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**DEVELOPING THE RESPONSIBILITY AND THE COMPETENCES OF  
THE TRAINEE PHYSICAL EDUCATION TEACHER ON THE GROUNDS  
OF THE APPLICATION OF A MENTORING PROGRAM**

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# **PhD THESIS**

**DEZVOLTAREA RESPONSABILITĂȚII ȘI COMPETENȚELOR  
PROFESORULUI DE EDUCAȚIE FIZICĂ STAGIAR ÎN BAZA APLICĂRII  
UNUI PROGRAM DE MENTORAT  
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## INTRODUCTION

### **Actuality and importance of the issue addressed**

The topicality of the topic stems from the trends of reforming the educational system, with a focus on the professionalization of teaching staff and on optimizing the initial stage of development of the professional teaching career through the implementation of a mentoring system.

Through this thesis we aim to clarify the defining aspects regarding the initial professional training of novice physical education and sports teachers, from the desire to identify the relevant aspects of the didactic mentoring process and to make correlations between the professional and transversal skills targeted within the RNCIS standards, specific to physical and sports education. We will also analyze the complexity of the responsibilities and the perception of the roles of a novice teacher (the novice or intern) and a teacher with extensive expertise (the mentor).

The efficiency of the teaching process is directly conditioned by the level and complexity of the teaching staff's skills. The effects of the level of competence, efficiency and pedagogical effectiveness of teaching staff, conditions the level of knowledge, skills, acquisitions and key competences of students. The formation of specialized and transversal professional skills must begin during university studies and be continued throughout the entire professional teaching activity (Popescu, 2011, pp. 62-69).

**The main investigative goal** of the research consists in the design and implementation of a mentoring program, with a major impact on the knowledge, expansion, deepening of the roles and responsibilities of beginners and mentors in the (initial) professional training process, as well as the identification/development of professional skills specific to teaching physical and sports education.

In the framework of the research approach, we aimed at the following **major objectives**:

- the development of a mentoring program and its implementation in order to develop professional skills and implicitly the professionalization of the teaching career in physical and sports education specialization;
- identifying the role of the mentoring process from the perspective of the beginner and the mentor (tutor/methodist) in order to identify the relevant motivational and procedural aspects for optimizing the initial professional training stage (debut/internship) in the career of a physical education teacher;
- evaluation and analysis of the perception of beginners and mentors regarding the level of professional skills required in the initial professional training stage, in the physical and sports education specialization.

In establishing the **general hypothesis** of the research, we started from the assumption that by designing and implementing an initial didactic professional training program (mentoring program), specific and adapted to physical and sports education, we will contribute to the development of professional/didactic skills specific to teaching physical education and school sports, as well as optimizing/harmonizing the roles assigned within the mentoring process, from the perspective of the involvement of beginners and mentors, regarding the level of development of specialized and inter-trans-disciplinary didactic skills.

### **The motivation for choosing the theme**

As an Erasmus+ coordinator within the Faculty of Physical Education and Mountain Sports of Transilvania University in Braşov, during the period 2012 - 2020, I had the opportunity to get in touch

with the content of the educational plans of several similar units in the European Union, with which our university had/has an inter-institutional collaboration agreement. Equivalence of the grades of students returning from study mobility is/are achieved based on the skills acquired in each discipline studied at the partner university and which must be consistent with those of the study disciplines in the education plan of our faculty. From this position, we noticed differences between the skills formed at the partner universities and those developed in our education system.

The introduction in the Education Law of the concept of a mentor, selected from among the experienced teachers of the pre-university education system, led us to consider that it is an opportune moment to propose a mentoring program, with the help of which beginning physical education teachers can optimize the degree of professionalization of teaching activity. In this context, we aimed for mentor teachers to have a useful tool to help them in the activity of guiding novice teachers.

## **PART I. THE CONCEPTUAL AND METHODOLOGICAL FOUNDATION OF THE TOPIC**

### **CHAPTER 1. THE ROLE AND PLACE OF THE PHYSICAL EDUCATION TEACHER IN THE PRE-UNIVERSITY EDUCATION SYSTEM**

#### **1.1. The permanent education of teachers at the beginning of their career**

Contemporary society focuses on the modern approach to general education, in correlation with the continuous trends of development, content updating and the professionalization of teaching staff, and physical education is identified with the activity aimed at social integration, optimizing health and physical development and motor capacities of students through the attractive and effective use of different forms of human movement.

School physical education represents the most relevant form of organizing physical activities, with a formative role, it is carried out as a bilateral process between the teaching staff and students (Dragnea, Teodorescu, 2000, p.26, Scarlat, Scarlat, 2011, pp.22- 24), and in the context of the implementation of initial didactic professional training programs, this relationship can also be identified between the mentor (tutor) and the mentee (trainee).

The training process must be adapted to the characteristics, experience and status of beginning teachers. They must be prepared to further improve themselves during their teaching career and adapt their expectations to the characteristics of the profession and the education system.

#### **1.2. Directions for the development of the teaching career at the beginning**

The dynamics of today's society have determined important transformations in the status and image of teachers. Today's teacher is no longer perceived only as a transmitter of information and knowledges he is a shaper of social and professional personalities.

Human social dynamics and flexibility has also changed the role of relationships between teacher and student, as well as between mentor – mentee (beginning teacher) and between teacher-teacher, in the sense of transforming it into a creative, professional and democratizing relationship. The accumulation of information is no longer a goal of the instructive-educational process, information is a means by which pro-active and creative didactic and social behaviors are formed. The trajectory of



the professional teaching career is dependent on the maintenance and diversification of personal motivations and the permanent stimulation of cognition and human interaction. In the case of their decrease or stagnation, the professional ceiling is major, with a large negative educational and social impact.

## **CHAPTER 2. PROFESSIONAL COMPETENCES AND RESPONSIBILITIES OF TEACHERS**

### **2.1. Professional competences – conceptual delimitations**

Specialists in the educational field consider the concept of professional competence as a complex attribute of the didactic career and which integrates a series of defining elements such as: knowledge, skills, attitudes specific to the field of specialization, but also interdisciplinary and transdisciplinary capacities necessary for the professionalization of the didactic activity.

"Competence represents the proven ability to select, combine and adequately use knowledge, skills and other acquisitions (values and attitudes), in order to successfully solve a certain category of work or learning situations, as well as for professional or personal development, under conditions of effectiveness and efficiency" (Methodology for creating the National Qualifications Framework for Higher Education Application Guide. p.9,).

"The professional competence of teaching staff represents a set of cognitive, affective, motivational and managerial capacities that interact with the educator's personality traits, giving him the qualities necessary to perform a didactic performance that ensures the achievement of the objectives designed for the vast majority of students, and the performances obtained should be close to the maximum level of the intellectual potential of each one" (Jinga, 2003, p.78).

Transversal competences are "those capacities that transcend a certain field, i.e. study program, having a transdisciplinary nature. These consist of teamwork skills, oral and written communication skills in mother/foreign language, use of information and communication technology – ICT, problem solving and decision making, recognition and respect for diversity and multiculturalism, learning autonomy, initiative and entrepreneurship, openness to lifelong learning, respect and development of professional values and ethics, etc." (Methodology for creating the National Qualifications Framework for Higher Education Application Guide. pp.9-10).

### **2.2. Systematization of teaching professional skills**

According to the "Methodology for the creation of the National Framework of Qualifications in Higher Education, Application Guide" (p.10), professional competences are constituted in a dynamic and unitary integrated framework, comprising 6 identification elements, targeting specific knowledge and skills in the field of activity and didactic specialization, and transversal skills are embodied in value and attitudinal acquisitions, which are identified by the fact that they transcend certain programs or fields of study and include 3 identification elements, called descriptors. In turn, professional skills are of 2 types: general and specific. General professional skills are formed in the context of the field of study, and professional skills, especially those specific to professional specializations, are formed and developed exclusively through a study program.

The competences of graduates of bachelor's and master's studies must be integrated into a system that includes: "cognitive, functional-actional competences and other learning acquisitions (values, beliefs, attitudes, etc.), through which the four major objectives of education" namely (Korka, 2000,

pp.51-78): knows theoretically, knows practically, knows how to be himself/herself, knows how to adapt.

## **CHAPTER 3. MENTORING IN EDUCATION – CONCEPTUAL DELIMITATIONS, APPROACH AND DEVELOPMENT DIRECTIONS**

### **3.1. Didactic mentoring – conceptual boundaries**

In order to delimit the logical connections between the epistemic terms that define mentoring, we made a synthesis of the main concepts addressed in the specialized literature.

"Mentoring can be described as a developmental process, which can involve a transfer of skills or knowledge from a more experienced person to a less experienced person through learning, dialogue and role modeling, and can also be a partnership of peer learning." (EMCC&ICF - Professional Charter for Coaching and Mentoring, 201, p.4.)

"Mentoring refers to a supportive/supportive learning and educational relationship between a person who intentionally shares their knowledge and experience (mentor) and another person who is interested, willing and able to benefit from such support, in order to - complete your professional experience (mentee, disciple)." (Stan, 2020, p.15)

Mentoring programs were introduced to improve the professional experiences of teachers at different stages of their careers, with predilection at the debut stage, at the initial stage and consist of providing continuous and specific assistance for the professional development of teaching staff. (Aderibigbe, et al, 2018, p.79).

According to what was mentioned, mentoring involves the participation of two categories of people: the mentor who is a professional with expertise in the educational field and the mentoree or mentee who is the person who is in the beginning phase of the teaching career, internship and needs the help activity, in in view of an optimal professional integration.

### **3.2. Typology of mentoring**

Mentoring is an activity to reform the educational act, in order to increase its efficiency through professionalization and professional insertion, from the first stage, the initial stage of the teaching career.

The typology of mentoring activities has experienced continuous diversification, due to some determining factors, among which we list: the relationship between the mentor and the mentee; duration and intensity of the mentoring process; the nature of the activity; the specific resources and means used, etc.

The main mentoring models (Avram, Cooper, 2008 p. 800) are: classic or traditional mentoring; planned or formal mentoring; team mentoring; peer mentoring; e-mentoring; self-mentoring.

In Romania, the typology of mentoring in pre-university education is presented as follows:

- mentoring for the professional insertion of beginning teaching staff;
- mentoring for practical training within the didactic master's degree/pedagogical practice of students from pedagogical high schools;
- mentoring for continuous training;
- mentoring for professional development;

-mentoring for the development of educational programs for children and young people capable of high performance." (Catalano, 2014, p.57).

### **3.3. The principles of the didactic mentoring process**

The principles applied in the mentoring process are aimed at improving the activities and relationships between the mentor and the mentee, as well as expanding the capacity to identify new opportunities, as well as positive and dynamic exploration of the teaching career.

Based on the analysis of the specialized literature, we synthesized a series of basic principles of the didactic mentor with extensive applicability in the field of physical education, which can be summarized as follows:

- mentoring involves a structured dialogue, in which reflection processes are recommended to be facilitated by a mentor;
- the relationship between the mentor and the mentee must be based on several essential aspects of human relations, such as: trust, confidentiality, mutual respect, empathy, etc.;
- didactic mentoring must be based on the establishment of mutually agreed milestones and limits, regarding the way of working and the development and implementation of mentoring programs;
- some basic rules must be marked from the beginning, which establish the roles, responsibilities and differences in authority between the mentor and the mentee;
- the mentee is advised to ask the mentor for advice, assistance or practical examples, lessons and demonstration sports activities;
- the mentor must carry out an open and participatory activity through which the mentee can assume responsibilities for their own self-reflection and professional development;
- imposition, coercion or conditioning in the mentoring process is not recommended;
- the identification of objectives, motivations and challenges, as well as priorities must be established by mutual agreement between mentor and mentee, for mutual personal growth, relevant from a professional point of view;
- mentors and mentees must be made aware of the benefits of the mentoring process;
- the mentor must offer examples of good practice and advice of concrete and effective applicability to the mentee;
- the mentor guides the mentee in the selection of didactic and scientific resources;
- the mentor encourages the mentee to participate in scientific and research activities, specific to the professional specialization or of an interdisciplinary and transdisciplinary nature;
- the mentor supports and provides resources for achieving the goals of the mentee;
- the results of the evaluation of the mentoring process must be constructive and positive;
- communication between mentor and mentee is recommended to be open, professional, using specialized terminology.

The practical application of the principles of the mentoring process is a guarantee of optimizing the teaching activity of the monitored and mentors, facilitates the optimal development of the teaching career and lays the foundations for professionalization in the field of physical education.

### **3.4. Didactic mentoring cycles**

In educational practice, the mentoring process was staged according to the requirements and the specifics of the educational system (Methodological framework on mentoring, [http://tdh-europe.org/upload/document/7298/Metodologia%20cadru%20de%20mentorat\\_Romana\\_0\\_0.pdf](http://tdh-europe.org/upload/document/7298/Metodologia%20cadru%20de%20mentorat_Romana_0_0.pdf)) .

Thus, a cyclical model of mentoring can include the following stages:

- defining the objectives of the mentoring process;
- selecting the themes and subjects of the mentoring process;
- planning the implementation and consulting sessions specific to the mentoring program;
- evaluation of the way in which the mentoring program was implemented and completed;
- reflection on the activities carried out within the mentoring process;
- the identification of new challenges specific to the activity of teaching, respectively of educational mentoring.

Mentoring cycles or phases should help the beginning teacher to integrate more easily, to understand the perspective and usefulness of the process supported and applied by the mentor teacher.

### **3.5. Statistical delimitation of the competence framework in the mentoring process at the stage of initial didactic professional training/internship**

According to the Coaching and Mentoring Key Competence Framework (European Mentoring Coaching Council - EMCC) "8 categories of mentors' competences can be identified (Abrahamsson et al, 2020, p.5): self-understanding, commitment to self-development, contract management, relationship building, enabling understanding and learning, results and action orientation, using models and techniques, evaluation.

The mentor is that professional category found in the nomenclature of school teaching functions. The main mission of the mentors is to facilitate and optimize the process of professional integration of beginning teachers, within the educational units where they will work during the internship, until passing the final exam (Spiță, coord., 2020, p.10).

Continuous professional development is a desirable part of educational and professional activities. Through this process carried out throughout the entire professional life, the aim is to develop skills in relation to specific standards, to expand and permanently update professional knowledge and expertise from a theoretical and practical perspective.

### **3.6. The legislative framework of didactic mentoring in Romania**

According to the "Statute of the mentor teacher, mentor means the teaching staff who has the responsibility of guiding and evaluating the pedagogical practice of pupils or students, as well as teaching staff during the internship period, being called a teaching staff-mentor of pedagogical practice, respectively a teaching staff - internship mentor." (Trăistaru, 2019, p.26)

The mentor coordinates the activity of the intern teacher, who is also called a beginner or mentoree, throughout the internship period, until passing the final exam in education.

In the Order of the Minister no. 5485/29 September 2011 and Law no. 1/10.01.2011, the National Education Law, is stipulated in art. 3.1 that "Mentoring is an interactive process, carried out between the mentor teacher and another person (pupil, student, teaching staff), to guide/support learning, education, initial professional training and/or professional development, being based on the premise

of interactive involvement of both parties, of assuming their obligations, according to the status they hold. The teaching staff who hold the teaching position (art. 19 Ministerial Order No. 5485/September 29, 2011) of mentor teacher, have social and relational skills, operate with concepts and models of interpersonal and interactive communication.

## CHAPTER 4. MENTORING IN PHYSICAL AND SPORTS EDUCATION

### 4.1 Initial internship mentoring in physical and sports education – contextual delineations

Current educational requirements call for professionalism and openness to new aspects specific to the teaching process and extracurricular activities from teachers. An effective educational system should be focused on keeping and promoting teachers who show motivation and a significant professional development initiative, structured on the specifics of the teaching activity and implicitly on that of physical education.

The internship educational mentor is an expert-evaluator of the professional didactic activity, of the trainee teacher (beginner or mentee). He has the role of evaluating the trainee's progress, aiming at the context of professional skills, in relation to the quality standards specific to teachers who teach the discipline of Physical Education.

Educational mentoring aims to optimize the training of students with a pedagogic profile and novice teachers, with a view to effective integration and professional improvement specific to the didactic activity in physical and sports education.

In the educational field, mentoring focuses on the innovative and creative correlation of academic requirements, with the practical ones specific to the didactic activity of teaching, through the development of learning skills and practical experimentation, in order to capitalize on them in the future professional activity.

### 4.2. The development directions of the mentoring process in physical and sports education

The defining directions of effectiveness of the mentoring process are represented under two essential aspects (figure 1), namely, those related to the selection and, equally, to the professional development of the mentors. In our country, the process of selecting mentors and their specialized training is still at the beginning, but internationally this process is already grounded theoretically, scientifically and practically.



Figure 1. Professional development directions of physical education mentors (personal contribution)

Regarding the professional development of mentors in physical and sports education, it should be based on the following aspects: optimization of collegial school relations; expanding and diversifying the contexts of teaching and carrying out physical activities; streamlining professional performance; openness and availability towards the innovative aspects of physical and sports activities; expanding and deepening knowledge specific to physical and sports education; centering the activity on the needs of the subjects subject to the instructional-educational process; centering the activity on the needs of the subjects subject to the mentoring process; development of management skills and effective management of the class of students; increasing self-esteem and professional status; the creative conception of physical exercises and motor programs, with a view to optimal interrelation and bidirectional involvement on the student-teacher and mentor-mentee axis; the creative combination of formal and non-formal activities specific to sports, recreational education, etc. All these directions are intended to provide the student with a positive training environment that supports his educational journey in an optimal way.

#### **4.3. Staging the mentoring process in physical and sports education**

Mentoring programs are dependent on the period of implementation, and several studies have demonstrated that the longer these periods are, the more the chances of success increase proportionally (Florea, 2014, pp.56-70; Kowalski, 2019, pp. 42-43). In this sense, we believe that mentoring programs should take place throughout the internship period in the didactic activity.

The mentoring programs extended throughout the internship period, we believe, would ensure better opportunities for applying/transposing theoretical knowledge in the teaching activity, as well as diversifying the didactic experiences by coordinating a larger number of classes of students, of different levels of training .

The mentoring process in physical and sports education must be approached from three temporal perspectives, respectively: the previous stage, the current stage, the future stage.

A major role in the expansion of professional skills, in the process of mentoring, is the creation of new situations for the practical application of previously acquired professional and transversal knowledge and skills, the realization of the transfer between them, with a view to the effective solution of various training events, as well as the optimization current and future activities specific to physical education and school sports.

#### **4.4. Specific aspects of the mentoring process in physical and sports education**

For the development of the professional skills of the beginning teacher, an important role is played by the teaching processes which, supplemented with the mentoring processes specific to the activity of the mentor teacher, form the professional educational mentoring (figure 2).

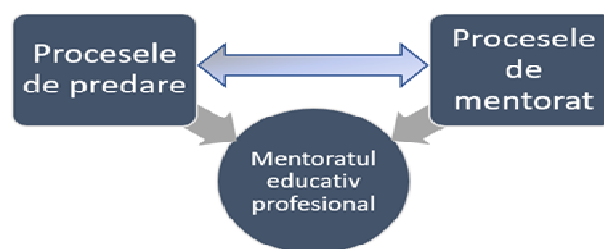


Figure 2. Knowledge spheres of professional educational mentoring (personal contribution)

For the professional development centered on the mentoring processes, it considers the identification of the particular and professional aspects of the mentored (beginner) teacher, of which we list: the aspects of specialized training, sports experience and the organization of sports events, the aspects of ethics and professional deontology, the identification of the content aspects of teaching, specific to physical education and sports from the perspective of the mentored teacher, the identification of the methodological aspects of achieving the learning content specific to physical education and sports, from the perspective of the mentored teacher, the identification of the specific evaluation aspects of physical education and school sports, etc.

#### **4.5. The typology and structure of the didactic mentoring process in physical and sports education**

The mentoring process must be anchored to the specifics of the educational system in Romania, which presents several particularities regarding: the organizational structure, the professional hierarchy relationships and the functionality between the specific administrative components and sub-components.

The mentoring activity during the specialized internships in the educational units is coordinated by a teaching staff from the university system (the tutor), in collaboration with a teaching staff/mentor from the pre-university education system. The initial training can also be done through the DPPD, within the academic institutions by going through and completing the psycho-pedagogical modules.

Mentoring for professional insertion in the pre-university school system aims at the collaboration, from a formative perspective, of the mentor and the mentee in order to make the didactic activity of the mentee more efficient, under the mentor's coordination.

The mentoring activity during internships in educational units within undergraduate, master's and postgraduate studies has as its major objective the training of professional skills by correlating theory with practice in the field of physical education.

#### **4.6. The skills and roles of the mentor in physical and sports education**

The physical and sports education mentor's skills represent a summation of personal, didactic, methodical, educational, sports, evaluation, moral, etc. skills, which intercorrelated, create the unique profile of a mentor.

The complexity of the mentor's personal and professional skills plays a decisive role in the mentoring process, aiming at the development and improvement of physical education and sports activities. We believe that a good correlation between intellectual, motor and pedagogical skills contributes to the formation of mentoring skills specific to the didactic activity (figure 3).



Figure 3. Systematization of mentoring skills in physical and sports education (personal contribution)

#### **4.7. The context of the mentor's professional competences in physical and sports education**

A modern approach to the mentoring process is based on the principle of learning through action, in order to make the didactic activity of the beginning teacher more efficient (Ardelean, Mîndruț, coord., 2012, p.14).

The essential elements of the skills included in the professional didactic mentoring approach in physical and sports education are: cognitive skills, affective skills, exploratory skills, performance skills and operational skills.

"Competences - represent structured sets of knowledge and skills acquired through learning. Competences are formed through training processes, with a certain internal structuring (by selecting strictly necessary and appropriate contents) and through learning activities specific to them. Finally, they allow the identification and resolution in various contexts of problems characteristic of a certain field." (Ardelean, Mîndruț, coordinator, 2012, p.206).

The professional competences of mentors and mentees in physical and sports education must be in correlation with those stipulated in "Order no. 3475/2017 of March 17, 2017 - Methodology for enrollment and registration of higher education qualifications in the National Register of Higher Education Qualifications (RNCIS)".

#### **4.8. The expectations of the mentor and the mentee with the physical education and sports specialization**

The relationship between the mentor teacher and the mentored teacher is advisable, it must be a pro-active one, so that each one knows the expectations of the other and is dynamically and responsibly involved in the achievement of common goals for the optimization of the mentoring process.

The mentor's expectations are defined as follows:

- the availability to participate in the mentoring process of beginning teachers;
- involvement in the development of reflective thinking of the mentored teacher;
- stimulating the professional development potential of the mentored teacher;
- providing examples of good practices specific to the teaching process in physical and sports education;
- establishing effective communication methods;
- advising the mentored teacher in solving problematic situations specific to physical and sports education;
- maintaining confidentiality in relation to the mentored teacher;
- realistic evaluation of the mentored person, etc.

The expectations of the mentored teacher are centered on:

- the expectation that the mentor be an experienced person, to respond to the needs and expectations of the mentored teacher;
- accepting responsibilities for the development of the teaching career;
- availability of time and resources for the mentoring process;



- establishing realistic, measurable and achievable professional objectives together with the mentor;
- demonstration of initiative, involvement and professionalism in the relationship with the mentor and in the teaching activity;
- objective assessment;
- accepting positive and corrective feedback;
- clear and concise communication of objectives, motivations and professional aspirations regarding the teaching career;
- promoting an open, flexible and efficient collaboration and assistance relationship;
- stimulation of creativity and cognitive reflections based on mentoring and practical teaching activities;
- mutual respect and confidentiality, etc.

#### **4.9. The link between the mentor teacher and the mentored teacher in physical and sports education**

The link between the mentor and the mentee requires a complex approach aimed at both the professional and personal relationships that are established during the mentoring program.

The mentor guides, advises, guides, helps the mentee, both during the undergraduate and master's studies, and especially during the initial professional training process. This facilitation of starting the mentoring process from the stage of completing university studies, under the guidance of a university teacher with recognized expertise, facilitates the effective debut in the teaching profession and implicitly, in the awareness of the specifics of school physical and sports activities.

The mentoring process calls for the establishment of a two-way relationship between the mentor and the mentee with implications, responsibilities, benefits, etc. on both sides. The relationship between the two key subjects must be based on a mutual appreciation of the involvement, role and responsibilities of the mentor and mentee.

#### **4.10. The communication impact in the mentoring process in physical and sports education**

Communication represents the binder on which all educational processes, professional interactions and human relationships are based. School society is based on communication processes through which information is transmitted and received, one-way and two-way messages are exchanged between teacher and students, teacher and parent, and between teachers.

According to Pătrauță (2018), the process of improving communication in the didactic activity of the specialized framework requires compliance with and knowledge of the following requirements: encouraging and accepting feedback from students and colleges; using correct, open, clear, concise and scientific language and terminology; showing an attitude of promoting listening and dialogue with students and colleagues; the diversified use of didactic communication forms and methods, both for sending and receiving messages.

About the implications and role of the teacher in the instructional-educational process, numerous studies have been carried out that highlighted the defining communicative aspects of the school

didactic process (Balint, 2013, pp.211-232; Nicole, 2011, p.23; Rusu, Mocanu, Samoilă, 2015, p.45; Pătrăuță, 2018, p.37; Trăistaru, 2019, p.4)

## **PART II – PRELIMINARY RESEARCH ON THE PROCESS OF INITIAL DIDACTIC PROFESSIONAL TRAINING IN PHYSICAL AND SPORTS EDUCATION**

### **CHAPTER 5. PRELIMINARY RESEARCH METHODOLOGY**

#### **5.1 The premises of the preliminary investigation**

The initial professional training represents the debut stage in the career, and the way in which this stage is managed by the novice teaching staff (mentoree) in collaboration with the mentor/tutor will decisively influence the development of the teaching career.

The novice teaching staff needs the coordination, guidance and support of a teaching staff with experience and expertise, in order to optimize the teaching activity, and this process begins through the specialized practice during the undergraduate and master's studies and usually continues during the first year of internship, this process being called didactic or educational mentoring.

Starting from the arguments and contexts of the reality of our education system, we believe that by analyzing the mentoring process and the impact of the professional skills manifested in the process of initial professional training, reconsiderations are required in order to optimize the teaching career in the specialization of physical and sports education.

#### **5.2 The purpose and objectives of the preliminary research**

The general purpose of the preliminary research consisted in the implementation and validation of a set of assessment tools aimed at the mechanisms involved in the mentoring process, aimed at identifying the role of mentors and mentees within this process, as well as highlighting their perception of specific professional skills physical and sports education, in order to optimize the initial/initial didactic professional training, at a later stage.

The specific objectives of the preliminary research were:

- knowing the level of self-assessment of the roles that the mentor and the mentee have in the mentoring process, in the initial professional training stage;
- knowing the level of appreciation of the impact of the specific skills of physical and sports education in the professional training of mentors and mentees;
- identification, adaptation and validation of test instruments specific to preliminary research, in order to use them in basic research.

#### **5.4. The hypotheses of the preliminary research**

##### **The general hypothesis of the preliminary research**

The application of some questionnaires in the direction of the specific and relevant indicators of the mentoring process, make it possible to highlight the internal mechanisms within this process, regarding the roles, perceptions and specific professional skills of the two actors involved, respectively the mentor and the mentee.

### Hypothesis specific to the preliminary study 1

The application at the level of mentors and mentees of a questionnaire with multiple subscales, which includes: the purpose, communication, trust, process, progress and feedback of the mentoring approach, offers the possibility of identifying similarities and differences of opinion, regarding the way of involvement and appropriation of the responsibilities (roles) assumed by the mentor, respectively the mentee.

### Hypothesis specific to the preliminary study 2

The application of a questionnaire focused on the professional skills required in teaching the study discipline "Physical Education" in pre-university education, highlights both agreement/disagreement and their significance for the mentor and mentee in the approach to the act of teaching-learning-evaluation.

## 5.5. Staging, periodization and organization of preliminary research

The preliminary research was structured on 2 studies, represented schematically in figure 4:

- Study 1 – aimed at evaluating the role that the mentee and the mentor play/identify in the mentoring process, achieved by applying a questionnaire with two variants adapted for each of the two categories of subjects (mentors and mentees).
- Study 2 - directed towards the assessment/rating of the specific skills of physical education and sports, from the perspective of the mentees and mentors (in this case, the questionnaire was identical for both samples of the preliminary experiment).

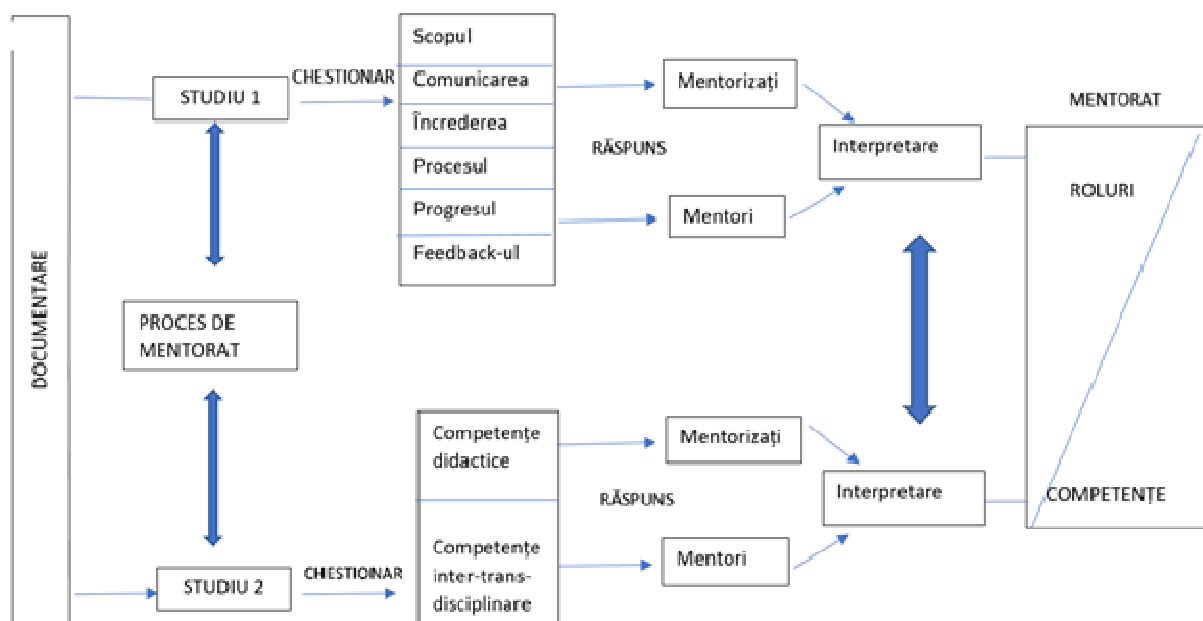


Figure 4. Scheme of the actions included in the preliminary research

The research started with the study of the bibliography, in order to observe the level of deepening of the issue, in the specialized literature. At this stage, we aimed to identify some papers that used standardized questionnaires, which can be adapted and used in our research. After the selection of the questionnaires in question, contact was made with the County School Inspectorates from the central area of the country and its borders (ISJ Brașov, ISJ Covasna, ISJ Harghita, ISJ Mureș, ISJ Prahova, ISJ Sibiu, ISJ Dâmbovița), to explain what we intend to undertake and we came to the specialized inspectors with the request to provide us with the electronic contact data (e-mail

addresses) of the Methodist teachers in the respective county, thus acquiring a number of 37 contacts. I sent the adapted questionnaires to the Methodist teachers through the Google Forms platform. Of the 37 contacts we had initially, we received completed questionnaires from only 24 of them. As for the novice teachers, we appealed to the graduates of our faculty who were in their first 2 years of teaching activity, so that they fit the profile of the trainee teacher. Also, in order to obtain a larger number within this sample, I completed it with master's students, who were at the time also enrolled in the pre-university education system, either as a full-time or as a substitute. For them, the questionnaires were operated "face to face".

## **5.6. Preliminary study sample**

For both studies 1 and 2, the samples of mentees and mentors consisted of the same subjects, respectively:

- mentees sample – 40 beginning teachers.
- mentors sample – 24 mentors/tutors of specialized practice (pedagogical practice).

## **5.7. Research methods used**

### **Method of documentation**

The research methods included here are dependent on the content and particularities of the subject studied (Crăciun, 2015, p.20). They facilitated the identification and delimitation of the conceptual framework of the studied phenomenon, respectively highlighting the relevant theoretical aspects about the process of initial professional training, in the teaching career of the specialist in physical and sports education.

### **The method of investigation**

The investigation, as a qualitative research method, facilitates the collection of data also through the application of a questionnaire, as an investigative tool (Caciuc, 2013, p.13). As part of the preliminary research, we applied two standardized and validated questionnaires in previous studies: the self-assessment questionnaire of the role of the mentoring process (with two adapted versions: for mentees and mentors) and the questionnaire for the assessment of the perception of specific skills in physical and sports education. The second questionnaire was adapted in order to facilitate the delimitation of professional competences, in specialized didactic competences and in inter-trans-disciplinary competences and its scoring.

I used these questionnaires in two studies, as follows:

- Study 1 - Evaluation of the role of the mentoring process, by applying a questionnaire with two variants (the variant for the mentees and the variant for the mentors), adapted for the two groups involved in the educational mentoring process and which was developed and validated by "SUNY Brockport's Student Life program ("Building Effective Mentoring Relationships Mentoring Workbook, [https://www.brockport.edu/life/leadership/Documents/Mentor%20Resources/Full\\_mentoring\\_workbook\\_for\\_PDF\\_link.pdf](https://www.brockport.edu/life/leadership/Documents/Mentor%20Resources/Full_mentoring_workbook_for_PDF_link.pdf)" ;
- Study 2 – Perception of specific teaching competencies in physical education, by the mentor and mentee, through a questionnaire comprising 40 items, validated by Kovac, Sloan and Starc (Competencies in physical education teaching: Slovenian teachers' views and future perspectives. *European Physical Education Review*, 14(3), 2008, pp.299-323, <https://doi.org/10.1177%2F1356336X08095668>)

Data on the questionnaire variants applied in Study 1 of the preliminary experiment:

- The self-assessment questionnaire of the role of the mentee / mentor.

- oDescription – the questionnaire was structured in 6 subscales, each part including a category of specific items for evaluating the mentee's role in the mentoring process, in relation to the mentor, totaling 60 items ("Mentee Role Self-Assessment, pp.37-39, Building Effective Mentoring Relationships Mentoring Workbook, [https://www.brockport.edu/life/leadership/Documents/Mentor%20Resources/Full\\_mentoring\\_workbook\\_for\\_PDF\\_link.pdf](https://www.brockport.edu/life/leadership/Documents/Mentor%20Resources/Full_mentoring_workbook_for_PDF_link.pdf)").
- oEvaluation of the questionnaire - for the evaluation of each item of the questionnaire, the Likert scale was used, including 4 levels of appreciation, where the scores were: 1 point - total disagreement; 2 points – disagreement; 3 points – agreement; 4 points - totally agree.
- oMethod of administration - the questionnaires were administered individually and were completed online through the Google Forms platform, respectively face to face (as appropriate).
- oQuestionnaire interpretation – points from 1-4 are awarded for each item. After completing the questionnaire, the points for the 6 subscales are totaled and the final score is calculated. The quiz score provides us with the following information:
  - between 240-161 points – the mentoring process is very effective, the mentee believes that both their role and their involvement are major and effective;
  - between 160-80 points – demonstrates good activity but can be optimized and involves identifying skills and roles that still need improvement;
  - below 80 points – the activity and role of the mentee are not satisfactory and require a major involvement to make the professional activity more efficient.

- The questionnaire from Study 2, regarding the self-perception of the specific competences for teaching physical and sports education, by mentors and mentees (the questionnaire has identical content for both samples – mentees and mentors).

- oDescription – the questionnaire on the self-perception of specific competencies in physical and sports education by the mentor and mentee was designed and validated by Kovac, Sloan and Starc, 2008, in the study "Competencies in physical education teaching: Slovenian teachers' views and future perspectives". European Physical Education Review, 14(3), pp.299-323, doi: 10.1177/1356336X08095668. The questionnaire includes a number of 40 items specific to the mentoring activity in physical education and sports. It consists of 3 parts: one demographic, one on general skills and the last one on specific skills. In our study, we took over/adapted only the last part, namely the one about the self-perception of the skills specific to professional training in physical education and sports.

- Evaluation of the questionnaire – for the evaluation of each item of the questionnaire, the Likert scale with 4 levels of appreciation was used, where the mentors and mentees appreciated their level of specific skills at the time of completing the questionnaire. Thus, the scores were: 1 point – completely incompetent; 2 points – less competent; 3 points – competent; 4 points – very competent.
- Mode of administration - questionnaires were administered individually and completed online via Google Form or face-to-face.
- Questionnaire interpretation – points from 1 to 4 are given for each item. After completing the questionnaire, the points for the 40 items were totaled and the specific professional skills were identified in which the subject is rated competent and very competent and also, items where the subject has low and very low specific professional skills.
- Questionnaire score (personal contribution):
  - between 160-105 points, the subjects have a very good perception of the level of development and manifestation of the skills specific to physical and sports education;
  - between 104-50 points, the perception is a good one, which requires the identification of aspects that require revision or improvement;
  - below 50 points, the perception of mentees and mentors is not satisfactory and calls for a major theoretical and practical involvement and activity, in order to improve specialized skills and optimize the level of professional competence for professional teaching for teaching physical education.

### **The statistical method of interpreting research data**

The statistical-mathematical method is the basis of socio-human scientific research, facilitating the understanding of how data differ or are correlated. By means of the statistical-mathematical method, the hypotheses of a scientific research are validated or refuted.

As part of the preliminary research, we calculated the following statistical indicators:

- $\bar{X}$  – the arithmetic mean of the points
- SD – the standard deviation (the spread of the values on the questionnaire items, compared to the arithmetic mean)
- $\Sigma$  – sum of points
- $\Delta$  – score difference;
- t – Test student
- 95%CI – confidence interval, with the two levels: lower and upper.
- $\alpha$  - Cronbach's Alpha to measure internal consistency;
- KMO-B – Kaiser-Meyer-Olkin test – for measuring the adequacy of research samples;
- $\chi^2$  - Bartlett's Test
- p – probability level.

In this context, the way of calculating and interpreting the data was:

- The data collected following the application of the questionnaires were processed and centralized, for questionnaire 1, on the 6 subscales, and for questionnaire 2, on the 2 categories of skills.
- For each item, the arithmetic mean of the scores, the standard deviation, the Student's test and the confidence interval were calculated, using the formulas presented above. For the Student's test, the number of degrees of freedom specific to each sample was calculated differently and thus, we were able to extract the reference value of t (tabular t).
- For each individual item, we checked if the arithmetic mean falls between the minimum and maximum extremes of the confidence interval (95%CI), in order to be able to state that the calculated values are found in that area, with a high probability. We note that the same calculation procedure was applied not only to the preliminary research, but also to the data collected in the basic research.

## CHAPTER 6. PRESENTATION, PROCESSING AND INTERPRETATION OF PRELIMINARY RESEARCH RESULTS

### 6.1. Presentation, processing and interpretation of the results of study 1 from the preliminary research, regarding the evaluation of the role of the mentoring process from the perspective of the self-assessment of the mentee and the mentor

#### 6.1.1. Preliminary study 1 on the evaluation of the role of the mentoring process from the perspective of the sample of mentees

The questionnaire evaluating the role of the mentoring process from the perspective of the mentees, for all 60 items, registered a very good internal consistency, expressed by the statistical indicator Cronbach's Alpha ( $\alpha$ ) of 0.859. To analyze the collected data, the following statistical indicators were used: X – arithmetic mean of the points, SD – standard deviation, t – the Student test with the help of which the p value is obtained (for a p value lower than 0.05, considers that the collected data are statistically significant), 95%CI – confidence interval (if the arithmetic mean of the points lies between the Lower and Upper values, we can say that, in proportion to 95%, this sample is relevant). For the first subscale (subscale 1 – Purpose) within the Mentoree Role Self-Assessment Questionnaire, the data collected, processed and centralized can be found in table 1.

From the data presented in table 1, in subscale 1 – Purpose, a sum of 29.07 was recorded for the 10 items. The sample of mentees scored highest on item 3 - Being a responsible mentee is key to the success of this partnership (3,250 points) and on item 9 - I periodically check to see if we should change our focus (3,025 points) . All these values represent the average points accumulated following the answers provided for subscale 1. Similarly, the lowest score was recorded for item 5 – I proposed one or more goals to work on with the help of my mentor, which scored 2,700 points.

Table 1. Descriptive statistics of the Self-Assessment Questionnaire of the role of the mentee – subscale 1 – The goal

Sub-scale	Items	X	SD	t	p	95% CI	
						Lower	Upper
The goal	1.This mentoring relationship is a high priority for me	2,750	,869	19,998	,000	2,471	3,028
	2.Finding my mentor was an important step for me	2,750	,839	20,71	,000	2,481	3,018

				2			
	3. Being a responsible mentee is key to the success of this partnership	3,250	,839	24,478	,000	2,981	3,518
	4. I was clear with my mentor why I wanted to meet with him/her	2,925	,828	22,327	,000	2,660	3,190
	5. I proposed one or more goals to work on with the help of my mentor	2,700	,911	18,735	,000	2,408	2,991
	6. I will recognize when I have achieved my goals	2,950	1,060	17,585	,000	2,610	3,289
	7. I feel good about strengthening this relationship and my role in it	3,000	,784	24,187	,000	2,749	3,250
	8. This relationship is a good use of my time	2,825	,812	21,978	,000	2,565	3,085
	9. I periodically check to see if we should change our focus in some way.	3,025	,800	23,908	,000	2,769	3,280
	10. Once I've met my goals, I'm willing to see the relationship reorient or perhaps end for the time being	2,900	,900	20,376	,000	2,612	3,187
	Total subscale – X	2,90	-	-	-	-	-
	Total subscale – Sum	29,07	-	-	-	-	-

Calculating the standard deviation values for the sample of mentees, within subscale 1, we observe that it registers the highest values for items 6 (1.060) and 5 (0.911), followed by items 1 (0.869), 7 and 3, which have the same value (0.839). In the same context, the lowest value was recorded for item 7, of 0.784 points.

Next, for the values presented in table 1, the Student's test was calculated, recording values above the tabular t value at the 0.05 threshold, corresponding to the 36 degrees of freedom, respectively 1.697. As can be seen, all the values recorded by the Student's test for subscale 1- Purpose are much higher than the tabular t value, which shows us that the data are statistically significant, for a  $p < 0.05$ .

The significance of the data is also confirmed by the confidence interval (95% CI), all the results obtained at the arithmetic mean of the items, falling between its upper and lower limits, a fact that reflects good availability for optimizing the mentoring process.

In the context of the above, all the results obtained for this subscale reflect good potentials for optimizing the mentoring process.

The data presented in table 2 show us for each item of subscale 1 – the goal, the number of responses distributed on the 4 variants of the Likert scale and the percentage weight they have within the "Self-assessment questionnaire of the mentee's role - subscale 1 – the goal ". Thus, for the answers of 4 points, there was an average of respondents of 11.3, for those of 3 points, of 15.9, for those of 2 points, 10.6 and for those of 1 point, 2.2. The most answers of 4 points were registered to item 3 - "Being a responsible mentoree is the key to the success of this partnership", the respective ratings being given by 19 respondents (table 2). Results on this subscale reflect a good focus on professional goals in the mentee's initial professional training process.



Table 2. Distribution of responses and their percentage weight to the Self-Assessment Questionnaire of the role of the mentee – subscale 1 – the goal

Sub-scale	Items	4 pct.		3 pct.		2 pct.		1 pct.	
		N	%	N	%	N	%	N	%
The goal	1.This mentoring relationship is a high priority for me	9	22,5	14	35	15	37,5	2	5
	2.Finding my mentor was an important step for me	8	20	16	40	14	35	2	5
	3.Being a responsible mentee is key to the success of this partnership	19	47,5	13	32,5	7	7,5	1	2,5
	4.I was clear with my mentor why I wanted to meet with him/her	10	25	19	47,5	9	22,5	2	5
	5.I proposed one or more goals to work on with the help of my mentor	9	22,5	13	32,5	15	37,5	3	7,5
	6.I will recognize when I have achieved my goals	17	42,5	8	20	11	27,5	4	10
	7.I feel good about strengthening this relationship and my role in it	11	27,5	19	47,5	9	22,5	1	2,5
	8.This relationship is a good use of my time	8	20	19	47,5	11	27,5	2	5
	9.I periodically check to see if we should change our focus in some way.	11	27,5	21	52,5	6	15	2	5%
	10. Once I've met my goals, I'm willing to see the relationship reorient or perhaps end for the time being	11	27,5	17	42,5	9	22,5	3	7,5
Total subscale – X		11,3	28,25	15,9	39,75	10,6	26,5	2,2	5,5

As can be seen, 4-point responses accounted for 28.25%, 3-point responses 39.75%, 2-point responses 10.6% and 1-point responses 5.5%. Thus, the highest percentage of answers given by the sample of mentors (N) was recorded at the value of 3 points, and the lowest was recorded for the answers of 1 point.

We applied the same data collection, processing, centralization and statistical interpretation methodology for subscale 2 – Communication, subscale 3 – Confidence, subscale 4 – Process, subscale 5 – Progress and subscale 6 – Feedback, from the Assessment Questionnaire the role of the mentoring process by the mentees.

### 6.1.2. Preliminary study 1 on evaluating the role of the mentoring process from the perspective of the sample of mentors

The second version of the questionnaire to evaluate the role of the mentoring process was applied to the sample of mentors/methodologists/other teaching staff with experience active in pre-university and university education, and the data collected following this process are centralized, processed and statistically interpreted as follows same algorithm as for the mentee sample.

The questionnaire evaluating the role of the mentoring process from the perspective of the mentors, for the 60 items, registered a very good internal consistency, given by the statistical indicator Cronbach's Alpha ( $\alpha$ ) of 0.817.

For subscale 1 – Purpose, within the Mentor Role Self-Assessment Questionnaire, the descriptive statistics of the collected and centralized data are presented in Table 3.

Table 3. Descriptive statistics of the Self-Assessment Questionnaire of the role of the mentor – subscale 1 – The goal

Sub-scale	Items	X	SD	t	p	95% CI	
						Lower	Upper
The goal	1.This mentoring relationship is a big priority for me	3,041	,806	18,477	,000	2,701	3,382
	2.Finding my mentee was an important step for me	2,958	,806	17,971	,000	2,617	3,298
	3.Being a responsible mentor is key to the success of this partnership	3,125	,899	17,013	,000	2,745	3,505
	4.I asked my mentee to clarify why he wanted to meet with me	2,958	,858	16,878	,000	2,595	3,320
	5.I asked my mentee to suggest one or more goals for me to work on in this relationship	3,041	,907	16,413	,000	2,658	3,425
	6.My mentee and I are clear about how we will recognize when he/she has achieved goals	3,208	,883	17,788	,000	2,835	3,581
	7.I feel good about strengthening this relationship and my role in it	2,958	,907	15,963	,000	2,575	3,341
	8.This relationship is a good use of my time	2,833	,916	15,140	,000	2,446	3,220
	9.I periodically check to see if we should change our focus in some way	3,041	,750	19,852	,000	2,724	3,358
	10.When my mentee has met their goals, I am willing to see the relationship reorient or perhaps end for the time being	2,708	,954	13,899	,000	2,305	3,111
Total subscale – X		2,98	-	-	-	-	-
Total subscale – Sum		29,87	-	-	-	-	-

From the data presented in table 3, in subscale 1 – The goal, within the Self-Assessment Questionnaire of the role of the mentor, an amount of 29.87 points was recorded for the 10 items. The sample of mentors scored highest on item 6 – My mentee and I are clear about how we will recognize when he/she has achieved goals (3,208 points), followed by item 3 – Being a responsible mentee is the key to the success of this partnership (3.125 points), and for the items: 5 - I asked my mentee to propose one or more goals for me to work on in this relationship and 9 - I periodically check to see if I should we change our focus (on another activity, objective, etc.), they recorded the same value, respectively 3.041 points. As with the mentees, all of these values represent the mean scores of the responses provided for subscale 1. Similarly, for the lowest scores, these were recorded on item 10 – When my mentee has met their goals, they are willing to see the relationship reorient or perhaps end for the time being (mean 2.708 points).

In terms of standard deviation, the calculated values recorded the highest threshold at item 10 – When my mentee has met his or her goals, I am willing to see the relationship reorient or perhaps end for the time being (0.954), followed by item 8 – This relationship is a good way of using my time

(0.916), and at the opposite pole, the lowest value was recorded for item 9 – I periodically check to see if we should change our focus in some way , this having 0.750 points.

Next, for the tabular data (table 3), the Student's test was calculated, recording values above the tabular t value at the 0.05 threshold, corresponding to the 20 degrees of freedom, respectively  $t=1.725$ . As can be seen, all the values recorded by the Student's test for subscale 1- Purpose are much higher than the tabular t value, which shows us that the data are statistically significant, for a  $p < 0.05$ .

The significance of the data is also confirmed by the confidence interval (95%CI), all the results obtained at the arithmetic mean of the items falling between its upper and lower limits, a fact that reflects consistency on the part of the mentors, in establishing and discussing the objectives of the process of mentoring.

The distribution of the answers given by the sample of mentors for the 4 variants of the Likert scale, within subscale 1 – The goal, from the Self-Assessment Questionnaire of the role of the mentor, as well as their percentage weight, is shown in table 4.

Table 4. Distribution of answers and their percentage weight to the Questionnaire of self-assessment of the role of the mentor - subscale 1 – The goal

Sub-scale	Items	4 pct.		3 pct.		2 pct.		1 pct.	
		N	%	N	%	N	%	N	%
The goal	1.This mentoring relationship is a big priority for me	8	33,3	9	37,5	7	29,2	-	-
	2.Finding my mentee was an important step for me	6	25	12	50	5	20,8	1	4,2
	3.Being a responsible mentor is key to the success of this partnership	10	41,7	8	33,3	5	20,8	1	4,2
	4.I asked my mentee to clarify why he wanted to meet with me	7	29,2	10	41,7	6	25	1	4,2
	5.I asked my mentee to suggest one or more goals for me to work on in this relationship	9	37,5	8	33,3	6	25	1	4,2
	6.My mentee and I are clear about how we will recognize when he/she has achieved goals	12	50	5	20,8	7	29,2	-	-
	7.I feel good about strengthening this relationship and my role in it	7	29,2	11	45,8	4	16,7	2	8,3
	8.This relationship is a good use of my time	6	25	10	41,7	6	25	2	8,3
	9.I periodically check to see if we should change our focus in some way	6	25	14	58,3	3	12,5	1	4,2
	10.When my mentee has met their goals, I am willing to see the relationship reorient or perhaps end for the time being	5	20,8	10	41,7	6	25	3	12,5
Total subscală – X		3,81	31,67	9,7	40,41	5,5	22,92	1,2	5,01

The data presented in table 4 show us for each item of subscale 1 – The goal, the number of responses distributed on the 4 variants of the Likert scale and the percentage weight they have within the "Questionnaire for self-evaluation of the role of the mentor". Thus, for the answers of 4 points, there was an average of respondents of 3.81, for those of 3 points, of 9.7, for those of 2

points, 5.5 and for those of 1 point, 1.2. The most 4-point responses were recorded for item 6 – “My mentee and I are clear about how we will recognize when he/she has achieved the goals”, given by 12 respondents. The results on this subscale reflect a high degree of responsibility of the mentor, regarding his relationship with the mentee.

As can be seen, the 4-point answers registered a weight of 31.67%, the 3-point ones, 40.41%, the 2-point ones, 22.92% and the 1-point ones, 5.01%. Thus, the highest percentage of answers given by the sample of mentors (N) was recorded at the value of 3 points, and the lowest was recorded for the answers of 1 point.

We applied the same data collection, processing, centralization and statistical interpretation methodology for subscale 2 – Communication, subscale 3 – Trust, subscale 4 – Process, subscale 5 – Progress and subscale 6 – Feedback from the Role Evaluation Questionnaire the mentoring process by mentors.

### 6.1.3. Centralization and interpretation of preliminary study results 1

After the collection, centralization, processing and statistical interpretation of the data obtained from the application of the two questionnaires on the samples of subjects subject to our research, for the preliminary study 1, we proceeded to their centralized analysis.

In this sense, the arithmetic mean, the difference between the arithmetic means, as well as their sum, were used. The Alpha coefficient (Cronbach ) tells us, depending on the value obtained (greater than 0.9 - excellent, between 0.7 and 0.9 - good, between 0.6 and 0.7 - acceptable, between 0.5 and 0.6 – weak, below 0.5 – unacceptable), the consistency of the items used. KMO-B shows us that the samples used are adequate in number of subjects and the data obtained are relevant for this study. X<sup>2</sup> (chi<sup>2</sup> – Bartlett's test) represents a test of sphericity, based on which the significance threshold is calculated. In our case, if it is less than 0.5, we can state that the analyzed values are valid for the research carried out (table 5).

Table 5. Centralization of results in study 1 – Role evaluation questionnaire the mentoring process

Subscale	Groups	X	ΔX	Σ	ΔΣ	α	KMO-B	X <sup>2</sup>	p
1. The goal	Mentees group	2,90	-0,08	29,07	0,80	,798	,574	15,941	,000
	Mentors group	2,98		29,87		,802	,387	13,621	,003
2. Communication	Mentees group	2,94	-0,01	29,45	0,8	,792	,649	7,994	,000
	Mentors group	2,95		29,53		,794	,469	82,385	,001
3. Confidence	Mentees group	2,97	-0,07	29,75	0,66	,811	,475	9,776	,000
	Mentors group	3,04		30,41		,821	,629	13,078	,047
4. The process	Mentees group	2,84	-0,07	28,47	0,69	,809	,419	12,534	,000
	Mentors group	2,91		29,16		,817	,309	4,213	,005
5. The progress	Mentees group	2,73	-0,22	27,35	2,23	,798	,506	14,990	,000
	Mentors group	2,95		29,58		,786	,340	5,373	,012
6. Feedback	Mentees group	2,76	-0,18	27,67	1,78	,804	,403	13,764	,009
	Mentors group	2,94		29,45		,814	,403	12,764	,019

Centering the results on the subscales of the questionnaire for evaluating the role of the mentoring process, allows the identification of differences of opinion regarding the roles, the way of involvement and the responsibilities of the mentees and mentors.

The biggest difference recorded between the evaluation of the mentees and the mentors was on subscale 5 – Progress, of 0.22 points, where the mentors valued the items evaluating the progress in the mentoring activity higher, compared to the sample of mentees. On all subscales of this questionnaire, the sample of mentors had higher arithmetic means than the sample of mentees (Figure 5).

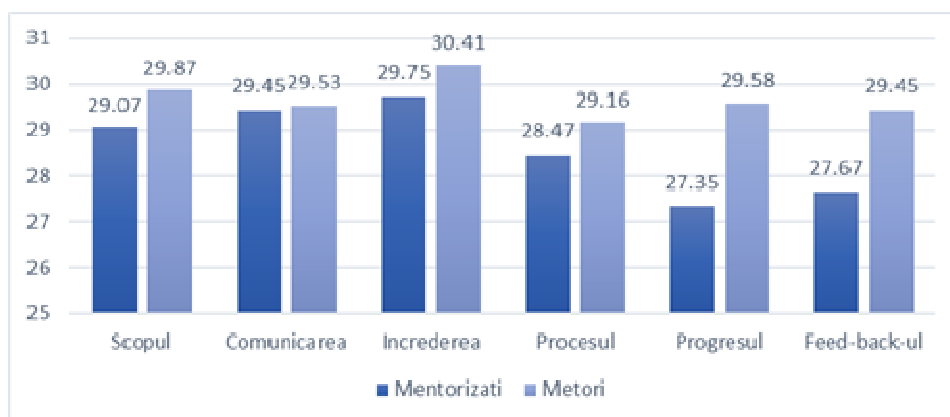


Figure 5. Sum of scores on the 6 subscales of the "Mentoring Process Role Self-Assessment Questionnaire" for the mentee and mentor samples

All subscales registered good and very good internal consistency, Cronbach's Alpha indicator values ranging between 0.786 and 0.821.

For all subscales, the analyzed results were adequate and useful for the research, according to the chi2 statistical index, and the significance thresholds had values below the reference value of 0.5, which reflects that the results are statistically significant.

The next stage in the analysis of the centralized data of the preliminary study 1 was to find out the score of the questionnaire, which is obtained by summing the arithmetic averages obtained on each subscale separately (table 6)

Table 6. Sum of the total score for the two versions of the questionnaire evaluation of the mentoring process

Sample	$\Sigma$ total score	$\Delta\Sigma$ total score
Mentees	171,76	6,24
Mentors	178	

As can be seen, the amounts recorded by the two samples included in preliminary study 1 are: 171.16 points for mentees and 178 points for mentors. The difference recorded between the sums of scores obtained on the Questionnaire for the evaluation of the role of the mentoring process between the two samples, of mentees and mentors, was 6.24 points.

The total cumulative value registered by both samples falls between 240 – 161 points, according to the questionnaire score, which indicates that the roles assumed in the mentoring process are optimal and professional, each of the two categories of subjects included in the study considering that the attributions and their involvement is important for carrying out a quality mentoring process. Lower scoring items, once identified, can and should be improved to ensure an effective initial/early teaching professional development process.

#### **6.1.4. Conclusions of the preliminary experiment – study 1 on the evaluation of the role of the mentoring process by mentees and mentors**

The questionnaire applied with the two variants adapted for mentees and mentors, was statistically validated by the high values of the Cronbach's Alpha indicator. They highlight a good and very good internal consistency of all subscales at the level of the two versions of the questionnaire, respectively for mentees and mentors.

According to what has been presented, we can state that, the specific hypothesis of preliminary study 1, namely that "The application at the level of mentors and mentees of a questionnaire with multiple subscales, which includes: the purpose, communication, trust, process, progress and feedback of the mentoring approach, offers the possibility of identifying the similarities and differences of opinion, regarding the way of involvement and appropriation of the responsibilities (roles) assumed by the mentor, respectively the mentee" is accepted.

The total - cumulative - scores of both samples fall between 240-161 points, which according to the general score of the questionnaire indicates that the specific roles of mentees and mentors in terms of the implementation and development of the mentoring process are assumed in optimal conditions (at this only declarative moment), and their involvement is major and effective.

The results of preliminary study 1 reflect the fact that mentees and mentors consider/declare that their role in the mentoring process is a major one, and the result, which shows us that all respondents of the preliminary study gave good scores of 3 and 4 points to most items, lead us to conclude that the mentees and mentors consider the mentoring process as important for their professional development in the initial training stage, at the beginning of their teaching career, and implicitly, they perceive it as a consistent basis for future career development.

The mentoring process must be focused on expanding the professional skills of mentees and mentors and diversifying teaching experiences specific to physical education, adapted for pre-university education cycles. The changes and reforms in the educational system are recommended to also target the efficiency of the initial professional training stage, as a starting point in the professionalization process of teaching staff specializing in physical and sports education.

## **6.2. Presentation, processing and interpretation of the results of study 2 of the preliminary research on the self-assessment of the specific skills of teaching physical and sports education by mentees and mentors**

### **6.2.1. Presentation, processing and interpretation of the results of study 2 from the preliminary research on the self-assessment of the specific skills for teaching physical and sports education**

In preliminary study 2, a self-assessment questionnaire on the perception of specific competences for teaching physical education (and sports) was applied, identical for both samples subjected to our research, composed of 2 subscales, respectively: subscale 1 – Specialized didactic competences and subscale 2 – Inter-trans-disciplinary competences.

Following the same algorithm for analyzing the collected, centralized and statistically processed data, the Cronbach's Alpha ( $\alpha$ ) indicator was calculated, both for the sample of mentees and for the sample of mentors, and the values recorded by it were 0.802 for the first category and 0.834, for the second one. These results highlight a very good internal consistency, the questionnaire being statistically validated and thus, we decided to use it in our preliminary research.

- Data for mentees

For subscale 1 – Specialized didactic skills, the centralized data following the application of the questionnaire on the sample of mentees, are presented in table 7.

Table 7. Descriptive statistics of the Self-Assessment Questionnaire of the perception of specific competences for teaching physical education by the mentees – subscale 1 – Specialized didactic competences

Sub-scale	Items	X	SD	t	p	95% CI	
						Lower	Upper
Specialized didactic competences	1. Recognizing students with sporting talent and guiding them	3,450	,638	34,173	,000	3,245	3,654
	2. Qualification to demonstrate skills that are part of the curriculum	3,225	,831	24,525	,000	2,959	3,491
	3. Respecting the principles of inclusion, individualization and differentiation	2,800	,911	19,429	,000	2,508	3,091
	4. Qualification for pedagogical classroom management in the physical education lesson	3,175	,843	23,795	,000	2,905	3,444
	5. Qualification to provide first aid in case of injury	2,650	,948	17,667	,000	2,346	2,953 4
	6. Qualification to demonstrate non-program skills	2,600	1,007	16,319	,000	2,277	2,922
	7. Qualification for different ways of assessing and marking knowledge in physical education	2,600	,955	17,211	,000	2,294	2,905
	8. The ability to use different teaching methods and forms of teaching physical education	3,125	,852	23,171	,000	2,852	3,397
	9. Qualification for encouraging students to be active through sport in their free time	2,625	1,102	15,063	,000	2,272	2,977
	10. Organizational skills and knowledge to implement school and extracurricular programs	3,075	,888	21,893	,000	2,790	3,359
	11. Qualification for evaluating one's own pedagogical activity in education	3,175	,843	23,795	,000	2,905	3,444
	12. Qualification for setting objectives according to the curriculum	3,050	,985	19,568	,000	2,734	3,365
	13. Qualification to encourage a student's personal progress	3,325	,729	28,813	,000	3,091	3,558
	14. Qualification to plan a process according to status and curriculum analysis	3,100	,871	22,505	,000	2,821	3,378
	15. Qualification for formation and transmission of feedback information	2,775	,946	18,533	,000	2,472	3,077
	16. Qualification for the effective transmission of theoretical content in physical education lessons	2,625	1,074	15,392	,000	2,280	2,970
	17. Skill for encouraging creativity in finding solutions to motor tasks	3,075	,888	21,893	,000	2,790	3,359

	18. Qualification to connect physical education subjects with other subjects	3,075	,888	21,893	,000	2,790	3,359
	19. Qualification for encouraging student learning in an instructive and creative way	2,975	,973	19,324	,000	2,663	3,286
	20. Fitness diagnosis qualification	3,375	,704	30,284	,000	3,149	3,600
Total subscale – X		2,993	-	-	-	-	-
Total subscale– Sumă		59,87	-	-	-	-	-

From the data presented in table 7, for subscale 1 – Specialized teaching skills, it can be seen that, for the 20 items, an amount of 59.87 points was recorded. All these values represent the average points accumulated from the answers provided for subscale 1/items.

Regarding the standard deviation, for the sample of mentors, within subscale 1 of the applied questionnaire, it recorded the maximum value in item 9 – Qualification for encouraging students to be active through sports in their free time (1.102), followed by item 16 – Qualification for the effective transmission of theoretical content in physical education lessons (1,074). The lowest value of the standard deviation was recorded in item 1 – Recognition of students with sports talent and their guidance (0.638), followed by item 20 – Qualification for diagnosing physical condition (0.704)

For the data presented in table 7, the Student's test was calculated, recording values above the tabular t value at the 0.05 threshold, corresponding to the 36 degrees of freedom, respectively  $t=1.697$ . As can be seen, all the calculated values, which the Student's t-test registers for this subscale, are much higher than the table t-value, which shows us that the data are statistically significant, for a  $p < 0.05$ .

This statistical significance of the data is also confirmed by the confidence interval (95%CI), all the results obtained at the arithmetic mean of the items falling between its upper and lower limits. The limits of the confidence interval indicate good possibilities for improving specialized teaching skills in the physical education mentoring process.

Table 8. Distribution of answers and their percentage weight to the Self-Assessment Questionnaire of the perception of specific competences in physical and sports education by the mentees – subscale 1 – Specialized didactic skills

Sub-scale	Items	4 pct.		3 pct.		2 pct.		1 pct.	
		N	%	N	%	N	%	N	%
Specialized didactic competences	1. Recognizing students with sporting talent and guiding them	21	52,5	16	40	3	7,5	0	0
	2. Qualification to demonstrate skills that are part of the curriculum	19	47,5	11	27,5	10	25	0	0
	3. Respecting the principles of inclusion, individualization and differentiation	10	25	15	37,5	12	30	3	7,5
	4. Qualification for pedagogical classroom management in the physical education lesson	18	45	11	27,5	11	27,5	0	0
	5. Qualification to provide first aid in case of injury	8	20	15	37,5	12	30	5	12,5



6. Qualification to demonstrate non-program skills	11	27,5	6	15	19	47,5	4	10
7. Qualification for different ways of assessing and marking knowledge in physical education	9	22,5	10	25	17	42,5	4	10
8. The ability to use different teaching methods and forms of teaching physical education	17	42,5	11	27,5	12	30	0	0
9. Qualification for encouraging students to be active through sport in their free time	11	27,5	11	27,5	10	25	8	20
10. Organizational skills and knowledge to implement school and extracurricular programs	17	42,5	9	22,5	14	35	0	0
11. Qualification for evaluating one's own pedagogical activity in education	18	45	11	27,5	11	27,5	0	0
12. Qualification for setting objectives according to the curriculum	18	45	8	20	12	30	2	5
13. Qualification to encourage a student's personal progress	19	47,5	15	37,5	6	15	0	0
14. Qualification to plan a process according to status and curriculum analysis	17	42,5	10	25	13	32,5	0	0
15. Qualification for formation and transmission of feedback information	11	27,5	12	30	14	35	3	7,5
16. Qualification for the effective transmission of theoretical content in physical education lessons	11	27,5	10	25	12	30	7	17,5
17. Skill for encouraging creativity in finding solutions to motor tasks	17	42,5	9	22,5	14	35	0	0
18. Qualification to connect physical education subjects with other subjects	17	42,5	9	22,5	14	35	0	0
19. Qualification for encouraging student learning in an instructive and creative way	16	40	9	22,5	13	32,5	2	5
20. Fitness diagnosis qualification	20	50	15	37,5	5	12,5	0	0
Total subscale – X	15,25	38,12	11,15	27,87	11,17	29,25	1,9	4,75

As can be seen from the data contained in table 8, for the answers of 4 points there was an average of 15.25, for those with 3 points, one of 11.15, for those with 2 points, 11.17, and for those of 1 point, 1.9. The percentage distribution of the answers on the 4 evaluation intervals of the Likert scale, registers a percentage of 38.12% for those with 4 points, 27.87% for those with 3 points, 29.25% for those with 2 points, and for those of 1 point, 4.75%.

All the previously presented leads us to the conclusion that the mentorees recognize and appreciate the specialized didactic skills to a great extent.

Next, we proceeded to the collection, centralization and processing of the data contained in table 9 (shown below), regarding subscale 2 – Inter-trans-disciplinary competences, from the self-assessment questionnaire of the specific competences necessary for teaching physical and sports education, for the sample of mentees.

Table 9. Descriptive statistics of the Self-Assessment Questionnaire of the perception of specific competences for teaching physical and sports education by the mentees – subscale 2 – Inter-trans-disciplinary competences

Sub-scale	Items	X	SD	t	P	95% CI	
						Lower	Upper
Inter-trans-disciplinary competences	21. Understanding methodical ways in teaching non-curriculum skills	3,125	,852	23,171	,000	2,852	3,397
	22. Understanding the historical aspects of physical education	2,600	,955	17,211	,000	2,294	2,905
	23. Understanding the physical and motor development of children and adolescents	3,075	,858	22,641	,000	2,800	3,349
	24. Understanding methodical ways of teaching motor skills in the curriculum	3,175	,812	24,701	,000	2,915	3,435
	25. Understanding the Physical Education Curriculum	2,750	1,006	17,282	,000	2,428	3,071
	26. Understanding the general didactics of the teaching process	3,050	,875	22,031	,000	2,770	3,330
	27. Understanding the anatomical-functional aspects of physical education	2,675	1,022	16,546	,000	2,348	3,002
	28. Understanding health and first aid	2,500	1,012	15,612	,000	2,176	2,823
	29. Understanding how to use different pedagogical strategies	2,475	1,109	14,113	,000	2,120	2,829
	30. Understanding the importance of continuing professional development for the physical education teacher	3,200	,911	22,204	,000	2,908	3,491
	31. Understanding the physiological aspects of physical education	2,750	1,080	16,102	,000	2,404	3,095
	32. Understanding the psychological aspects of physical education	2,575	1,106	14,714	,000	2,221	2,929
	33. Understanding the theory of sport practice	2,725	1,109	15,539	,000	2,370	3,079
	34. Understanding social circumstances in physical education lessons	3,350	,802	26,410	,000	3,093	3,606
	35. Understanding financial flow in physical education	2,850	1,001	18,002	,000	2,529	3,170
	36. Understanding the biomechanical aspects of physical education	2,675	1,071	15,789	,000	2,332	3,017
	37. Understanding the influence of mass media on physical education	2,450	1,153	13,432	,000	2,081	2,818
	38. Understanding the cultural aspects of physical education	2,350	,948	15,668	,000	2,046	2,653
	39. Understanding the philosophical aspects of	2,125	1,113	12,067	,000	1,768	2,481

	physical education						
	40. Understanding the social importance of physical education	2,825	1,106	16,143	,000	2,471	3,179
Total subscale – X		2,765	-	-	-	-	-
Total subscale – Sum		55,30	-	-	-	-	-

Following the same processing algorithm, for the data presented in table 9, in subscale 2 – Inter-trans-disciplinary competences, it can be observed that, for the 20 items, an amount of 55.30 points was recorded. All these values represent the average points accumulated following the answers provided for subscale 2. The items that recorded high scores were considered by the mentors to define the professional competence profile of beginning teachers in the initial/debut professional training stage, and those where the recorded results were lower, we can consider that they can be improved through a more active involvement and directed/problematic awareness in the professional development process.

Regarding the standard deviation for the sample of mentees, within subscale 2 – Inter-trans-disciplinary competences, it recorded the maximum value of 1.153. When calculating the Student test, values above the tabular t value were recorded at the 0.05 threshold, corresponding to the 36 degrees of freedom, respectively  $t=1.697$ . All values recorded by the Student's test for this subscale are much higher than the table t-value, which proves that the data are statistically significant, for a  $p < 0.05$ .

This statistical significance is also confirmed by the confidence interval (95% CI), all the results obtained at the arithmetic mean of the items, falling between its upper and lower limits, which determines the facilitation of the optimization mechanisms of the skills development process inter-trans-disciplinary.

In table 10, the centralized data on the answers given by the sample of mentees, on the 4 evaluation intervals of the Likert scale, are shown.

Table 10. Distribution of responses and their percentage weight to the Questionnaire of self-assessment of the perception of the specific skills needed to teach physical and sports education by the mentees – subscale 2 – Inter-trans-disciplinary skills

Sub-scale	Items	4 pct.		3 pct.		2 pct.		1 pct.	
		N	%	N	%	N	%	N	%
Inter-trans-disciplinary competences	21. Understanding methodical ways in teaching non-curriculum skills	17	42,5	11	27,5	12	30	0	0
	22. Understanding the historical aspects of physical education	7	17,5	16	40	11	27,5	6	15
	23. Understanding the physical and motor development of children and adolescents	16	40	11	27,5	13	32,5	0	0
	24. Understanding methodical ways of teaching motor skills in the curriculum	17	42,5	13	27,5	10	25	0	0
	25. Understanding the Physical Education Curriculum	13	32,5	7	17,5	17	42,5	3	7,5
	26. Understanding the general didactics of the teaching process	13	32,5	19	47,5	5	12,5	3	7,5
	27. Understanding the anatomical-functional	11	27,5	10	25	14	35	5	12,5

aspects of physical education									
28. Understanding health and first aid	8	20	11	27,5	14	35	7	17,5	
29. Understanding how to use different pedagogical strategies	9	22,5	11	27,5	10	25	10	25	
30. Understanding the importance of continuing professional development for the physical education teacher	21	52,5	6	15	13	32,5	0	0	
31. Understanding the physiological aspects of physical education	14	35	7	17,5	14	35	5	12,5	
32. Understanding the psychological aspects of physical education	11	27,5	9	22,5	12	30	8	20	
33. Understanding the theory of sport practice	14	35	7	17,5	13	32,5	6	15	
34. Understanding social circumstances in physical education lessons	22	55	10	25	8	20	0	0	
35. Understanding financial flow in physical education	14	35	9	22,5	14	35	3	7,5	
36. Understanding the biomechanical aspects of physical education	10	25	15	37,5	7	17,5	8	20	
37. Understanding the influence of mass media on physical education	10	25	9	22,5	10	25	11	27,5	
38. Understanding the cultural aspects of physical education	5	12,5	12	30	15	37,5	8	20	
39. Understanding the philosophical aspects of physical education	6	15	9	22,5	9	22,5	16	40	
40. Understanding the social importance of physical education	16	40	6	15	13	32,5	5	12,5	
Total subscale – X	12,7	31,7	10,4	25,7	11,7	29,2	5,2	13	
		5		5		5			

Thus, for the evaluation range of 4 points, the most appreciated item was item 34 – Understanding social circumstances in physical education lessons (22 responses) and item 30 – Understanding the importance of continuous professional development for the physical education teacher (21 responses).

From the data contained in table 10, it appears that, for the answers of 4 points, an average of the respondents was recorded as 12.7, for those with 3 points, one of 10.4, for those with 2 points, 11.7, and for those of 1 point, 5.2. The percentage of 4-point answers is the majority, 31.75%, 3-point answers 25.75%, 2-point answers 29.75%, and 1 point, 13%.

The good results recorded in most of the items highlight the fact that the mentees are aware of the impact of the contribution of inter- and trans-disciplinary knowledge and skills, which contribute to shaping the profile of professional skills of beginning teachers. Inter-trans-disciplinary competences, together with specialized didactic competences, provide the reference field for the professionalization of teachers in school physical and sports education.

Similarly, the data for the mentors were collected, centralized, processed and statistically interpreted.

### 6.2.2. Centralization of the results of the preliminary study 2

After the collection, centralization, processing and statistical interpretation of the data obtained following the application of the "Self-assessment questionnaire of the perception of the specific skills necessary for teaching physical and sports education" on the samples of subjects subject to our research, in the framework of the preliminary study 2, we proceeded to the centralized analysis of the results recorded by him.

In this sense, as in the case of preliminary study 1, the arithmetic mean, the difference of the arithmetic means, as well as their sum, were used. The Alpha coefficient (Cronbach ) tells us, depending on the value obtained (greater than 0.9 - excellent, between 0.7 and 0.9 - good, between 0.6 and 0.7 - acceptable, between 0.5 and 0.6 – weak, below 0.5 – unacceptable), the consistency of the items used. KMO-B shows us that the samples used are adequate in number of subjects and the data obtained are relevant for this study. Values must be in the range 0-1 to be relevant. X<sup>2</sup> (chi<sup>2</sup> – Bartlett's test) represents a test of sphericity, based on which the significance threshold is calculated. If it is less than 0.5, we can say that the analyzed values are useful for the research carried out.

The two categories of data, for mentees and mentors respectively, centered on the previously presented statistical indicators, can be found in table 11.

Table 11. Centralization of the results of the preliminary study 2 – Self-assessment questionnaire of the perception of specific competences for teaching physical and sports education

Subscale	Groups	X	ΔX	Σ	ΔΣ	α	KMO-B	chi <sup>2</sup>	p
1. Specialized didactic competences	Group mentees	2,993	0,188	59,87	3,75	,764	,340	419,808	,000
	Group mentors	3,181		63,62		,860	,214	324,419	,000
2. Inter-trans-disciplinary competences	Group mentees	2,765	0,109	55,30	2,18	,804	,457	282,546	,000
	Grup mentors	2,656		53,12		,817	,236	258,224	,001

The analysis of the total scores for both subscales of competences allows us to interpret the results from the perspective of the perceptive impact of mentees and mentors regarding the professional competences specific to physical and sports education.

The total score achieved by the mentee sample was 59.87 points for subscale 1, lower than that achieved by the mentor sample (63.62) by 3.75 points. In the case of subscale 2, regarding inter-trans-disciplinary skills, the difference between the two samples was smaller, of 2.18 points, which highlights the fact that both groups have similar perceptions regarding the importance of developing these skills in the professional training process

The two subscales of the questionnaire, regarding the self-assessment of the perception of specific physical education skills, completed by mentees and mentors, registered good and very good internal consistency, Cronbach's Alpha values being between 0.764 and 0.860. For both subscales, the analyzed results were adequate and useful for research according to the chi<sup>2</sup> statistical index, and the significance thresholds had values below the reference value of 0.5, which reflects that the results are statistically significant.

The next step in the analysis of the centralized data of the preliminary study 1 was to find out the score of the questionnaire, which is obtained by summing the arithmetic means obtained on each subscale separately. These data are presented in table 12.

Table 12. Sum of the total score for the Self-Assessment Questionnaire of the Perception of Professional Competencies in Physical Education

Sample	$\Sigma$ total score	$\Delta\Sigma$ total score
Mentees	115,17	3,09
Mentors	118,26	

As can be seen in table 12, the amounts recorded by the two samples included in preliminary study 2 are: 115.17 points, for mentees and 118.26 points for mentors.

The difference recorded between the sums of scores obtained on the Self-Assessment Questionnaire of the Perception of Professional Competencies in Physical Education between the two samples (mentees and mentors) was 3.09 points.

The total cumulative value recorded by both samples falls between 160-105 points, according to the questionnaire score, which indicates that both samples have a good perception of the level of development and manifestation of the specific skills of physical education, necessary in the performance of teaching activities and of initial vocational training/at the beginning. However, it is noted that both cumulative scores are at the lower threshold of the qualifying score for the qualification awarded, which leads us to conclude that there is a real potential for awareness, shaping and development of the two types of skills that guarantee a didactic process efficient.

### **6.2.3. The conclusions of the preliminary experiment – Study 2 on the self-assessment of the perception of professional competences in physical education by mentees and mentors**

We consider the questionnaire regarding the self-assessment of the perception of the specific skills necessary for teaching physical and sports education to be relevant, and the research results contributed to its validation, a fact that determined us to keep it as a working tool for the basic research. The internal consistency of the entire questionnaire, respectively for each subscale (validated by the values of the Alpha coefficient), in both samples of the preliminary research was good and very good, thus strengthening the results of the preliminary study 2. The sample of mentors gave lower scores to both subscales of the questionnaire, which reflects that their perception is good, but somewhat in line with the entry level of professional teaching training.

Both samples scored low on perceived competence regarding cultural, philosophical, and media impact on physical education. We believe that this reality requires an optimization action, in order to complete the inter-trans-disciplinary competence profile of teachers specializing in physical education.

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### **Conclusions of Part II – Preliminary research on the process of initial didactic professional training in physical and sports education**

The confirmation of the two secondary hypotheses, specific to the preliminary study (1 and 2), leads us to affirm the fact that the general hypothesis of the research in question has been achieved, namely: "The application of some questionnaires in the direction of the specific and relevant indicators of the mentoring process, make it possible to highlight the internal mechanisms within this process, regarding the roles, perceptions and specific professional skills of the two actors involved, respectively the mentor and the mentee".

The teaching career of beginners requires a complex and specialized process of mentoring in the initial formative stage, which must be coordinated by specialists with experience and expertise in the field of physical education, respectively by mentors.

## **PART III – CONTRIBUTIONS REGARDING THE IMPROVEMENT AND EXPANSION OF PROFESSIONAL COMPETENCES IN THE INITIAL EDUCATION STAGE OF TEACHERS SPECIALIZING IN PHYSICAL AND SPORTS EDUCATION**

### **CHAPTER 7. GENERAL CONTEXT AND BASIC RESEARCH DESIGN**

#### **7.1. Basic research premises**

The development of the teaching career requires the expansion, respectively the deepening of the fund of skills, abilities, knowledge, in order to optimize human, social and especially professional action potentialities, which must be brought to the current standards and to the specifics of the Romanian educational environment. The discipline of Physical Education through its content, specificity and complexity, claims some particular aspects regarding the ways of transferring theoretical knowledge in the process of training motor skills, which can only be achieved under the coordination of a teacher specializing in physical and sports education, which proves practice of an extensive framework of professional and transversal skills.

For an effective didactic activity, teachers specializing in physical and sports education, especially beginners, must be aware of the professional roles and responsibilities they have and show a permanent concern for their own professional development, according to the current educational challenges and requirements.

Beginning teaching staff needs to be guided and advised by experienced teaching staff, and the efficiency of this mentoring process largely depends on the future teaching professional efficiency.

Awareness of the role and responsibilities of novice teachers (mentors) and experienced teachers (mentors) will facilitate the increase in the efficiency of the instructional-educational process, and the corroboration of these aspects, with the identification of methods that have a major formative impact

in shaping the professional competence profile of teachers , will form the basis of optimizing the entire school didactic process in the discipline of Physical Education, giving satisfaction to the student, who is at the center of the educational sphere of interest.

## **7.2. Purpose of basic research**

The main investigative goal of the basic research consists in the design and implementation of a mentoring program, which is intended to have a major impact, regarding the expansion of the role, skills and responsibilities of trainee teachers (beginners in the pre-university education system), all of which are set (desirable) in the "job" of satisfying the student's learning needs, as the main beneficiary of the educational act.

## **7.3. The general hypothesis and the specific hypotheses of the basic research**

In establishing the general hypothesis of the basic research, we started from the assumption that, "by designing and implementing a mentoring program, specific and adapted to the teaching of physical education at the level of pre-university education, we will contribute to the development, respectively the expansion of the professional skills of the beginning teaching staff , to establish his role in the mentoring process he goes through, as well as to increase the students' satisfaction with the specific didactic act he exercises".

### **Hypothesis specific to basic study 1 (I1)**

"By self-assessing the role that the mentee plays in the mentoring process, we will be able to identify the relevant aspects of his conduct, regarding: goals, communication, trust, process, progress and feedback, in order to be aware of his responsibilities in his professional training process, for teaching the subject Physical Education";

### **Hypothesis specific to basic study 2 (I2)**

"The implementation of a mentoring program adapted to the specifics of teaching Physical Education, in the professional debut stage, contributes to the improvement and expansion of professional skills (didactic and inter-trans-disciplinary), necessary for the mentee to effectively approach the instructional-educational process".

### **Baseline study-specific hypothesis 3 (I3)**

"With the expansion and deepening of the professional skills of the beginning teaching staff, participating in a properly structured mentoring process, the effectiveness of the act of teaching in the discipline of Physical Education increases, a fact reflected by the student's satisfaction with the support given in his own training".

## **7.4. Basic research objectives**

In the framework of the final research, we outlined the following objectives:

- Awareness of the role that the mentee (beginner teacher) has in the mentoring process, for his motivation, in order to activate him in the construction of his own teaching career;
- The development of professional skills, respectively the professionalization of the didactic career in teaching the discipline of Physical Education;



- Objectivization of the level of positive perception/evaluation of the student on the act of teaching-learning-evaluation performed by the debutante teacher (the mentee) in the discipline of Physical Education.

### 7.5. The main aspects of the organization of basic research

The basic research took place during the 2018-2019 school year. In the initial phase of our approach, based on an institutional agreement, contact was made with the Braşov County School Inspectorate, through the person of the specialized school inspector, with whom a preliminary discussion was held, to agree on our intentions to promote a mentoring program, structured according to certain criteria. With the acceptance of this idea, at a later stage, in addition to the specialist inspector, the management of the Faculty of Physical Education and Mountain Sports in Braşov and the Methodist teachers for the specialization in physical education, appointed at the level of Braşov county, were invited to a meeting For work. Following the debates on the issue in question and some suggested and accepted changes, coming from the representatives of the pre-university education system, it was agreed to initiate the implementation action of our mentoring program, starting with the 2018-2019 school year.

Actually, the basic research was broken down into 3 studies, as follows:

- Basic study 1: Evaluation, by applying a specific questionnaire, of the role of the mentoring process from the perspective of the professional training of the mentee. Compared to the preliminary study, where both actors of the mentoring process were investigated on the role they play at this level, in the basic research we considered that it is no longer necessary to investigate the mentors in this direction, but only the mentees, because in the case for the mentors, we have taken into account that they have extensive teaching experience and have filled the positions of methodist by competition, and the data of the preliminary studies (1 and 2) are relevant enough to know their role in this training process.
- Basic study 2: The acquisition of the mentee by means of a questionnaire, the level of improvement and extension of the skills necessary to teach the subject of Physical Education, following the completion of the mentoring program.
- Basic study 3: Evaluation, by means of a questionnaire, of the student's level of satisfaction, related to his training course, in the direction of physical and sports education (figure 6)

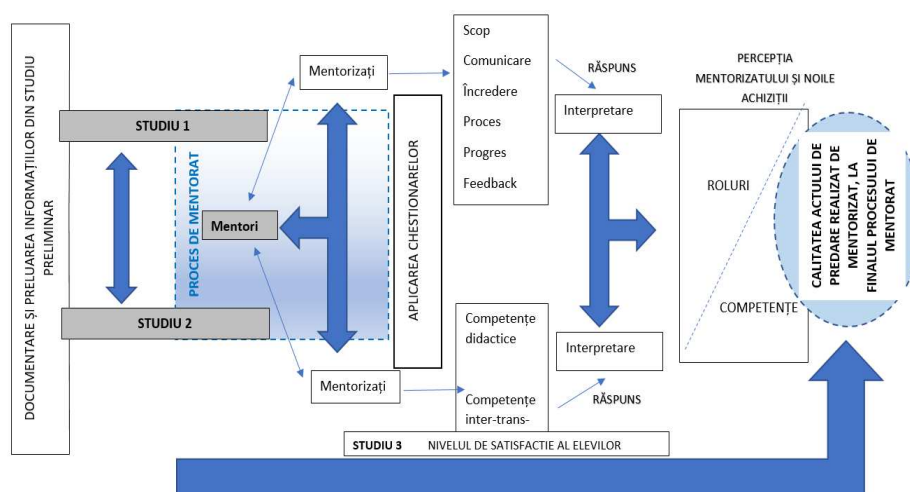


Figure 6. Scheme of the basic research approach

## **7.6. Additional research methods applied in the basic study**

### **The method of investigation**

In the final research, we used the same questionnaires presented in the preliminary study 1, respectively 2, to which we added a questionnaire to capture the satisfaction of the students in relation to the way of teaching the subject Physical Education (see the lesson of physical education) by the trainee teacher and who completed our mentoring program.

The questionnaire in question (addressed to students) presents only 20 items, compared to the 40 present in the "Questionnaire regarding the self-perception of acquired skills, specific in physical and sports education" completed in the preliminary research, both by the mentor and the mentee. In the present situation, this questionnaire with 40 items was applied only to the mentees and in order to find compatible correspondences, which are also recognized by the students, the respective items were condensed into a number of 20. Calculation of scores/items it was done by applying the Likert scale, with 4 answer options (as in the case of the questionnaire addressed to the mentee): 1 point – completely incompetent (never); 2 points – less competent (sometimes); 3 points – competent (almost always); 4 points – very competent (always). Since the respective scores only apply to 20 items against the 40 mentioned, we decided that for the data processing sequence, each item would be scored twice so that reporting to the global scale would be identical/common.

### **The method of pedagogical experiment**

Our investigative approach is longitudinal and ascertaining, without our direct intervention in the actual educational act.

The independent variable of the baseline study is completion of the proposed mentoring program (SMART) with all of its content indicators.

The dependent variables are given by:

- the level of recognition and acceptance of the mentee's role in the mentoring process;
- the degree of improvement and expansion of the professional skills of the mentee;
- the student's level of satisfaction, related to the teaching style of the mentee (trainee teaching staff) in the physical education lesson.

## **7.7. The SMART mentoring program for deepening and expanding the skills specific to teaching Physical Education**

The design and implementation of a mentoring program requires a realistic analysis of the current educational aspects, in correlation with the professionalization trends of the teaching career and with the efficiency and professional standards specific to physical education. I realized this fact in the first part of this thesis.

The implementation of the **SMART** concept in the mentoring program is defined and directed on the following aspects:

- **S** – specific, significant – the mentoring plan must be adapted to the particularities and specifics of directed physical activities and school physical and sports education and produce positive effects on physical condition, health optimization and also contribute to the formation of pro-active behaviors;

- **M** – measurable, motivational – the mentoring plan must include aspects of monitoring and evaluation, in correlation with the goals, aspirations and motivations for professional development of the beginning teacher;
- **A** – accepted, action-oriented – the field of directed motor activities involves an important practical-methodical component in terms of the mentor, and the specific content of the didactic process must stimulate the motor aspects of the students, depending on the particularities of age;
- **R** – realistic, relevant, reasonable, results-oriented – a mentoring program must aim at obtaining relevant and realistic acquisitions in the form of knowledge, skills, abilities and competences, both in terms of the mentee and the mentor, as well as the student;
- **T** – timely, tangible, traceable – the mentoring program must be defined and structured over time, in order to be monitored, implemented and evaluated in terms of formative impact and professional development efficiency.

### The purpose of the SMART mentoring program

Optimizing the initial training process in order to develop the professional skills of the mentored teaching staff (beginner/trainee) specializing in physical and sports education.

### SWOT analysis of the actual situation in the process of initial professional training

Based on the SWOT analysis and by referring to the content and specifics of the mentoring stage, we developed a specific route for implementing mentoring programs in physical and sports education, which we present in figure 7.

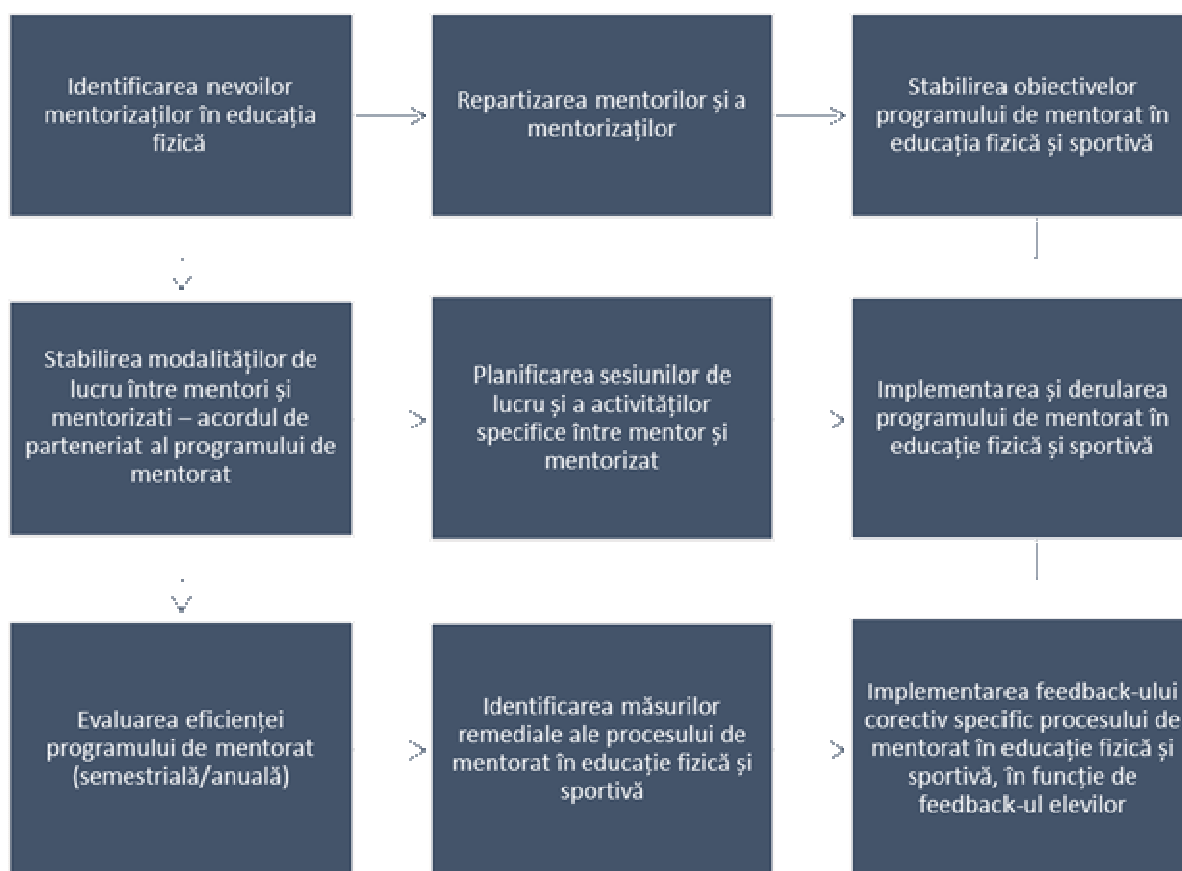


Figure 7. The route of the didactic mentoring process in physical and sports education (personal contribution)

**The main specific objectives of the SMART mentoring program in physical education are:**

- knowledge of general/specific skills and the objectives and content of the school program for primary and secondary education in the discipline of Physical Education;
- deepening/updating knowledge and skills for drawing up planning documents specific to physical education;
- expanding communication skills depending on the specifics of the activity and the particularities of the class of students;
- establishing personal professional objectives for the mentoring process;
- establishing the methods of communication with the mentor;
- establishing the method of giving feedback;
- establishing ways to optimize didactic activities in the Physical Education lesson;
- selection of ways to evaluate the mentoring process.

**Bibliographic and informational resources:**

- school documents;
- school physical education textbooks;
- monographs, course notes, specialized books;
- infograms, kinograms, etc.
- video, digital materials with methodical routes, etc.

**Implementation duration of the SMART mentoring program in physical education:**

- 1 school year

**Evaluation of the mentoring process in physical education:**

- evaluating the impact of the mentoring process on the mentees;
- questionnaires regarding the role of the mentees;
- questionnaire to identify the professional skills of the mentees;
- questionnaires regarding the perception of the effectiveness of the mentoring process;
- questionnaires regarding the degree of student satisfaction.

**Planning and implementing the SMART mentoring process in physical education (proposed model):**

1. Integrating the mentee into the school educational environment
2. Presentation by the mentee of the personal professional training route
3. Establishing the objectives of the SMART mentoring process in physical education
4. Advising on the development of the planning documents necessary for the initial development of the didactic activity in physical education
5. Attending the lessons coordinated/led/taught by the mentee
6. Attending the lessons coordinated by the mentor or other colleagues specializing in physical education
7. Meetings between the mentor and the mentee for the analysis and reflection of the didactic and mentoring activity specific to the physical and sports education specialization

8. Monitoring and evaluating the progress of students in the discipline of Physical Education
9. Participation in the methodical activity and meetings
10. Involvement and initiation in school sports-recreational educational projects
11. Optimizing interaction skills in the school community
12. Optimizing the professional training program
13. Running extracurricular sports and recreational activities
14. Support and assistance in open lessons held by the mentee
15. Analysis of the progress made during the mentoring program
16. SMART mentoring program feedback

Each stage of the proposed model included: Targeted activities, resources required for implementation and implementation duration.

## **CHAPTER 8 – ASSESSMENT OF THE ROLE OF THE MENTORING PROCESS FROM THE PERSPECTIVE OF THE INVOLVEMENT OF THE MENTEES, FOLLOWING ITS COMPLETENESS – BASIC STUDY 1**

### **8.1. Processing, graphing and interpretation of the results of the basic study 1**

**A sample of 18 beginning teachers who are employed in the education system in their first years of teaching activity was used for the „Mentee Role Self-Assessment Questionnaire“.**

The content of the questionnaire is identical to that used in the preliminary experiment and we opted for its application due to its statistical validation and the relevance of the results recorded in previous studies regarding the different categories of mentees and mentors in the school educational environment.

We also wanted to see if what was found at the level of the mentees (on the given direction) from the preliminary research is confirmed, because in the basic research, the mentees went through our mentoring program (SMART) in the pre-harvest phase, and the questionnaire although it was not required to be completed on the spot nor to be signed, it was handed directly to each subject by their methodologist/mentor.

Regarding the data collected, centralized and statistically processed, they followed the same interpretation algorithm as in the case of preliminary study 1 - mentors.

### **8.2. Centralization of results at baseline study 1 after mentees completed the SMART mentoring program**

Centering the results on the subscales of the questionnaire for evaluating the role of the mentoring process that we implemented in our basic research, allows the identification of differences of opinion regarding the mode of involvement and the responsibilities of the mentees. The self-assessment questionnaire of the mentee's role, recorded for all 60 items a very good internal consistency, expressed by the values of the statistical indicator Cronbach's Alpha on each subscale separately, a fact confirmed by the data presented in table 13.

Table 13. Centralization of the results recorded by the sample of mentees in the basic study 1

Subscale	X	$\Sigma$	$\alpha$	KMO-B	$X^2$	p
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1 The goal	3,06	30,61	,719	,476	73,654	,004
1 The goal	3,14	31,49	,726	,517	70.040	,010
3 Confidence	2,96	29,66	,795	,466	91,125	,001
4 The process	3,51	35,16	,737	,423	67,121	,001
5 The progress	3,56	35,66	,809	,512	58,923	,001
6 Feedback	3,48	34,88	,835	,435	67,816	,001
TOTAL		197,46				

The results centralized on the subscales, at the sum of the arithmetic averages, highlight small differences between the assessments of the 6 subscales. The highest value recorded was in subscale 5 – The progress (35.66) and in subscale 4 – The process (35.16), where mentees gave higher scores, which reflects the confidence of beginning teachers in mentors' advice, in the mentoring process which I implemented. The lowest values were recorded for subscale 3 – Confidence (table 13) and subscale 1 – The goal, which shows us that teachers at the beginning of their careers still need counseling to design both their teaching activities, as well as the teaching career.

In the same context, we can say that all the subscales registered a good internal consistency, the Cronbach's Alpha indicator values being between 0.719 and 0.835. For all subscales, the analyzed results were adequate and useful for the research according to the chi<sup>2</sup> statistical index, and the significance thresholds had values between .001 and .010, which are lower than the reference value of .05 that we referred to, which reflects the fact that the results are statistically significant.

The sum of the recorded averages for the 6 subscales is 197.46 points (table 13), a value that falls between 240 - 161 points, and according to the method of awarding the score that we have agreed and interpretation of the questionnaire, the role assumed within the mentoring process is optimal and professional. This category of subjects included in the basic study, considers that their role and involvement is of major importance, and the items with lower scores can be relatively easily improved through the oriented continuation of the didactic professional training approach. The value of the score registered towards the upper threshold of the score, highlights the benefits brought by the mentoring process implemented by us (SMART), in order to optimize the didactic activity in physical and sports education, in the initial training stage (internship).

We believe that the centralized data highlights the importance that the mentees attach to the establishment of objectives in the direction of optimizing the didactic activity during the initial professional training period, of mentoring, following the completion of the program that we implemented.

### **8.3.The conclusions of the Basic Study 1 – Evaluation of the role of the mentoring process that we applied, from the perspective of the involvement of the mentees**

The implementation of a mentoring program in the initial training stage facilitates the identification of relevant aspects regarding the goal, communication, confidence, the process, the progress and feedback, in order to optimize the didactic professional training process in the Physical Education discipline, in the initial stage. The results confirm that the implementation of a mentoring program has beneficial influences on the mentees, in the initial professional training stage.

The analysis of the results of the self-assessment of the role of the mentee (beginner) in the mentoring process, allowed the identification of the aspects regarding their motivations and

responsibilities and those that will require special attention in the future, in order to optimize the teaching career, in the initial professional training stage .

The analysis of the final score obtained by the sample of mentees in the basic study 1, allowed us to identify the efficiency levels of the SMART mentoring process, in the initial professional training stage, which was a very good one.

In a general way, we can state that the results of the basic study 1 determine the confirmation of the specific hypothesis I1, according to which: "By self-evaluating the role that the mentee plays in the mentoring process, we will be able to identify the relevant aspects of his conduct, regarding: the goal, communication, confidence, the process, the progress and feedback, in order to be aware of the responsibilities he has in his professional training process, for teaching Physical Education".

In this context, in order to ascertain from a statistical perspective, respectively of the statistical significance, the positive influences that our mentoring program generated, at the end of the basic study 1, we also made a comparison of all the initial data (X - taken from the preliminary study 1) and final (Y - from the basic study 1), which were obtained for the 60 items of the questionnaire in question, taking as subjects the mentored respondents from the two studies, in the direction of self-evaluation of the role that- I plays in the mentoring process. For this purpose, we used the Student's test (significance of differences between means, independent samples).

The calculated value of t is 10.325, higher than tabular t ( $t=2.390$ ) at the 0.01 threshold, for which we can affirm with a probability of 99% that the level of awareness of the role that the mentee plays within of the mentoring process, increased significantly in subjects who went through our program, compared to those surveyed largely online and partly face-to-face and who were not (probably) subjected to a systematic process of mentoring and monitoring from the part of some mentors/methodologists active in the pre-university education system, in different regions of our country. In conclusion, an effective mentoring process is based on the fact that the mentee will be well oriented and guided by the mentor, based on an open and principled mutual relationship and communication.

The results highlight the importance of implementing a mentoring program focused on skills, efficiency and involvement, in order to optimize teaching activity in the initial professional training stage, as a foundation for the development of a teaching career, compatible with current educational requirements.

## **CHAPTER 9. ASSESSMENT OF THE PERCEPTION OF MENTEES REGARDING THE LEVEL OF DEVELOPMENT OF SPECIFIC COMPETENCES IN TEACHING PHYSICAL EDUCATION AFTER COMPLETING THE SMART MENTORING PROGRAM – BASIC STUDY 2**

### **9.1. Processing and interpretation of the results of the basic study 2**

For the Basic Study 2, we used the questionnaire applied in the preliminary study 2, developed by Kovac, Sloan and Starc, 2008 and which investigates two types of competences that develop within the mentoring process, these being the specialized didactic competences, respectively the inter - trans-disciplinary. The questionnaire was administered to mentees who participated in our mentoring program.

Regarding the collected, centralized and statistically processed data, they followed the same interpretation algorithm as in the case of the preliminary study 2 - mentees.

## 9.2. Centralization of the results in the basic study 2

From the analysis of the results of the basic study 2, we note that the total score achieved by the sample of mentees from Braşov County, who participated in the mentoring process proposed by us, was 67.69 points for subscale 1 – Specialized didactic skills, higher than achieved for Subscale 2 – Inter-trans-disciplinary competences, which was 59.34 points (table 14).

Table 14. Comparison of the centralized results of the basic study 2 – Questionnaire to evaluate the perception of specific physical education skills by the mentees

Subscale	Groups	X	Σ	α	KMOB-S	chi <sup>2</sup>	p
1. Specialized didactic skills	Mentees group	3,384	67,69	,742	,486	78,273	,001
2. Inter-trans-disciplinary competences	Mentees group	2,967	59,34	,832	,456	54.620	,001
TOTAL			127,03				

Both subscales showed good and very good internal consistency, with Cronbach's Alpha values between 0.742 and 0.832. For both subscales, the analyzed results were adequate and useful for the research according to the chi<sup>2</sup> statistical index, and the significance thresholds had values of .001, which are lower than the reference value of .05 that we referred to, which reflects the fact that the results are statistically significant.

The sum of averages recorded for the 2 subscales is 127.03 points, a value that falls between 160 - 105 points, and according to the way of awarding the score and interpreting the questionnaire, it indicates that the mentees have developed following the mentoring program that we proposed, a very good perception of the level of development and manifestation of the specific skills of physical education in the framework of the didactic activities and initial/debut professional training.

## 9.3. The conclusions of the basic study 2 – Evaluation of the perception of the mentees regarding the level of development of the specific competences of teaching physical and sports education following the completion of the SMART mentoring program

The results of the basic study 2, confirm that by implementing a mentoring program in the initial professional training stage, under the guidance of the mentors, it is possible to contribute to improving the perception of the mentees, regarding the level of development and application of specialized teaching skills.

The answers of the sample of mentees regarding the level of perception of the development of professional skills specific to the teaching of school physical education, especially regarding the level of practical valorization, are important, because they contribute to their awareness and optimization within the process of initial professional training (mentoring process). The implementation of the SMART mentoring process led to the recording of a high final score, underlining the efficiency of the



process oriented towards the development of specialized and inter-trans-disciplinary teaching skills, necessary for beginning teaching staff specializing in physical and sports education.

The data of our research shows that the development and implementation of an effective mentoring process during the initial training period contributes to ensuring the theoretical, practical and scientific basis for the optimization and development of professional skills, especially in the initial stage, but with a great impact on the path of the subsequent teaching career.

The results of the basic study 2, lead to the confirmation of the specific hypothesis of the basic study 2 (I2) according to which: "The implementation of a mentoring program adapted to the specifics of the teaching of the Physical Education discipline, in the professional debut stage, contributes to the improvement and expansion of professional skills (didactic and inter-trans-disciplinary), necessary for the mentee to efficiently approach the instructive-educational process".

All the previously presented highlights the need to implement effective mentoring programs adapted to the specifics of teaching physical and sports education.

As in the case of basic study 1, and in this sequence of the research, in order to be able to ascertain from a statistical perspective whether the benefits of our mentoring program (SMART) were statistically significant in the direction of the mentees' perception of the level of development of the specific competences of physical education teaching, we made a comparison of all the initial data (X – taken from the preliminary study 2, where a program placed before the investigation was not applied) and final (Y – from the basic study 2, at the time of completion) of the SMART mentoring program), taking into account the average scores per the 40 items of the respective questionnaire. To highlight statistical relevance, we used the Student's test (significance of differences between means, independent samples).

The calculated value of  $t = 2.721$  is greater than tabular  $t = 2.390$  (Fisher's Table) at the threshold of 0.01, for which we can affirm with a probability of over 99%, that the level of perception of the specific competences of teaching education by the mentees, improved significantly, in relation to the other sample of mentees, the one from the preliminary research, who did not benefit from a rigorous mentoring program elaborated, monitored and applied systematically and continuously during a school year, respectively 2018 – 2019.

### **9.3.1. Quantitative analysis of the volume of activity submitted within the mentoring program**

Regarding the settlement of the activities of mentors and mentees, respectively the volume of activity carried out within the plan of the mentoring process proposed and applied in the school year 2018 - 2019, we tried to quantify this, taking the data from the record documents of the mentors/methodists. We reported the data to the total hours that we allocated (theoretically) to the SMART program and that we rated as 100% fulfilled. Depending on this value, for each mentor we calculated the percentage value of the volume of activity submitted with the mentees under responsibility, resulting at the end of our joint approach, the data presented in table 15.

Table 15. Centralizer with the percentage values of the volume of activity carried out within the mentoring/mentor/mentee program in the 2018-2019 school years

Mentor	Mentee	No. hours to perform (theoretical)	No. hours completed (practically)	Percentage value (%)	Average percent/mentor (%)
M1	S1	125	106	85.00	83,75%
	S2	125	103	82.50	
M2	S3	125	115	92.50	87,75%
	S4	125	112	90.00	
	S5	125	103	82.50	
	S6	125	106	85.00	
M3	S7	125	101	81.25	88,13%
	S8	125	115	92.50	
	S9	125	109	87.50	
	S10	125	114	91.25	
M4	S11	125	95	76.25	80,94%
	S12	125	110	88.75	
	S13	125	98	78.75	
	S14	125	100	80.00	
M5	S15	125	121	97.50	93,75%
	S16	125	112	90.00	
	S17	125	115	92.50	
	S18	125	118	95.00	

As can be seen, all the mentors and implicitly the mentees included in the basic research (2), settled an accumulation of activities of more than 80% of the total hours initially scheduled (theoretically), a fact that we consider to be acceptable, and in consequently, we can say that what we set out to do is also fulfilled from a quantitative perspective, the program being largely completed by all the subjects involved in our basic research.

## **CHAPTER 10. ASSESSMENT OF THE STUDENTS' PERCEPTION REGARDING THE LEVEL OF PRACTICAL APPLICATION OF THE SPECIFIC COMPETENCES TO TEACHING PHYSICAL EDUCATION, MANIFESTED BY MENTEES - BASIC STUDY 3**

### **10.1. Processing and interpretation of basic study 3 results**

For basic study 3, we adapted for students the questionnaire used in basic study 2, developed by Kovac, Sloan and Starc, 2008, which was achieved by reformulating the items of the questionnaire applied to the mentees, so that the questions were clear and concise for the level of students' understanding. The result was a questionnaire of 20 items, with concrete questions, on which students can express their objective opinion. For the evaluation of each item of the questionnaire, the Likert scale with 4 response levels was used, where the students participating in the physical education lessons appreciated the level of specific skills of the debutante teacher, at the time of completing the questionnaire. The points that could be awarded were: 1 point - never; 2 points – sometimes; 3 points – almost always; 4 points – always. The sample of students who voluntarily

completed the questionnaire was 217 subjects (8th grade) distributed among the 18 mentors, the questionnaire was completed at the end of the 2018-2019 school year, so that the teacher's level of appreciation (practically to teachers or mentees), expressed by completing the questionnaire, to be based on the student's experience in the physical education lesson, during the entire school year.

Following the application of the questionnaire, we collected, centralized, processed and interpreted statistically the presented data from table 16.

After processing the data obtained from the application of the questionnaire, we noticed that most of the students have a high appreciation for its items, which shows us that the implementation of the mentoring program has produced an improvement in the instructional-educational process among beginning teachers.

Table 16. Descriptive statistics of the Questionnaire regarding student satisfaction in relation to the quality of the teaching act of the intern teacher/mentee

The sub-scale	Items	X	SD	t	p	95% CI	
						Lower	Upper
Physical education teacher evaluation questionnaire	1. Has your physical education teacher recommended you or sent a colleague to a sports club to practice a performance sport?	3,014	,876	50,732	,001	2,901	3,135
	2. Does your teacher demonstrate the exercises they teach during physical education class?	2,977	,813	53,918	,001	2,868	3,085
	3. Does your teacher provide support and assistance to children who are not doing well with the exercises you perform during the physical education lesson?	3,142	,806	57,390	,001	3,034	3,250
	4. When someone was injured or needed assistance, the physical education teacher helped them recover?	3,018	,804	55,244	,001	2,910	3,126
	5. Has your assessment been done by different methods throughout the school year?	3,133	,802	57,518	,001	3,026	3,241
	6. During the school year, did your teacher encourage you, or did you have homework, to exercise during your free time?	2,949	,771	56,341	,001	2,846	3,052
	7. During the school year, does the teacher announces/reminds you what the objectives/purposes of the Physical Education discipline are?	3,096	,889	51,275	,001	2,977	3,215
	8. Does the physical education teacher notice (through praise, encouragement) the progress made by you during physical education lessons?	3,152	,881	52,653	,001	3,034	3,270
	9. During physical education lessons, does the teacher tell you what you did right or wrong	3,009	,833	53,198	,001	2,897	3,120

	in the content you are practice?						
	10. Does the teacher explain in your understanding what you have to do in the physical education lesson?	2,861	,952	44,271	,001	2,734	2,989
	11. Does the teacher encourage you to find solutions to the tasks he gives you during the lesson?	3,032	,959	46,563	,001	2,903	3,160
	12. During the lesson, do the activities you do seem attractive and easy to do?	3,087	,979	46,423	,001	2,956	3,218
	13. Do you think the control tests you took were well explained and easy to perform?	3,235	,784	60,728	,001	3,130	3,340
	14. Is the class well organized (in groups, in pairs, individually) when performing the physical exercises?	3,064	,767	58,851	,001	2,961	3,167
	15. During the school year, does the teacher help you not to get discouraged when you cannot perform certain physical exercises?	3,188	,847	55,409	,001	3,075	3,302
	16. Does your teacher show understanding towards you/your colleagues when you cannot participate in the practice activity for medical reasons?	2,875	,809	52,310	,001	2,767	2,983
	17. If you/your colleagues have medical problems, do you receive tasks during class to contribute to the physical education lesson?	3,175	,797	58,656	,001	3,068	3,281
	18. Did the physical education teacher invite you to participate in the games of the school representative team, in different sports branches or in the competitions organized at the local level?	3,202	,742	63,543	,001	3,103	3,302
	19. During the school year, did your teacher organize activities with the class, carried out outside the school and outside the school schedule?	2,963	,942	46,333	,001	2,837	3,089
	20. Did your physical education teacher organize a school competition (championship) in certain (different) sports branches?	3,336	,740	66,372	,001	3,237	3,435
	Total subscale – X	3,07	-	-	-	-	-
	Total subscale – Sum	61,51	-	-	-	-	-

The values of the standard deviation for the sample of students, as it appears from the analysis of the questionnaire items, record the highest values for item 12 – During the lesson, do the activities you do seem attractive and easy to do? (0,979) and item 11 – Does the teacher encourage you to find solutions to the tasks he gives you during the lesson? (0,959), and the lowest in item 20 – Did your physical education teacher organize a school competition (championship) in certain (different) sports branches? (0,740) and in item 18 – Did the physical education teacher invite you to participate in the games of the school representative team, in different sports branches or in the competitions organized at the local level? (0,742). These data show some dispersion of values around the considered mean/item.

For the values presented in table 16, the Student's test was calculated, recording values above the tabular t value at the 0.05 threshold, corresponding to more than 200 degrees of freedom, respectively  $t=1.645$ . As can be seen, for the items that evaluate the specialized didactic skills of the mentees by the students, all the values recorded by the Student test are much higher than the tabular t value, which shows us that the data are significant in terms of statistically for a  $p < 0,05$ .

The values of the arithmetic means obtained fall within the limits of the 95%CI confidence interval, which shows us that the collected data are valid and appropriate to the research from the basic study 3.

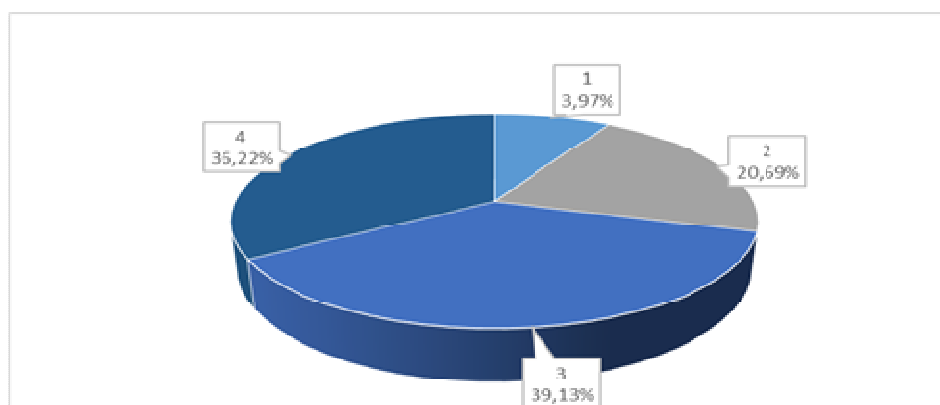


Figure 8. The percentage of students' responses to the physical education teacher evaluation Questionnaire

The average of the percentages obtained for each type of response separately (Figure 8), shows us that the majority of responses were given for the 3 and 4 point options. From the analysis made on each item of the questionnaire, it emerges that the main beneficiaries of the mentoring process, the students, positively evaluate the didactic activity of the mentee and thus validate the value of the mentoring program, which led to the optimization of the didactic skills used in carrying out physical education lesson.

The questionnaire applied to students to measure their degree of satisfaction is also validated by the statistical indicator Cronbach's Alpha ( $\alpha$ ), which had a value of 0,736, which reflects a good internal consistency. Also, the analyzed results were appropriate and useful for the research, according to the  $\chi^2$  statistical index, which recorded a value of 3395,13, much higher than the reference value corresponding to the significance threshold of 0,05 to which we referred, which shows the fact that the results are statistically significant. Since from the specialized bibliography we were unable to extract a critical value for 190 degrees of freedom, corresponding to the significance threshold of

0.05, we considered valid the results obtained from the statistical processing with the SPSS program, which provided us with these values.

The "Questionnaire regarding student satisfaction in relation to the quality of the teaching act of the intern teacher/mentee", was constructed, as mentioned before, respecting the structure of the standardized questionnaire from the basic study 2, but it was reduced to 20 items in order to be able to be applied to a sample of students, at the level of understanding specific to their age. Since the standardized questionnaire had 40 items, in order to be able to interpret the sum of the arithmetic means obtained in the basic study 3, we doubled the score recorded for the 20 items of the questionnaire, which was 62,51 points. We thus obtained a value of 123,02 points, which falls between 160 - 105 points, and according to the way of awarding the scores and interpreting the questionnaire that we established, this indicates that the students have a very good perception and appreciate the didactic activity of the mentee, who developed, following the mentoring program, a high level of skills necessary to teach the subject of Physical Education, in his initial professional training stage.

### **10.2. The conclusions of the basic study 3 - Assessment of the students' perception regarding the level of practical application of the specific competences to teaching physical education, manifested by mentees**

The results of the basic study 3, confirm the fact that the existence of a mentoring program in the initial professional training stage, contributes to the improvement of the didactic activity of the beginning teacher, an aspect reinforced by the results of the questionnaire that measured the degree of satisfaction of the students who participated in the lessons of physical education of the mentee.

The answers of the sample of students regarding the level of development of professional skills specific to teaching physical education, looking in particular at their degree of satisfaction, are important, because they show us how the student (the final beneficiary of the didactic act) relates to the learning paths within the lesson of physical education, through the professional involvement of the mentee, organization, teaching and evaluation of the activity. The high level and manner of professional involvement of the mentee is a direct consequence of an effective mentoring program, which succeeds in improving and expanding the level of acquisition of specific skills for teaching physical education. In this direction, we can state that the implementation of the SMART mentoring process determined the registration of a high final score of the questionnaire, an aspect underlined by the results of the basic study 3.

The results of basic study 3 lead us to confirm the specific hypothesis of basic study 3 (I<sub>3</sub>) according to which: "With the expansion and deepening of the professional skills of the beginning teaching staff, participating in a properly structured mentoring process, the efficiency of the act of teaching increases the Physical Education discipline, a fact reflected by the student's satisfaction with the support given in his own training".

### **The conclusions of part III – Contributions regarding the improvement and expansion of professional skills in the initial training stage of teachers specializing in physical and sports education**

The training of specialized and inter-trans-disciplinary didactic skills in the field of physical education, in the case of trainee/beginner/mentees teachers, can have positive effects on the entire didactic process and implicitly on the formation of their pro-active behaviors towards movement, for a lifetime.

The data of our research taken as a whole, as well as the confirmation of the 3 specific hypotheses of the basic study, lead us to confirm the general hypothesis of this study, according to which: "By designing and implementing a mentoring program, specific and adapted to the teaching of physical education at the level of pre-university education, we will contribute to the development and expansion of the professional skills of the beginning teaching staff, to establishing their role in the mentoring process they go through, as well as to increasing students' satisfaction with the specific teaching act they perform".

## **CHAPTER 11. FINAL CONCLUSIONS, ORIGINAL CONTRIBUTIONS, DISSEMINATION OF RESEARCH RESULTS, LIMITATIONS AND FUTURE RESEARCH DIRECTIONS**

### **11.1. Final conclusions**

#### **11.1.1. The conclusions of the research in the direction of the theoretical content**

The initial training and the professional debut play a decisive role for the predictability of a successful teaching career, it practically lays the foundations for the development/deepening and expansion of professional skills, which will be present and dynamic in the evolution throughout the activity of the one who really wants to educate. The quality and variety of positive professional experiences, accumulated during the internship period, are essential for a long-lasting professional career.

The Romanian educational system is centered on the training of skills at the level of both actors of the instructive-educational process (student and teacher/educator), this being a process focused on the pragmatic component of learning, as a way of human construction of the young employee on his own school path, as well as the beginning and full teaching staff, who actively participate in their professionalization and social integration.

The formation of professional skills, according to the opinion of specialists and the ideas derived from the scientific studies carried out so far, is a pyramidal and continuous process, dependent on the evolution of the knowledge and skills of each subject. Thus, starting from the competences of graduates of bachelor's and master's studies, once admitted to the system, the beginning teacher must know: theory, practice, be himself and have the ability to adapt permanently to the demands given by the particularities of the educational environment in which activates.

Professional mentoring involves two main spheres of knowledge, the theoretical and the practical, as well as the reciprocal, inter-conditioning relationships between them. In synthesis and transfer of the conceptual content to our field of activity, educational mentoring aims to optimize the training of students with a pedagogical profile and beginning teaching staff, with a view to effective integration and professional improvement specific to the didactic activity in physical education.

We believe that the mentoring process in physical education and sports specialization should be approached from three temporal perspectives, in which the person who wants to practice the profession of physical education teacher falls, namely:

- The previous stage, based on the level of specialized knowledge, motor skills and experiences gained during the sports and/or pedagogical training courses, carried out during undergraduate and master's studies.
- The current stage, of professional debut and which aims to deepen/expand specialized knowledge through documentation focused on relevant and current scientific and methodical materials, expanding intrinsic and extrinsic professional motivations, expanding experiences of applying skills already acquired in practice, solving problematic situations and so on
- The next stage, focused on identifying and expanding the possibilities of using the specialized professional potential, on drawing future directions for the development of expertise and teaching career, on identifying specific and related opportunities from a professional point of view and on finding ways of creative development of professional and social skills, knowledge and skills, in relation to national and international educational trends and changes.

The mentoring process calls for the establishment of a two-way relationship between the mentor and the mentee, with implications, responsibilities, benefits, etc., on both sides. The relationship between the two key subjects of this process must be based on a mutual appreciation of the involvement, the role/responsibilities that they mutually establish.

#### **11.1.2. Research conclusions in the direction of methodological content**

The methodology we used in the present research presents some particular aspects that we want to mention in summary. These are:

- In order to collect specific data, to capture the current state of the mentoring process in the Romanian pre-university education system, with reference to the physical and sports education specialization, we adapted and applied pre- and post-impact, 2 types of questionnaires. These were intended to highlight the level of understanding of the roles/responsibilities of the two subjects involved in a mentoring process (the mentor, respectively the mentee), as well as the professional skills (specific didactic and inter- and trans-disciplinary) that they must demonstrate in the exercise of their teaching career.
- Our main methodological approach consisted in designing and then applying a coherent mentoring program, called the "SMART Mentoring Program", created to deepen and possibly expand the specific skills of teaching Physical Education.
- In order to have feedback on the quality of the act of teaching-learning-evaluation of the mentee who went through a mentoring program (the one mentioned above), I designed a questionnaire addressed to the students, as the main beneficiaries of the professional performance of the novice teaching staff (in the case ours) and which was intended to be a tool to signal their level of satisfaction, related to the educational course offered.

#### **11.1.3. The conclusions of the research in the direction of the experimental approach**

The approach of our research took place in two relatively distinct stages, namely: one stage allocated to a preliminary study and another, to a basic study.

The preliminary study (performed in 2017) was broken down into two other understudies:



- Preliminary study 1, in which a questionnaire was applied to know the level of self-assessment of the roles that the mentor and the mentee have in the mentoring process, in the initial and debut professional training stage;
- Preliminary study 2, in which another questionnaire was applied, to know the level of appreciation and practical impact of the specific skills for teaching physical and sports education, in the exercise of the profession, from the perspective of mentors and mentees.

Both questionnaires were based on points to be awarded/items, with a rating from 1 to 4 (4 being the highest rating value/item).

The working sample consisted of 40 beginner/trainee teachers, including master's students and 24 mentors/tutors/methodologists, university teaching staff, etc. All of them completed the two types of questionnaires, which were sent either online through the Google Forms platform or in person, as appropriate.

The results of the statistically processed data highlighted the following aspects:

- for the preliminary study 1, the sums of the scores recorded by the two samples are: 171.16 points, for the mentees and 178 points for the mentors, both categories of subjects falling under the qualification "Very effective", in the lower range of this qualification (according scale range 240-161 points). The obtained results reflect that the mentees and mentors consider their role in the mentoring process to be significant, and the fact that most respondents gave good scores of 3 and 4 points to most of the items, leads us to affirm that, the mentees, respectively, the mentors consider the mentoring process as important for their professional development, either in the initial training stage or at the beginning of the teaching career, or as a consistent basis for its permanent development. In agreement with what has been state, we can consider that the hypothesis of preliminary study 1 is confirmed.
- for the preliminary study 2, after the collection, centralization, processing and statistical interpretation of the data obtained following the application of the "Self-assessment questionnaire of the perception of specific competences for teaching physical and sports education", the difference recorded between the sums of the points obtained was 3.75 points. The total cumulative value recorded by both samples falls between 160-105 points according to the questionnaire score (115.17 points for mentees and 118.26 points for mentors), indicating that both samples have a good perception of the level of development and demonstration of the specific skills of physical education, in the framework of the didactic activities and initial professional training. However, it is noted that both cumulative scores are at the lower threshold of the classification score, which leads us to conclude that there is a real potential for awareness and shaping of the two types of skills that guarantee an effective didactic process. With all that mentioned, from a statistical perspective, the data are significant, for which we consider that the hypothesis specific to preliminary study 2 is also confirmed.

Given that both specific hypotheses of the preliminary study have been confirmed, we can also consider the general hypothesis of the preliminary research to be accepted, the statement of which is: "The application of some questionnaires in the direction of the specific and relevant indicators of the mentoring process, make it possible to highlight the internal mechanisms within this process,

regarding the roles, perceptions and specific professional competences of the two actors involved, respectively the mentor and the mentee".

The study assigned to the basic research (carried out in the school year 2018 - 2019) practically included three understudies, the first two being built on the template of the 2 previous studies, from the preliminary investigation of the work, with the difference given here, from the time of the investigation that took place after that a mentoring process was completed, continuously monitored. The third study was address to students, to capture their level of satisfaction, related to the teaching-learning-evaluation manner of the physical education teacher at the beginning of his career. The working sample for basic studies 1 and 2 was made up of a group of 5 mentors/methodologists, who exercise their professional duties in this direction within IȘJ Brașov and 18 trainee teachers (specializing in physical and sports education), who carries out his professional activity in pre-university education units in Brașov county.

-Basic study 1 proposed and carried out the self-assessment - by applying a specific questionnaire - of the role/responsibilities of the mentee in the mentoring process, from the perspective of his professional training, after he has completed - for the duration of one school year - the SMART mentoring program, which we developed and implemented. Compared to the preliminary study, there are two changes in the investigation, given on the one hand by the fact that the beginning teachers are guided and monitored rigorously, according to a certain plan of activities, and on the other hand, the mentors/methodologists are not subjected to the same questioning process, because in their case we have taken into account that they have extensive teaching experience and have filled the positions of Methodist by competition, and the data of the preliminary study are relevant enough to know the role they play in this formative process.

-The results of the basic study 1, obtained by processing the data of the self-assessment questionnaire of the mentee's role, participating in the SMART process of mentoring, recorded for all 60 items distributed on the 6 subscales, a very good internal consistency, expressed by the indicator values Cronbach's Alpha statistic (0.719 and 0.835), on each subscale separately. The results centralized on the subscales, through the sum of the arithmetic averages, highlight small differences between the assessments of the 6 subscales. The highest values were recorded in subscale 5 - Progress (35.66) and in subscale 4 - Process (35.16), where the mentees gave higher scores, which reflects the confidence of novice teachers in the training course coordinated by the mentors. The lowest values were recorded for subscale 3 - Confidence and subscale 1 - Purpose, which shows us that teachers at the beginning of their careers still need more support in order to design both their teaching activities, as well as the teaching career in perspective. The sum of the recorded averages for the 6 subscales is 197.46 points, a value that falls between 240 - 161 points and, according to the scoring method we agreed upon, the role assumed by the mentees in the mentoring process is one optimal and professional, which confirms the specific hypothesis of basic study 1 ( $H_1$ ).

-The positive influences that our mentoring program (SMART) generated at the end of the basic study 1, were also reinforced by the results obtained by comparing the data taken from the

preliminary study 1, with those from the basic study 1, taking as subjects the respondent mentors in the two studies. Calculating these data by the Student's t test (significance of the difference between means, independent samples), we obtained a  $t = 10.325$ , greater than the tabulated  $t$  (2.390) at the  $p = 0.01$  threshold, indicating that, the level of role awareness /responsibilities that the mentee plays within the mentoring process, increased significantly in the subjects who went through our SMART program.

-Basic study 2, investigated at the level of the mentees who completed the SMART mentoring program, two types of competences that develop within the mentoring process, these being the specialized didactic competences (subscale 1 of the questionnaire), respectively the inter-trans competences -discipline (subscale 2 of the questionnaire).

-From the analysis of the results of the basic study 2, we note that the total score achieved by the sample of mentees from Braşov County, who went through the mentoring process proposed by us, was 67.69 points for subscale 1 – Specialized didactic skills, higher than achieved for Subscale 2 – Inter-trans-disciplinary competences, which was 59.34 points. Both subscales showed good and very good internal consistency, with Cronbach's Alpha values ranging from 0.742 to 0.832. The sum of the recorded averages for the 2 subscales is 127.03 points, a value that falls within the range of 160 - 105 points and according to the way of awarding the score and interpreting the questionnaire, these data indicate that the mentees have developed following during the course of the SMART mentoring program, a very good perception of the level of development and manifestation of the skills specific to physical education and sports, in the course of teaching activities.

As with the baseline study 1, in order to determine whether the benefits of the SMART mentoring program were statistically significant, we performed a comparison of all baseline data (taken from the preliminary study 2, where no placement program was applied before the investigation) and final (from baseline study 2, at the time of completion of our mentoring program), taking into account the average scores per the 40 items of the respective questionnaire. Applying the Student test, we obtained a value of  $t = 2.721$ , higher than  $t = 2.390$  (Fisher's Table) at the 0.01 threshold, a fact for which we can affirm with a probability of 99% that the level of perception of specific physical education skills by the mentees, it improved significantly, in relation to the other sample of mentees from the preliminary research, which did not benefit from a rigorous mentoring program elaborated and applied systematically and continuously during a school year, respectively 2018-2019.

All the data presented extensively and statistically processed in the paper, in the basic study 2, allowed us to confirm the specific hypothesis  $I_2$ .

-Basic study 3, was carried out to ascertain the feedback of students participating in physical education lessons and who had as teaching staff, teachers at the beginning of their career. In order to probe the level of satisfaction of these students (217 in number) with the act of teaching-learning-evaluation, we adapted the questionnaire used in the basic study 2 (the one focused on specialized professional skills), by reformulating the items applied to the mentees, so that the questions are clear and concise for the students' level of understanding. Thus, the result was a questionnaire of 20 items, with concrete questions on which the students can express an objective opinion. To evaluate each item of the questionnaire, the

Likert scale with 4 response levels was used. The questionnaire was applied at the end of the mentoring process (June 2019), being distributed to students through all 17 mentees targeted in our research.

The scores given for each of the 20 items of the satisfaction questionnaire, framed on the 4 variants of the Likert scale, allowed us to calculate both the average scores of the respondents who assigned a certain score (range 1 - 4)/item, as well as and the percentage share of the distribution of points/item. Thus, for the answers of 4 points, there was an average of 78.6 respondents (36.22%), for those with 3 points, of 84.90 respondents (39.13%), for those with 2 points, 44.90 respondents (20.69%) and for those with 1 point 8.60 respondents (3.97%). The arithmetic mean values obtained are within the limits of the 95%CI confidence interval, which shows us that the collected data are valid and appropriate for the research in the basic study 3.

The processing of the collected data highlighted the fact that the majority of students have a high appreciation of the questionnaire items, which suggests the positive influences of the implementation of the SMART mentoring program, which produced a noticeable (significant) improvement in the management of the instructional-educational process by beginning teachers.

For the collected data, the Student test was calculated, recording values above the tabular t value at the 0.05 threshold, corresponding to more than 200 degrees of freedom, respectively  $t=1.645$ . In the items that evaluate the specialized didactic skills of the mentees by the students, all the values recorded by the Student test are much higher than the tabular t value, which indicates that the data are statistically significant for a  $p < 0.05$ , for which we consider that the specific hypothesis  $I_3$  is also, confirmed.

Overall, through the collected, processed and statistically interpreted data, they led to the confirmation of the 3 specific hypotheses ( $I_1$ ,  $I_2$ ,  $I_3$ ) and implicitly to the acceptance of the general hypothesis of the basic research, according to which "Through the self-evaluation of the role played by the mentee within the mentoring process, we will be able to identify the relevant aspects of his conduct, regarding: goals, communication, trust, process, progress and feedback, in order to be aware of the responsibilities he has in his professional training process, for teaching of the Physical Education discipline".

## **11.2. Original contributions**

The main contribution related to the originality of the present research is the very topic chosen by us, because, at least in the specialized literature in Romania, we have not found any topic/article that strictly addresses this issue, namely, that of the mentoring process as a modality for the professionalization of the beginning teaching staff, specializing in physical and sports education.

Through the development of this research theme, we highlighted a series of novel aspects through which we hope to contribute to the expansion and understanding of the complex aspects of the didactic mentoring process and of the ways of theoretical and practical approach, adapted to the specifics of teaching Physical Education. Our research proved that the development/deepening and expansion of the professional skills of teachers specializing in physical and sports education can be achieved through a well-structured and organized process of educational mentoring, adapted to the particularities and specifics of the didactic activity in the discipline of Physical Education.

As part of the research approach we undertook, we designed and implemented an original mentoring program, adapted to the specifics of physical and sports education, identifiable by the acronym

SMART (S – specific, significant; M – measurable, motivational; A – accepted, action-oriented; R – realistic, relevant, reasonable, results-oriented; T – timely, tangible, traceable). In a stage prior to the actual research, we carried out a realistic analysis of contemporary educational aspects in Romania, in correlation with the professionalization trends of the teaching career and with the standards of professional efficiency, specific to the teaching of physical education. Based on this SWOT analysis and by referring to the content and specifics of the mentoring stage, we developed a specific route for implementing the mentoring program in physical and sports education.

The SMART program is structured on: The specific objectives of the mentoring program in physical education; Bibliographic and informational resources; The duration of the implementation of the mentoring program in physical education; Evaluation of the mentoring process in physical education; Organization and development of the mentoring process in physical education; Planning and implementation of the mentoring process in physical education (proposed model) with the following action milestones: 1. Integrating the mentee into the school educational environment; 2. Presentation by the mentee of the personal professional training route; 3. Establishing the objectives of the mentoring process in physical education; 4. Advising on the development of the planning documents necessary for the initial development of the didactic activity in physical education; 5. Attending the lessons coordinated by the mentee; 6. Attending the lessons coordinated by the mentor or other colleagues specializing in physical education; 7. Meetings between the mentor and the mentee for the analysis and reflection of the didactic and mentoring activity specific to the physical education specialization; 8. Monitoring and evaluating the progress of students in the discipline of Physical Education; 9. Participation in the activity and methodical meetings; 10. Involvement and initiation in school sports-recreational educational projects; 11. Optimizing interaction skills in the school community; 12. Optimizing the professional training program; 13. Running extracurricular sports and recreational activities; 14. Support and assistance in open lessons held by the mentee; 15. Analysis of the progress made during the mentoring program; 16. Feedback of the mentoring program. Each of these action/operational benchmarks has the following headings: Targeted activities; Necessary resources; Duration.

Another aspect of originality is given by the development of scoring scales for all types of questionnaires used, both in the preliminary and in the basic research. Even the content of the questionnaires, taken from the international specialized literature, are used for the first time in a study from Romania, which is addressed to our field of activity, and the student satisfaction questionnaire is completely new, being made by us, thus so that they are equivalent to the items applicable at the level of teaching staff (mentors or mentees) and allow the mutual comparison of data.

Last, but not least, in the part of the thesis that addresses the theoretical foundation of the problem under investigation, I have included several suggestive figures (personal contributions), which are meant to reinforce and/or complete what is stated in the text.

#### **11.4. Limits of research**

Like any research, the present one presents some limits that we felt during our approach. Of these, we consider some to be more significant, others less relevant. Among the most significant, we mention the following:

- The nature of the topic addressed, due to the difficulty given by the impossibility of being directly and permanently involved in most of the activities specific to the teaching-learning-evaluation process in the pre-university education system, created quite a few difficulties in the action of global monitoring of the approach investigative, a fact for which some collected data may be subject to doubt, in terms of their objectivity. We refer, in particular, to the record of the activities of the SMART mentoring process that have been settle, as well as to the practical implementation of all the action milestones within it.
- The research is based on data collected only through questionnaires, which, however significantly validated from a statistical point of view, have at the level of the answers a rather large dose of subjectivity when assigning scores/items. This must be taken into account, and the interpretations can be viewed with some reservation, which is otherwise justified.
- The relatively small number of subjects involved in the basic research, the restriction of the study to the level of a single county, obviously limits the generalization of our data. However, it was very difficult, even at this level of research implementation, to convince those involved (whether methodologists and/or mentees) to participate in a staggered activity over a relatively long term, in which they would be monitored from the point of view of view of professional duties.
- To survey the level of student satisfaction, questionnaires were distributed only at the level of the 8th grades, because through some surveys carried out in a pre-impact stage of the research, we realized that a lot of students from the secondary school cycle ( especially in the 5th and 6th grades, but not only!), they are quite confused when they have to give a quote to the items of a questionnaire, either they do not understand what is being asked of them, or - we noticed - they present a certain shyness/embarrassment in evaluating their own teacher, although they were informed of the anonymity of the answers given.

Despite all these deficiencies, which obviously limited the development of the SMART mentoring program under optimal conditions, we appreciate the understanding and involvement of the teachers involved in our scientific approach, thanking them for the help given in completing what we set out to do.

### **11.5. Future research directions**

The research approach presented in this thesis, we hope, represents a starting point for some future research, which will obviously contribute to the development and expansion of knowledge in the field of Sports Science and Physical Education, with direct connotations on the entire educational process. The implementation of a mentoring program in physical education represents a major challenge that the Romanian education system will have to achieve with more consistency and adapt it periodically, in order to make the instructional-educational process more efficient and dynamic.

Future research should be focused on identifying ways to improve the implementation of hybrid mentoring programs (on-side, combined with online), depending on the different educational and social contexts.

We recommend that future research focus on the correlation between the expansion of the professional skills of trainee physical education teachers and the reflection of these improvements in the effectiveness of physical education lessons, according to the needs of students, as well as those aimed at extracurricular sports and recreational activities.

The way of collaboration, more or less formal, between mentors and mentees can constitute another direction of research, based on which we will be able to identify the relevant aspects and/or obstacles that contribute to the successful running of an effective mentoring program in physical education, as well as identifying aspects of communication that are not sufficiently exploited or are currently neglected. Also, another derivative or/and selective research direction can be based on how to implement a differentiated mentoring process, in rural and urban educational environments.

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