Design of Prospective Skills in The University Curriculum from The Republic of Moldova

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ABSTRACT

In order to think and act prospectively, it is necessary to analyze the trends in the development of society and the issue of university education, as well as the relationship with the labor market in the Republic of Moldova, otherwise dissonances appear in this sense. One of the solutions is curriculum design.

The aim of the research is to theoretically and praxeologically approach the design of prospective skills in the university curriculum through the infusion approach and to determine the level of design of these skills by teachers in the subjects taught. As research methods were applied: analysis of scientific documents, educational policies, observation, testing, pedagogical experiment.

Thus, it was determined that the design and training of prospective competencies in university curricula led to their development from the level of knowledge to the level of application and integration. The design of prospective skills is in line with labor market requirements.

Keywords: competence, design, curriculum, prospective competence

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1. Introduction

Today, the Republic of Moldova is in the process of synchronizing with the European Union (EU) in its attempt to apply EU standards to the quality of education and organizational structures. The higher education strategy of the Republic of Moldova in the context of the Bologna process (2020) emphasizes that higher education can, directly and indirectly, ensure the progress of the entire society.

There is widespread recognition that skills and human capital have become the backbone of economic prosperity and social well-being in the 21st century (Assessment of Higher Education Learning Outcomes. 2012).

Based on these findings, we determine the specific directions/objectives of higher education (2004), including curriculum development based on criteria and methodologies comparable to those of the European Community (Curriculum reform in Europe, 2012).

For sustainable human development and building a knowledge-based society, the National Strategy for Employment (2020) presents key competencies (2018) in the form of knowledge, skills, and attitudes appropriate to each context, which has a fundamental role in each beneficiary. Moving to a competence-oriented approach in education, training, and learning represents a paradigm shift. It impacts not only the structure of curricula but also changes the organization of learning.



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Given the systemic approach to higher education issues (society and labor market challenges) (Lungu, 2021 A), performance management presumes the achievement of the common goals of the beneficiaries of education, as well as the sustainable development of society.

In order to think and take forward-looking action, it is necessary to analyze the trends of social development and the issue of education in general and within universities, as well as the relationship between universities and the labor market. This analysis is driven by the need to identify strategies to bridge the gap between what the university is preparing and the demands of the labor market, and strategic planning (What Is Strategic Planning? 2021) to avoid it in the future.

In an era when information and knowledge become the main drivers of development, the importance of the university is expected to increase. For these reasons, higher education should be seen as a strategic factor for developing and for exiting the crisis.

Education and social changes are interrelated each other (Zainuddin, 2017) being one of the powers that condition the evolution. Therefore, the aims, content, and methods of education must be dynamic, in line with the changing needs of society. This treatment of education as interaction is more modern than influential education.

In this respect, the main challenge facing higher education is precisely the tension between society's needs and the objectives of education. Universities have to challenge the dominance of science, which gives up the place of a "society of risks", just as environmental risks grow faster than the benefits of social and technical progress (World Development Report, 2014).

To this effect, the Code of Education of the Republic of Moldova and the Regulation on lifelong adult training, propose to facilitate the social inclusion of people in line with their professional aspirations and labor market needs.

This objective can be achieved through a number of different perspectives, either by designing skills depending on society's issues or the labor market or by implementing different strategies. The anticipation of skills needs is directly influenced by technology, climate, demographic change, etc. The growth of professional skills is required by the economic, social, technological, and cultural evolution of contemporary society (Joynes & Rossignoli, 2019) while the speed of change requires similar adjustments in terms of the professionalization of society, requiring a forward-looking approach to the education dimensions.

On the same page are also the researchers D. Gormaz -Lobos, C. Galarce-Miranda, H. Hortsch, and C. Vargas-Almonacid (2021) that propose that the new demands of the society and the economy, the constant specializations of the scientific fields, and the incorporation of new technologies for teaching and learning make that the typical contemporary formats for the teacher academic must be reviewed and analyzed.

Therefore, this paper will introduce a new concept of designing prospective skills that will be designed by pedagogues in the university curriculum through infusion.

The aim of the research is to approach the theoretical and praxiological approach to the design of prospective skills in the university curriculum through the infusion approach and to determine the level of design of these skills by teachers in the subjects taught.

In order to achieve the purpose, several *objectives of the research* are outlined:

- 1. Theoretical analysis of the literature with reference to the importance of design in education in general and assessment of the design of prospective skills in university curricula in particular;
- 2. Establishing the level of projection of prospective skills in the university;

- 3. Establishing the level of teacher training in the design of projective competencies;
- 4. Proposing methodological aspects of designing and adapting curricula for curriculum designers.

1.1. Design in Education

Design in education requires thorough preparation and anticipation of the way in which the entire teaching activity is to take place, leading to the achievement of the educational ideal of age and society. It is important to note that this process interconnects with an interdisciplinary character (Smothers, 2021) which offers solutions to future problems society may face.

Interdisciplinarity and transdisciplinary, (Nicolescu, 2014) are answers to the problems of globalization and the interdependencies of the contemporary world. Interdisciplinary education can give students the opportunity to take an overview of life and the university, to better assimilate fundamental values, and distinguish more easily the purposes of means.

Moreover, the International Labor Office from Geneva platform guidance note emphasizes effective skills anticipation (Anticipating and matching skills and job), (Lungu, 2020), and matching, based on high-quality labor market data and skills that can link education, training, and employment.

Deepening the issue in the contemporary which determines the need for performance and quality in all areas, creates particular risks and receptiveness towards the problems involved. Universities are forced to challenge the dominance of science, which gives way to a "risk society" as environmental risks are growing faster than social progress and technical benefits (Lungu, 2018) At the same time, risk, the risk, due to its economic, technical, social, pedagogical and psychological aspects, is presented as a driver of the pace of development.

Today's university has to face 3 challenges: increasing knowledge, demographic growth, and diverse aspirations. The amount of information accumulated due to technical-scientific progress exceeds the possibilities for assimilation. It is therefore natural that students are trained in accordance with 21st-century skills and learning attitudes (Abaniel, 2021).

Avoiding stagnation is caused by raising education to create a human personality capable of predicting (Soto, 2016) to prevent it, thus we can see the need to focus on the prospective character of education by design.

1.2. The Importance of Design in Education

The design has, in accordance with Marc Bru and Louis Not, 5 functions (apud Godiciu, 2021):

- the economic and production function the project justifies itself by the material resources needed for teaching and by using these resources;
- *therapeutic function* a well-established project attracts the interest of children and gives them a good status;
- teaching function the project specifies what will be done to achieve the educational activity;
- *the mediation function* is manifested when there are partners who contribute to the teaching activity;
- social function is reflected in the fact that the project's actions support the active participation of the educated person in public life, integration into society.

The training design functions according to S. Cristea (2016) are:

- anticipation: pedagogical design is defined as a coordinated set of pre-training and educational process anticipation operations, completed in differentiated training programs. The group of researchers from the United States (Lewis et. al., 2021) are also exposed to this when referring to the physical science teacher "with structured educational experiences teachers are able to anticipate conceptually challenges that their students may become an important player in a formal science course";
- *guidance*: the objectives are real benchmarks guiding the design, conduct and evaluation of all educational activities, and enable a teaching scenario to be built to guide their work;
- *organization*: pedagogical design is defined as a complex of planning and organizing training operations, description of the best solution of a complex teaching problem;
- guidance: the design shows the scope for action, the strategy for carrying out the educational-training activity, guides and guides at various levels, and also expresses the managerial role of the regulation-self-regulation function: the reporting of the final results to the objectives enables control and regulation, self-adjusting of pedagogical processes, provides a measure of effectiveness and optimization of educational activities;
- decision: aim to improve and optimize the educational-training activity;
- *innovation*: training and education processes.

These functions mentioned above represent the importance of design in education (Cristea, 2016).

Although the design is based on three fundamental parameters (finality specification; developing the technology by which the objectives will be achieved; developing tools to assess learning efficiency) in this research we will focus only on one of them – specifying the aims and objectives to be pursued – answers the question "what do we intend to achieve through educational action?".

In general, design is very important because it needs to be defined as clearly as possible, so that education is not driven by spontaneity and improvisation, and that there is a balance, and harmony, between the requirements of society and individual availability. The imposition of unrealistic ends leads to the breaking of this balance (Godiciu, 2021).

2. The Foresight Nature of Education

Foresight, prediction, and anticipation, are terms that describe the prospective nature of education, which essentially addresses educational issues through the prism of the past - present – future. Continuity for the future is indispensable. Thus, through the prospective character of education, conditions are prepared for the development of changes, for the modeling of the future.

The prospective character of education guides us to a permanent analysis and reporting of the aims of the pedagogical actions to their contents, their value essence, and their adjustment to the future (Dawson, 2017). The forward-looking aspect helps to anticipate, and overcome, difficult situations and design new, more advanced actions than the existing ones. Specifically, the prospective nature of education sets the standard for drafting, achieving, and developing the aims of the education process, as well as the content of the educational process. It ensures their quality and their positive position in any context, which requires a higher educational background, conceived at the level of the philosophy of education.

As stated by Stieff M, DeSutter D. Sketching (2021) "the ability to identify and analyze features of particular retaliation and patents of futures and use these as evidence to support claims or to explain... and make predictions about relations among phenomena or concepts" depends on

the "system of thought", Mambry S, Timm J, Landkran J, Schumann (2020) and this, in turn, depends on the content of the system.

The professional orientation achieved by the company attests to a gap between the market requirements and the professional training, especially for certain fields. As a result of the analysis of the key problems in the labor market, it was noticed the need to identify new solutions both in the medium and long term, as well as the involvement of important efforts and resources.

In this sense, the National Qualifications Framework from the Republic of Moldova was revised, where we identify both the correspondence of the training of educational beneficiaries with the requirements of the labor market and the anticipation of future requirements by planning predictive purposes, decision making, etc.

One aspect of the design issue is that although education is prospective, there is an outdated trend in the design of skills that are either no longer current because the labor market requires other types of skills or is not generally designed. Thus, through our research and presentation of the methodology of designing prospective skills in the university curriculum, we come up with a practical approach to this, which will help concepts of educational policies relating to the development of programs, and curriculum concepts to apply in practice.

Education must therefore prepare the personality capable of mastering changes and the world's accelerating development, so education must be designed forward-looking by designing prospective skills in the university curriculum.

2.1. Curriculum Focused on Prospective Skills

Curriculum is the combination of instructional practices, learning experiences, and student performance assessment that is designed to bring out and evaluate the target learning outcomes of a course (Taat, Talip, Mosin, 2021).

The literature of specialty presents the objectives as input and the competencies as output (Competence, 2021), (Lungu, 2021 B). Educational objectives are classified:

By generality level:

- General objectives, valid throughout the training period;
- *Average* (specific) general objectives, applicable to some levels, forms, and education disciplines;
- Operational objectives, valid for a teaching activity.
 - From a curriculum perspective, you can distinguish:
- Framework objectives educational discipline capacities and attitudes achievable over several years of study;
- Reference objectives specify expected learning outcomes for each year of study and track progress in acquiring skills and knowledge from one year to the next.

By the domain to which we refer, we distinguish:

- Cognitive objectives relate to knowledge acquisition, the formation of intellectual abilities; Emotional objectives aim to form beliefs, feelings, and attitudes;
- *Psychomotor objectives* refer to manual operations, to the formation of driving, practical behavior.
- *Behavioral steps* and related examples are also proposed (Curriculum reform in Europe, 2012).

In psycho-pedagogical literature (Guţu, 2019) there are many definitions of the concept of competence, depending on the areas of use and the views of the authors.

Analysis of the literature identifies a number of skills-centered curriculum features: communication, collaboration, critical thinking, problem-solving, creativity, learning to learn (Stabback, 2016), professional practice-oriented; is centered on the student; has a constructive approach; the role of the teacher (Alvunger, 2021) is to guide the learning process of the trainer; promotes the creation of learning situations focused on skills training; the assessment shall be competence-centered, etc. With reference to the design of the disciplinary curriculum, the defining stage is the setting of educational aims expressed in terms of key competencies or professional competencies.

The stage in the formulation of competencies is concomitant with the phase of identifying secondary competencies, their structural components: knowledge, skills, attitudes, and determining the descriptors of derived competencies.

Competence is the proven ability to properly select, combine and use knowledge, skills, and other acquisitions (values and attitudes) in order to successfully solve a category of work or learning activity, as well as for effective and efficient professional and personal development (Butina, 2018).

The focus on prospective personality training was highlighted at the end of the 20th century by several authors such as R. Dottrens, 1971; DM. Todoran, 1982; J. Dewey, 1992; A. Tofler, 1993 (apud Lungu & N. Silistraru, 2021), as well as researchers from the 21st century - the theories of the change (Serrat, 2017), the prospective triangle (Godet, 2006) and others.

Although, Indonesian researchers claim that, 21st-century learning requires complex competencies, transformations of technology-based learning and non-cognitive skills need. This situation makes it difficult for teachers of Indonesian vocational education to apply 21st-century skills (Mutohhari, 2021).

However, New Zealand researchers claim that, against this backdrop of disciplinary and powerful knowledge as the foundation for schooling, the social realists heavily criticize what is referred to as new curricula, or 21st-century skills curricula. These are outcomes-based and progressive learner-centered curricula, generally with a social constructivist approach to learning and the appraisal of teacher agency and curriculum autonomy. However, social realist scholars claim that new curricula are fraught with neo-liberal ideas about education and accountability, as well as a technical-instrumentalist and performance-oriented focus. The new curricula lead to curriculum narrowing, a reduction of critical content knowledge, a teaching-to-the-test attitude, and negligence of student interests (Ormond, 2019), (Priestley & Philippou, 2021).

Some researchers in the United States agree with this view, effective science instruction relies upon teachers understanding the science content they must teach at its most foundational level. Without robust disciplinary understanding, teachers risk misrepresenting science and undercutting students 'opportunities to become scientifically literate as outlined in the Next Generation Science Standards (Lewis, Rivero, et.al., 2021).

Correlating the character of prospective education and the past-present-future relationship, we opt for a curriculum that is focused on competencies from which the objectives are designed but these are also based on certain contents. Another aspect is to form the competence of management information (Lungu & Silistraru, 2021)

In the Republic of Moldova, although there is talk of a curriculum focused on competencies, many pedagogues are still starting to design the lesson from the content, so it is important to put more emphasis on the formation of prospective competencies.

3. Methods

The study includes the theoretical analysis of the literature with reference to the importance of design in education in general and the assessment of the design of prospective skills in university curricula in particular. First of all, we proposed to analyze the Bloom-Anderson taxonomy (Wilson, 2016), and to adapt /complete with words-verbs for the formulation of prospective units of competence.

The research methodology meets the object, the purpose, and the referred sources and is constituted of:

- a) theoretical methods: scientific documentation, theoretical synthesis, deduction, generalization and systematization, comparison, transfer of theories was applied during theoretical research;
- b) experimental methods: pedagogical experiment including direct observation, testing, analyzing these are the methods that reflect the level of design of prospective skills following the analysis of the university curriculum but also the design and implementation of the experiment of prospective skills within the professional ethics discipline. The questionnaire "Focusing on prospective skills" is used in establishing the level of teacher training in the design of projective competencies.
- c) statistic methods: data collection, mathematical statistics were used as a support in costing the level of design of prospective skills following the analysis of 14 curriculums from the specialty psycho-pedagogy, and researching results/frequency of design of the prospective skills presented by 62 teachers involved in research.

We proposed in terms of practicality to establish the level of projection of prospective skills in the university, then to propose methodological aspects of curriculum design and adaptation for curriculum creators.

4. Results and Discussion

4.1. Practical Skills in Designing Prospective Competences in the University Curriculum

Essentially, most of the teachers when planning some competences consults Bloom-Anderson's taxonomy. Analyzing Bloom-Anderson's taxonomy in order to highlight the emphasis on the dimension of perspective in the formation/development of personality, we have selected at the top only those verbs proposed in this sense. At the same time, the analysis of the specialized literature shows that this taxonomy is incomplete. Taking into account the fact that the rapid pace of changes, as well as technological development, present some skills that are outdated but also the need to train other skills that were not foreseen, we consider our proposals to be relevant in this regard.

That's why we come up with proposals to improve/complete the table above by proposing the inclusion of a string of keywords – verbs, which would place particular emphasis on this dimension.

Table 1.

Adapted/completed words for formulation of prospective units of competence based on the Bloom-Anderson taxonomy

Reminder	Understanding	Application	Analysis	Assessment	Creation
Present					
citationreportingrecognitionremedyspecification	 choice conversion deduction distinguishing extension illustration paraphrase transformation 	 application estimation experimentation doing implementation modeling change operation practice schedule resolution sketch simulation 	 assessment appreciation contrast detection hypothesizing mapping symbolization 	• closure • judgmental	 updating creation development generation inventing change planning design rearrangement transformation
Completed by t					
 reflection identifying problems identifying prospects 	 anticipation direction risk anticipation interpretation identification of alternatives identification of solutions determining the direction of change 	 adapting risk mitigation orientation transfer and problem-solving initiating the change time management information management performance management forecast change 	 forward-looking analysis prospective analysis of the consequences correlation 	 risk assessment correspondence monitoring 	 adapting efficiency innovation intervention in ambiguous situations forward-looking planning provision

Taking into account the foresight nature of education, we note that essentially all the words-action (verbs) in Table no 1 (top) selected by us from Bloom-Anderson's taxonomy are focused on preparing the personality for both the present and the future.

From Table 1 (the bottom) it is observed that the focus has been placed on anticipation, directing, identification of problems, prospective analysis, time management, risk assessment, adaptation and other verbs that will help the conceptors of curriculum, teachers, etc., not just discuss about the prospective skills, but also to design them, form them.

These were identified from the specialized literature but also by various policy documents of the EU and Republic of Moldova.

4.2. Set up Prospective Education Goals

Prospective skills focus us on prospective personality training - an effective, critical, and successful personality, a successful personality that tends toward progress, with wisdom and clarity of thought. Taking into account these features of prospective personality is essential in the context of EP. (Lungu & Silistraru, 2021)

In order to develop the conceptual framework mentioned above, we propose that prospective expertise be included as a required functional category in the following formula: prospective competence is a completed structure, generated by mobilizing a number of internal resources of the subject within a framework delimited by significant situations (intentional or

spontaneous pedagogic, disciplinary or interdisciplinary) and manifested by anticipation, design, and sense and direction assignments of the action. (Lungu & Silistraru, 2021)

The cognitive component of prospective competence aims at building up relevant information, raising awareness of the essence of the theory and its professional and personal significance, as well as knowledge skills acquired informally through experience. To this end, it is proposed to acquire knowledge on: Trends and prospects for the development of personality and society; Prospective identification of problems and solutions; The identification of professional challenges, day by day, through the pace of science development, new or intertwined professions are emerging, and university policy needs to be further developed, identifying these challenges in order to prepare prospective specialists and to identify the needs that will arise in the labor market. (Lungu & Silistraru, 2021)

The applied component of prospective competence implies the demonstration of certain prospective, professional and personal attitudes and values. To this end, it is proposed to train prospective attitudes and values relating to changes (depending on the problems in society, their depth and duration must be assessed, and the outcome must be to predict the consequences or to involve changes); anticipating change; appreciation of changes in terms of personal qualities and professional skills; evaluation of actions and the consequences of actions; determining possible directions and developments in 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) (Lungu & Silistraru, 2021). The group of researchers from the United States Lewis, E. B., et.al. (2021) is also exposed to this when referring to the physical science teacher "with structured educational experiences teachers are able to anticipate conceptually challenges that their students may become an important player in a formal science course".

The prospective integrative component of the prospective component includes the acquisition and development of capabilities and skills, covers skills or abilities to use knowledge and apply it to work and personal activity, and ensures their correlation. In this respect, it is proposed to train skills: (Lungu & Silistraru, 2021) To predict the consequences of personal actions and changes in the future; Selection of information; Forecast the aims of the professional activity; Risk anticipation; Develop the strategy for adaptation to rapid change (change causes fears of the unknown, leads to both physical and mental problems; rapid change, however, not only causes fear, but also uncertainty and uncertainty – thus, strategies for adaptation to change would be important for education); To orient the transformation toward the desired goals (both the transformations caused and those from the outside need to be geared toward the desired goals); The design of the change to prevent it (change may be caused or unexpected, thus the person must be prepared to initiate the necessary changes and to avoid changes generated from the outside).

It is not enough for today's man just to see, predict and evaluate changes in one field or another of society. As a topic of history, as a participant in social processes and not as a spectator, man must design changes, and intervene in their flow in order to cause desirable effects, and limit or avoid undesirable effects. It must therefore be educated in the spirit of alternative solutions, in the picture of scenarios of the possible future. Intervention for change also involves, to a certain extent, planning for change (clear objectives, realistic goals, and deadlines). Developing crisis solutions for tomorrow's education and society; Decision-making; To transfer the strategy to action (there is a multitude of strategies, but they are more theorized. Today, the strategy requires not only action on a process, a phenomenon, but action); Behavior adaptation; Inventory and innovation; Public policy-making and sectoral, community, national development strategies.

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

4.3. Assessing the Level of Design of Prospective Competencies in the University Curriculum

Although several prospective competencies were decisive (Lungu, 2021 B), we set out to assess the level of design only of the anticipation, planning, and appropriation/targeting competencies.

Analyzing the 14 curriculum of the component disciplines for the psycho-pedagogy specialty, it was observed the presence of the proportionality of the objectives on levels, which confirms the formation of the competencies planned to be formed in accordance with the National Qualifications Framework. Of these, only one of the prospective competencies was established - planning, as shown in Figure 1.

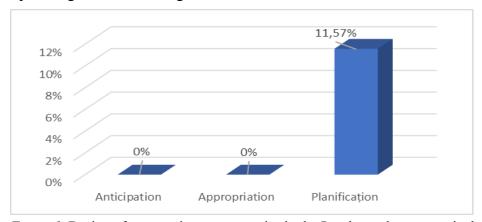


Figure 1. Design of prospective competencies in the Psycho-pedagogy curriculum

Figure 1 shows the presence of the planning/design competence of 11.57% of the total competencies. Data processing highlighted 27,50% of the level I objectives (knowledge); 39.50% of level II (application) and 33% of level III (integration), of which 11.57% have a prospective orientation confirming the formation of prospective planning competence, through the use of actions: to plan, to elaborate, to design, etc. The data presented show a positive trend in this regard.

4.4. Analysis of the Level of Prospective Skills Design in the Academic Curriculum – Professional Ethics

In order to highlight the design of forward-looking skills, the university curriculum has been analyzed in a number of specialties. Below is the summary design of prospective goals.

Initially, targets were included that highlight the purpose of forward-looking skills: anticipation, planning, and direction competence.

In Table 3 we have only introduced targets that focus directly on the formation of prospective skills in the Professional Ethics curriculum.

Table 2. Drawing prospective targets in the Professional Ethics curriculum

No	Content units	Benchmarks	Benchmarks
		(initial version)	(final version)
1	Subject, functions, and issues of ethics		 To raise the issue of ethical behavior in the specialty that will be active; Provide for the consequences of its conduct; Design steps to develop ethical behavior for future specialists.
2	Ethics and organizational culture	 Design a model for the development of organizational culture. 	 Determine trends in the development of organizational culture; To point out the consequences of focusing on the role type of culture and the task-oriented type of culture.
3	The working community	 Create ways of adapting to the new working group. 	 To address the consequences of the lack of collective ethical behavior; Draw up a plan to develop effective relations within the community; Direct actions to develop the organizational culture.
4	Conflict resolution ethics	 To propose forms of intervention in conflict situations; Create action alternatives to typical conflicts. 	 To list the consequences of the conflict in the organization; Plan ways to resolve the conflict; Direct the conflict to generate alternatives to a decision

In essence, the table visualizes both the initial focus on prospective goals and the final version.

According to experimental data, for the Professional Ethics class, design changes have occurred to different levels of prospective skills training. Thus, the first level of anticipation training has increased from 64% to 71%. The second level of training of anticipation skills has increased from 36% to 42%. The 3rd level of anticipation training has increased from 0% to 3% for this specialty.

Planning competence, as well as foresight competence, has changed both at the 2nd level (from 40,5% to 49%) and at the 3rd one (from 9,5% to 11%).

Although the design of the targets is also changed by the level of application of the steering power from 0% to 3%, it is still relatively small. Thus, we can say that there are still gaps regarding the point of direction.

It is undeniable that EP has content that is expressed predominantly in terms of interference with the dimensions of education that predate the evolution of society as a result of the analysis of current factors and trends.

Thus, the competencies on which EP focuses focus are geared toward greater integration into society, the workplace, and private life. In order to meet these conditions, we consider it necessary to configure the EP's competencies in line with the demands of the changing society.

4.5. Assessment of Teachers' Frequency of Focusing on Didactic Design on Prospective Skills

Teacher professional competencies can be categorized as: 1) Understanding the competency standards and basic competencies in their fields of expertise; 2) Able to choose and develop subject matter; 3) Understanding the material, structure, and concept of scientific thought patterns that support the field of expertise; 4) Master the methods for developing critical

knowledge and studies related to the field of expertise; 5) Creative and innovative in the application of scientific fields related to the field of expertise; 6) Able to develop curriculum and syllabus related to the field of expertise; 7) Able to take reflective actions to improve the quality of learning; 8) Able to communicate with the professional community itself and other professions verbally and written; 9) Able to utilize information and learning technology; 10) Communicate and develop themselves as a teacher (Prasetyono et.al., 2021)

In our research we focus on the function of curriculum development. The "focus on prospective design skills" questionnaire was proposed to the 62 participants. The analysis of the answers provided by teachers is shown in the Table 3.

Table 3. Frequency of teaching staff focusing on the design of prospective skills

No	Item	Result
1.	Do you intend to reformulate the	- 21% of teachers answered yes,
	objectives of the disciplinary curriculum	- 27% – don't know
	focused on prospective skills?	- 52% – lack of response
2.	List how you are guiding your students towards the future.	- by the specificities of our specialties that are prospective;
		- by designing the objectives that contain verbs: to
		anticipate, to design, to direct;
		- by the tasks and teaching methods that achieve the
		intended objectives;
		- through debates;
		- in all we do, in fact, we are looking to the future.
3.	Formulate targets for shaping prospective skills to taught discipline.	- 39% replied yes
		- 14% – no
		- 18% – don't know
		- 29% – they gave no answer
4.	Are you having difficulties in formulating	- 71% of respondents answered yes,
	forward-looking skills targets?	- 29 % replied – no.
5.	Do you anticipate the consequences of	- 48% of teachers said yes,
	neglecting the formulation of targets in order to form forward-looking skills?	- 52% – did not give any answer.
	Expand.	

It is to be noted that 87% of the respondents answered to Question no 2 (Table 3), which makes us believe that teachers who have not responded to the first item do not have difficulty in directing students toward the future through the discipline taught, however, it does not attach particular importance to the rigorous drafting of the planned activities in this regard in the disciplinary curriculum.

In essence, we observe a dissonance in the answers when, for item 4, only 29% of respondents answer that they do not encounter difficulties in formulating prospective skills and 71% of respondents have problems in this regard, comparing with item 3, out of the 62 people, 39% claim that they design prospective objectives. Question no 4 (Table 3) was followed by a series of explanations in the order: we are not pedagogical specialists and we cannot compete with those in your departments; more methodical seminars are needed; it takes a lot of time and special skills. The same situation is evidence from the Question 5 where 52% did not give any answer with reference to anticipating the consequences of neglecting to design prospective goals/skills. It is seen positively that the 48% answered yes explained that: it is good to be in the face of scientific and social changes; although intuitively, we focus on these skills anyway, why not make it conscious. There were answers of the order: we can be punished in various forms; neither our students will be so good, nor we. According to the results analyzed, the

following categories are highlighted: 39% of subjects are forward-looking skills, 14% not, 18% answered don't know and 29% did not answer this question.

The results of the questionnaire have led us to the idea that, on the one hand, change requires participation, but on the other hand, it also requires intensive targeting.

In the literature, taxonomies have been discussed and researched from different perspectives. The systematic set of objectives, by levels, domains, and categories, form the taxonomy of educational objectives (Jackson, 2013). There are various ways and criteria to build a taxonomy.

As mentioned, by the researchers M. Gail Jones, et.al. (2021), "future Science Task Value is defined here as an individual's utility value related to engaging with science in the future. It includes an interest in science as well as perceived importance and user of science for the future".

Thus, prospective education through analysis of the speed of change and the use of systemic thinking increases the chances of achieving the desired future rather than the accidental one. These and others also need to be analyzed on the basis of certain content, strategies, and teaching methods to achieve the desired aims.

In this respect, the implementation of the strategic objectives proposed in the RM Education System presents a number of official documents such as The Education Code; The National Development Strategy "Moldova 2030", the Education Development Strategy project for the years 2021-2030 "Education 2030"; The National Action Plan; The activity program of the Government of the Republic of Moldova, and other related public policy documents) in order to optimize and plan the education process in the future.

In addition to the many reforms undertaken in the Republic of Moldova in terms of university education, an important aspect is a curricular reform that ensures both the theoretical discourse and the level of educational education, a real and significant change of emphasis: the transition from information to the learning dimension, or interactive-creative learning, which is based on the receptivity to new experiences, through the use of teaching and learning technique (Mostean, 2021), being in an online teaching-learning environment.

The new curriculum vision no longer focuses educational action on content (as is the case in traditional training, content is considered the main driver of training), but on the training of complex educational skills.

The aim of this approach is to make the knowledge and acquisition of students more functional in new situational contexts in problematic situations. In the current educational context, "knowing" is no longer an end in itself, but a mechanism that provides the conditions for "knowing to do", "knowing to be", "knowing to live together" and "knowing how to become". It is obvious that there are multiple interactions between these dimensions of personality, which practically form an entire whole, although the diminishing importance of content in the educational process is criticized (Ormond, 2019), (Priestley & Philippou, 2021).

The diversity and complexity of higher education problems and the difficulties currently facing universities clearly show that many reforms need to be carried out within it. This will provide very useful support, enabling the adoption of appropriate solutions, and will ensure a forward-looking effective work (Lungu, 2021 B).

In research, we generally propose ways of designing forward-looking skills through disciplinary action (prospective education) and infuses approach (e.g., professional ethics). In this article, we present only the design of prospective skills through an infuses approach.

Because, of the presence of a gap between university supply and labor demand, he sees the need to design prospective skills in university curricula for different specialties.

5. Conclusion

We mention that the evaluation and design of prospective competencies in the university curriculum are in line with the objectives of the educational policies of the Republic of Moldova. The prospective competency-based curriculum approach balances the position of researchers who criticize content reduction as an important element of this curriculum, when some countries focus only on competencies, without students knowing the factors that led to some or other consequences.

The analysis of the university curricula shows that the planning/design competence is the presence of 11.57% of the total competence, by using the actions: to plan, elaborate, design, etc. The curriculum analysis of different specialties, as well as the assessment of the design level of prospective skills in university curricula, has shown that for our research it is necessary to develop a teacher training program (initial and continuous training), including a complex technology, following certain stages, namely: familiarization of the teachers with the content of prospective pedagogy, as a field, presenting to them the results of curriculum analysis; the design of forward-looking aims through a gradual approach and the determination of the methodology of prospective skills training and assessment.

Implementation of the experiment for training prospecting skills through professional ethics discipline We observe changes occurred at different levels of potential skill formation. Thus, the knowledge level of anticipation training increased from 64% to 71%. The application level of anticipatory skill training increased from 36% to 42%. The integration level of anticipatory training increased from 0% to 3% for this specialty.

Planning competence changed both at the application level (from 40.5% to 49%) and at the integration level (from 9.5% to 11%).

With reference to the direction/orientation competence is also changed, it is observed to increase by the level of application from 0% to 3%, but it is still a relatively small result. Thus, we can say that there are still gaps regarding this sense.

Thus, by focusing on the design of prospective skills in university curricula - with an emphasis on past-present-future dimensions, concepts, tools, and processes will be used to enable students to think creatively and long-term. We will help students: to more fairly and sustainably design the human future; develop skills in exploring the likely and preferred future; determine the dynamics and influence by which the beneficiary forms an alternative future; to develop an action plan to design a better future.

To highlight if the teachers' project prospective skills have been applied to 62 participants the questionnaire "Focus on prospective design skills". As a result, 39% of the subjects considered that they are focused on design prospective skills and 14% answered no, but 29% did not answer this question. These results have led us to the idea that in this process there is a need to develop a special program for continuous training of teachers in designing prospective skills, although some make it intuitive or consider that to form a specialist has a future connotation but, on another part, it also requires intensive direction in this regard.

As a result, prospective skills design strategies in university curricula shall ensure adjustment of the supply of education and training, as well as the way in which the educational process is organized, focusing on the needs and needs of educational beneficiaries and the needs of the labor market; achievement of high standards of education and qualification across all sectors

so as to ensure high-quality education and training while ensuring that professional skills match changing requirements of professional responsibilities.

Practical recommendations for the design of prospective skills within the university. Some actions were needed to determine the design level of skills in university curricula:

Discipline	Level	General objectives	Reference objectives	No	Individual work	No
	1 st					
		etc.				
	Total					
	2 nd					
		etc.				
	Total					
	3 rd					
		etc.				
	Total					

where headings with general objectives, benchmarks, and objectives for individual work are proposed.

- 2. *Identification in accordance with the words* action in the table Adapted/completed words for the formulation of prospective units of competence based on the Bloom-Anderson taxonomy, the level of each objective, and the placement against the general objective within which it is a part, as close verbs.
- 3. *Number of these goals described by verbs* actions under the objectives of reference for each content/theme and placing the number in its specific heading. Helps you determine how many times they repeat to be placed in accordance with their level.
- 4. Compliance with the headings in accordance with the levels of knowledge, implementation, and integration. It will clarify how many objectives will be 1st level (knowledge), 2nd level (application), and 3rd level (integration). According to the recommendations of the industry experts, it is best to have the number of 2nd and 3rd levels' targets in one content unit first and less the 1st level.
- 5. Count goal type per level. It shows the emphasis in the teaching of teaching and which level is emphasized in the training (knowledge, application, or integration).
- 6. Comparison of the benchmark list with the list of general objectives. This is how it will be discovered that in some cases general objectives are planned but are not included in the list of benchmarks. Another side of the problem will be that you can establish that you are actually proposing some benchmarks that lead to skills, but as a general objective, as well as competence, has not been planned.
- 7. *Drawing conclusions* with regard to the decision on why and what is actually being designed.

- 8. Completing the curriculum per theme those objectives which lead to the formulation of the general objective which will have as their aim the training of certain skills. If more than one benchmark is identified, which does not start from any general specialized objective, it should also be completed under the heading General objectives.
- 9. Comparison of general expert goals with benchmarks per content unit with the skills planned to be formed.
- 10. If dissonant is identified in the design of the competencies, the general, reference objectives shall be further analyzed and *completed in the curriculum fields* according to the content units.
- 11. Assessment of curriculum quality according to the criteria proposed by the Ministry of Education and Culture, of the chapter evaluation of EP competencies for checking compliance with the requirements.

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