UNIVERSITATEA BABEȘ-BOLYAI CLUJ-NAPOCA

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THE IMPROVEMENT OF THE FURTHER TRAINING SYSTEM FOR MATHEMATICS JUNIOR TEACHERS. INTERVENTION PLANNED FOR BISTRIȚA-NĂSĂUD AND MARAMUREȘ COUNTIES

- DOCTORAL THESIS -

SUMMARY

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CONTENTS

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Summary

KEY WORDS: education, teacher, professionalisation, competence, initial training, further training, junior teacher, psychopedagogical training, mentoring, focus-group, questionnaire, case study, training programme, formative experiment.

The PhD thesis **"The improvement of the further training system for mathematics junior teachers. Intervention planned for Bistrița-Năsăud and Maramureș counties"** starts from the assumption that the most important and essential condition of efficient, quality education is the existence of professionally well prepared teachers, both from the point of view of their specialty and from the point of view of their psychopedagogical and methodical training.

That is why initial training and further training need to envisage empowering the teacher with the necessary competences so that he or she may feel comfortable in other situations that could appear along his/her professional life. Nowadays the need for teachers to be experts in one or more subjects primarily addresses a high level of academic qualification. The environment where teachers perform their activity proves to be more and more difficult, making teachers assume new responsibilities so their mission becomes more and more complex.

Dynamism, flexibility, receptivity two new things and critical reflection on the curricular requirements and the methodological approach define the modern profession of a teacher. In other words, the contemporary teacher is no longer omniscient in his or her specialty, but a responsible person, aware of his need for further training and for integrating ICT in his own teaching activity. Therefore, by promoting quality teaching learning evaluation activities, the teacher is a professional who permanently reflects, critically and constructively, upon his own actions and approaches.

In this paper, besides analysing the particularities of the teaching profession and surveying the period of professional beginning, we have also tried to make up a strategy to optimise the training and professional integration of junior teachers, developing a structured

training programme comprising direct, collaborative further training, professional dialogues, assessing classes, deliberate practice to implement in class what they have learnt while guided by a mentor.

Chapter I, *The subsystem of further training for teachers*, surveys the educational policies referring to the domain of teacher training on a pre-academic level, and to the implications of these policies on the educational system in Europe and on the Romanian educational system, implicitly. It is underlined the fact that our country is aware of the need for reforms in education and in Society in general, consequently starting and developing an ample reconfiguration policy which is still ongoing today.

The starting point in elaborating European policy documents referring to teacher further training is represented by the communitary strategies and programs, each country adapting their national policies depending on their particular training needs as well as on the social, economical and cultural context. This contrasting aspect is the reason why teacher further training has a different status from one country to another being based on different constructive approaches.

Further training for teachers has become lately one of the most frequent concerns of the European specialists as well as of the specialists in our country. It is approached both as a personal development way and as an investment in order to improve the quality of work and life. The strategies for long-term development of the educational market include strategies for the development of teachers initial and further training system. They refer to elaborating new standards for the teaching profession and providing these standards with the new roles of the profession.

If we consider the expanding of the role of the school in the community, these strategies need to be oriented towards new roles, new professional and transversal competencies which teachers needs to master, also deriving from elaborating new standards for the teaching profession.

Further training programmes aim at updating and developing teachers competences, acquiring new competences depending not only on the evolution of curricular, educational and societal requirements, but also on the new exigences concerning the adaptation of teachers' competence to the educational changes, both structurally and from the process viewpoint.

In this respect, the new strategic frame - Education and training 2020 - (ET 2020) for European cooperation in the field of education and professional training envisages „ strategic objectives common the member states, as well as a set of principles in order to achieve these objectives and common work methods with priority domains for each periodical work cycle” (http://ec.europa.eu/education/node_ro).

The importance granted to revising and consolidating the professional profile of the teaching career is emphasized in the conclusions of the European Council of March 2013, where they approached the issue of investments in education and professional training in order to support the strategy Europe 2020. These conclusions regard the improvement of initial training performance for future teachers and the support granted to junior teachers and to further training based on competence (http://ec.europa.eu/_education/policy/strategic-framework/investment-plan_ro).

The active role which further training has in meeting the objectives is known to all decision factors in education from the member states, they regarding it as a vector of action, a dynamic one, which can produce changes and which can design, for the educational systems, trajectories in order to facilitate the implementation of an efficient reform.

The member EU States emphasize the objectives which regard the development of professional competence through:

- updating the basic competence and the knowledge in teaching in a certain subject;
- building new competencies;
- teaching subjects;
- Initiation in using new methods and teaching means.

All the states in the European Union strees the improvement of the quality of the educational systems, the courses delivered, other educational services offered by education institutions and also the pedagogical practice of teachers. Therefore, we may also stress some aspects, such as:

- favouring interdisciplinarity and expanding teamwork;
- openness to innovation;
- training to manage crisis situations in class and in school;
- implementing educational and pedagogical priorities;
- developing the abilities necessary in managing human relationships.

A privileged position in the conception issued by European States regarding further training is the interaction between the world of education and the society. The improvement of the interaction between education and society contributes to:

- creating and supporting connections between the educational and the economical environment**;**
- raising stimulative interest to investigate some socio-economic factors which influence young people's behaviour**;**
- permanently adapting to social and cultural changes**.**

Furthermore, different paths can be followed in order to fulfill these objectives; they belong to the social historical and cultural tradition of the member states, matching the logic, the spirit and the characteristics of the educational systems in each state.

In the second subchapter of chapter 1, "the subsystem of initial training in Europe", I have tried to present a thorough image of initial training for the didactic profession in Europe, by referring in detail to the ways in which candidates are selected, how the initial training of teachers is organised, the time allotted to initial training, how it is certified.

As to how the selection of the candidates develops in order to be admitted in an institution which offers university studies, where the initial training of the future teacher takes place, in some community countries stress is laid upon the general selection criteria of the teachers, the specific criteria being somewhat neglected - as it happens in our country as well. That is why the aptitude tests or the interviews referring to the candidates motivation for choosing this profession are totally missing in many European countries, a third of the countries use specific methods of selection for admittance at initial training of teachers; the same third uses concrete specific methods of selection, among which we can count acceptable results to a specific aptitudes test or structured interviews where candidates are questioned regarding their motivation for becoming teachers.

But in all the countries there are different conditions which account for the admittance two initial training of teachers, and selection criteria vary in contents and volume, as they can be established on an institutional level or on the level of the educational authority. However, in some countries both levels have responsibilities through which they can participate in decision-making in this domain.

Getting a final graduation certificate from university education is the basic necessary condition in European countries in order to be able to be a teacher. This way, in almost half of the European countries school performance in university education is taken into account; then in many countries there is a general admittance exam for tertiary education.

There are many countries where educational authorities state general requirements for admittance. However, every institution has a certain amount of freedom to apply them. For example, in many countries, institutions can introduce supplementary admittance criteria besides the minimal requirements. For example, those who want to be admitted in order to participate in training courses for teachers in primary education in Holland, have to pass a test which establishes if their level of competence in Mathematics and Dutch is at the required standard. If they do not pass the test, first year students are granted further support and by the end of the first school year, they have to pass a new test; if they do not meet the minimum requirements, they are no longer permitted to continue the course. In Belgium similar tests are

organised by training institutions for teachers, despite the fact that it is stated by law that they have to do this.

On deeply studying the speciality literature, we can see the fact that, depending on the way they are merged, we can distinguish two initial training ways for the teachers. They say the professional dimension can be offered both simultaneously with the general one (the simultaneous model) and consecutively (the consecutive model). In other words, the simultaneous model supposes involving the future teachers in the specific professional activity from the very beginning of their tertiary education program, whereas the consecutive model involves the future teachers enable specific professional activity close to the end of their university programme or even after they graduate. Furthermore, in most cases, in order to attend a training route according to the simultaneous model, the future student needs to produce a graduation certificate for higher Secondary Education. There are still cases where the future student needs to produce an aptitude certificate for tertiary education or/ and for teacher training. On the other hand, those who want to study following the consecutive model, after they attend tertiary education in a certain domain, continued they are professional training in a separate step.

In more than half of the European countries, students who want to work in education on a lower secondary level are trained along 5 years, including licence level followed by master's degree level. Those who want to work in Upper secondary level education, in most countries, have to produce a master's degree diploma.

The common feature of all member states is the pedagogical practice, compulsory inside the initial training of future teachers. In Educational institutions, there is the possibility of organising practice in different instances of training, under the close surveillance of a mentor teacher. It may last for a shorter or longer period of time, which leads to major differences between the European Union States.

In the context of lifelong learning, we feel the need to emphasize the continuity and the coherence between the different stages of the teaching career, so further training for teachers is considered to be a right of teachers, an obligation and an option as well. We may synthesise by asserting that, in over 20 European countries, further professional development is regarded as a professional right, but not in all the cases teachers are explicitly made to take part in further training courses.

Generally speaking, further training for teachers supposes three stages: Initial professional training of teachers (FPI), The support granted at the beginning of the teaching career (Early Career Support, ECS) and the further professional development (DPC). The

commission for culture and education of the European Parliament made a study correlated with the three stages of professional development for teachers.

The conclusions of this study, elaborated in July 2014 are grouped in three categories:

1. In many countries there is a priority for teacher training and the national reforms comply to the EU recommendations.
2. Policy reforms focus on FPI, being a less oriented to ECS and DPC.
3. There is no appreciable coordination between the structures of FPI, ECS and DPC, as teacher training is not regarded as a continuous process. Tre reforms stress FPI, that is the support granted at the beginning of the teaching career. Furthermore, DPC is assured in many countries, despite the fact that, on the one hand, stimulents to participate in these programs are missing and, on the other hand, there are barriers against participation regarding individual preoccupations and inclinations.

(http://www.europarl.europa.eu/committees/ro/cult/supporting-analyses.html?action=2)

Regarding the conclusions mentioned above, the commission for culture and education of the European Parliament issued three recommendations:

1. The first underlies the importance of seeing teacher training as a continuous process which should include both FPI and ECS și DPC out of the need to respond to teaching practice challenges. So, they recommend the ECS and DPC offer to be structured on teaching paths in order to enhance the previous stages of the training process, that is to assure the transparency of ECS and DPC In order to achieve a better correlation between the individual needs and the service offered, as well as the employers expectations referring to further teaching of teachers.

2. The second recommendation addresses the national factors and is connected with the way in which the elements of the reform are elaborated and implemented, in such a way as to resonate with European progress as to the initial and further training of teachers. The same recommendation supports the enhancement of the value of speciality literature in the sciences of education, agreed upon by the European Union, that is the use of relevant documentation in order to create ECS and DPC structures on a national, local and school level.

3. The last recommendation regards the factors interested on a national and local / school level and refers to the financial support meant to cover the concrete needs in order to implement reforms.

In subchapter I.2.4 “Policies, strategies and further training programs in Romania” I have presented the legal documents on further training in Romania, the main ways to implement further training for teachers, for managers, for inspectors in the educational system, the principles which form the basis for the elaboration of training curriculum, strategies, policies and directions for action, elaborated in accordance with the premises of further training in the

European Union, premises which have been adapted to the Romanian social professional context.

The national strategy for lifelong learning 2015 - 2020 sets the landmarks for the year 2020:

- „elaborating further learning policies, in connection with the evolution and requirements of the work market;
- developing a structured system for further professional training, transparent and flexible, with an adequate financial level and strong implication of the social partners regarding the improvement of employability, adaptability and mobility of the work force;
- the improvement of adults participation rate (aged between 25 and 64) to 10% by 2020;
- supporting the participation in European mobility programs;
- acknowledging previous learning, including the competences acquired abroad;
- promoting quality training offers;
- assuring personal/individual and social benefits by investing in training".

(https://www.edu.ro/sites/default/files/_fi%C8%99iere/Minister/2016/strategii/Strategie%20LLL%20(1).pdf).

At the same time, short and medium term strategy on further professional training maintains:

- the changing of the workforce;
- the mobility between different sectors of activity;
- the increase of the degree of awareness as to the significance of lifelong learning, of the degree of motivation for acquiring knowledge and for the development of people's competence, the involvement of all social actors in the process of FPC.

Chapter II – "Further training - a premise for the professionalisation of the didactic career"; By starting from the premise that the didactic profession is ever changing, changes determined by the evolution of the contemporary Society and implicitly by the complexity of the challenges the educational system has to cope with, I considered it necessary to reflect on the answers to the questions launched by the researchers in this domain (Șt. Costea, 2003, p. 141):

- What competences should teachers have in an ever-changing and evolving society?
- What should teachers know and know how to do?
- What kind of training should teachers have in order to practice this profession?
- Which are the types of qualifications - theoretical, methodological, actional, general and professional they should get?

- Which are the most adequate and the most efficient initial professional training programs for teachers?

By answering these questions, we obviously reach the concept of professionalization of the didactic career, a tiring process from the perspective of the specificity of the educational activity. On the whole, just completing some professional standards where the units of competence for the didactic profession are described does not lead to the professionalization of the didactic career.

The rules, the norms and professional standards should characterize the didactic profession, bearing the specificity of everyone's involvement and talent (E. Delamotte, 2003., but the personal qualities and the teacher's talent make the professionalisation of the didactic career possible.

In Appendix 1 – The list of definitions and expressions used in the Law of the National Education nr. 1/ 2011, with further modifications and additions (http://edu.ro/), paragraph 14, we also find a definition, an explanation for competence: "Competence represents the proven capacity to select, to combine and to adequately use knowledge, abilities and other acquisitions, that is values and attitudes, as well as for the personal or professional development, and conditions of efficiency and efficacy."

Nowadays, the term **competence** has become a usual one when we try, for example, to characterize the system of teacher's further training. In order to define it, we take into consideration the component elements, that is: Knowledge (to know), abilities and skills (to know how) as well as attitudes and values (to be). In other words, competence regards solving specific tasks at a certain level of performance, knowing what to do, acting efficiently and promptly, in a category of situations, whether similar or atypical. Generally speaking, competence involves "Integrated bulks capacities and implementation abilities, operation and transfer of acquisitions, allowing the efficient development of an activity, by functionally using knowledge, skills, acquired abilities in formal, nonformal and informal contexts" (M. Ionescu, 2011, p. 105). It represents "a cognitive, operational, effective, attitudinal potential, successfully manifested when a situation requires it" (M. Ștefan, 2006, p. 57). Therefore, "Competences are complex structures, bearing operational, instrumental value, placed between knowledge, attitudes and abilities, characterised by: assuring the achievement of assumed roles and responsibilities; correlating with the performance in activities; measurable on the basis of performance standards; able to be developed through learning" (S.B. Parry, 1998, apud V. Chiș, 2005, p. 136).

Any profession is marked by the existence of a general and specific competence system, who's acquiring and development replace and continuous process; and individual consolidate,

improves and permanently re-organises his/her knowledge and capacities along with developing the professional experience. Thus, we speak about a system of professional competence as an acceptable standard with a view to performing this profession. Furthermore, the responsibility of the building this system of professional competence is an attribute of the initial and further training systems of all professions (V. Chiș, 2005).

The paradigma of competence is valued nowadays inside different educational systems, both in order to analyse the processes of teaching - learning - evaluating and in the field of preparing and training teachers through the subsystems of initial and further training.

We adopt as a work definition the following: **Competencies are integrated bulks / systems of knowledge, capacities and implementation abilities, operation and transfer of acquisitions, allowing the successful development of an activity, efficient solving of a problem or of a class of problems / situations**.

Synthetically, the competencies and personality traits necessary to an educator are those that lead to pedagogical art, to surpassing the status of a professional and which lead to the status of an artist of the job; this is what pedagogical literature defines as the professional educator and the vocational educator, this way attributing to the didactic profession the status of art or science. However, we admit the conclusion of I. Al. Dumitru (2001, p. 439), According to Which the teaching learning done by teachers is **an applied science done through art**.

The methodological competence, the communication and relational competence, the Psychosocial, technical and technological competence, the career management competence, all are presented as a set of general competencies in the context of establishing the standards for the didactic profession.

Miron Ionescu (1982, p. 41) asserts that in the case of pedagogical aptitudes there are certain components:

- „the aptitude to inform - to convey knowledge, to know the student and the class, to make pedagogical observations;
- the aptitude to organise - to have a set of theoretical knowledge on the psychology of the student, according to his/her age; to master their speciality content; to be convinced as to the value of what one teaches, the desire to update the acquisitions of one's specialty; to use new efficient methods and adequate teaching means, to have the spirit of an experimenter and to prove flexibility in his/her work;
- the aptitude to mould the student, that is: creativity; the aptitude to be an experimentalist; the capacity to assume the role of a model which the student invests in him or her; right self-knowledge, objectivity, serenity, moral balance, humour, the ability to intervene promptly and efficiently in class conflicts."

In Dicționarul praxiologic de pedagogie, Volume I: A-D (M.-D. Bocoș, coord., 2015), the pedagogical aptitude is defined as - *A special professional aptitude referring to having a way of thinking characteristic to the sciences of education, having pedagogical knowledge and meta knowledge (principles of action, strategies, intellectual and actional patterns, methods, techniques etc.), abilities and skills which assure efficient pedagogical behaviour and successfully developing theoretical and practical approaches in the domain of the sciences of education.*

On the whole, when we speak about acquiring, moulding and developing competencies, we should have in mind gradual, continuous process; this necessity is due to the fact that the bulk of knowledge and abilities of one person is in a continuous process of changing, reorganizing, restructuring and which, whilst consolidated, can generate performance. At a certain level of development and diversification, competences may organise and structure in a large, significant integrative sets who are in synthesis-competencies.

Taking into consideration the assertions presented above, we try to offer answers to the above mentioned questions. So, from a pragmatic perspective, the aim of initial training is building basic competencies specific to the didactic profession, while the aim of further training is the development of these competences and building new ones, both complementary and more profound. The future teacher has to be initiated in this profession with a bulk of initial, basic competencies, which will become more and more complex as a teacher accumulates relevant didactic experience. Therefore, in order to reach a high level of competence development, it is not enough for the future teacher to follow an initial training program because, if he sticks just to this, he will get just the „blossoms" of competence. In order to develop and refine his competences, to make them become more and more complex, the teacher has to follow further training programmes, to make connections between his profession and different aspects of the informal, to self develop and self- perfect. It is important to keep in mind the fact that the influence of the informal on the competencies does not act according to the pattern of accumulation or substitution, but according to the pattern of complementarity, as practice and pedagogical reflection play a much more significant part here. In other words, self-training of teachers means a gradual, progressive accumulation and development of competencies, starting with the subsystem of their initial training and ending with their further training and self-training - especially achieved through their didactic/ pedagogical experiments, in the context of educational practice.

The priority of continuous further training justify the elaboration of professional standards for teachers. These priorities are determined by the action of some factors, among which:

- the consolidation of the European dimension in further professional training and education for teachers;
- the orientation of the professional development system according to the requirements on the work market;
- raising the teachers' awareness as to the need of lifelong learning;
- raising the degree of responsibility as to personal development of each teacher;
- promoting a transparent system of values;
- acknowledging professional qualifications and diplomas.

In Romania, the Order of the Ministry of National Education nr. 4476 from 2016 (http://www.cdep.ro/pls/legis/legis_pck.htp_act?ida=141606) approved the professional standards for further training for the teachers in schooling education on stages of professional development - didactic degrees and further training every five years.

Three large categories of competences are mentioned here, that is: specialty competencies, professional competencies and transversal competencies.

According to this document, specialty competencies are defined in order to describe each and every qualification assured by university studies programmes and professional competences should work to the benefit of children's development or of the other beneficiaries of the educational process.

From this perspective, professional standards for teachers refer mainly to the didactic activity, being structured on the following priority domains:

1. Planning the educational activity;
2. Leading and monitoring the educational process;
3. Integrating and using ICT in education;
4. The assessment of Educational activities;
5. Getting to know, counselling and differentiated treatment of students;
6. The management of the class / group of students / children.

The transversal competencies described by the standard of the didactic profession:

7. The institutional development of the school and of the school community partnership;
8. Personal development and career management;
9. Applied educational research.

The culture of junior teachers actively manifests on the level of teachers culture. Being at the start of their teaching career, young teachers have in front of them a road full of novelties, professional challenges and aspirations. This is the moment when they see, sometimes amazingly, that school is a living body, both due to the presence of the students with whom they collaborate and due to the presence of their fellow teachers, who have, in their turn,

professional characteristics, challenges, problems etc. In order to be able to respond to these challenges, junior teachers need what we call organisational life experience, which may facilitate their adaptation and the surpassing of the obstacles encountered. But they do not have this experience yet; they only create certain survival strategy instruments inside the organisation and promote their own organisation of subculture, choosing to stay or to leave the system.

The start of a teacher represents the moment to analyse the young teacher's adaptation to school life, to discover his / her needs and reactions in front of professional obstacles and the relational problems, to observe his/her reactions to the contact with the school and of the extent to which the school responds to his / her natural needs.

In this respect, it is necessary to undergo an analysis regarding the impact of the organisational culture on the professional insertion of the junior teacher from the perspective of optimising his degree of satisfaction as well as from the perspective of his / her level of performance. It is an analysis which needs to be focused on the role of binder for the initial and further professional training. So, the professional training / development is the approach to attain diversification, development and consolidation of the competencies necessary to do the job by initiating the qualification/ re-qualification, refreshment and /or specialisation of those people looking for a job, aiming at reintegrating them on the labour force market.

The organisational integration makes the difference between the concept of socialising, which supposed is social understanding, professional harmony between the employee and the organisation where the young person is to work. Generally, organisation elaborate policies for fast organisational integration and plans for training and refresher programs. One of the most efficient forms of training that can assure organisational integration is mentoring / coaching. As an organisational activity, mentoring is a special relationship between and experimented person, available for and knowledgeable of offering help to another person recently come into an organisation, ode to a person who is already inside the organisation and reaches for a new position, all who need support in a certain moment of his / her career.

In subchapter II.5 „Mentoring and its actual issues" I present a complex dimension after the educational system which, in the Romanian educational system is not sufficiently explored. I have emphasised the legislation referring to the mentoring activities, the functions of mentoring, the stages of development of the mentoring relationship, the benefits and the limits of the mentoring activity.

Mentoring is mostly encountered in the professional environment, where they need to accumulate experience is precise and urgent, but it is all the more important in life issues.

Mentoring, no matter where it is done, supposes of complex of creating a new relationship based on trust, reciprocity, emotional connection. Therefore, we favour the

changing of the professional identity of the junior teacher through the support, practical information and modal offered by a person with high expertise.

In Dicționarul praxiologic de pedagogie, Volume IV: M-O (M.-D. Bocoș, coord., 2018), mentoring is defined, in schooling education, as a "complex professional activity done by a teacher mentor with supposes, in detail, the specific action of pedagogical mediation, guiding the activity, facilitating learning and professional development, counselling, supporting, guiding, offering beneficial professional experiences, integration into (micro) community etc" (p. 102).

Article 236, paragraph (1), point c) from The Law of National Education nr. 1/ 2011 refers to the one year practice period done in a school, under the coordination of a teacher-mentor, that is under the guidance of a specialised teacher who guides students, future teachers, during pedagogical practice activities or who coordinates and supports junior teachers during their first year period – (http://legeaz.net/legea-educatiei-nationale-1-2011/).

Professional insertion mentors or first year teachers mentors belong to that category of experienced teachers regarding the teaching of a certain subject, who activate in the school where the junior teacher is or in another school nearby. These people have undergone a training programme in order to be able to get first year mentoring attributions and guide the professional development of junior teachers for them to do their didactic profession at hih quality standards (L. Ezechil, (coord.), 2009, L. Ezechil, (coord.), L. Șerbănescu, M. Moldoveanu, G.C. Oproiu, C. Langa, R. Pachef, E. Soare, I. Stancu, S. Chircu, 2013).

The professional development Mentor is a didactic function found in article 247, point i) from the Law of National Education nr. 1/ 2011 with all the subsequent changes and modifications (http://oldsite.edu.ro/index.php/articles/14847) as well as in section 2 of the Regulations for the organizing and functioning of the teachers' training institutions, approved by OMECTS nr. 5554/ 07.10.2011 regarding the approval of the Regulations for the organizing and functioning of the teachers' training institutions (http://lege5.ro/Gratuit/gi3denrtgy/ordinul-nr-5554-2011-privind-aprobarearegulamentului-de-organizare-si-functionare-a-casei-corpului-didactic). „The professional development mentor collaborates with The teachers' training institution for projects and further training programs, they counsel and support teachers who have got the Definitivat exam in education buy organising training activities for personal and professional development with a view to maintaining the competence standards for teachers."

Pedagogical practice mentors, usually known as pedagogical practice guides, are teachers with a vast experience and professional prestige inside the professional community they belong to, making contribution to the initial training process for teachers by monitoring

and directly coordinating the pedagogical practice in a school." (L. Ezechil, (coord.), M. Bocoș, E. Păun, L. Șerbănescu, C. Langa, E. Soare, 2013, p. 12).

As to the actors of the mentoring process, they are the mentors and the persons they are mentoring. During initial training, the mentor is an expert teacher who involves young teachers needing support into specific guidance activities. The people (the students preparing for the teaching profession) involved in mentoring programs in order to develop professionally and personally are called mentored/coached persons.

Despite the fact that ever since the beginning of the 21st century there has been preoccupation regarding developing mentoring programs, they have not materialized in Educational policy documents yet. Teacher mentors activity is subject to OM nr. 5485/ 2011 approving the methodology regarding the teachers mentors corps coordinating the 1 year practical stage for junior teachers. The teachers' mentors corps, mentioned in article 248, paragraph (2) from the Law of National Education nr. 1/ 2011 (http://oldsite.edu.ro/index.php/articles/14847) represents „A national professional group, established in county school authorities/ Bucharest, based on a methodology elaborated by the ministry in order to do the practice stages for a didactic position".

Although there are occupational standards for all the categories of mentoring professions, mentor for initial training, manticore pedagogic actors of the students, mentor for junior teachers - professional insertion mentor and ever since 2012 we have the mentors corps, according to OM nr. 5485/ 2011 (Monitorul Oficial 739/2011), The mentoring activity is not officially started even in 2018.

According to the provisions of article 262, paragraph (4) from Law nr. 1/ 2011, the teachers who have the position of teachers' mentors and who belong to the mentors' corps should have benefited from the reduction of 2 hours a week of their teaching time during the year when they develop mentorship activities. Unfortunately, the mentors' corps is a law-based entity, but with no practical activity.

Based on the current legislation, many training providers have used the opportunity of accessing funds and through different projects have conceived, licensed and delivered training programs for teachers mentors. Unfortunately, their endeavour boiled down to the activities in the projects because, when the projects ended, it was not compulsory for school authorities to assure project' sustainability through official institutional actions.

In 2009, The Ministry of the National Education proposed the development of the project „From beginning to success - national program for professional insertion mentoring for teachers", in partnership with the Polytechnic University of Bucharest (P1), the Centre for ICT Training, Bucharest (P2), EUROED Foundation, Iași (P3), Centrul Educația 2000+ Foundation

Bucharest (P5). The project was financed by the European Social Fund (FSE) and the general objective was „the improvement of the professional insertion and of the quality of Julia dojos didactic activity in schooling education by developing a coherent, cohesive, sustainable national system to assist teachers in the first year" (http://dppd.upb.ro/De-la-debut-la-succes-Program-national-de-mentorat/).

Having as medium and long-term objectives the improvement of success chances for junior teachers, the dimensions of the rate of their leaving the system, increased at activity for the didactic career, the diversification of the further training programs for teachers in schooling education, this project aimed, according to the National Development Plan 2007-2013, at developing some specific competencies necessary to exert new didactic functions / roles (mentor, trainer of mentors).

The final aim of a mentoring program is not to assess teachers but they are professional development which would later facilitate their further professional development.

During initial training, the mantle is an expert teacher who has benefited from supplementary special training, who shares with junior teachers the secrets of the didactic profession. The status of mentor supposes a certain level of experience and didactic art, class performance is not sufficient in this case. The premises leading to the characterization of a good mentor are: the position and professional status, authority and respect earned inside the professional community, moved along the years through the results of their activity. Likewise, the mountain is a person interested in the integration and professional development of younger teachers, sincere, available, involving in a professional relationship which does not prove to be always comfortable.

Mentoring facilitates experiential learning by benefiting from the creative potential, by challenging, manipulating, participating, extrapolating, by being the opposite of non - involvement or disengaging. Mentoring lies between motivation and the quality of knowledge; people motivated for productive thinking (fluent, flexible, original) will look for or choose a mentor.

Mentoring is reflected in the quality of the disciples experience in such a way that this societal way of learning acquires an undeniable mark. If the need to acquire knowledge can be satisfied in other ways as well (the most used being the school lesson and the individual study), mentoring leads to acquiring abilities which reach the profound levels of the development of the personality.

The junior teacher/ the mentored teacher/ the novice is, as a rule, the graduate of a University in a certain didactic specialty or a graduate who has chosen this profession after a

certain period of time since graduation. Therefore, we will use the term junior teacher for a graduate person at the beginning of his / her activity in the national education system.

Mentoring programs represent the main way through which insertion programs can be implemented. There are frequent situations where these terms, mentoring and insertion, have been attributed identical meanings in the specialty literature. We think that following search programs can be beneficial for the main beneficiaries and also for the school in general because they:

- satisfy the further training needs of junior teachers;
- offer professional development opportunities;
- develop junior teachers positive attitudes regarding their whole didactic activity;
- create conditions for a good professional integration of junior teachers in the school where they perform and also in the professional community they belong to this way contributing to developing the feeling of belonging to a specific professional community;
- offer permanent professional support, thus reducing the problems junior teachers have to cope with, by making contribution to optimising their activity;
- contribute to maintaining well-prepared qualified teachers inside the educational system;
- ensures mentors further professional development;
- have a beneficial effect upon school development as a whole and upon students development;
- value the set of good practice existing in the school;
- develops preoccupation for lifelong learning;
- educational institutions this way become true communities, promoting lifelong learning, also stimulating co-operation activities;
- promote partnerships with other educational institutions.

In order for mentoring programs to become successful, the whole school climate needs to be supportive for training and developing junior teachers.

The second part of the paper, the experimental one, starts from the ideas and directions stated in the first part, the theoretical one.

Our investigative approach has had two components: observation-based research and action-based research. The aim of the observation-based research was achieving an estimation of the training needs for Junior teachers, collected from different sources: Junior teachers and school directors, results obtained at the National definitivat exam and/or contests to get a teacher position in education.

In order to delineate the significance of the key terms in this part of the paper, who used the definitions of these terms as found in the Dicționarul praxiologic de pedagogie, Volumes I: A-D, II: E-H, III: I-L; IV: M-O, V: P-S, dictionary where I also made contribution as a collaborator.

If we consider the definition of a need as a necessity in relation with other person's, events, objects etc., which should satisfy different necessities on a psychological, relational, communicative, educational, material level, we could define the training need (NF) as the totality of the specific necessities regarding learning, training and development of learners in order The development of these needs is complex, multi determined, unlimited in time and with significant consequences, even decisive ones in achieving the management of one's own development and professional training as well as in career management. The complexity and multi determinism of the needs derives from the possibility of its appearance all of the three levels of approach: macro educational, mezzo educational and micro educational.

On a macro educational level, the training needs become strategic targets situated at the crossroads between the weaknesses/ vulnerabilities of teachers on the one hand, and on the other hand, the crossroads between the new paradigms of professional training, the new training policies, the new strategic orientations, external pressures and threats from the educational macrosystem or the educational system, of the structures specialised in training, or of the professional community.

On a mezo educational level, the training needs take the shape of Strategic targets situated at the crossroads between the weaknesses vulnerabilities of teachers on the one hand and, on the other hand, between the requirements, the external pressures and threats of the educational micro system (the level of the school institution or of the class).

On a micro educational level, the training needs take the shape of Strategic targets situated at the crossroads between the Witnesses / vulnerabilities of teachers on the one hand and, on the other hand, between the requirements external pressures and threats from the educational microsystem (school institution, class).

On an individual level, the training needs take the shape of strategic targets situated at the crossroads between the weaknesses / vulnerabilities identified by the teachers themselves on the one hand and, on the other hand, between the requirements of taking some exams, contests or the daily professional activity.

From our point of view, training needs (NF) represent the learning needs from the members of an institution which can be satisfied through training and professional development activities.

The aim of our observation-based research was the identification of junior teachers training needs (junior teachers and non-titulars) teaching in schooling education in the counties of Maramureș and Bistrița-Năsăud. The investigation was carried out online during the 2015-2016 school year, through a questionnaire - based investigation, applied to 120 teachers and 66 school directors. The research carried out for this target group aimed at:

- identifying the teachers who need scientific training in their specialties;
- identifying teachers who need training in order to develop their didactic planning competence;
- identifying teachers who need training regarding the implementation of teaching – learning - evaluation strategies;
- identifying the teachers who need training in order to be able to implement didactic, pedagogical and educational communication strategies and class management for students.
- surveying the opinions of school directors as to junior teachers training needs.
- surveying the opinions of directors and teachers as to how useful a training and a mentoring program might be.

The objective for the observation based research was to make a blueprint of junior teachers training needs, aspect evaluated from two sources / perspectives: Junior teachers and school directors.

A relevant variable in this survey was how long they have been teaching, the distribution of the respondents being as follows: 46% of the teachers have been teaching for 2 years and 54% of the teachers have been teaching for 2 to 5 years, both categories being considered junior teachers at the beginning of their career. As do the directors investigated, according to how long they have been in the leading position, 65% of the respondents have been directors for over 3 years, while 35% have been directors for less than 3 years.

If we consider the degree they had when we did this research, 64% of the respondents had no degree and 36% had the definitivat degree, which confirms the fact that the selected sample is made up of junior teachers, being representative for gathering the data relevant for this approach.

The analysis of the successful teacher's profile as seen by the junior teachers interviewed led us to the idea that, as seen by our respondents, the successful teacher is the one eager to support his or her students' progress, is well prepared from a professional point of view, teaches in a way accessible to students and embraces professional training. Our respondents consider as relevant the aspects referring to adaptative flexibility and sociability as well as the way didactic activity is planned.

A low percentage considers students promotion rate and high results in exams and school competitions. This does not mean they minimise such dimensions but rather focusing on the learners' needs. It is obvious that students promotion and their gerring good results in exams and competitions are important aspects of education, but, in our junior teachers respondents' view, the aspects emphasising students' expectations regarding their teachers performance prevail.

The profile of the successful teacher, as seen by the directors interviewed, includes the following characteristics:

- availability as to supporting his or her students' progress;
- good professional training;
- teaching accessibly to students' level;
- planning lessons carefully;
- adaptative flexibility;
- availability for professional training.

Likewise, lower rates have been obtained by characteristics such as:

- his / her students to get high results in exams and school competitions;
- sociability.

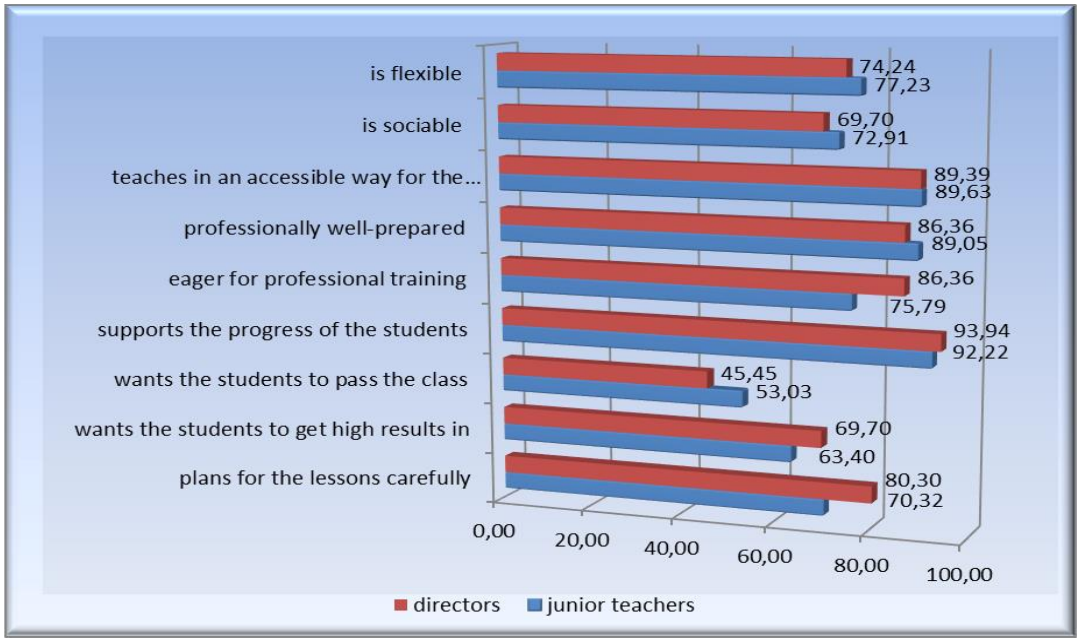

Figure 1 The profile of the successful teacher as seen by directors and junior teachers.

The same as in the case of the directors investigated, we have registered lower rates as to students' promotion. We have to underlie again that here the focus on the learners educational needs prevails. Passing still is one of the the important aspects of education but, in the directors

view, it is a sine qua non condition for a teacher's activity, so this is the reason why it is less associated with the successful teacher profile.

If we consider the exploitation of educational objectives as a landmark in didactic activities, we see that the use of objectives as a landmark is lower Inn junior teachers practice 67% of the respondents admit this week point. As to directors, we have come to the conclusion that using objectives as a landmark is perceived as being lower in Junior teachers practice activity, so that 62% of the respondents-directors identify this aspect as a weak point which can be correlated with some psychopedagical difficulties of junior teachers.

Another aspect which is low in the junior teachers questioned the first to adapting the teaching environment to the learners characteristics, assuring a differentiated instruction. Junior teachers do not take into consideration the fact that students have a different learning rate so they are not preoccupied in assuring an individualised educational path to the learners. School directors have a similar perception in this respect; 71% of them consider that the junior teachers do not approach the teaching-learning-evaluation process in a differentiated way. We see this aspect is more keenly perceived by directors in comparison with junior teachers, who have mentioned this in a lower rate, that is 67%. These considerations stress upon the training need of junior teachers as to the differentiated approach to the teaching-learning-evaluation process. This differentiated approach is not easy as it supposes solid psycho pedagogical knowledge, pedagogical abilities, pedagogical tact and enough time.

If we refer to planning some learning situations in order to develop the students ability to think and learn, we see that 38% of the respondents admit the fact that they plan mostly cognitive learning situations. We see that in the directors opinion, as well as in junior teachers opinion, there is the perception of some difficulties regarding the achievement, inside the formal framework of the class, of what we call learning to learn (aiming at metacognitive learning and self regulated learning).

Another dimension was junior teachers ability to present the required material in various registers (visually - iconically, aurally, kinesthezically so as to maintain the students' interest in learning. 54% of the junior teachers respondents admit to their low preoccupation regarding the presentation of their lessons in a diverse manner while 58% of the directors investigated consider that junior teachers are less preoccupied with this issue. Another significant point for differentiating teaching learning refers to the characteristics of the learner, his potential for learning, his capacity to transfer declaratively and procedurally, their rhythm and speed of learning etc. Our analyses results have revealed the fact that 69% of the junior teachers investigated admit that adapting their way of teaching to the learners' characteristics is done only moderately. 63% of the directors investigated suggest that the adaptation of teaching to

the learners' characteristics is scarcely done. We have to mention the fact that, in student-centered education, differentiated teaching -learning- evaluation plays a central role, which is why the junior teachers and directors investigated identify this aspect as a weak point in the needs analysis, which makes it necessary to integrate it in the training programme curriculum.

In what concerns the use of the way they learn (easy, difficult, in leaps and bounds), efficiency of students learning, as feedback for their own didactic performance and by using their conclusions in further planning as well as in full adjustment of teaching- learning-evaluation, 33% of the respondents assert they hardly assess or use them. of the directors investigated consider that Junior teachers do not or hardly evaluate the efficiency of their own students' learning, and if we consider the rare cumulated with medium answers, we can say that, in the directors' opinion, 70% of the junior teachers rarely use this self adjustment strategy.

The next dimension investigated in the questionnaire addressed to Junior teachers aimed at corroborating content taught with the aspects learnt before and with the immediate reality in a holistic, constructivist and transdisciplinary didactic vision. 54% of the respondents say they can not efficiently correlate previous information with actual information or with the information regarding real life. Another element illustrated by the questionnaire applied to Junior teachers refers to the teachers' reflection and self reflection on the impact and efficiency of the didactic activity performed. 67% (cumulative percentage) of the teachers investigated admit they have difficulties or they do not practice reflection on their teaching efficiency and, moreover, on its impact on learners. Naturally, the expert teacher has efficient self-adjustment capacities for the didactic performance, but the junior teacher is likely to have difficulties from this point of view.

We have observed that 85% of our respondents admit they hardly ever or sometimes monitor the efficiency of their teaching- learning activity. 73% of the directors consider junior teachers never monitor it (3%), 20% sometimes monitor it and 50% usually monitor it (while teachers considered this at a rate of 85%).

The two didactic aspects emphasised suggest there are practical difficulties encountered by Junior teachers as to adjusting and self adjusting the teaching -learning -evaluation process. If we consider the feedback offered to students, we have observed that 85% (46% scarcely and 39% medium) teachers investigated hardly ever offer efficient feedback or guide their students on how to make their learning efficient. Because contemporary education envisages teaching the learner how to learn as a major requirement, it is compulsory to offer support to Junior teachers in order to make them surpass the difficulties they encounter from this point of view. Studies reveal that direct teaching of some efficient learning strategies, with reference to Cognitive and metacognitive processes, can be extremely efficient, leading to a significant improvement of the academic performance.

In motivating students to learn and to make effort in order to get better results, we have seen that a high percentage, about 44% of the teachers investigated, have an average preoccupation for this issue. How to motivate students to get results, to self improve, in a way adequate to the students' characteristics, can be used in the context of the class so that learners may get actively involved, consciously and responsibly, motivated for their own development.

46% of the junior teachers say they hardly use methods to positively discipline students, and only 31% (cumulative percentage) avoid negative methods for discipline. On the other hand, 59% of the directors quetionned consider that junior teachers hardly use methods to positively discipline the students, and 11 % (cumulatative percentage) of them admit to using methods to negatively discipline students most of the time.

These observations suggest the fact that, to a great extent, junior teachers encounter difficulties as to class management (from the perspective of cognitive and non-cognitive behaviour, exercised during learning activities), an aspect which can justify the inclusion of such an issue in a coherent and articulated intervention programme.

If we consider the utility of a training program, 95% of the teachers investigated consider it is useful (24%) or very useful (71%) to take part in such training courses, which suggests the fact that junior teachers are aware of their further training, of accumulating abilities and competencies relevant for the professional roles of the teachers, who are, in fact, managers of the class. An extremely high cumulative percentage - 99% of the directors investigated consider it is useful (23%) or very useful (76%) to take part in such training courses. This observation suggests the fact that directors are also aware of their further training need, in order to acquire abilities and competencies specific to the status of class manager which the teachers have.

As regards the interest for certain topics on junior teachers' further training, the highest level of interest aim at: developing creativity, critical thinking, problem solving (89%), efficient didactic communication (87%), implementing new learning strategies (85%), innovative methods in didactics (85%), planning, achieving and assessing the educational process (82%), planning and designing assessment (80%), learning through projects (80%), designing student-centred activities (79%), elaboratingg assessment instruments (79%).

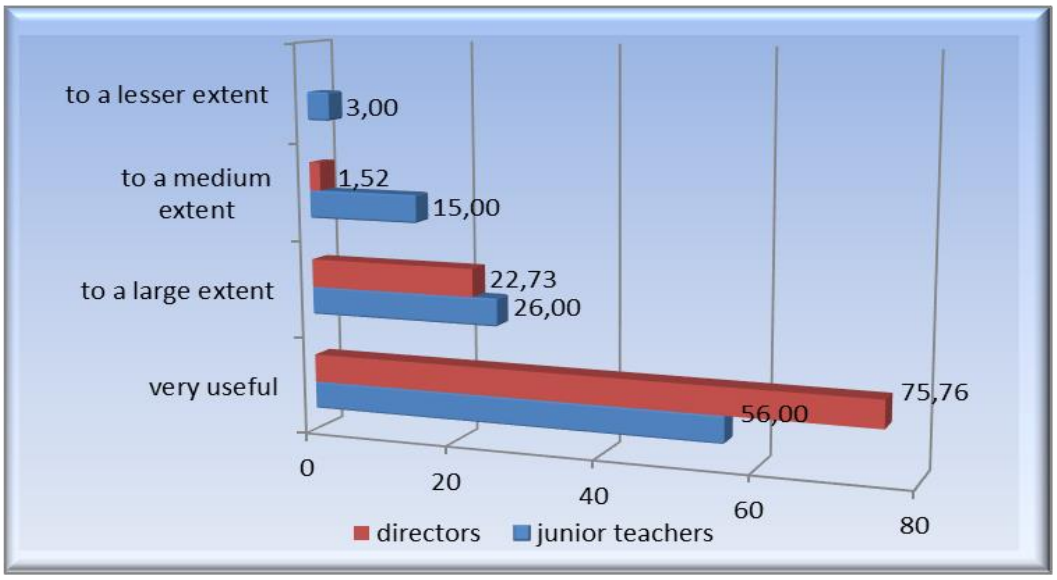

Figure 2 The use of training programmes as seen by directors and junior teachers

The analysis of the degree of interest manifested by the directors investigated on different scientific topics has led to the following results: innovative methods in didactics (75%); Planning and designing evaluation (74%), efficient didactic communication (72%.), Elaborating assessment tools (68%), designing, achieving and assessing the educational process (68%).

We can see there are a series of differences between the directors' and junior teachers' considerations and options. In other words, the directors investigated built a different hierarchy of the topics of interest for certain further training subjects.

On analysing the further professional training ways, chosen by the junior teachers investigated, we have seen they choose face to face training activities (100%) de toți profesorii investigați. Directors consider the most adequate forms of training for junior teachers are class observations done by directors/ department managers. (91%).

Mentoring is considered to be mostly useful or very useful by 95% of the junior teachers and by 93% of the directors investigated.

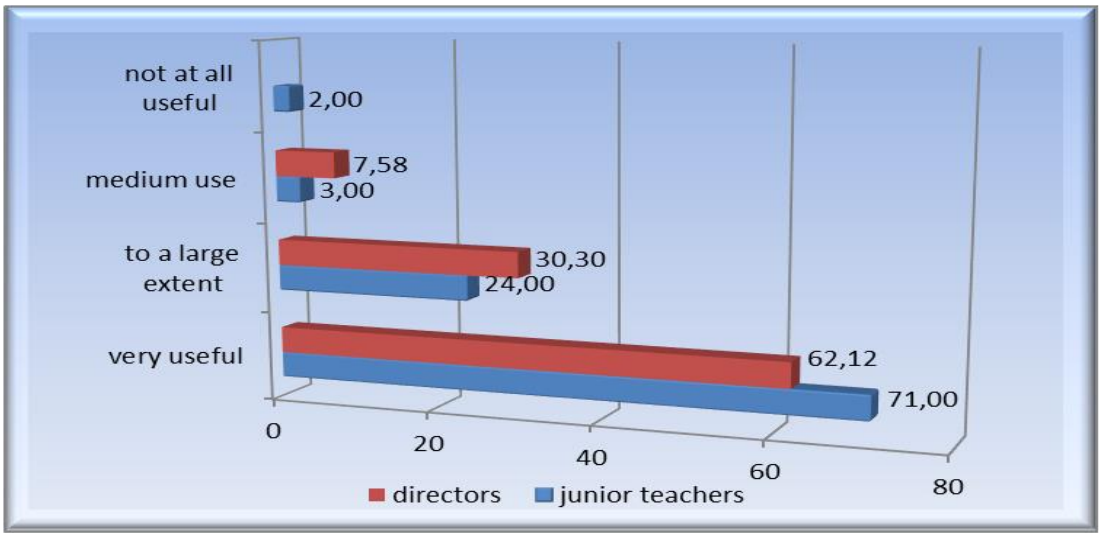

Figure 3 The use of mentoring programs as seen by directors and junior teachers

The qualitative analysis of junior teachers' professional training needs has been also performed through the focus group method. The selected group was made up of 12 participants – junior teachers of Maths (0 to 5 years of teaching) from Bistrița-Năsăud county. The objectives of the interview:

O1 – Emphasising the strong points in the subsystem of teachers' initial training (psychopedagogical and specialty knowledge).

O2 – Emphasising the weak points in meeting the training needs inside the further training subsystem.

O3 – Emphasising the elements specific to didactic behaviour and activity of junior Maths teachers, need improvement through mentoring and / or further training programs.

O4 – Determining the level of general professional satisfaction of junior Maths teachers.

The qualitative analysis of the results of the discussions in the focus group have revealed a series of conclusions taken into consideration when elaborating the intervention program. Thus, the channeled discussions during the focused interview emphasize a series of strong and weak points of the previous training programmes, which have to be analysed (and the positive ones capitalized on) in the programme to be elaborated. The strong points mentioned were, on the one hand, some interesting topics and, on the other hand, the quality and the subject matter approached during these courses. The strong points mentioned are:

- the training course management (, flexibility, small groups organised the location of the course, the number of credits awarded);
- the usefulness of the course (much information, novelties, practical applicability, new communication and information technologies);

- the topics approached (teaching students with special needs, learner Centred morden methods, active teaching methods, modern alternative evaluation techniques).

The weak points mentioned address the cost of the course (transportation, the taxes for some courses), the lack of applicability, horses too short for such a great volume of information, lack of technical support (sometimes there was no video projector available, no internet connection, or the materials could not be shared efficiently) or the trainers' formalism.

The sintality of the class is differently perceived by the teachers investigated, that is its influence upon the types of didactic strategies: starting from denying this influence and considering the strategies as a unitary corpus for all classes, the arguments being they could put certain students at a disadvantage concerning national exams, to stressing the teaching difficulties for such (heterogeneous) classes up to accepting that, depending on class sintality, we should use different teaching strategies. This aspect is characteristic of junior teachers who, as a rule, have difficulties in what concerns heterogeneous school groups education, in classes with learners having different intellectual and learning potential.

Therefore, the problem of differentiating teaching -learning -evaluation remains, it seems, an actual topic, and we should mention the necessity to ensure the practical character of the didactic approaches.

The difficulties that junior teachers have to cope with in designing lessons regards the correlation between general and specific competencies, the identification of adequate learning activities, establishing the units of learning and the necessary time allotted, detailing contents in accordance with their relevance in achieving the operational objectives, involving students in achieving personal learning project, acknowledging learning rates in class, establishing some applicative stages in order to apply meaning to learning, correlating learning with real life situations, deriving specific competences from general competencies.

Another didactic aspect, subordinated to differentiated instruction was the one of including, in designing and performing a lesson, of some elements to adapt the contents to the age particularities and to the educational needs of the learners. I noticed that the interviewed teachers in the focus group embrace the idea that such approaches should not be recommended for this subject because: tests are the same for all students; they have to obey the national curriculum; the national exams are not differentiated. These aspects and opinions emphasize the strong need for reform inside the education system, a a profound curriculum reform, learner-centered, which:

a) could allow a real differentiated approach in the educational system, as well as at the level of national exams, which should be more flexible, adapted for different categories of students;

b) should train teachers with a view to accepting and accounting for diversity in the groups of learners (regarding the intellectual and learning potential, motivational configuration, interest for knowledge etc.).

What concerns the prevailing of a certain learning type within a class, the answers given by teachers were various (auditive, visual, curriculum centred, through problem solving), proving the fact that Julia teachers do not catch the real dimension of „student-centered learning".

The opinions on the curricular contents to be taught vary from the idea that the curriculum is overloaded, that the content to be taught is not appropriate for the age of the learners, that it does not comply with present day requirements, to the opinion that the curriculum does not contain adequate suggestions so as to assure the connection between the aspects taught and the real life. This observation strengthens the idea that junior teachers encounter difficulties in personalised reading and understanding of the curriculum.

Considering the adaptation and conveyance of knowledge, respondents stressed aspects connected with serious gaps in the knowledge system detected in certain students, difficulties regarding the adaptation pf contents to the different requirements of students as well as difficulties in motivatin and getting them interested, some of the teachers saying that the students are less receptive than with other subjects. We see here an external locus emphasis – the student, without the teacher being aware that he himself might play an important part in the equation.

If we refer to the issue of assuring objective assessment, our talks have been very interesting, the respondents stressing the idea of assessment correctness and unitarian character. Assessment is advisable to envisage a wide range of acquisitions which need to be checked through evaluation tests. But none of the subjects referred to the problem of differentiated evaluation, only to the idea of using and combining the different forms of evaluation. This aspect represents a diagosis, as differentiated instruction without differeantiated evaluation is meaninless.

Concerning didactic communication, most respondents focussed, in Bere interventions in the focus group, on some didactic disfunctionalities, at the level of the receptor, that is the student (locus extern). Therefore, the students are perceived as being less receptive, uninterested, having other interests, not investing effort in order to learn mathematics, without being aware of there own part in school contexts. It is difficult to raise their interest, they seem as if they do not understand what is being conveyed, they do not offer feedback dueling activities, they are bored, they have to be permanently called on by the teacher.

An important aspect about the training programme to be made is that it should stress the teacher's determinant role as manager of learning situations with a view to motivating the student through the topic proposed, through the teaching strategy and pedagogical optimism.

When questioned about certain characteristics of didactic activities to favour quality preparation of the students, there is violence had interesting reactions, considering as relevant the following: the The stimulative character, accessible to students, including models, personal analogies with real life situations, aiming at different access points for information, adopting evaluation strategies, self adjusted learning opportunities.

We also tackled the problem of the difficulties encountered during didactic activities. The most frequent difficulties identified during content analysis were: the low involvement of students during Maths classes, teaching students with special educational needs, the students' lack of interest, lack of exercise and efficient studying abilities, where we also see a locus extern.

The content analysis of the debates about the topics they should deal with during training programs revealed ideas that aim at psychopedagogical aspects: interactive methods, designing optional classes curriculum, differentiated didactic approach, working with children with learning difficulties, cognitive styles or multiple intelligence, class management, agreement with the European educational space, the practical, applicative side of Maths.

In terms of the training programmes characteristics, the respondents converged around debates on such concepts as: the practical-applicative character, scientifically validated teaching methods, orientation towards successful and good practice examples, flexibility.

Concerning the adequate training modalities, the results have been various, from face to face training, individual study, methodical activities, class attendance to modern methods such as e-learning applicative modules, blended learning, online forums or tutorials, workshops or webinars.

The needs analysis also showed our preoccupation for the analysis of results at the definitive art exam and schooling education as well as the national contest to get a vacant / reserved position in schooling education.

The results were unsatisfactory during the years we developed our analysis, so we think they can be a solid argument for the professional training needs of junior mathematics teachers.

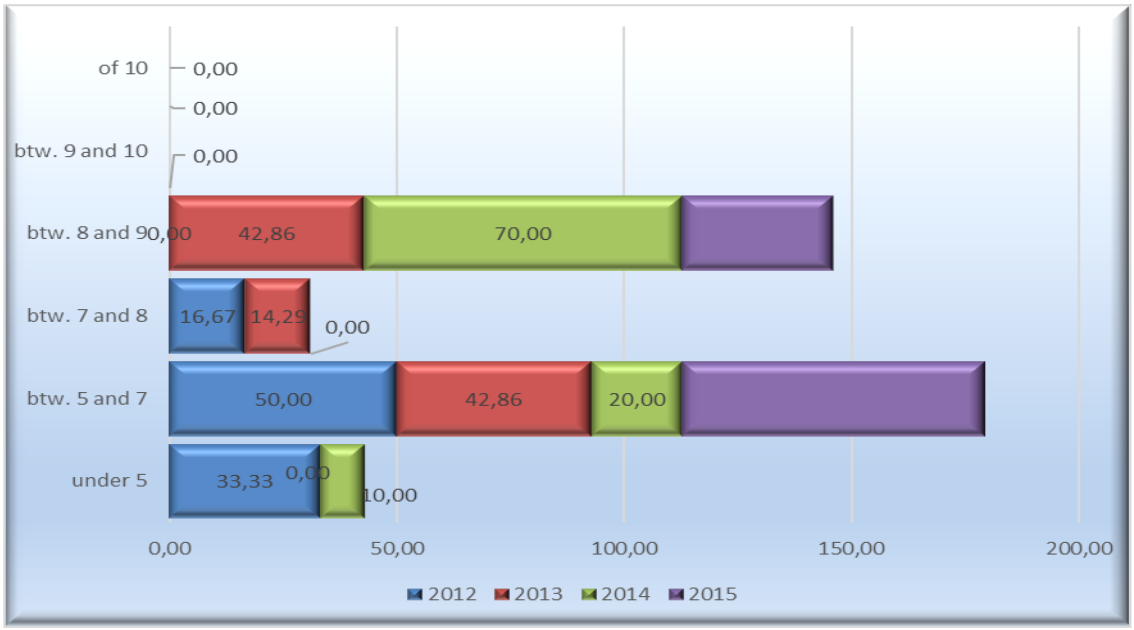

Figure 4. Graphical presentation of the results at the contest to get a vacant/ reserved position between 2012-2015.

Mentoring could have represented a viable solution to this problem that the national legislation has abandoned this Direction. It is obvious that the alternatives offered by the educational system are not efficient, reason why we have proposed in our research a solution which can lead to significant improvement, that is a training program for junior teachers developed by Teachers Training Institution (Casa Corpului Didactic). This training program has been conceived so that to respond to the needs identified in this observation based study both as time budget and, moreover, as the contents and the training methods adopted.

The purpose of the *action-based research* we proposed is represented by the testing of a structured further training program efficiency (which integrates: direct further training activities, collaborative, professional dialogues, mutual class attendances, deliberate practice to implement in class what they have learnt, while being guided by a mentor) aiming at improving the subsystem of further training for maths junior teachers in the counties of Bistrița-Năsăud and Maramureș and, implicitly, to the improvement of didactic praxis.

The obiectives of the research

- O1. Identifying the training needs of junior teachers in the counties of Bistrița-Năsăud, Maramureș.
- O2. Investigating and selecting a representative sample of subject - junior teachers eager to participate and further training programs in order to improve the teaching-learning-assessment process.

- O3. The analysis of the level of didactic competence specific to junior maths teachers in the experimental and witness group.
- O4. Making a blueprint of the mentoring model/models adequate to the particular situation of Romanian education, in order to elaborate the strategies and instruments necessary to implement an efficient training program addressed to junior teachers.
- O5. Developing and implementing a training program for junior teachers, program focusing on mentoring, in order to correspond to the training needs identified.
- O6. The analysis and evaluation of the impact of the proposed programme, considering the improvement of didactic practice of junior teachers.
- O7. Analysing and assessing the change of attitude towards education both at the level of junior teachers and at the level of their students.
- O8. Drawing conclusions, recommendations and elaborating some materials in order to write and deliver a further training programme by Casa Corpului Didactic.

The hypotheses of the research. The variables of the research. Instruments

The general hypothesis: The participation of Junior Maths teachers in a structured training program, containing direct further training, collaborative, professional dialogues, mutual class attendance, deliberate practice to implement in class the things learnt while being guided by a mentor, **will determine positive significant changes in their didactic performance as well as the performance of the students they work with**.

The independent variable: it is the manipulated experimental factor, in our case, the implementation of the structured further training program, collaborative, professional dialogues, mutual class attendance, deliberate practice to implement in class the things learnt, a personalised programme for the junior teachers in the counties above mentioned.

Nr.	THE HYPOTHESES OF THE RESEARCH	THE ASSOCIATED DEPENDENT VARIABLES	RESEARCH INSTRUMENTS
1.	**If the Junior Maths teachers will go through a structured training course** containing direct further training, collaborative, professional dialogues, mutual class	Professional performance evaluated externally	Lesson observation sheet - mentor Lesson observation sheet - methodoloist

Nr.	THE HYPOTHESES OF THE RESEARCH	THE ASSOCIATED DEPENDENT VARIABLES	RESEARCH INSTRUMENTS
	attendance, deliberate practice to implement in class the things learnt while being guided by a mentor, **t hen, their performance (evaluated externally) will be superior in posttest in comparison with the pretest.**		
2.	**If the junior maths teachers will follow a structured training program,** containing direct further training, collaborative, professional dialogues, mutual class attendance, deliberate practice to implement in class the things learnt while being guided by a mentor, **then a beneficial change will be recorded as to the level of conceiving and implementing strategies for teaching-learning-evaluation.**	Instructional perspectives (the attitude towards didactic activity) The efficiency of teaching - learning - evaluation strategies (the typology and diversity of teaching-learning- evaluation strategies used in practice)	The questionnaire measuring the attitudes towards the didactic activity The instructional perspective questionnaire (Adapted after Hensche, J., 1989) The questionnaire of teaching and learning strategies (TLSQ) – adapted after Abrami, P. C., Aslan, O. și Nicolaidou, I., 2007
3.	**If the junior maths teachers will follow a structured training program,** containing direct further training, collaborative, professional dialogues, mutual class attendance, deliberate practice to implement in class the things learnt while being guided by a mentor, **then a beneficial change of their perceived self-efficacy and professional involvement will be recorded**	The consistency of the self-efficacy feeling (regarding student involvement, instructional strategies, class management) The level of professional involvement.	Teachers' efficacy self evaluation scale (the short form) - Adapted after Hoy, M.A.W. și Tschannen-Moran, M. (2001) The questionnaire on professional involvement (Kanungo, 1982)
4.	**If the junior maths teachers will follow a structured training program,** containing direct further training, collaborative, professional	The quality of tertiary curricular products	Assessment sheet for the curricular products

Nr.	THE HYPOTHESES OF THE RESEARCH	THE ASSOCIATED DEPENDENT VARIABLES	RESEARCH INSTRUMENTS
	dialogues, mutual class attendance, deliberate practice to implement in class the things learnt while being guided by a mentor, **a beneficial change will be recorded considering the quality of tertiary curricular products (annual plans, learning units designs, lesson plans, personalised projects, assessment sheets).**		
5.	**If the junior maths teachers will follow a structured training program,** containing direct further training, collaborative, professional dialogues, mutual class attendance, deliberate practice to implement in class the things learnt while being guided by a mentor, **then a beneficial change will be recorded, significant from a statistical point of view, considering the results of the contests for didactic degrees and for getting a position in education.**	The quality of the results in the contest to get a position in education The quality of the results in exams to get didactic degrees	The analysis of official documents. (The results of the definitivat didactic degree and of the contest to get a position in education)
6.	**If the junior maths teachers will follow a structured training program,** containing direct further training, collaborative, professional dialogues, mutual class attendance, deliberate practice to implement in class the things learnt while being guided by a mentor, **then a beneficial change will be recorded as to the students' level from the point of view of their attitude towards learning**	Nivelul atitudinilor elevilor față de învățarea Matematicii	Chestionarul strategiilor de învățare ale elevului (SLSQ) - adaptare după Abrami, P.C., & Aslan, O., 2007) Attitudes Toward Mathematics Inventory (Banks, A.D., 2015) Mathematics and Technology Attitudes Scale (R. Pierce, K.

Nr.	THE HYPOTHESES OF THE RESEARCH	THE ASSOCIATED DEPENDENT VARIABLES	RESEARCH INSTRUMENTS
			Stacey și A. Bartkatsas, 2007)
7.	**If the junior maths teachers will follow a structured training program,** containing direct further training, collaborative, professional dialogues, mutual class attendance, deliberate practice to implement in class the things learnt while being guided by a mentor, **then a beneficial change will be recorded, significant at the level of the students regarding the improvement of communication in the student-teacher and student-student relationship in Maths activities.**	The quality of didactic communication teacher to student in maths activities The quality of didactic communication student to student in maths activities	The scale of social support (adapted after C.K. Malecki, ș.a. 2000) Feedback questionnaire – students
8.	**If the junior maths teachers will follow a structured training program,** containing direct further training, collaborative, professional dialogues, mutual class attendance, deliberate practice to implement in class the things learnt while being guided by a mentor, **then**, **a significant improvement of the students' performance in Maths will be recorded.**	The level of the learners' school performance in Maths	School documents analysis (school results in Maths)

Table 1 The Correlation between hypotheses, variables, instruments

The sample of teachers

The sample of teachers was made up of the junior teachers who agreed to participate in this training course. Mărimea eșantionului a fost de 105 cadre didactice debutante (Size of the sample was 105 junior teachers (less than 5 years of teaching, of which 45 belonged to the experimental group and 60 to the witness group).

The sample of students

The sample of students was made up of the students taught by the junior teachers who took part in the proposed training course. The sample of students was made up of 283 subjects, students of 123 junior Maths teachers in the experimental group (students of junior teachers taking part in the training) and 160 in the witness group (students of junior teachers who did not take part in the training)

The samples were independent but similar as to structure and distribution of school results. In order to be able to make relevant statistical analysis, I made sure, due to the selection type of the subjects, that in the pre experimental stage the two samples (experimental and witness) did not show significant differences regarding the characteristics investigated.

The action-based research undergone has four dimensions or stages:

The observation stage was the stage where we made the analysis of the training needs for 120 teachers in the counties of Bistrița-Năsăud and Maramureș and 66 school directors from the two counties mentioned above. In this stage we also did a focus group interview with 12 Maths junior teachers.

In this stage we had in mind to elaborate and apply a questionnaire to analyse the training needs and a guide for a focus group interview.

A training program for Junior Maths teachers was conceived based on the interpretation of the data obtained.

We have to mention that in this stage we tried on all the instruments which were later used in the next stages of the research on a sample of 44 teachers and 68 lower secondary and upper secondary students in order to estimate the inner consistency of the instruments, adapted or selected, and which were used in the proposed research.

During the pretest stage all of the selected instruments were applied, evaluated as to their inner consistency (proving that the minimum conditions claimed by the research in the field, that is $\alpha \geq 0.70$) for the two samples - the experimental and the witness groups (teachers and students). This stage revealed the situation at the moment of the beginning of our proposed research.

After the pretest stage followed the interracial stage, where the mentoring program for junior Maths teachers took place; they joined the program in one of the two variants, in co-ation with the training program or just the training program.

In the post test stage, assessment instruments were applied again, then we analysed the data obtained both from a quantitative point of view and from a qualitative one.

The general presentation of the training program

Starting from the triarhic model of teachers' professional development (B.G., Sheckey et al, 2007), We developed a training program which should respond the modern educational reform requirements. This model is based on three assumptions regarding the efficiency of a training program for teachers, which are:

- *A program is efficient if it offers opportunities for collaboration and deliberate practice with feedback;*
- *A training program is efficient if it offers the opportunity of the development for the feeling of belonging to the professional community and for teachers' self efficacy;*
- *A training program is efficient if it offers opportunities for exploring and improving and the teacher's mental model.*

Consequently, our objective was to propose to Junior a further training program responding to these requirements and which we later evaluated in order to finally interpret the results from multiple perspectives: the learners', the students', the school's (mentors, methodologists, chiefs of methodical commissions, managers, inspectors). We believe that the validation of the program from the perspective of the main beneficiary - the student - is very important. Therefore, the effects in the perception of the students referring to the quality of the Maths teachers' didactic performance and of their school results will offer us the guarantee of the proposed program's success.

The purpose of the program is improving junior teachers' performance as well as the performance of the teachers who do not hold a stable position in schooling education, that is the improvement of professional efficiency for these categories of teachers. Consequently, the training program aims at developing competence in the reachers' specialty, didactic communication and the use of ICT resources in the professional training of the teachers in schooling education. My further aim is the success in the didactic career, with a view to successfully approaching the contests to get a position in education, the definitivat exams and the didactic degrees.

In chapter V, we presented and interpreted the data obtained. In order to assure the good development of the research, we chose an inferential data analysis strategy, by using the t test (Student) for the independent samples in order to test the invalid hypotheses and the specific ones. All these calculations were done by the help of the statistic package SPSS 20, trial version offered by IBM.

Data collection was specified in the methodology section, the test or the test subscales used were applied at the beginning and at the end of the interventions, and they were introduced in the SPSS program and processed according to the requirements of the study. Likewise, the

estimate of the sample size was done using the free program G*Power, and the size of the effect was estimated by the help of the free program PowerStaTim v.1.

By using the inherent power analysis in G*Power, we accomplished an estimation of the sample size according to the size of the effect and the level of statistic power desired, more exactly $d \geq 0,80$, and the power $1-\beta \geq 0,95$. We observe the fact that the size of the sample and the degree of freedom suggested are: N=86, df=84 respectively, with a minimum experimental group of 37 subjects, and a witness group of 49 subjects. The investigated groups were made up of 105 subjects, 45 in the experimental group and 60 subjects in the witness group. We also point out the critical minimum threshold of the index $t \geq 1,989$.

Each time we presented the statistic indicators of the two groups (experimental, witness) both in pretest and in posttest, in order to avoid possible interaction with other factors and in order to emphasize the similarity between the two samples we do the measurements upon.

We presented, in the paper, three case studies which represent o qualitative approach of mentoring issues. The qualitative approach does not allow extrapolations at the level of the teachers, but it is a profound analysis pointing out aspects which cannot be emphasised by the quantitative approaches. The comparative analysis of the three case studies led to the conclusion that mentoring made a significant contribution to obtaining didactic performance in all the dimensions of the teaching-learning-evaluation activities.

If at the beginning of the programme the participant encountered difficulties in designing educational activities, especially in identifying the learning needs of the students they worked with, in establishing the educational objectives according to the individual or group characteristics, after attending the program, the teachers investigated pay more attention to knowing the students' individual and group characteristics, as well as the characteristics of the classes they work with. If we consider the managing and monitoring of the teaching learning process, at the beginning, junior teachers had difficulties as to assuring teaching strategies adequate to the individual and group characteristics, after attending the training program, they improved their ability to adapt the didactic message, by taking into consideration the individual characteristics of the students, would you like to improved didactic communication in the teaching-learning-evaluation activities. We can also observe here significant improvements as to the interest for new managing and monitoring models for the process of teaching-learning-evaluation. Hence, there is a significant increase in the frequency of using active teaching methods, stimulative methods, which have become highly appreciated by the students.

As to the aspect envisaging knowledge, counselling and differentiated treatment of students, I found a better selfevaluation in comparison with the initial one. This way, the junior teachers investigated stressed the implementation of some methods and techniques adapted to the individual counselling needs of the students, making effort in order to adapt the curriculum

in some situations (students with learning difficulties or students with special educational needs) and to use assessment techniques adapted to the needs of the students experiencing difficulties.

If we think of personal qualities, external evaluation was from the very beginning more favourable in comparison with teachers' self evaluation or with that of the mentor. The low aspects have improved considerably, such as for example flexibility and methodical knowledge.

Concerning lesson planning, in the methodologist's view, we see some aspects have improved, such as: Adjustment to group of learner's characteristics, staging contents and adjusting them to the individual and group characteristics, organising the activities, diversity of the methods used, adaptation to the learner characteristics, differentiated treatment of low potential students.

From a methodical point of view, the participants in the training program has improved some aspects such as the anticipation of difficulties and also aspects connected with the use of a more various methodological register, made up of learner-centered didactic methods, activation etc. We can also notice, even in the external evaluation, a reorientation of the didactic attitude towards the modern, constructivist register.

As to the development of the lesson, we see a significant improvement of such aspects as:

- the adaptation of the development of the activity to the actual situation so that the proposed objectives be fulfilled;
- the adaptation of the lesson in order to respond to the students' needs;
- the use of various strategies;
- checking understanding and clear formulation of questions;
- offering constructive feedback in time, regarding the students' learning and progress;
- organising different types of assessment activities responding to the students' needs;
- getting feedback for personal development with a view to assessment;
- efficient exploitation of unforeseen situations;
- self assessment of the teaching-learning-evaluation activity;
- pace and timing, the transition from one stage to the other;
- the capacity to adapt and improvise
- the ability to self evaluate didactic performance and teamwork capacity

As a result of attending the structured training programme, containing direct further training, collaborative, professional dialogues, mutual class attendance, deliberate practice to implement in class the things learnt while being guided by a mentor, The 8 specific hypotheses have been confirmed.

1. The teachers performance (externally evaluated) proved to be superior in post test in comparison with pretest (hypothesis 1)

The junior teachers' professional performance was evaluated by their methodologist teacher and by the mentor who had accomplished the mentoring.

The data obtained in the research allow us to come to the following conclusion: due to the training program attended, the teachers in the experimental group obtained significantly superior appreciation from the part of the methodologist teacher in comparison with the pretest stage. The signification statistic tests revealed the fact that these differences are significant from a statistic point of view, which makes us attribute these differences to the attended program.

2. We recorded a beneficial change in conceiving and implementing teaching learning evaluation strategies (hypothesis 2).

This dimension was measured with two self-assessment instruments on the practical applicative level: The questionnaire regarding the attitude towards didactic activity, adapted by starting from the constructivist perspective of Brooks on teaching, learning and evaluation (Brooks, 1993) and The Inventory of Instructional Perspectives (adapted after J. A. Henshke, 1989). The first instrument referred to the following dimensions: The theoretical and philosophical basis, the contents of the curriculum, the role played by the teacher, the teaching strategies, didactic assessment.

Our data, analysed in comparative terms, proof to the fact that, in posttest, the junior teachers in the experimental group acquired on average superior to that in the pretest, which means, in our opinion, that after attending the training programme, the junior teachers reconfigured their philosophical and theoretical basis as to the educational process, so that the constructivist approach on teaching, learning and evaluation prevails.

Regarding the contents of the curriculum, virginia teachers investigated had to choose between two categories of statements, some centred on contents, on the teacher, others on the student (they promoted students' participation in elaborating the curriculum, they encouraged the learning experiences of the students, they supported the necessity that students be prepared for a diverse, multicultural world).

While the statements in the first category emphasize learning basic skills, the statements in the second category, connected with the constructive attitude towards the teaching-learning-evaluation process, emphasize the necessity of understanding important concepts by the learners. The data obtained in the statistical analysis allow us to assert that, due to the intervention accomplished, virginia teachers in the experimental group conceptualize differently the idea of program or curriculum. Thus, the junior teachers investigated see the

curriculum as a document, a resource in the teaching learning assessment process which needs to account for the students' needs, their individual characteristics.

Regarding „teacher's role", we saw the experimental group experiences, on average, significantly higher scores. The test t for independent samples reveals the fact that these differences are statistically significant, the threshold being lower than 0,05. Consequently, we can assert that after attending the training programme, junior teachers in the experimental group reconsidered their attitude towards teacher's role in the process of teaching-learning-evaluation. We observed statistically significant differences, being able to conclude that, due to the effects of the intervention program, modifications occured regarding the ways to involve students in activities, passing from mainly face to face activities, based on individual work, to activities based on modern methods, active, involving participation (teamwork, group work etc.). Following the intervention, the teacher is considered a creator of experiential learning situations, interaction and research - investigation by encouraging critical thinking, debate and self questioning.

The research undergone led us to the conclusion that, due to the training programme, the junior teachers in the experimental group granted a new significance, a more complex one, to the process of didactic evaluation. From this new perspective, evaluation permanently intertwines with teaching and learning as an efficient self adjustment way of the teaching learning evaluation process. As regards the results of the combined intervention (training program through mentoring and training course), comparative analysis of the results in the three situations, that is prttest, participation only to further training course, participation to further training course combined with mentoring, revealed the fact that the best results as to reconfiguring the attitude towards didactic activity in general appear in the case of the combined intervention. The only situation where the differences were not statistically significant was the one regarding teaching strategies, the explanation being that mathematics is a subject less approachable through active participatory teaching strategies in comparison with other school subjects.

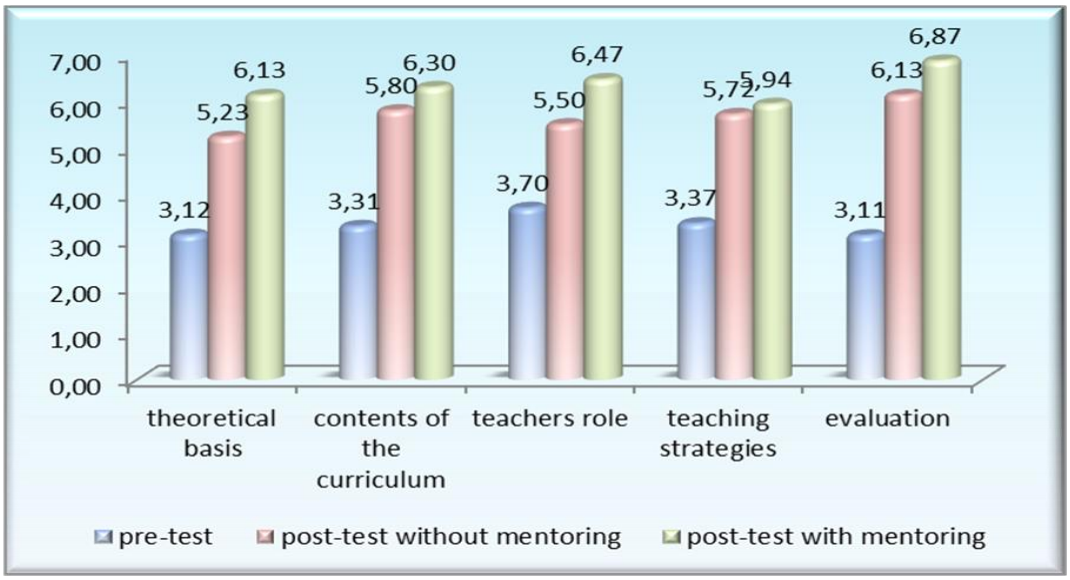

Figure 5. Comparative presentation of the results obtained by the teachers investigated in all the three conditions: pre-test, post-test without mentoring, post-test with mentoring

Another instrument we used to assess strategies that is the vision of the heaters investigated, was the questionnaire on the teaching-learning. So we could see improvements regarding: objectives (setting, identifying, revising), strategies (list of strategies, monitoring, adapting, assessing); feedback, assessment, reflection, self adjustment, attributing and cooperating.

Similarly, who observed improvements in approaching teaching, where teachers „ taught" the students aspects connector with: objectives (setting, identifying, revising), strategies (list of strategies, monitoring, adapting, assessing); feedback, assessment, reflection.

3. We recorded a beneficial change of the perceived self-efficacy and the professional involvement of the teachers (hypothesis 3).

Considering self-efficacy, we also noticed a significant improvement of the scores in the experimental group. The teachers participating in the program become more involved in the activity, they identify with their profession, most of their interests focus on the profession much more than the junior teachers' in the witness group.

4. We recorded a beneficial change as to the quality of the tertiary curricular products elaborated by junior teachers: annual plans, learning units designs, lesson plans, personalised projects, assessment sheets (hypothesis 4).

Starting from the assessment made by the mentor and / or methodologist teacher, we made comparisons within the group, by using the results of the same sample group in two

different moments of the intervention (pretest and posttest). The results obtained confirmed, on average, the significant improvement of the quality of tertiary curricular products:

- **curricular design:** Setting design based on previous knowledge (initial tests, formative and final tests, inventory of typical errors, personal intervention plans, teamwork, correlation between strategies, content, objectives according to class potential, using school resources, assuring transdisciplinarity, using active methods, developing research activities);
- **accomplishing the curriculum:** Using modern methods, self-evaluation and best, adapting language to the learners' level (persistence, specific language, determining comprehension);
- **assessment:** permanent evaluation, formative, transparent evaluation criteria.

5. We recorded a beneficial, statistically significant change, as to the results to the contests for didactic degrees and for getting a position in education (hypothesis 5) (confirmed).

The initial data (2012-2015) led to the immediate observation that, during the respective period, there were no grades under 9 at the definitivat exam, while in 2012 the candidates' grades hardly reached above 8, which emphasises a situation which does not fit the framework of a normal distribution (gauss – 20% weak results; 60% satisfactory results și bune; 20% very good results). The exception was in 2014, when 70% of the teachers taking part in the exam got grades between 8 and 9, which shows a tendency in the form of the letter J.

The statistical analysis of the data obtained shows us that, on average, the teachers in the mentoring group get significantly superior results in comparison with the junior teachers who did not take part in the proposed mentoring program. The training activities through the mentoring program, which supposed permanent interaction with the mentor teacher, benefiting from counselling, behavioral moulding, informational, social and emotional support, so the participant junior teachers managed to benefit from these, improving they are didactic performance (assessed through class inspection and the monitoring of the mentor).

6. A beneficial change was recorded as to the students' level from the point of view of their attitude towards learning (hypothesis 6)

When doing the research, we checked the fact that the students in the experimental group use on average more frequently the learning strategies elaborated in comparison with the students in the witness group. So, according to the efficient strategies of managing didactic activities by junior teachers, the students in the experimental group are on average more

efficient in: understanding the tasks, using evaluation strategies for what they learned, self adjusting their behaviour, problem solving (adjusting actions, modifying learning / solving strategies), processing feedback (from teachers, peers, family members), reflecting upon the strategies used, revising the activities, assessing their own performance, analysing the activity, making connections between the time allotted and the results obtained.

So, the students of the junior teachers who participated in the training program are more efficient in using cognitive and metacognitive strategies, that is planning, monitoring, evaluating, reflecting, using cognitive self adjustment in comparison with the learners of the teachers who did not take part in the training course.

Regarding the attitude towards mathematics, we observed that the students in the experimental group got higher scores than the students in the witness group at the questionnaire ATMI (Attitudes Toward Mathematics Inventory).

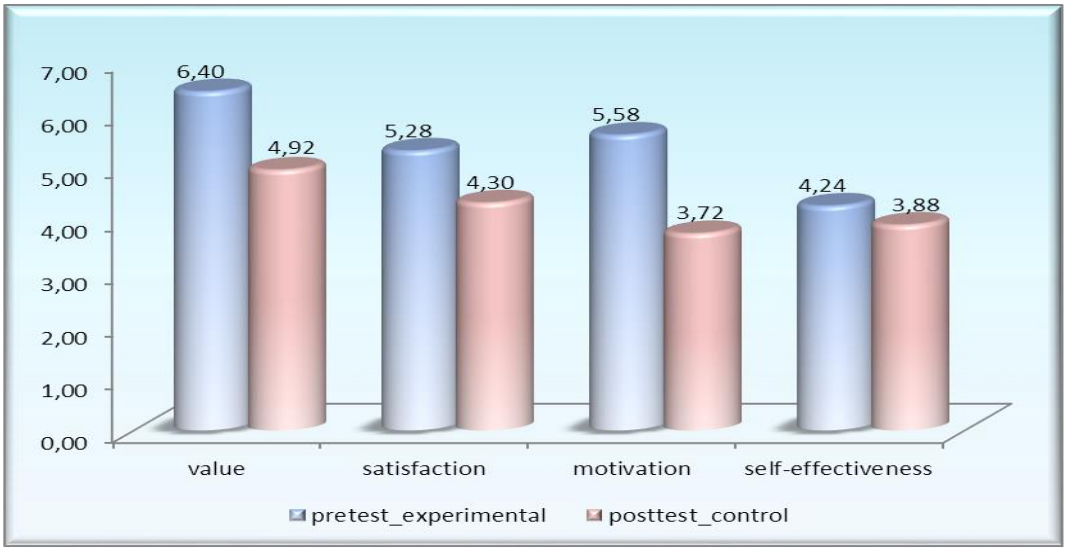

Figure 6. Comparative diagram of the results for ATMI în pretest și posttest

In figure 6, we present comparatively the results obtained with the ATMI in posttest by the students in the two groups (experimental and witness). We can easily notice the fact that, on average, the students in the experimental group get higher scores than the students in the witness group.

In the case of self-efficacy connected with the ability to solve Maths problems, the differences are lower, but statistically significant, and in the case of the other aspects, the differences are obvious and strongly statistically significant.

The investigation of students with the MTAS (Mathematics and Technology Attitudes Scale) in the posttest stage reveals the fact that the students in the experimental group obtained, on average, higher scores than the students in the witness group in all the dimensions assessed with MTAS. These scores stress the favorable effect of the further training programme upon

the quality of the didactic activity performed by the junior teachers who attended it and, implicitly, upon the attitude of the students towards mathematics. Thus, we can say that the learners of the junior teachers who took part in the further training program became more involved in the learning activity in class.

Significant differences were observed in the confidence nvr ability to succeed in maths, that is: The confidence in their ability to get high grades, the confidence they can solve difficult Maths problems, the general comfort as to the subject of mathematics. Therefore, we can assert that the proposed training programme determined, through its effects, first the improvement of the quality of teaching - learning - evaluation activities, and an increase of the learners confidence in their ability to solve, to perform at Mathematics.

The most relevant dimension, in our opinion, is the emotional involvement which targets rather the internal motivational aspect and the attachment to Mathematics. So we can assert that the effects of the proposed program have generated changes at the level of the learners as to their affective involvement in the activity of learning Mathematics, that is their interest to learn new things in mathematics, their satisfaction and pleasure of learning Mathematics, and learning Mathematics as a reward (intrinsic motivation).

7. We recorded a beneficial change, significant at the level of the students regarding the improvement of communication in the student-teacher and student- student relationship in Maths activities (hypothesis 7).

By investigating the perceived informational social support (the communication teacher - student), we recorded a superior index in the case of the students in the experimental group: openness to students' questions, explanations for the aspects which the students do not understand, help for difficult problems by offering the necessary information. The students in the experimental group perceive to a higher degree, in comparison with the students in the witness group, the social emotional support that is: encouragement when they succeed, communication of mistakes in a manner accepted by the students. We can also speak about a significant improvement of the junior teachers' availability as to the fact that they take time to help students, they offer them their time when the students need it.

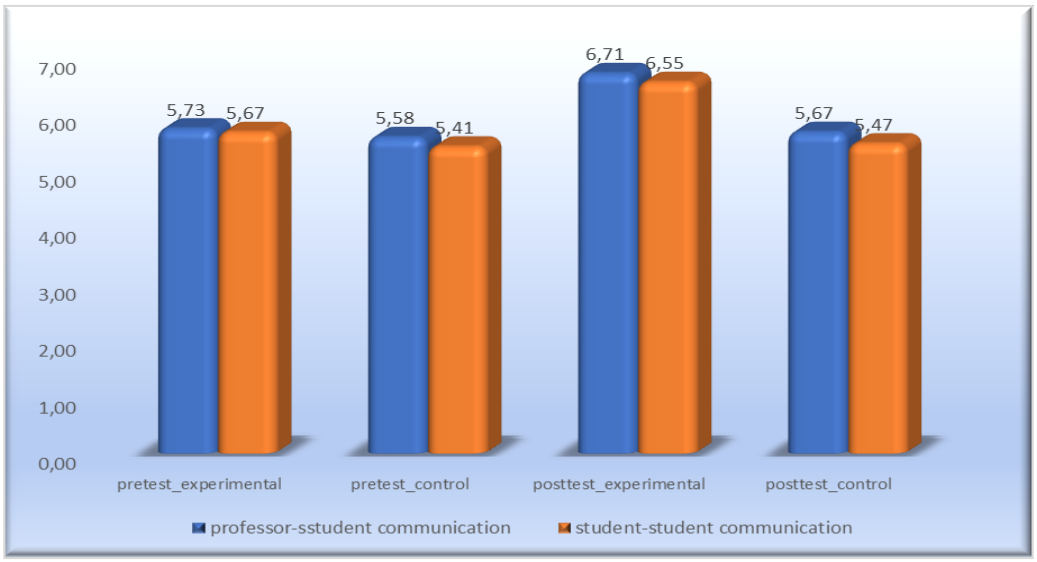

Figure 7. Comparative presentation of the results in pretest and posttest for the two dimensions regarding communication

8. We recorded a significant improvement of the students' performance in Maths. (hypothesis 8).

The data obtained in the research indicate a significant improvement of the average in mathematics evaluations. In other words, the students of the teachers participating in the training program, on average, get results far superior to the students in the experimental group (the students of the teachers who did not take part in the training), which allows us to assert that the junior teachers who took part in the training improved most of the relevant dimensions for the teaching-learning-evaluation activity, they communicated better with their students, they managed to offer them learning situations which accounted for every student's potential and which, on the other hand, managed to assure a more efficient connection between what the student learns and his practical, actual activity, aspects reflected both on the attitudes level and on the level of their school results.

Chapter VI presents, besides the results and the conclusions of the research, some limitations of the national training subsystem, some recommendations which might potentially bring about an improvement to the training subsystem.

Through the research I have done regarding the improvement of the further training system for junior teachers, by starting from the idea that professional beginning is defining for the teachers activity, I intended to identify the ways by which the junior teachers competencies can be more efficiently and sustainably developed. Based on this research, due to the instruments of analysis and appreciation for junior teachers activity and due to the results obtained upon implementing that structured training programme, containing further training, collaborative, professional dialogues, class attendance, deliberate practice to implement in class

what they have learnt by being guided by a mentor, we reinforce the spreading and multiplication of the results obtained in a direction beneficial for the instructive educational process inside the school education system.

Further training guarantees the updating and development of the teachers competencies, they are acquiring new competencies, depending on the evolutions of their educational needs and on the requirements regarding the adaptation of teachers' competencies to the changes in the systems / processes of education.

We consider that, at the beginning of the didactic career, by the participation of junior teachers in a structured training program, containing further training, collaborative, professional dialogues, class attendance, deliberate practice to implement in class what they have learnt while being guided by a mentor, positive significant changes will occur in the teachers' didactic performance and in the performance of the students they work with.

Such a programme can be developed and delivered by the specialists in education, , who in there turn, interest for their own professional development. Now, further professional development can be accomplished through a wide range of programmes for mentors and trainers, exchange programs, study visits in organisations abroad etc. These programs can be delivered by institutions for training and education, state-owned or private, inside projects financed by Erasmus + programme (2014 - 2020), or in projects financed by Programul Operațional Capitalul Uman (2014 - 2020). (The Operational Programme under the 'Investment for Growth and Jobs' Goal)

Establishing the adequate legislative framework, financial support, accounting for the opportunities offered by the programs mentioned above, the responsible involvement of decision-making factors managing all the levels of the system of education, all of these can make a significant contribution to *improving the further training system for teachers and, implicitly, to the increase of the degree of professionalization of teachers*.

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