; an official, institutionally organized (university) learning program, compulsory for the "subject" and "object" of education. [71, p.75]

Monitoring/evaluation has the function of comparing the planned ones with the result of the formative evaluation, having the possibility to make corrections, reorientations, and innovations. Monitoring ensures awareness and focus on key issues, motivation, performance, and development. The evaluation measures what the students have achieved in relation to the general objectives of the discipline, therefore it must be thought of as a tool for improving the activity. The functionality of the model is favored by the monitoring and evaluation process, which, aims to streamline the educational process, a process that aims to form the prospective personality.

The prospectively formed personality involves the training of the young specialist with prospective skills required by the employer and the company and in accordance with the accelerated rhythms of change. At the same time, the specialist's focus is both on anticipating changes in the professional field and on the intention to bring about changes in his professional and/or personal field. Education for change and development as a component of new education aims at shaping a proactive personality, able to initiate becoming, to perceive it properly, and dominate it. [71, p.76]

Society influences the course of education in general, and that of university education, in particular through economic, socio-political changes, cultural mutations and scientific advances.

The labor market is increasingly driven by the requirements of staff selection and development based on attributes specific to the quality, efficiency ,and competitiveness of the workforce. Although "the effectiveness of the market as a social institution for capitalizing on and satisfying human energies is recognized, its mechanisms cannot cope with global problems, which require a long-term approach." [71, p. 76] The model proposed by us reflects the theoretical and praxiological foundations regarding the

guarantee of quality and performance in the educational process both now and in the future, being elaborated according to the specifics of its feasibility and promotes the approach of the educational process through the formation of prospective personality.

In the context of the conceptual approach framework, we proposed a training model for students of prospective competencies in university. Approaching the teacher's competence as "the ability to behave in a certain way in a pedagogical situation" was developed in the operational micromodel of the training of prospective competence of teachers in the process of initial professional training (figure 5):

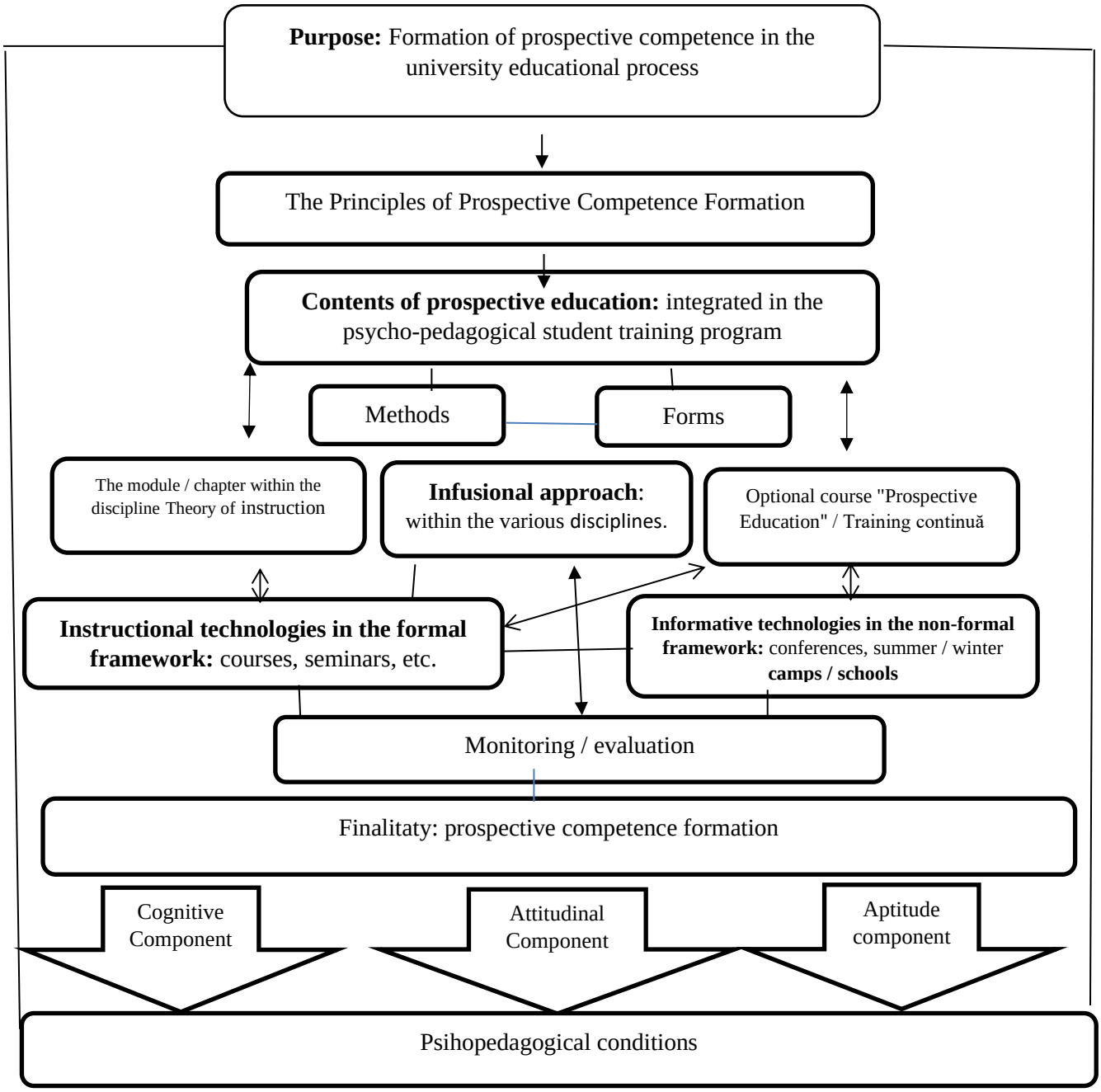

Figure 5. Operational micromodel for prospective competence training

The respective figure elucidates some structural components of the Technological Model of Prospective Education and their interaction aiming at the formation of prospective competencies through the cognitive, attitudinal, and aptitude components.

In our opinion, *the prospective competence*, as the finality of the PE, highlights *the orientation of the education policy* on the needs of the present and the future. In this regard, Education for a Knowledge Society: The 2015 National Curriculum Framework provides for current and future competencies in curriculum design. [13]

The professional training must offer the student the possibility to solve different situations in business and in life manifesting:

- social-professional competencies (referring to the individual, subject of the activity and personality; social that determines his interaction with other people);

- general-professional skills (information related to obtaining information and processing it; algorithmic, related to the ability to solve professional tasks, using appropriate managerial knowledge). At the same time, the student must possess special professional-functional competencies, which ensure the concretization of the general-professional competencies within a concrete field of work. [62]

The specific competencies provided in the school curricula establish the expected results, expected for each subject of study, at the end of each school year. [106, p. 54]

The dynamics of changes in the preparation of prospective personality, determined by the need to solve global problems, the social transformations that occur at a fast pace, and the challenges in the professional field, are directly conditioned by the formation of prospective skills.

In this sense, the development of the prospective personality is determined by:

- *the internal perspective* - in which we must excel - process, decision, and action;

- *external perspective* - how others see us;

- *the perspective of innovation and creativity* - the continuity of development and value creation, because what is of great importance today, tomorrow risks to perish;

- *economic perspective* - indicates the implementation strategy of the other three, as a result: success, prosperity ...

The cognitive component of prospective competence aims at the accumulation of relevant information, the awareness of the essence of the theory and its significance in the professional and personal plans, as well as the knowledge capacities acquired informally through experience. In this regard, it is proposed to acquire knowledge with reference to:

• *trends and perspectives for the development* of personality and society,

• *prospective identification of problems and solutions* to solve them;

• *identification of professional challenges*, from one day to the next, through the pace of science development new professions appear or intertwine, deepen, so university policy needs changes, to identify these challenges to train prospective specialists, to anticipate the needs that will appear on the labor market. [71, p. 58]

The applicative component of prospective competence involves the demonstration of certain prospective attitudes and values, professional and personal ones. In this regard, it is proposed to form forward-looking attitudes and values regarding: *changes* (depending on the existing problems in the society, it is necessary to evaluate their depth and duration and as a result to predict the consequences or to assume the changes); *anticipating changes*; *appreciation of changes* from the perspective of personal qualities and professional abilities; *assessment of actions and consequences of actions; determining the possible directions and evolutions of the field of activity; analysis of the level of development of the society* (analysis and diagnosis of the level of development of the society in order to forecast and design solutions for the future). [71, p. 59]

The prospective integrative component of the prospective component includes the acquisition and development of skills and abilities, aims at skills or abilities to use knowledge and apply it in professional and personal activity, ensuring their correlation. In this sense, it is proposed to train skills: [71, pp. 59 - 60] *to anticipate the consequences of personal actions* and future changes; *information selection and management; forecasting the aims* of the professional activity; *risk anticipation; to develop a strategy for adapting to rapid change* (change causes fears of the unknown, they lead to both physical and mental problems; but accelerated change causes not only

fear but also uncertainty, insecurity - thus, an important role would develop strategies to adapt to change to be proposed in education); *to orient the transformations towards the desired goals* (both the provoked transformations and the external ones need to be oriented towards the desired goals); *designing change* to prevent it (change can be caused or unexpected, so the person must be prepared to initiate the necessary changes and avoid externally generated changes). It is not enough for today's man to just notice, predict, and evaluate the changes that are taking place in one area or another of society. In his capacity as a subject of history, as a participant in social processes, and not as a spectator, man must project changes, and intervene in their flow in order to cause the desirable effects, limit them, or avoid the undesirable ones. That is why he must be educated in the spirit of alternative solutions, in the image of possible future scenarios. Intervention for change involves, to some extent, planning for change (clear goals, realistic goals, and deadlines). T*o elaborate the solutions for crisis situations* of the education and of the tomorrow`s society; *decision making; transfer of strategy into action* (there are a multitude of more theorized strategies. Today strategy requires not only to act on a process, phenomenon, but for it to be activated); *adapting behavior; invention and innovation; elaboration of public policies* and strategies for sectoral, community, national development.

The need for a complex/integral approach to the formation of prospective skills of the beneficiary, and in order to more effectively coordinate the process, we propose, at the same time, specifying its formative dimensions, namely: the cognitive component (ability to acquire relevant knowledge), affective component -moral (ability to form relevant attitudes and feelings, prospective values), behavioral component (skills, relationships, behaviors adaptability to change).

In the literature, we identify multiple approaches and classifications of skills: cognitive, social, emotional skills; general and specific skills; cultural, psycho-pedagogical, psycho-affective, moral, managerial competence, etc. Having as a theoretical and methodological references the approaches of the specialists in the field: L. Antonesei [3], O. Dandara, A. Spinei, [32] and, a, we will approach the *prospective competence* as a dynamic system of attributes (knowledge and their application,

attitudes, values, and responsibilities). [70, p. 74] They describe the purpose of the study or the way in which the learner/trainee will be able to apply the acquired knowledge and value prospective attitudes at the end of the initial training program, as well as through the continuous training.

For the development of the conceptual framework mentioned above, we propose the introduction as a necessary functional category of ***prospective competence*** in the following formula: *prospective competence is a completed structure, generated by mobilizing a number of internal resources of the subject in a framework or spontaneous, disciplinary or inter-transdisciplinary) and which is manifested by anticipation, design, as well as assignments of meaning and direction of action.* [71, p.58]

Thus, the formation of prospective competence will facilitate the function of anticipation, planning, innovation, and active involvement in social life. Prospective skills guide us to the prospective formation of the personality - and efficient personality, with critical thinking and success in actions, a successful personality that tends to progress, with wisdom and clarity in thinking. Consideration of these prospective personality traits is essential in the context of PP conceptualization.

The process of training prospective skills was provided at two levels: through the special discipline "Prospective pedagogy" (30 hours) and the block of psycho-pedagogical disciplines (professional ethics; the list may include psychology and general pedagogy, \psychology age, etc. .). The training technologies proposed by us and applied within the discipline “Prospective pedagogy” included courses, seminars, etc., is completed with the pedagogical practice of the students.

An important role in the formation of prospective competencies is played by psycho-pedagogical conditions based on: the study of the essence and content of the concept of prospective education; consideration of didactic strategies for the formation of prospective values; defining the criteria and levels of prospective skills training in students; paradigm Prospective education (PE).

We believe that the functionality of the proposed model can be ensured by applying the principles of prospective competence training: the principle of diversifying the

contents and technologies for training prospective competencies taking into account the interests and values of learners and the accelerated pace of change; the principle of interdisciplinary integration of the contents and technologies of the formation of the prospective competence; the principle of the correspondence of the technologies of the prospective education to the laws of the professional formation of the personality; the principle of capitalizing on the personal experiences of the educated; the principle of respecting and capitalizing on the prospective dimension in the educational process.

In the process of elaborating and applying the micromodel, we deduced the need to ensure optimal pedagogical conditions in order to ensure the efficiency of the model, as follows the integration of the prospective dimension in the professional training of teachers and managers; elaboration of the procedural-technological component for including the prospective dimension in the pedagogical practice; organizing the monitoring of the formation of prospective skills of students. Respectively, as a finality, we assumed the formation of prospective competence as a basic competence of personality, consisting of the system of knowledge gained regarding the essence of the prospective dimension in education, skills of anticipation, and planning change in the organization of the study process.

The conceptual and methodological approach of the prospective education presented above allows the formulation of strategic ideas. Prospective education is the social educational approach, oriented towards the formation of the development of the prospective personality, which includes the set of relationships, influences, and actions in order to adapt to change and innovation.

The value validation of the presented ideas led to new theoretical-applicative considerations, finding that the theoretical and methodological foundations of prospective education will be relevant as a distinct field of prospective pedagogy if it is constituted as an educational paradigm with theoretical-applicative character. Valorization of anticipation and planning, as fundamental elements of prospective education; determining and structuring prospective values in the context of fundamental human values; approaching the educational institution through a prospective perspective; elaboration of the structural components of the prospective

education paradigm: of the pedagogical Micromodel of the PE in the formal-non-formal-informal plan, of the transdisciplinary Micromodel of the PE in the context of the new educations; a Micromodel of the formation/development of prospective values; of the technological Micromodel of PE.

Thus, we can say that the paradigm of prospective education is the set of interconnected models, focused on training the prospective competence of specialists organized based on the general principles of learning and prospective approach to education, psycho-physiological and social characteristics of the individual prospective personality, expressed through anticipation, planning and direction towards the future. The essence of the PE Paradigm is reflected in Figure 6.

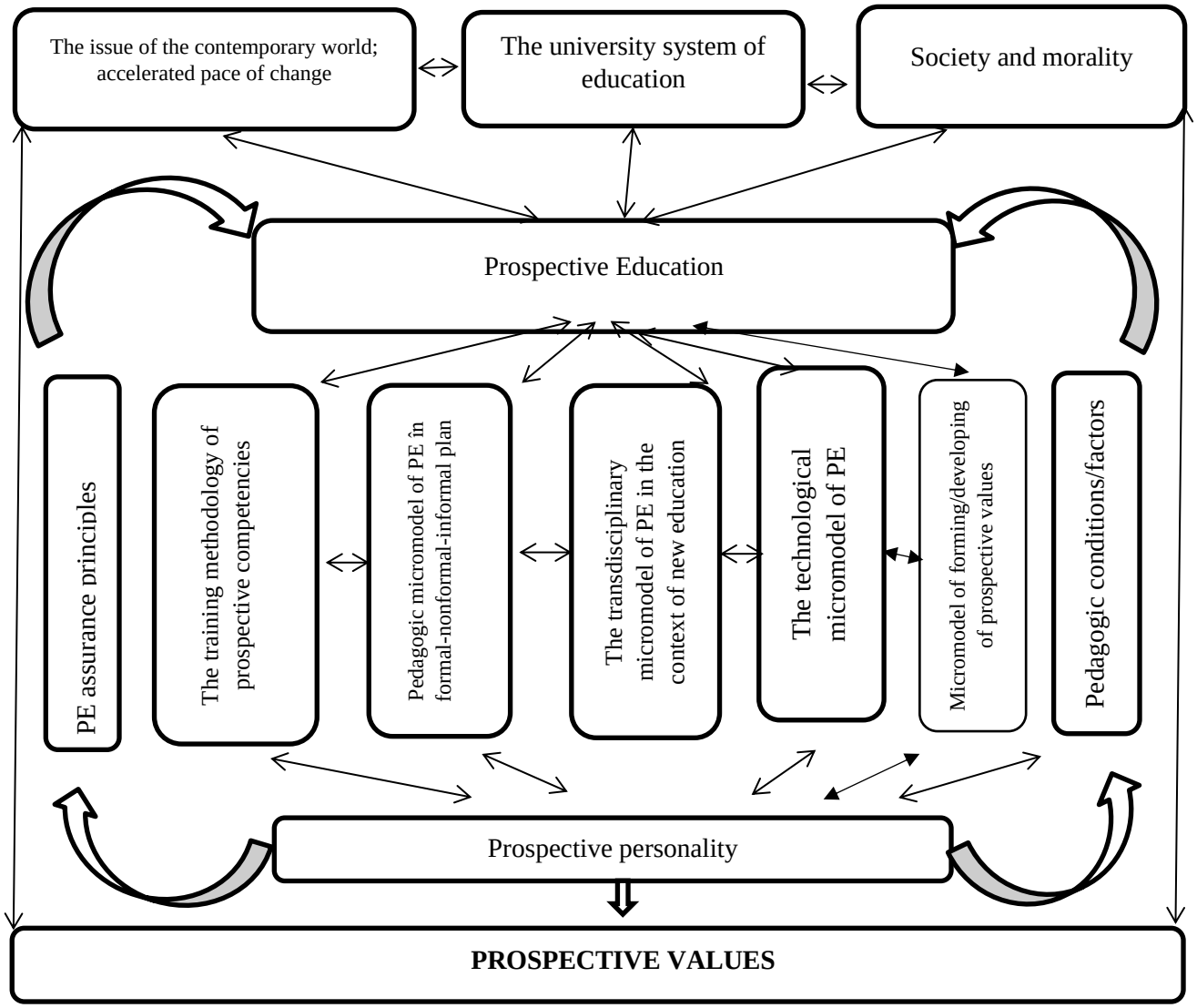

Figure 6. Prospective Education Paradigm

The issue of the contemporary world is characterized by universality, globality, complexity, etc. These features emphasize the urgency of the solution through various aspects. An important role is played by education.

New education - environmental education, education for good understanding and peace, education for participation and democracy, education for the subject and population, education for a new international order, education for communication and media, education for change and development, nutrition education, etc., are attempting to prepare the personality and social communities for solving the problems of the contemporary world. [73]

The evolution of morality is explained by the emergence of moral norms in society, starting from the process of natural selection, however, the person can not have a behavior recognizable to be moral, ie can not give up personal benefit for the benefit of other individuals, for that then they would have a reduced ability to adapt to others.

Change and development in the contemporary world are profound, complex, and radical. Prospective education is practically a response to the social order, politically, economically, psycho-socially, and pedagogically conditioned. The realization of the paradigm of prospective education, in our view, is conditioned by the influence of several factors, the following being paramount: the issue of the contemporary world (PLC), in which the PE is presented as a desideratum of "new education"; the company, which submits the social order for the formation of the prospective personality; particularities of the functioning of the education system, which creates favorable/ unfavorable conditions for the organization of prospective education (the set of socio-psycho-pedagogical conditions). [66, p.189]

PE is based on the fundamental principles that aim at the educational process, by taking into account the prospective specifics. In this sense, we consider that the functionality of the Prospective Education Paradigm can be ensured by respecting the following specific principles: *The principle of anticipation; The principle of the global approach; The principle of temporal perspective; The principle of social stringency; The social and individual axiological principles; The principle of experiential/ praxiological learning; The principle of lifelong learning; The principle of*

transdisciplinarity; The principle of prospective guidance; The principle of globality; The principle of transdisciplinarity; The principle of innovation.

At the same time, we propose the specification of the pedagogical conditions, the creation of which substantially facilitates the development of the PE: ensuring an adequate legal/normative educational framework; institutionalization of prospective education in the education system; ensuring continuity of learning (lifelong learning); developing the scientific-methodical basis of prospective education; integration of the prospective dimension in the professional training of pedagogues, etc.

In our opinion, the theoretical and methodological substantiation of prospective education presupposes the awareness that the prospective direction counts for all fields of professional training. At the same time, the adaptation of young people to the requirements of society is directly determined by their value system, by the appreciation of life prospects. The inability to respond to the challenges of contemporary life lies in several risks: low initiative, wrong decisions, rigid approach to complicated situations - a situation that presents the need to integrate prospective pedagogy in the education system. [66, p.190]

3. COGNITIVE, METACOGNITIVE AND PRAGMATIC INTO THE PROCESS OF THE PROSPECTIVE PERSONALITY FORMATION/DEVELOPMENT

Prospective education is an important direction of evolution of the activity of formation/ development of the human personality. Approached holistically, the training/development process is based on a cognitive, metacognitive, and pragmatic area.

3.1. The cognitive area in the process of the prospective personality formation/ development

The cognitive area in the process of the prospective personality formation / development is highlighted by finalities and focusing on them, we are in the normative, anticipatory, and desirable dimension of education. The aims of education are ordered according to the criteria of complexity, from the ideal, through goals, to the concrete educational objectives. [38, p.107]

By definition, any goal anticipates a reality that does not yet exist, and foreshadows a capacity to be formed. Teachers have always, by virtue of their own professional requirements, anticipated by elaborating and ordering the aims of the instructive-educational activities with the beneficiaries. The design action is the important component of the projective competence, representing at the same time the quintessence of the elaboration and management of the educational intervention projects.

However, the design of objectives can be achieved at different levels of generality and rigor, indicating in a more abstract or more concrete way human capabilities and performances. The problem is important, because, as G. A. Landsheere points out, "modern curriculum development theory, curricular education, formative and summative assessment theory, education planning all insist on the indispensable precision required of the objectives to be pursued, without which all these initiatives are inevitably doomed to failure." [apud 66, p.58-59]

The global information society will impose a human ideal - and an educational ideal - adapted to it, ie a person capable of managing his cognitive resources and environmental information optimally. In this way, cognitive psychology can be a valuable aid for prospective pedagogy to create ideal personality models that will be proposed to the educators of the future. [38, p.109]

Approaching the issue of the education ideal from a cognitive point of view is confirmed as beneficial, because, insofar as the educational ideal allows reformulations, additions, and adjustments to the real requirements of the future, although it is currently formulated in terms of it. ” [38, p.108]

At the same time, the contents of the aims of a discipline or a lesson can be formulated in terms of cognitive schemes, rules, and cognitive scenarios. The transfer of cognitive schemas (representations) from one field of knowledge to another is limited, so it is necessary to design modes of knowledge (cognitive schemas, concepts, rules, cognitive scenarios) for a given field.

Cognitive taxonomy is rationally plausible but less useful in practice. Thus, R. Gagne raises the issue of dividing objectives into categories and focuses on the precise identification of the conditions (internal, external) in which learning takes place. [38, p.116] Any cognitive task involves energetic support of a motivational nature, an emotional tone and vice versa, emotional feelings from emotions to feelings contain in different proportions various conceptualizations and processing of information that follow certain rules. [38, p.119] In this sense, cognitivism state that information cannot be received passively, but select the relevant ones. Achieving an emotional goal requires the assimilation of conditioned knowledge about the value: to know.

Knowing, being able, and being motivated to anticipate educational action, in an orderly and optimistic way, with a positive and mobilizing orientation, at the level of micro-, meso- and macrostructure of education, become educational goals and “depending on the level of task achievement by the student, we return to competence - the ability to preserve and transfer superior, which facilitates the achievement of performance targeted by operational objectives. [38, p.121]

Cognitiveists choose to formulate operational objectives (planning) in accordance with the latest and most relevant theoretical models in cognitive science.

Curriculum theory proposes new concepts with reference to the purposes of education. And the insistent emphasis on the transdisciplinary, trans-curricular dimension, transfer of knowledge, and competencies, reveals our focus on cognitivism. [38]

The cognitivist model of learning built on *the theory of cognitive and anticipatory progress organizers (*Ausbel, 1963) explains learning through the patterns according to which knowledge is structured. Concept maps are graphical representations of how knowledge is structured mentally, where the organizers act as a bridge between the new material and previous ideas with which they could relate and on which they could emerge, [82, p.46] thus placing the concept of cognitive schema at the center of theoretical construction.

The learning model derived from information processing level theory explains learning by processing information at different levels of depth. [93] Constructivist models use the paradigm of learning as active construction of knowledge and skills. According to the constructivist model, learning involves a mental construction of knowledge, not its absorption from external sources. [82, p.48] The subject of self-regulated learning may be: cognition, emotion, motivation, and physical environment, and regulatory tools may be metacognitive strategies (planning, monitoring, and evaluation) or newer tools involving the use of technology. [82, p.137]

The following are proposed as skills of metacognition: anticipation operations: planning (forecasting stages, choosing strategies and anticipating (previewing) results; evaluation operations - regularization, defined by monitoring; operations of terminal evaluation of the result obtained by reporting on purpose. [82, p.82]

As mentioned by D. Antoci, constructivism refers to the way of thinking and acquiring knowledge, involves the examination of learning, problem-solving, intelligence, and is concerned with the mechanism of changing the way of solving problems in terms of ontogenesis, establishing relationships between academic results and the cultural differences of the subjects, etc. [2, p.152]

Thus, the concept of *self-regulated learning* appears to be important - the individual's ability to activate and systematically support both *cognition* and behavior to achieve learning goals; the ability to "learn effectively on one's own", [82, p.139] dependent on the problem of self-control of the learning effort, on the potential conflict between metacognitive processes and those of cognitive acquisition, etc. [82, p.139-140] Affectivity is an important aspect in this regard. Cognition mediates and provides signals for activating and triggering affective states, being a necessary condition for them. And the sign and intensity of the written feelings - writes M. Golu - change depending on the perception of the situation or its anticipated mental representation. [22, p.125]

The relationship between cognition and emotion is bilateral, of mutual conditioning. The reference of emotional-affective experience is provided by the cognitive experience in relation to the situations and objects around. [2, p.34]

According to L. Cuznetov, until recently, education and learning focused on behavior and external factors, on receiving information, reactions to it, and accumulated culture, in a sociological sense, but with the cognitive revolution (the late 60s of the century XX), the rise of information technology development and the emergence of cognitive psychology in pedagogy strengthen the theory of cognitive education. [30] Thus, learning begins to actively capitalize on the cognitive-constructivist paradigm, focused on *the development of scientific thinking* and the principles of humanistic education, which facilitates *the development of thinking, metacognition, creativity*, and responsibility for self-development. [30]

One of the important elements of personality development and effective preparation for life is intellectual development, at the center of the intellect is thinking, which guides, leads, and capitalizes on all other mental processes and functions.

Transdisciplinarity demands the situation as a unit of learning. All transdisciplinary lessons will consist of problem-solving based on situations. The problem is, that the knowledge of reality does not take place at random, it is inserted into thought and structured activity. [41, p.28]

Competence in "learning to learn" is one of the key competencies in today's society, which is a knowledge-based society. *Metacognition* is one of the dimensions of the competence "learning to learn", along with the affective -motivational, cognitive, and behavioral ones, hence the importance of metacognition in the university educational process. [95, p.173]

3.2.The metacognitive area in the process of formation/development of the prospective personality

The metacognitive area in the process of formation/development of the prospective personality is represented by the personal knowledge, the way of interpreting, and the transfer of knowledge in other disciplines.

Metacognition can be defined as "thinking about thinking" or "own knowledge about knowledge". Metacognitive refers to the executive functions of cognition that control the learner's actions or the ability to recognize and evolve patterns of thinking. [95, p.174]

Metacognition is the act of reflective self-observation, understanding, and regulation of one's own cognitive processes, of the way of constructing and using cognitive schemas, of learning and knowledge strategies, but also of one's own deficiencies, dysfunctions and cognitive deficiencies, one's own shortcomings. [9, p.58] Metacognition and cognition differ in their content and functions, but they are similar in their form and quality: both can be learned, affected by the phenomenon of forgetting; correct or incorrect, and externalized through the verbal wording in which it is communicated, the representations about the validity, correctness, adequacy of the user information and strategies are shared. [95, p.174-175]

The difference between cognitive and metacognitive is highlighted by functions and content. The content of metacognition is knowledge, skills, and information about cognition. The content of cognition includes real-world things and their mental images (objects, people, events, etc.) and the skills needed to handle these entities, as well as the workload. The source of metacognition lies within the person, in their own mental

representations of reality, which may include what the person knows about these internal representations, how they work, and how they feel about them. [95, p.175]

Cognition differs from metacognition and function. If "cognition has the function of solving problems, of leading to a successful end (e.g., memorizing terms, asking questions and answers, etc.) then metacognition has the function of regulating the cognitive operations initiated by the person to solve a problem, performing a task such as awareness of misunderstood sequences/stages, how to ensure progress in understanding the content, deliberately increasing the focus of attention to protect learning from the impact of disruptive factors. [95, p.175]

The metacognitive approach in the formation of knowledge competence is achieved by properly determining the strategies it will amplify, and how it will use them in solving various significant situations. Petagogy is understood as a high-level mental process involved in learning that includes the skills needed to understand and monitor cognitive processes, such as learning planning, the use of appropriate problem-solving strategies, performance estimation, [83, p.153] a complex structure open to development continues, [11, p. 198] is the corresponding cognitivist concept of phenomenological reflection in the plane of knowledge: metacognition means to reflect on our own processes of knowledge. [38, p.109]

In a dynamic world, characterized by the explosion of information and the development of technologies, the disciplinary organization of learning in science education becomes insufficient. [12, p. 308]

In this regard, metacognitive knowledge, metacognition, and skills are highlighted. The latter, "designate the procedural aspect of metacognition and refer to the activities carried out to control and monitor one's own cognition. Learning is facilitated by the use of structured strategies, including metacognitive ones. " At the same time, *learning preparation and planning strategies* aim *to anticipate and decide* on how the task is performed. Every person involved in the planning has a dialogue with themselves about what they could do and what is most effective in a given context. [Simeonov, p.179] An important factor in this learning process is "metacognitive regulation strategies, which involve the interventions we decide to do based on what we have found through

the control and monitoring activities, being decisive for the successful learning." [95, p.180]

The process of training prospective skills within the discipline "Prospective Education" but also in an integrated form, includes activities: updating previously acquired acquisitions; analysis and differentiation; internalization by exemplification, exploitation, synthesis, rationalization; generalization through creation and design.

For a curriculum that aims to develop skills, in this sense, the curriculum in the sense of the pedagogical paradigm involves anticipating the set of actions carried out in the educational activity according to the aims represented by skills at the system and process level, thus ensuring the functionality of the curriculum. in a managerial and strategic sense. [11, p.20]

The education of the future must be shaped by complexity and inseparability. Thus, the Delors report emphasizes a comprehensive education of every human being, which involves learning to know, to do, to live together, and to learn to be, without neglecting the transpersonal dimension. [12, p.313]

In this sense, J. Ramos claims that the "future" is a projection of consciousness and culture. This embedded and constructivist concept of the future indicates the need to build ethnographic and sociological understandings of how different communities know the different times and how human consciousness and culture mediate decisions and actions. [87, p.825]

3.3. The pragmatic area in the process of formation/development of prospective personality

The pragmatic area in the process of formation/development of prospective personality is confirmed by the publication of the monograph "Theory and methodology of prospective education", which highlighted the need to rethink, resize and transform educational paradigms, as well as the more organic correlation of educational, social, economic and at the level of society as a whole, which is already a topical task. These, in turn, have led to a redistribution of the functions of the education system to all educational organizations and social institutions and a radical

reconsideration of the relationship between formal, non-formal, and informal learning, with a view to increasing their complementarity and efficiency of "lifelong learning". It is already clear that the foundations of the cognitive society - the human capacity to create and use efficiently and intelligently the skills and behaviors acquired today, and tomorrow could be overcome.

This is why it is necessary to regulate cognitive processes through various activities: planning, prediction/anticipation, monitoring, control, evaluation, and improvement. [9, p.59]

The pragmatic area of personality formation was also established through the *micromodels united in the PE paradigm*, presented as structural components, focused on the formation of prospective competence in students. The essence of the PE Paradigm is reflected in Figure 6 and validated by the implementation of the pedagogical experiment.

The elaboration of *the methodological guide for the design of prospective competencies in the university curriculum* (at the publishing house) is another tool of the praxiological area focused on recommendations for analyzing university programs and planning prospective competencies according to the forecast of society and labor market demand from the perspective:

• change and mutation in the university curriculum, which means redefining the fundamental objectives of education where the prospective character can be seen;

• orienting teachers towards the design and training of prospective skills;

• to review both the objectives and the finalities proposed in the preparation of the educational beneficiaries for all specialties, such as:

a) the study of *law* as a field must be oriented towards the analysis of laws not only regarding the approach, or taking over the laws of one or another state, but to analyze their evolution, or what were the effects of those laws in the first period of adoption, what were the changes, later where the law was not perfect in terms of content or applicability. That is why it is considered in our country that the laws are perfect but not respected, because they are taken from one country or another, but they are not approached in a territorial and problematic context;

b) *the economy* is an area that influences the whole society, so it would be necessary not only to make comparisons between developed and least developed countries but to review what were the strategies implemented in those countries, what were the mistakes of implementing those strategies depending on the geographical environment, demographics, etc. as well as the specifics of the strategy itself, which over time changes its structure or essence.

J. Ramos argues that in professional situations, forecasting informs the action in a variety of ways.

• In *the field of politics*, governments at various scales are involved in a variety of decisions, which will have lasting effects over the decades and can be difficult to overturn. Policy-making helps regions to understand long-term social and environmental changes and to develop appropriate responses.

• In *the field of strategy, requirements, and business perception* of how the market, technology, and policy changes can create changes in their operational and transactional environments. The strategic vision helps companies discover opportunities, address the challenges of rapidly changing markets, and develop a social and ethical context for business decisions.

• In *the field of innovation and design,* forecasting can inspire design concepts, social, and technical innovations that have a fit in the future, rather than just now. Design and innovation provide the "seeds of change" interventions that can, over many years, become significant drivers of change, the levers for long-term social change. [87, pp.825-826]

A new way of thinking about design is transdisciplinary, involved in art, science, and technology, and oriented toward collaboration and participation. Service design thinking has become an important approach at the interface between creative industries, business creation, and social innovation. Service design incorporates both the use of forecasting as a lever in conceptualizing services and innovations in the context of social change and incorporates a participatory and ethnographic (design) orientation so that design is closely linked to end-user needs. [87, p.941]

It is important to analyze the connection between these development approaches, to identify the positive and negative parts, as well as the duration and effect of the implementation of this strategy.

• creation within universities of specialized sections of scientific research (laboratories and/or centers of prospective studies in education);

• *the organization of an exchange of interuniversity experience* in which analogous (planning) courses are taught, is a recommendation which, although it has a more special character, would have a rather beneficial effect both for the teachers and for the students-future sections;

• inclusion of prospective issues in the topics of research and dissertations and undergraduate, seminar and student conferences.

Thus, if for centuries an idealistic philosophy dominated that drew a clear line between what represents "theory" and "praxis", by virtue of which the traditional philosophy of education had as its main objective the transmission of knowledge - a transmission dissociated from the problems of real life and practice. And that underestimated the development of actual capacity. Over time and in opposition to this, another philosophy has emerged and asserted itself more and more strongly - a pragmatic philosophy, with a growing basis of accreditation. Philosophy in the interpretation of which scientific knowledge appears in a different light, not only as an active reflection and understanding of reality, but also as a transformative intervention on this reality: not only as ideational and verbal production but also as specific production - a production that induces action, which develops the action.

In such an approach, to know no longer means to copy the real, but to act on the real, to transform it: to know is no longer an end in itself, but the end consists in the actions that knowledge allows. The linking of the action to the theory thus reinforces an older idea expressed in his time by Socrates, according to which man is, by his nature, predetermined to act correctly and in accordance with the knowledge he possesses. [apud 16]

CONCLUSIONS

The analysis of approaches, trends in education confirms the existence of the problem with reference to the premises and mechanisms of prospective university education, but also the validation of the purpose. Fusion and/or Discipline Foresight (PE Curriculum) in University and Research Objectives.

The analysis of the literature presents the fact that in essence the Prospective Pedagogy is located differently in the system of education sciences, but the vast majority of researchers locate it in *the fundamental field of the System of Education Sciences.* The object o Prospective Pedagogy study is prospective education.

The content of the PE concept reflects new phenomena, defining the status of postmodern education: PE tends to precede the level of economic development, anticipating the directions of evolution at the level of human and technological resources; PE aims to prepare people for the society of the future; The PE faces the contradiction between the products of education, the demands of society and the demands of the labor market. Thus, the inclusion of the prospective field in the university education system would mean a better connection of the education system with social issues, a connection which, moreover, is the foundation of social transformations.

The PE approach is based on three existing concepts: *foresight education, foresight pedagogy, and the prospective nature of education*, through which certain conceptions of the education of the *future are realized*. ***The prospective character of education*** requires adequate reporting to the characteristics of the future society and the functioning of the present society. Due to ***its prospective character,*** education not only adapts to the specifics of the anticipated changes but also prepares the conditions for the appearance of these changes, it models through the present actions the very specifics of the future society.

Studies of general epistemology set out four main conditions that a certain field of knowledge must meet in order to acquire the status of science (to have its own research object; to develop its own conceptual and explanatory system, consisting of concepts,

reasoning, and laws (statements, able to go beyond the descriptive phase and allow access to explanation and prognosis, to have their own methods and techniques for investigating the object of study, brought together in a scientific methodology, , norms and rules of practical action, tools, methods.

Prospective pedagogy *is a fundamental field of education sciences that, based on the general and specific prospective educational laws and strategies, adequately studies and capitalizes on the process of forming the prospective personality.*

In a broad sense, prospective pedagogy is a fundamental field of theoretical, praxiological and prospective education sciences, which studies and directs the process of value change and adaptation and, aims to form a fully developed and prospective personality, able to cope with social transformations. fully capitalizing on their potential and skills, contributing to the achievement of the educational ideal.

In a narrow sense, prospective pedagogy studies the organized and designed educational process of personality development for the future, the formation of awarenes,s and the proactive behavior of active integration in the ever-changing social life.

Functionally, prospective pedagogy is the totality of strategies, aimed at ensuring a psychosocial comfort, sensitivity to change, and orientation of the personality towards anticipation and planning for the future.

At the managerial level, prospective pedagogy represents the direction of the process of orientation, anticipation, and planning through prospective education, the statement of which contributes to diminishing the influence of chaotic changes in favor of capitalizing and developing the personal vocations of the individual to adapt and transform.

At the level of educational policy, PP is an area that is based on *the principle of social stringency and global approach, orientation, and prospective design of education,* which can successfully contribute to increasing the efficiency of teaching, thus increasing the actions and influences on beneficiaries educational from the perspective of both the social and individual axiological principles and anticipatory one, which, in turn, will contribute to economic, political, cultural development, etc.

A methodological benchmark for the establishment of prospective pedagogy is the curriculum theory, with multiple approaches to the term, key components, characteristics, etc. Prospective methods involve enormous changes in teaching techniques.

The implementation of PP can be established by reporting it to the level of modern education systems, thus outlining *four institutionalized pedagogical approaches (disciplinary, modular, infusional, and transdisciplinary)*. We propose the introduction of prospective education in the university education system both as a study discipline and as an infusion element or integrative approach, depending on the specialty.

Viewed from the perspective of epistemological foundations, PP is based on a series of principles characteristic of prospective education. We propose to complete the list with the following principles: *the principle of a global approach, the principle of temporal perspective, the principle of social stringency, the social and individual axiological principle, the principle of learning from experience, and the principle of anticipation.* The analysis of the specialized literature guided us to *complete the list* of PE principles *with the principle of lifelong learning, the principle of prospective orientation, the principle of innovation, the principle of globality, the constructivist principle, and the principle of transdisciplinarity.* By focusing on functions, we understand the fundamental directions of the prospective pedagogical mechanism action: anticipation, planning, adaptation to change, innovation, active integration in social life, and orientation towards the future. *Conditions* for the implementation of Prospective Education in the university have been proposed as general, specific, particular and methodical ones.

The specific aims of the PE, the contents and the learning activities form t*he curricular frame of reference of the PE* which is developed together with the process of the curricular development. The theories that led to the substantiation of PP also highlighted the prospective skills: anticipation, design, adaptation to change, innovation, risk management, time management, and information management. The list of prospective skills can continue depending on the evolution of society, the accelerated pace of change, as well as the requirements of the labor market.

The paradigm of prospective education is the set of interconnected models, focused on the formation of prospective competence in various specialties that are organized based on the general principles of learning and prospective approach to education, psycho-physiological and social characteristics of the individual, with the aim of training prospective personality.

REFERENCES

1. ANDRIŢCHI, V. Taxonomia acţiunilor pedagogice pentru formarea atitudinilor – element central al competenţei şcolare. In: *Materialele Conferinței Republicane a Cadrelor DidacticeDidactica ştiinţelor exacte*. Vol. 1, 28-29 februarie 2020, Chişinău. Chișinău, Republica Moldova: Universitatea de Stat din Tiraspol, 2020, pp. 9-18. ISBN 978-9975-76-305-9.
2. ANTOCI, D. Teoria și metodologia formării orientării valorice a adolescenților și tinerilor. Monografie. Chișinău, 2020. 220 p. ISBN: 978-9975-56-811-1.
3. ANTONESEI L. Polis şi Paideia. Şapte studii despre educaţie, culturi şi politici educative. Iaşi: Polirom, 2005. -191 p.
4. BACIU, Sergiu; VRABII, Violeta. Dezvoltarea personală în contextul formării / dezvoltării continue a cadrelor didactice universitare. In: *Managementul educaţional: realizări şi perspective de dezvoltare*. Ediția 2-a, 27 aprilie 2018, Bălți. Bălți: Tipografia din Bălţi, 2018, pp. 10-15. ISBN 978-9975-3260-0-1.
5. BACIU, Sergiu. Managementul şi cultura calităţii în instituţiile de învăţământ. In: *Analele Ştiinţifice ale Academiei de Studii Economice din Moldova*. 2014, nr. 1, pp. 84-90. ISSN 1857-1433.
6. BĂRSĂNESCU, Ş. Educaţia, învăţământul, gândirea pedagogică din România. Bucureşti: Editura Ştiinţifică şi Enciclopedică, 1978.
7. BERGER, G., Omul modern şi educaţia sa. Psihologie şi educaţie. Bucureşti: Ed. Didactică şi Pedagogică, 1973. 101 p.
8. BOCOȘ, M.-D. Dicționar praxiologic de pedagogie. Volumul II (E-H). Pitești, 2016. ISBN: 978-973-47-2212-9
9. BOCOȘ, M:-D. Instruirea interactivă. Repere axiologice și metodologice. Polirom, 2013, -470 p. ISBN: 978-973-46-3248-0
10. BOGATU, E. Valori ale gândirii pragmatice în educaţie. In: *Identitate şi valori culturale în context European*. Ediţia 2, 4 iunie 2021, Chişinău. Chişinău: USM, 2021, pp. 13-14.
11. BOTGROS, FRANȚUZAN, L. Curriculum școlar la disciplina Științe. Clasele a X-a-a. Profil Umanist, p. 198
12. BOTGROS, Ion; FRANŢUZAN, Ludmila. Proiectarea curriculumului integralizat, Ştiinţe, clasele a X-XII-a, profilul umanist. In: *Eficientizarea învăţământului – vector al politicilor educaţionale moderneconferinţă ştiinţifică internaţională*. Partea 1-a. , 11-12 decembrie 2014, Chişinău. Chişinău: Tipografia "Cavaioli", 2014, pp. 308-313. ISBN 978-9975-48-066-6.
13. CADRUL DE REFERINȚĂ AL CURRICULUMUL NAȚIONAL / aut.: Vl. Guţu, N. Bucun, A. Ghicov [et al.]; coord.: L.Pogolşa, V.Crudu; experţi intern.: Ciprian Fartuşnic, Daniel Petru Funeriu. Chişinău: Lyceum, 2017 (F.E.-P. “Tipografia Centrală”). - 104 p. ISBN 978-9975-3157-7-7.
14. CALLO T. *Perspectiva pedagogică a pardigmelor*. În: Educația integrală. Fundamentări teoretico-paradigmatice și aplicative. Monografie, Chișinău, 2015, p.5-11. ISBN: 978-9975-48-096-3.

15. CAZACU, T. *Valorificarea tehnologiilor didactice moderne*. În: Tehnologii didactice moderne. Materialele simpozionului pedagogic internațional din 26-27 mai 2016. Chișinău, 2016, p.14-17. ISBN 978-9975-48-102-1.
16. CERGHIT I. Sisteme de instruire alternative şi complementare. Structuri, stiluri şi strategii. Bucureşti: Ed.Aramis, 2002. 276 p.
17. COJOCARU-BOROZANU, M; ZAGAEVSCHI, C; STRATAN, N. *Pedagogia culturii emoționale*. Chișinău, 2014, 200 p. ISBN: 978-9975-46-214-3.
18. COJOCARU, V. VLADU, M. *Competențele decizionale ale managerilor în implementarea inovațiilor*. Chișinău, 2017. 177 p. ISBN 978-9975-76-223-6
19. COJOCARU V., Teoria şi metodologia transferului inivaţional în învăţământul universitar. Chişinău: Ed. Pantos, 2010, 241 p.
20. COJOCARU, V. Reforma învăţământului. Orientări. Obiective. Direcţii. Chişinău: Ed.Ştiinţa. 1995. 176 p.
21. COJOCARIU V.-M., Educaţie pentru schimbare şi creativitate. Bucureşti: Ed. Didactică şi Pedagogică, 2003. 312 p.
22. CONSTANTINOV, V. Istoria – știință și disciplina școlară. Noi abordări la începutul secolului al XXI-lea. In: *Tradiţie şi inovaţie în educaţie Învățământul general: tradiție și inovație* . Vol. I, 18-19 octombrie 2019, Chişinău. Chișinău, Republica Moldova: Universitatea de Stat din Tiraspol, 2019, pp. 209-216. ISBN 978-9975-76-289-2.
23. COROPCEANU, E. Promovarea instruirii prin cercetare pentru dezvoltarea competențelor inovaționale. În: Tehnologii didactice moderne. Materialele simpozionului pedagogic internațional din 26-27 mai 2016. Chișinău, 2016, p.183-185. ISBN 978-9975-48-102-1.
24. Condiție (vizualizat 22.12.2021) Disponibil: https://dexonline.ro/definitie/condi%C8%9Bie Dex online https://dexonline.ro/definitie/schimbare
25. CRISTEA, S. Tehnologia instruirii. In: *Revista Didactica Pro…, revistă de teorie şi practică educaţională*. 2018, nr. 2(108), pp. 53-56. ISSN 1810-6455.
26. CRISTEA, S. Finalitățile educaționale.Vol.3. București, 2016, 134 p. ISBN: 978-606-683-403-2.
27. CRISTEA, G. Tehnologiile didactice moderne. Delimitări conceptuale și perspective pragmatice. În: Tehnologii didactice moderne. Materialele simpozionului pedagogic internațional din 26-27 mai 2016. Chișinău, 2016, p.203-207. ISBN 978-9975-48-102-1.
28. CRISTEA, S. Axiomatica educației în perspectiva paradigmei curriculumului. În: Tehnologii didactice moderne. Materialele simpozionului pedagogic internațional din 26-27 mai 2016. Chișinău, 2016, p.168-173. ISBN 978-9975-48-102-1.
29. CRISTEA, S. Dicţionar enciclopedic de pedagogie. Volumul I (A-C). Bucureşti: Didactica Publishing House, 2015. 831 p. CRISTEA S., Studii de pedagogie generală. Bucureşti: Ed. Didactică şi Pedagogică, 2004. 252 p.

30. CUZNEŢOV, L. Gândirea științifică în educație și instruire baze psihopedagogice de optimizare a învățării prin prisma dezvoltării gândirii științifice. In: *Acta et commentationes (Ştiinţe ale Educaţiei)*. nr. 4(22), 2020, pp. 110-121. ISSN 1857-0623
31. DANDARA, O. Competenţa gnoseologico-conceptuală. În: Pedagogie: Suport de curs. Chişinău, 2010
32. DANDARA, O., SPINEI, A. Elaborarea cadrului National al Calificarilor. Buletin metodic. Chisinau: CE USM, 2006. 146 p.
33. DANDARA, O; MURARU, E; SILISTRARU, N. Standardele invăţământului superior. Delimitări conceptuale. In: Didactica Pro. Chişinău, 2001. nr. 6., p. 42–45.
34. DEWEY, J. Fundamente pentru o ştiinţă a educaţiei. Bucureşti: Ed. Didactică şi Pedagogică, 1992. 365 p.
35. DOTTRENS, R. Institutori ieri. Educatori mîine. Bucureşti: Ed. Didactică şi Pedagogică, 1971. 186 p.
36. European Year of Creativity and Innovation (Vilnius November 2008, Brussels, 2009) 09.03.2022] Online Available: https://ec.europa.Eu /regionalpolicy/sources/docgener/ panorama/pdf/mag29/mag29_en.pdf
37. FAURE, E; HERRERA, F; KADDOURA A-R. et.all. *Learning to be*. The world of education today and tomorrow. Report of the International Commission on the Development of Education. Unesco, Paris, 1972. 348 p. ISBN 978-93-3-101017 https://unesdoc. unesco.org/ark:/ 48223/pf0000223222
38. FRUMOS, F. Didactica. Fundamente și dezvoltări cognitiviste. Iași: Ed. Polirom, 2008. 214 p. ISBN: 978-973-46-1242-0
39. Foresight. The manual. Singapore: Global center for public service excellence. UNDP. 2014. [citat 28.12.2021]. Disponibil: https://www.undp.org/sites/g/files/zskgke326/files/ publications/ GCPSE_ForesightManual_online.pdf
40. GAJIM, Ş. O nouă specialitate economică: Managementul proprietăţii intelectuale. In: *Intellectus*. 2001, nr. 1, pp. 30-34. ISSN 1810-7079
41. GHICOV, A; CALLO, T; MARDARI, A. Competența transdisciplinară în procesul educațional. Aspecte metodologice și manageriale. In: *Materialele Conferinței Republicane a Cadrelor DidacticeDidactica ştiinţelor exacte*. Vol. 1, 27-28 februarie 2021, Chişinău. Republica Moldova: Tipografia Universităţii de Stat din Tiraspol, 2021, pp. 24-34. ISBN 978-9975-76-324-0.
42. Ghidul metodologic pentru transpunerea competenţelor profesionale în rezultate ale învăţării. Anexă la ordinul Ministrului Educaţiei, Culturii şi Cercetării nr. 445 din 12.05.2020. [citat 18.01.2022] Disponibil: https://mecc.gov.md/sites /default/files/ghidul_metodologic _pentru_transpunerea_competentelor_ profesionale_in_rezultate_ale_invatarii.pdf
43. GLAVAN, A; ARSENOV, G. Reflecții psihologice asupa învățării eficiente la studenți. In: *Cultura cercetării pedagogice: provocări şi tendinţe contemporane*. Ediția 1, Vol.2, 5-6 iunie 2021, Chișinău. Chișinău: Tipografia Universităţii de Stat din Tiraspol, 2021, pp. 175-191. ISBN 978-9975-76-345-5..

44. GOLU, M. Fundamentele psihologiei. Vol.1. Ed. Fundației România de Mâine. București, 2007, 832 p. SBN 978-973-725-857-1
45. GOLUBIŢCHI S., DANU E. Impactul educaţiei permanente în dezvoltarea personalităţii. În: Acta et commentationes, Științe ale Educației, revistă științifică, nr.1, Ch., 2012, pag.17-23.
46. GORAȘ-POSTICĂ, V. Formarea de competențe profesionale în contextul actual al învățământului superior. În: Studia Universitatis Moldaviae. Chișinău, 2013, nr. 5 (65). p.31-35
47. GRIFFIN, P. CARE E. (Eds) *Assessment and teaching of 21st century skills: Methods and approach* (Dordrecht, Springer). 2015, 310 p. ISBN: 978-94-017-9395-7 https://doi.org/ 10.1007/978-94-017-9395-7
48. GREMALSCHI, A. Calitatea curriculumului centrat pe competențe. În: Tehnologii didactice moderne. Materialele simpozionului pedagogic internațional din 26-27 mai 2016. Chișinău, 2016, p.185-188. ISBN 978-9975-48-102-1.
49. Guidance Note: Anticipating and matching skills and jobs. International Labour of Geneva, 2015. https://www.ilo.org/wcmsp5/groups/public/---ed_emp/---ifp_skills/documents/publica tion /wcms _534307.pdf
50. GUŢU, V. Curriculumul universitar: dimensiuni de proiectare, implementare, monitorizare. In: *Integrare prin cercetare şi inovare. Ştiinţe socioumanistice*. Vol.2, 28-29 septembrie 2016, Chișinău. Chisinau, Republica Moldova: CEP USM, 2016, 2016, pp. 3-6. ISBN 978-9975-71-818-9.
51. GUȚU, V. Obiective educaționale versus competențe: abordare teleologică. În: Didactica universitară. Coord. M. Sevciuc. Chișinău, USM, 2011, p.44-58. ISBN: 978-9975-71-100-5.
52. HADÎRCĂ, M. Strategii de reconsiderare a dimensiunii educative a procesului de învățământ. În: Educația integrală. Fundamentări teoretico-paradigmatice și aplicative. Monografie, Chișinău, 2015, p.228. ISBN: 978-9975-48-096-3.
53. HERODOTOU, C; SHARPLES, M; GAVED, M; KUKULSKA-HULME, A; RIENTIES, B; SCANLON, E; WHITELOCK, D. Innovative Pedagogies of the Future: An Evidence-Based Selection. In: *Frontiers în Educaţion.* V. 4, article 113. 2019, doi: 10.3389/feduc.2019.00113
54. HIDEG, E. Theory and practice in the field of foresight. În: Foresight the journal of future studies, strategic thinking and policy 9:(6), 2007, pp. 36-46. ISSN 1465-9832.
55. HUSEN T. Conceptul de universitate. Noi roluri, criză actuală şi sfidări pentru viitor. În: Revista trimestrială de educaţie PERSPECTIVE, Vol.XXI, Nt.2, 1991 (78). p. 177-195;
56. HATTIE, J. Anticipation-Action-Reflection Cicle. [citat 10.01.2022]. Disponibil: https://fdocuments.net/document/anticipation-action-reflection-cycle-for-the-anticipation-action-reflection-aar.html?page=1
57. ILLERIS, C. (coord.). Teorii contemporane ale învăţării. Bucureşti: Editura Trei, 2014, 417 p. ISBN: 978-606-719-059-5.

58. JELESCU, P; JELESCU, D. Unele direcții actuale de cercetare științifică la Psihologie în republica moldova și peste hotare. In: *Cercetarea în ştiinţe ale educaţiei şi în psihologie: provocări, perspective", conferinţă ştiinţifică naţională*. 16 septembrie 2021, Chişinău. Chişinău: Print-Caro SRL, 2021, pp. 238-242. ISBN 978-9975-56-934-7.
59. JINGA, I., ISTRATE, E. Manual de pedagogie. Bucureşti: ALL, 1998.
60. LUNGU, V; SILISTRARU, N; BOTNARI, V; MÎSLIȚCHI, V. The efficiency of prospective education in a changing society In: *Internațional Journal of Advanced Research* (IJAR) 9 (11), 2021, p.465-475. ISSN: 2320-5407. https://www.journalijar.com/uploads/61a5b75 a1c0fa_IJAR-37825.pdf
61. LUNGU, V. Learning to learn competence - major imperative in changing adaptability to labor market requirements. In: *Internațional Conference on Humanities, Social Science and Business Management (ICHSSBM)* december 22 nd, 2021, pp.25-31. http://www.digitalxplore.org/ proceeding.php?pid=1194
62. LUNGU, V. Importance of Developing the Prospective Competences among Engineering Students. In: *International Journal of Management and Applied Science (IJMAS).* Volume-7, Issue-8. 2021, pp. 4-11. ISSN: 2394-7926. FI-4.1 http://ijmas.iraj.in//paper_detail.php? Paper_id=18126&nameImportance_of_ Developing_the_Prospective_Competences_among_Engine ering_Student
63. LUNGU, V. *Importance of Developing the Prospective Competences among Engineering Students.* Proceedings of IASTEM International Conference Krakow, Poland, 04th – 05th July, 2021 p.4-11 ISBN: 978-93-90150-26-7
64. LUNGU, V; SILISTRARU, N. *Conceptual Approaches of Prospective Pedagogy*. In: Internațional Journal: Emerging Technologies in Learning. No.18, 2021 p.69-84. ISSN: 1863-0383
65. LUNGU, V. Anticiparea competențelor. In: *Învăţământ superior: tradiţii, valori, perspective Ştiinţe Socio-umanistice şi Didactica Ştiinţelor Socio-umanistice*. Vol. 3, 29-30 septembrie 2020, Chişinău. Chişinău, Republica Moldova: Universitatea de Stat din Tiraspol, 2020, pp. 158-165. ISBN 978-9975-76-311-0, 978-9975-76-314-1.
66. LUNGU, V. *Teoria şi metodologia educaţiei prospective*. Coord. şt. Nicolae Silistraru. Univ. Tehnică din Moldova, Dep. Ştiinţe SocioUmane. Chişinău, 2019, 270 p. ISBN 978-9975-3327-5-0.
67. LUNGU V., Pedagogia Prospectivă –domeniu fundamental în sistemul științelor educației. În Revista științifică Studias Universitatis, seria: Ştiinţe ale Educaţiei, nr. 9 (99) Chişinău, 2016, p. 114-117.
68. LUNGU V. Paradigma prospectiva între evolutia și inovația educatiei. Educația pentru dezvoltare durabilă: inovație, competitivitate, eficiență. Materialele conferinței științifice internaționale 18-19 decembrie 2013 Chișinău, p.110-115,
69. LUNGU, V. Importanţa pregătirii specialistului în a anticipa riscul. În: *Conferinţă ştiinţifică interuniversitară. Ştiinţele socio-umanistice şi progresul tehnico-ştiinţific.* Materialele comunicărilor ştiinţifice UTM 6 aprilie 2012, Chişinău 2012, pp.107-112

70. LUNGU, V. Formarea competenţelor prospective în cadrul universitar. În: *Conferinţa ştiinţifică internaţională. Interferenţe universitare – integrare prin cercetare şi inovare*. 25-26 septembrie, 2012. Chişinău, 2012, pp.88-92.
71. LUNGU, V. Conceptualizarea educației prospective în cadrul universitar. Teza de doctor în Pedagogie, Chișinău 2012. – 163 p.
72. LUNGU, V. Adaptarea ofertei educaţionale la dinamica pieţii muncii. *Conferinţa ştiinţifică cu participare internaţională. Creşterea impactului cercetării şi dezvoltarea capacităţii de inovare*. 21-22 septembrie 2011. Rezumatele comunicărilor, ştiinţe sociale Vol.II. Ed.CEP USM. Chişinău 2011, pp. 11-13.
73. LUNGU, V. Educaţia prospectivă şi problematica contemporană. In: *Revista Didactica Pro…, revistă de teorie şi practică educaţională*. 2009, nr. 4(56), pp. 9-11. ISSN 1810-6455
74. LUNGU, V. Rolul universităţii în pregătirea specialistului de perspectivă. În: *Studia Universitatis*. Revista ştiinţifică. Seria: Ştiinţe ale educaţiei, nr.5 (25) CEP USM Chişinău. 2009 p.66- 71.
75. LUNGU, V. Caracterul inovativ al educaţiei prospective. In: *Revista Didactica Pro…, revistă de teorie şi practică educaţională*. 2009, nr. 1(53), pp. 19-22. ISSN: 1810-6455.
76. MACAVEI, E. Pedagogie propedeutică. Didactică. Bucureşti: Ed. Didactică şi Pedagogică, 1996
77. MACOVEI, M. Viitorul educaţiei: Educaţia pentru schimbare, www.armyacademy.ro/buletin/1_ 2000/VIITORUL.html - 30k (vizualizat 09.03.2022);
78. MARIN, T. Pedagogie. București. Ed. Pro Universitatea, 2018, 272 p. ISBN 978-606-26-0905-4.
79. Metode de prognoză: clasificare, caracteristic, exemplu. [citat 03.01.2022] Disponibil: https: //olnafu.ru/formare/224882-metode-de-prognoz%C4%83-clasificare-caracteristici.html
80. Modelul de Curs de pedagogie propus de Universitatea Bucureşti, 1988.
81. MORARIU, C.-M.; IGNAT, M.-D. Conexiuni teoretice socioeconomice: teoriile schimbării sociale. În: *Revista de Economie Socială*, nr.1/2011, p.3-25. București, 2011. ISNN: 2248-0560
82. NEGOVAN, V. *Psihologia învățării. Forme, strategii și stil*. București: Editura universitară, 2013, 283 p. ISBN: 978-606-591-824-5.
83. OECD future of education and skills 2030. Conceptual learning framework. Anticipation – Action – Reflection cycle for 2030. https://www.oecd.org/education/2030-project/teaching-and-learning/learning/aar-cycle/AAR_Cycle_concept_note.pdf
84. PATRAȘCU, D. Tehnologii educaționale. Chișinău, 2005;
85. PATRAȘCU, D. PATRAȘCU, L., MOCRAC, A. Metodologia cercetării și creativității psihopedagogice. Chișinău: Știința 2003 – 252 p.

86. POPA V. Calitatea în educaţie: reglementări europene. În: Managementul performanţei. Note de curs (sinteze). Tărgovişte: Universitatea Valahia, iunie 2008. p.1-8.
87. POPESCU -NEVEANU, P. Tratat de psihologie generală. București: Ed.Trei, 2013. – 890 p. ISBN: 978-973-695-3
88. PROFIROIU, M. Emergent planning and territorial prospective strategy – a new way for designing the future of urban settlements. În: Theoretical and Empirical Researches in Urban Management, Year 2, Number 4, 2007, p.32 – 44.
89. RAMOS, J. Linking Foresight and Action: Toward a Futures Action Research. In: *The Palgrave International Handbook of Action Research* (pp. 823-842). Palgrave Macmillan, New York. 2017 [citat 30.12. 2021]. Disponibil: https://www.researchgate.net/publication/ 312002337_Linking_Foresight_and_Action_ Toward _a_Futures_Action_Research
90. REPIDA, T. Metode interactive în predarea-învățarea științelor educațieie: problematizarea. În: *Didactica universitară*. Coord. M. Sevciuc. Chișinău, CEP USM, 2011, p.89-101. ISBN: 978-9975-71-100-5.
91. RUSU, E. Valențele formării inteligenței emoționale la studenții pedagogi. În: Tendințe actuale în Științele Educației. Conferința internațională, ediția a X-a. Suceava, 7-9 iunie, 2011, p.70-72. ISNB: 978-973-666-384-0.
92. SCOBLIC, J. Learning from the future. In: Harvard Business Review. 2020. T. 98. №. 4. p. 38-47. https://eventhorizonstrategies.com/wp-content/uploads/2021/01/Learning-from-the-Future-HBR.pdf
93. SCHRAW, G; MCCRUDDEN, M. *Information Processing Theory*. 2013 Retrieved from: http://www.education.com/reference/article/information processing-theory/
94. SFETCU, N. Teoria modernizării https://www.telework.ro/ro/teoria-modernizarii-in-politologie/
95. SEMIONOV, S. Eficientizarea instruirii prin metacognție. În: Didactica universitară. Coord. M. Sevciuc. Chișinău, CEP USM, 2011, p.173-194. ISBN: 978-9975-71-100-5.
96. SILISTRARU, N. Etnopedagogie și educație. Monografie. Chișinău, 2021. 407 p. ISBN: 978-9975-76-295-3.
97. SILISTRARU, N; CALMUȚCHI, L. Curriculum și competență. În: Tendințe actuale în Științele Educației. Conferința internațională, ediția a X-a. Suceava, 7-9 iunie, 2011, p.202-206. ISNB: 978-973-666-384-0.
98. SILISTRARU, N. Note de curs la Pedagogie. Ediţia a II-a, revăzută şi adăugată. Chişinău, 2002. 295 p.
99. SILISTRARU, N. Dinamica şi funcţionalitatea dimensiunilor educaţiei. Chişinău, 2001, 226p
100. SINGH R., Schimbarea educaţiei pentru o lume în schimbare. În: Revista Perspective nr.81/1992. p.138-141.
101. STANCIU M. Reforma conţinuturilor învăţământului. Cadru metodologic. Iaşi: Polirom, 1999. 247 p.

102. STRATAN, V; CERNEAVSCHI, V. Condiții psihopedagogice de formare a culturii muncii la elevii cu dizabilități mintale. In: *Probleme ale științelor socioumanistice și modernizării învățământului*. Seria 22, Vol.1, 8-9 octombrie 2020, Chișinău. Chișinău: Universitatea Pedagogică de Stat „Ion Creangă‖, 2020, pp. 232-238. ISBN 978-9975-46-450-5.
103. SUCEVEANU, A. Temeiul filosofic al preveziunii. p.78-74. În: Științele Socioumaneistice și progresul tehnico – științific. Conferința științifică interuniversitară, 20 aprilie, 2018. Chișinău, 2018. ISBN: 978-9975-45-547-3.
104. ȘOVA, T. Pedagogie: Suport de curs. Univ. de Stat „Alecu Russo" din Bălţi, Fac. de Ştiinţe ale Educaţiei, Psihologiei și Arte, Catedra de Ştiinţe ale Educaţiei. Bălţi, 2016, 180 p. ISBN 978-9975-132-72-5
105. ȘEVCIUC, M. Formarea competențelor profesionale la studenți: abordare teoretică. În: *Didactica universitară*. Coord. M. Sevciuc. Chișinău, USM, 2011, p.59-65. ISBN: 978-9975-71-100-5.
106. ȘERDEAN, I; GORAN BĂZĂREA, L. Didactica specialității – cu ilistrări din toate ariile curriculare. Ed. II-a. Editura Fundației Romăânia de Mâine. București, 2007. 120 p. ISBN 978-973-725-901-1
107. ȘTEFĂROI, P. Paradigma umanistă a asistenței sociale sau scurtă introducere în asistența social umanistă, în Revista de Asistență Socială, nr.1, Iași: Ed.Polirom 2012,
108. Teoria așteptărilor Vroom: Caracteristici, principii, exemple *https://ro.warbletoncouncil.org/teoria-expectativas-vroom-10503*
109. Teoria perspectivelor. [accesat 09.02.2022]. Disponibil. *https://delphipages.live/ro/ sanatate-%C8%99i-medicina/psihologie-%C8%99i-sanatate-mintala/prospect-theory*
110. *Teoriile dezvoltării.* [accesat 15.02.2022]. Disponibil:*Teoriile-dezvoltarii--Teoria-lui-Super---durata-deviataspatiuldeviata21ahatos.rdsor.ro/cursuri/metodologie_cauzalitate. Doc*
111. Teoria perspectivelor. [accesat 09.02.2022]. Disponibil: *https://delphipages.live/ro/ sanatate-%C8%99i-medicina/psihologie-%C8%99i-sanatate-mintala/prospect-theory*
112. Teoriile schimbării sociale. (vizualizat 02.03.2022) Disponibil: http://ebooks.unibuc.ro/StiintePOL/ ralu/2-1-2.htm
113. Teoria anticipării raționale. Academia de Studii Economice din București, 2017/2018 https://www.studocu.com/ro/document/academia-de-studii-economice-din-bucuresti/ doctrine-economice-contemporane-contemporary-economic-doctrines/04teoria-anticiparilor-rationale/ 2280072
114. The future of education and skills Education 2030. [online]. OECD 2018. [citat 15.12.2021] Disponibil: https://www.oecd.org/education/2030/E2030%20Position%20 Paper%20(05.04.2018).pdf
115. TODORAN D., (coord.). Prospectiva educaţiei şi învăţământului. În: *Problemele fundamentale ale pedagogiei*. Bucureşti: Ed. Didactică şi Pedagogică, 1982. p.197-213.

116. TOFLER, A. Socul viitorului. Bucureşti: Ed.Politică, 1993. 513 p.
117. ȚURCANU, V; ŞTEFÎRŢA, A. Schimbarea socială – efecte, teorii, factori și tipuri. In: *Preocupări contemporane ale ştiinţelor socio-umane*. Ediția 6, Vol.2, 11-12 decembrie 2015, Chișinău. Chișinău: Universitatea Liberă Internațională din Moldova, 2015, pp. 76-82.
118. WAYCHAL. P. K. A Framework for Developing Innovation Competencies, Paper presented at 2016 ASEE Annual Conference & Exposition, New Orleans, Louisiana. 10.18260/p.26321. Online Available: https://peer.asee. org/ a-framework-for-developing-innovation-competencies
119. ZAMAN, G; GOSCHIN, Z. Multidisciplinarity, Interdisciplinarity and Transdisciplinarity: Theoretical Approaches and Implications for the Strategy of Post-Crisis Sustainable Development. In:Theoretical and Applied Economics Volume XVII (2010), No. 12(553), pp. 5-20
120. ЕФИМОВА, Н., ПЛАКСИНА, Н., ЕФИМОВА, Е. Психология и педагогика высшей школы. Москва 2018, 156 с. ISBN 978-5-7237
121. ГАЖИМ, И. О теоритической модели музыкального воспитания /И. Гажим / Музыкальное образование в XXI веке: традиции и инновации (К 50-летию музыкального факультета МПГУ): Материалы II Междунар. науч.-практ. конф., Москва, 23-25 нояб. 2009 г. – 2009. – Т.1. – Р. 112-118. – ISBN 978-5-94845-199-2.
122. STRATEGIA NAŢIONALĂ PRIVIND OCUPAREA FORŢEI DE MUNCĂ pentru anii 2017–2021 nr. 1473 din 30.12.2016 Monitorul Oficial nr.109-118/272 din 07.04.2017 (*National Employment Strategy for 2017–2021)*
123. STRATEGIA NAȚIONALĂ DE DEZVOLTARE „MOLDOVA 2030” [citat 08.12.2021]. Disponibil: https://gov.md/sites/default/files/document/attachments/intr40_12_0.pdf
124. *PROGRAMUL național în domeniile cercetării și inovării pentru anii 2020-2023* adoptat în anul 2019. [citat 06.03.2022]. Disponibil: https://ancd.gov.md/sites/default/files/document/attachments/Program%20national%20cercetare%20inovare.pdf