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EXTENDED SUMMARY OF THE DOCTORAL THESIS

The development of transversal competences through outdoor activities in the core procurement cycle

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CONTENTS

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THEORETICAL FOUNDATION

CHAPTER I. THEORETICAL APPROACHES OF OUTDOOR EDUCATION

I.1. Conceptual delimitations in the psycho-pedagogical approach of outdoor education

„The current debates on the role of education and school in the contemporary society have led to developments and movements within the theoretical space of the education sciences." (Păun, 2002, p. 13) Today's society demands, more than ever, intelligence and creative capacity of the individual. That is why, since ancient times, education has been a permanent concern of society. Following different definitions on the concept of education, there are several directions for defining it. Education is a particular type of human action, intervention or guidance, a fundamental category of pedagogy, through which the conscious development of the human biopsy potential is desired and the formation of a personality type required by the present conditions and the perspective of the society.

The educational environment in Romania has been invaded lately by terms such as: outdoor education, teaching and learning in nature, nature kindergarten and the forest school. The concept is so vast that a clear conceptual and semantic delineation is required. In the Romanian educational system, for the description of the concept, the terms are used mainly: outdoor education, outdoor education or outdoor learning. Being borrowed words, mostly neologisms, terminological confusion can be created. In the literature there are a lot of terms used to describe the outdoor learning space: outdoor, garden, outdoor classroom, outdoor area, playground, school yard.

I.1.1. Key words, definitions and explanations

In this paper, the term outdoor education will be used as the basic concept, both in defining the concept and in explaining the paradigms on which the concept is based, because we consider this term to be the most comprehensive, as well as semantic analysis. -phonetics, as well as from the etymological point of view.

From an etymological point of view, outdoor education refers to an organized learning situation, which takes place in the external environment. Activities in outdoor education can often involve travel-based experiences in the immediate environment, by participating in a variety of outdoor adventures and activities, such as hiking, climbing, boating, rope racing or group games. Therefore, outdoor education is based on the philosophy, theory and practices of experiential education. Also from an etymological point of view, another definition of outdoor education is noted, according to Smith is that it is based on relationships and connections regarding people and natural resources. Julian W. Smith himself described outdoor education as "a learning environment for those contents that can best be assimilated outside the classroom." (Smith, 1955)

Outdoor education is a concept that takes into account an entire education program based on experience and practical activity, which takes place outside the classroom, in the natural environment. It is based on the theory, philosophy and practice of experiential education, ecological education and environmental education. It helps people to understand themselves better, to perceive the surrounding world more correctly and, above all, to gain a better knowledge of the people around them. It is considered a modern learning strategy with strong educational effects having the benefits of developing the innovative spirit, leadership, communication and other aspects of modern life.

The concept of outdoor education draws attention to an education based on experience and practical activities that take place outside the classroom, and which are aimed at understanding the self, those around and the surrounding world. It is a relatively new type of education, producing long-term effects in terms of mastering complex learning situations and especially developing skills needed for modern life: innovation, leadership, team spirit,

communication, autonomy and creativity. In our country, outdoor education belongs to the branch of non-formal education through extra-curricular activities organized outside the school environment, but it is also used in formal education as a learning strategy or as a new type of education. (Șerban, 2014)

From the point of view of the **psycho-educational and social level**, outdoor education is defined according to the Institute of outdoor education, as "a use of experiences from the external environment in order to educate and develop the whole personality". Lewis, (Lewis, 1957), argues that outdoor education appeals to all the senses of the individual in order to observe and perceive the environment in the most efficient way. According to Lappin, (Lappin, 2000), outdoor education enriches the curriculum through the learning activities it proposes.

From an environmental point of view, outdoor education is defined as "an experimental learning initiative by involving all the senses of the participants, which takes place first, but not exclusively, through exposure to the natural environment." (Priest, 1990) This definition is supplemented by the following: "going out into the natural environment, learning and respecting the environment." (Ketchie, nd) After a few years, Priest returns with a new approach completing its previous definitions with the following: "outdoor education is a matter of many relationships." These relationships concern not only natural resources, but also people and society. (Priest, 1986)

I.2. The emergence and evolution of outdoor education

The historical as well as the cultural context is an important basis of outdoor education in the form known today, and it is worth analyzing in depth to better understand its evolution as a type of education. A careful comparison of the different educational models practiced in outdoor education offers an overview of the concept. Observing the evolution of education offers the advantage of learning from the mistakes of the past, but also the opportunity to develop existing ideas, for the benefit of new generations. Culture has been and is a representative indicator, because by analyzing the implementation of different forms of education in various cultures, innovative ideas can be borrowed which can then be transposed and adapted according to the needs of the educational system, from a given period.

I.2.1. Models and theories established in outdoor education

Following a careful radiography of the current state of outdoor education in the current educational system, or the benefits, strengths and weaknesses of its use within the formal and non-formal system, it was noticed the need for an analysis of the theories underlying this micro-pedagogical system and the personalities that initiated it. Key theories and models include: *theories of experiential education, theories of group development, models of the process of external connections, theories based on stress removal, comfort zone, optimal stimulation, psychological current, psycho-evolutionary theories and the Biophilia hypothesis. .* (Wilson, 2013) The well-known personalities and theories that initiated outdoor education, thus revolutionizing education systems around the world, are: Robert Stephenson Smyth Baden-Powell, founder of the Researchers Movement, which is the most widespread network of outdoor education implementers and also the founder of the Researchers Association, Daniel Carter Beard , Edward Urner Goodman, Bear Grylls, Luther Halsey Gulick who is also the proponent of the Playground Education program, Kurt Hahn famous experiential education teacher, William Hillcourt well known author of articles on outdoor education topics (Block, 1993), James Kielsmeier outdoor education instructor, Ernst Killander orienteering propagator, Richard Louv, a journalist and proponent of awareness of the beneficial effects of nature and an opponent of the so-called deficiency of nature among students. Outdoor education has a long and rich history all over the world, and within it there is a diversity of opinions regarding this concept. Questions are raised regarding the actors involved in this type of education and how to carry out the related activities. There are certain traditions that have influenced the culture of outdoor education. Presentation from the historical perspective of outdoor education, shows that the development of outdoor education has been rich both in content and in social

context, and most of the current debates on outdoor education are not new, but can be watched at least in evolution from a century ago.

I.2.2. Analysis of outdoor education from a contemporary perspective

Recent research highlights the multiple benefits of outdoor education and its components, the various outdoor activities can be combined with adventures or trips, even with camping. The relationship between students engaged in activities focused on outdoor education and teachers is improving, and as a result, many cultural connections become possible. Different health benefits have been observed, both physically and mentally. In the contemporary vision, given to outdoor education and following the analysis of the place they occupy in the current educational systems, certain responsibilities are assigned to the teachers, which must be taken into consideration before engaging in outdoor learning activities. These include technical safety, environmental, organizational, training, facilitation, leadership, knowledge and ecological ethics competences. These competences are equally important, as the organizing teachers are the main leaders who create, organize and evaluate the activities related to outdoor education. The evaluation modalities that can be used by teachers to have an objective perspective on the obtained results, are multiple: research, group process, physical tests, group feedback, interaction, self-analysis, interdisciplinary tests, application essays, written tests, journaling, description of scenarios, etc. Since 2002, the political system, together with the educational system from all over the world, has been working on the elaboration of objectives aimed at providing educational programs both in schools and outside them. Contemporary education recognizes the formative values of non-formal education and accepts completion from the programs that are organized and carried out within it. In the national systems of public education, the activities related to the outdoor education began to be present in the form of educational visits, workshops, campsites, activities of environmental exploitation, one-day programs of visit and knowledge of the city / village, orientation exercises with map and compass, art and modeling in nature, but also hours of communication in the mother tongue or even mathematics. From the point of view of the contemporary approach, the public schools endeavor to introduce in the curriculum dimensions of learning with strong student-centered accents, his involvement in the decision-making process and the change of the school and community environment.

I.2.3. Presentation of the functioning of outdoor education in different educational systems in the world

Outdoor education takes place in one form or another in most countries of the world. It can be implemented differently, depending on the socio-cultural contexts. In some countries outdoor education is seen as environmental education, in others, the two types of education are seen as two completely different practices. Modern forms of outdoor education are practiced at the highest level in countries such as the United Kingdom, the United States, Australia and New Zealand. Some forms of outdoor education also appear in Europe, Asia or Africa. Outdoor education gives depth to the curriculum by making important contributions to the physical, personal and social education of the students. (English Outdoor Council, 2013) Most organizations and companies that offer programs and activities based on experiential education for children and young people also offer similar programs for adults, especially for corporate teams, henceforth referred to as *outdoor training*.

I.3. A complex approach to outdoor education, as an interface between formal, non-formal and informal education

Outdoor education is often given too little value, even insignificant in educational systems. Critically, there is the question of whether outdoor education can be considered a school discipline, and how it can be approached as a discipline within formal education systems. Outdoor education is seen and treated as a strategy, rather than a completely independent discipline, and used in education by transforming and adapting curricular contents so that they

can meet the same goals in terms of procurement and have the same goals, but the way they are achieved to differ: to be more interactive, easier to assimilate, more fun, more efficient, faster and to contain learning experiences. Outdoor education contributes to formal education and is compatible with school practice and goals.

With regard to a clear definition, from the point of view of the educational system in which they are placed, the following can be concluded: the educable is placed in a unique environment, both from a physical point of view, as well as from an educational and social point of view, then he is subjected to challenges, which through perseverance and a set of competences can be completed efficiently and quickly, with little energy and resources. This process determines the development of the personality of the child of any age, through the use of introspection and self-knowledge.

I.3.1. Analysis of outdoor education in formal, non-formal and informal contexts

Formal education, together with non-formal and informal education, represents a set of pedagogical actions or influences carried out simultaneously or successively in the formation of the human personality. Following the analysis of the formal education in comparison with the non-formal education one can observe advantages and disadvantages of each one. We consider this analysis necessary because outdoor education is an interface between the two forms of education and is present in each of them.

All three types of education presented above, contribute to the formation and integral development of the personality of those involved by developing their character, in a positive way. Correlating the multiple valences of the three forms of education presented is difficult, but none of its forms should be neglected, completing each other throughout the life of the educable, manifesting itself to a greater or lesser extent depending on the age and educational level of each person. (Șerban, 2014)

Outdoor education as a discipline among new educations and as a strategy used in formal education, is most often used as a fundamental part of non-formal education in most institutions of the world. Steve Bowles (Bowles, Lehtonen, 1998), stated that non-formal education is a learning experience, initiated voluntarily, situationally and experientially, being difficult to divide into measurable phases from a teaching point of view and thus difficult to quantify in results of learning. Outdoor education is a significant part of non-formal learning that conglomerates learning processes outside the classroom. Recent research on outdoor education and its practice has shown that some competences and skills related to identity growth and social integration are developed during these activities. This fact is all the more true as the activity is sufficiently developed as duration, well prepared, followed by follow-up activities, evaluated and linked to the formal education curriculum.

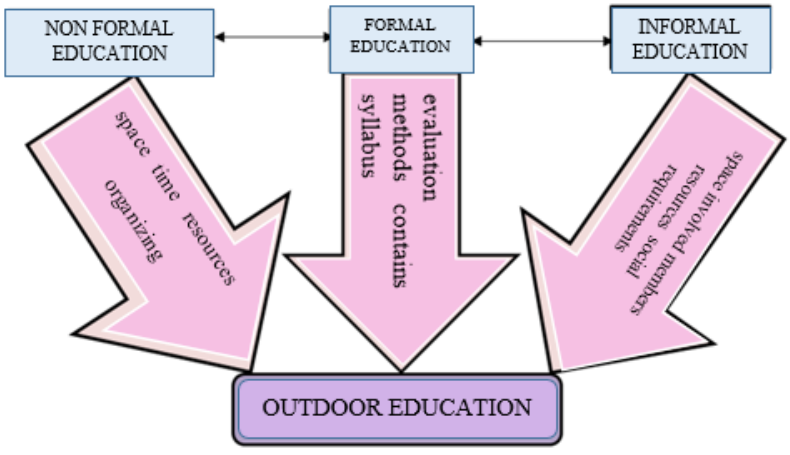

Figure no. 1. Outdoor education as an interface between established types of education

Outdoor education, as an interface between the three forms of education, is considered to be much more motivating and stimulating, having a greater impact on the learning process among students. Outdoor education receives elements of each type of education, functioning as a learning strategy within the new education.

CHAPTER II. OUTDOOR EDUCATION AND PEDAGOGY FOR COMPETENCES

II.1. Definitions and classifications of competences

The competences represent a set of skills and abilities used in the application, operation and transfer of procurement, which allow the efficient performance of an activity, but also the functional use of the knowledge, skills and skills acquired in both formal and non-formal and informal contexts. (Roman, 2010)

Competence represents a cognitive, operational potential, which manifests itself successfully when the situation demands it. (Ștefan, 2006) According to Chis (Chis, 2005) the competencies have instrumental operational value and are located between the knowledge, attitudes and abilities have the following characteristics: they ensure the accomplishment of the roles and responsibilities assumed, they correlate with the performance in the activity, they can be measured on the basis of standards performance, and they can be developed through learning. The competences can be general and specific and their development involves a continuous process. Having a certain competence means not only *knowing*, but also knowing *how to do* and *how to be*.

Competence-based education is that education that looks to the future and is preparing to face it. The action, the activity and the interactivity, as well as the involvement and the responsibility of the educators are the first steps in the formation of competences. Transdisciplinary learning and the multiple dimensions of contemporary life require the acquisition of skills that propel the individual to the most desired places in society. The experiences and experiences of the individual complement the learning and reorganize it so that the modern education responds through the innovative educational practices, to the demands of the modern society. (Pânișoară, 2017)

II.2. Defining transversal competences

Transversal competences represent value acquisitions and attitudes that go beyond a certain field or program of study and are expressed through the following descriptors: autonomy and responsibility, social interaction, personal and professional development. (Ilica, 2013) These represent the capabilities that transcend the specialization of the evaluation of public policies and programs, having a transdisciplinary nature: teamwork skills, oral and written communication skills, respect and development of professional values and ethics, IT use, problem solving and decision making, recognition and respect of diversity and multiculturalism, autonomy of learning, initiative and entrepreneurial spirit, openness to lifelong learning and so on. (Stevahn, L. et al. 2005)

II.2.1. Description and evaluation of transversal competences

One of the most commonly used methods for analyzing and evaluating outdoor activities is the observation method. This has a defining role in the initial, ongoing and final evaluation of the activities related to outdoor education.

Transversal competences can be measured using formative assessment. This shows the evolution of knowledge and not their compliance with a norm, as is the case with normative evaluation. This type of evaluation must respect three principles: the principle of stable states, the principle of equal-finality and the principle of irreversibility. The first principle refers to provisionally stabilized knowledge, the second acknowledges that there is no cause-and-effect relationship between initial and produced knowledge, and the latter considers any knowledge

produced as a future initial knowledge and at the same time a progression from previous knowledge. (Meyer, 2000)

II.2.2. Challenges in the formation of transversal skills through activities related to outdoor education

There are several approaches to placing transversal competencies within the existing curriculum. One of them would be that of the major theoretical frameworks of the transversal competences, in which it is emphasized that the importance of mastering the basic disciplines should not be ignored. The second one, suggests the identification of the broad and contemporary disciplines that connect through the transversal competences with the main disciplines. For example, in relation to environmental knowledge, students are required to have a global understanding of environmental issues being able to transfer the knowledge they develop into action. This means that the student must have the ability to analyze, evaluate and make objective decisions regarding the contents studied. (Schneider, 1997)

II.2.3. Comparative analysis of the outdoor activities in Romania and Norway from the point of view of the development of transversal competences

In Romania, outdoor education is presented by three specific terms, outdoor tourism, which can be realized in the form of trips that include activities focused on walks, climbing, nature exploration, boating and orientation, outdoor activities that aim to mainly the recreation and education realized through activities that take place in a natural environment, having as main objective the modification of the behaviors of the people in relation to the nature through activities organized in a natural environment.

In Norway it appears under the name of *friluftsliv* meaning free life in an open, natural space. Outdoor education is built on the social and cultural practices of recreational life and living in nature, which are based on: traditional models of living and travel through outdoor areas with subsistence purpose; the process of industrialization and urbanization that began to accelerate since the 1800s and the exploration of the polar regions that led to the introduction of outdoor learning disciplines into the school curriculum based on philosophy and ecology in order to create personal and sustainable links with nature. (Ohman, 2001)

CHAPTER III. ANALYSIS OF OUTDOOR EDUCATION FROM THE PERSPECTIVE OF FORMATIVE ADVANTAGES

III.1. Advantages of outdoor education in the complete development of students

In the specialty literature, discussions are often held about the fact that outdoor education stimulates human relations, facilitates the promotion of teamwork and interdisciplinary learning, based on experience. Within each type of education, formal, non-formal, informal, there are complex contributions to the integral development of the personality of the students, complementing each other and pursuing common goals. The founder of the first school of outdoor education, Kurt Hahn, set up this educational micro-system as a result of analyzing the needs of modern society and in response to the emergence and evolution of modern technology. Lack of creativity, practical skills, self-esteem, self-discipline, human compassion, lack of imagination and declining physical condition have led to the emergence of this new type of education. The system is based on challenges, different tasks, developing an innovative curiosity, invincible will, tenacity and compassion. Outdoor education encourages children to develop in all three stages: physically, emotionally and mentally, helping to understand and protect the local environment and leading to social development. It also stimulates exploration, decision-making and play, is non-formal in nature and follows visible changes in the behavioral level and attitude of the participating students. It is based on personal experiences, learning and socializing experiences. (Banning, 2011)

III.1.1. The positive influence of environmental factors on children's health

The physical environment can contribute to the well-being, happiness, creativity, development of children's independence and to the free expression of their experiences and opinions, related to the quality of learning. The choices made in a formal educational environment, in terms of educational resources, materials, spaces, appearance, air quality, light and access to a range of indoor and outdoor experiences, have a direct impact on the quality of learning. (The indoor & outdoor environment policy, 2013)

The most true reasons why children should be brought out in the natural environment are presented according to the Council for Learning Outside the Classroom, 2009, as follows: it supports the development of a healthy and active lifestyle by offering children opportunities for physical activity, freedom of movement and the promotion of a sense of well-being, offers children contact with the natural world and unique experiences such as direct contact with nature phenomena and seasons, helps children understand and respect nature and the environment, the interdependence of humans, animals , plants and life cycle, supports problem solving skills and stimulates creativity, develops imagination and motivates inventiveness, provides space for exploration, experiment, discovery, and activities that develop physical capabilities, develop the brain and create re neuronal goals to those students who prefer to learn by movement, provide the safe and free framework through which students can develop their managerial and risk assessment qualities, increase interest and enthusiasm, by efficiently using resources and increase the joy, enthusiasm and desire to discover of children.

III.1.2. The benefits of outdoor education regarding the physical, mental and emotional development of students

The contribution of outdoor recreation to health can be considered in the context of general well-being. The World Health Organization (NANA, 2003) defines health as a state of well-being, complete, physical, mental and social, and does not just mean the absence of disease or infirmity. The concept of optimal well-being or health implies a balance between physical, emotional, spiritual, intellectual and social health and then lists a wide range of dimensions, from fitness, nutrition and stress management to meditation, education and relationships. Outdoor education achieves all aspects of student health and can enhance not only physical health but also emotional well-being. (Godbey, 2009)

The physical benefits of outdoor education

There is growing evidence that the proximity to the natural environment is healthy. With the exposure to natural environments, the health problems related to pollution decrease, because sedentary life takes place in the indoor, non-ventilated, small and crowded spaces. People who spend time outdoors tend to move more than people who do indoor activities. In the contemporary century, students spend most of their time indoors, and the only time to spend time outdoors can be the way from school to home, if this is not done by means of public transportation. The school is the only institution that can still be responsible for allocating outdoor time to students. Children and parents need to be aware of both the benefits of outdoor learning and the reverse of this. A modern education of the future is constantly concerned with both the education of children and their health, through the elaboration of educational programs that combine learning with movement and spending time outside the classroom. (de Vries et al., 2003)

The cognitive benefits of outdoor education

The most important cognitive acquisitions take place during play or activities that take place in nature, because children assimilate a wider variety of information in the external environment than they would inside using exclusively manuals or modern technological resources. True situations of exploration and experience take place in the natural environment by involving all the senses. Observing small animals and insects as well as plants in their natural habitat, smelling of fruits, roots and rain, listening to the sound of birds or squirrels in the tree,

light petting of petals or leaves, or even tasting fresh fruits and vegetables from the garden can bring the greatest cognitive benefits that can be acquired by students.

The socio-emotional benefits of outdoor education

In outdoor education, students have the opportunity to develop their imagination, vocabulary and certain social skills. Through collaborative activities, those transversal competences that have a social character, develop. By encouraging children to investigate, ask questions and seek solutions, they begin to trust their own ideas. In the classroom each object has its own place and role, fulfilling the needs of each student at any age. All the more so that the resources found in nature cause learning experiences through their nature and variety.

The benefits of outdoor education on mental well-being

The ever-increasing and rapid demands of everyday life as well as the exposure to complex decision making, the need for rapid adaptation to new situations and continuous mental work, are the main reasons why post-modern children are irritable, impulsive and inattentive. Natural environments and spending time with animals or other resources found in nature reduce aggression in children and high levels of stress. The abuse of prohibited substances, the high crime rate among young people and antisocial behaviors are reactions to exposure to stressful situations, which can be defined by a simple expression as follows: social illness. The introduction of plants and small animals into classrooms can improve the condition of students in contemporary schools who spend too much time in small and overcrowded classrooms.

III.1.3. The role of outdoor education in developing the sense of freedom for preschoolers and pupils

The feeling of freedom or the sense of freedom is a right of every individual. This needs to be re-learned, though every human being is born with the feeling of freedom. The pressures of others, as well as of experiences and situations of life, significantly reduce this feeling. It is very important that through education every child regains his freedom to study, to think, to explore and to express himself. Since preschool, children are subject to certain group discipline rules. The external environment helps those who have completely lost their sense of freedom, but also those who want to recover certain elements that they feel they no longer have in terms of freedom, in choosing the contents of learning, the way of study, the personal time allocated to learning, their own pace of development or they even have certain fears regarding the free expression of their own ideas or contributions related to education. A constrained child who does not feel free, will never show initiative or creativity.

III.2. Nature as the foundation of the educational process

It is discussed in the specialized literature about the need and the gains that the children have from the involvement in educational activities in the external environment. In order for this to be achievable, there must be the conviction that the effort made to carry out the activities related to outdoor education in completing the education in the classroom, is worthwhile. Thus, the question of the importance of the game, of learning and organizing outdoor activities, but especially of its constituent components, inevitably appears. The positive factors that appear as a result of the introduction of the activities related to outdoor education in physical, mental and affective plane are being emphasized more and more, as motivation in this regard. Outdoor education is a relatively new concept in the Romanian educational context. Nature was the place where the most primitive types of learning took place until the emergence of new educational doctrines. It can be said that natural space has been the basis of education and its first forms, since its emergence.

III.2.1. Risks and challenges in outdoor education

Most often, outdoor education is placed between the risk and challenge area, with no exact place being established in education. There are adults and teachers who calculate and consider only the risky part of outdoor education. In the specialized literature new discussions

and studies appear regarding the too rigorous control to which the children are subjected. For example, Cunnigham argues that adults intervene too much in children's lives, and this excessive involvement leads to imbalances in the self-regulation of children's safety. Children need to be challenged, at any age, to develop physically, mentally and emotionally healthy. If they are always told what the risks are they are facing, at some point they will lose the competence to measure the risks and thus they will lose the ability to make decisions. (Cunningham, 2006). In the specialty literature there are presented both positive theories of risk and negative theories, it is important that everything is passed through its own filter and decide accordingly regarding the permissiveness granted in terms of planning and organizing the learning activities in which we want to we involve the children. A confident child will be a confident adult, and the society needs motivated individuals who believe in their own strengths knowing very well both the lower and upper limits.

III.3. The role of adults in outdoor education

The activities related to outdoor education are designed and organized according to certain rules and pursuing certain objectives. The main actors who equally participate in the organization and staging of educational activities outside the classroom are of course the students, but also the teachers and parents.

III.3.1. The contribution of parents in planning and conducting activities related to outdoor education

Parents have the role and at the same time the responsibility to allow the teacher to exercise his function as he sees fit, using the methods that he considers most appropriate in achieving the proposed objectives. Because the evaluation of the activities related to outdoor education is done by observation, the parent's contribution through the feedback given to the teachers regarding positive or negative changes in the behavior of the children is more than necessary.

III.3.2. The attributions of teachers in the initiation of the outdoor activities

The role of the teachers is just as important as that of the parents, as they are the initiators and main motivators of the whole activity. A good organization includes the assurance of half the success, and this must be based on well-defined objectives, drawn from the curriculum of the respective age level and be adapted to the needs and interests of the group. During the activities related to outdoor education, the teacher becomes a leader, physical and moral support, encouragement, model, challenging activities, motivator and a good evaluator. Throughout the activity, the teacher will be responsible for the safety of the children, but also for how they manage to carry out the task they have to complete. During the activities, the teacher is the one who issues objective observations regarding the correct or incorrect use of the educational resources. The organizing teachers must ensure that there is an open relationship with all parents, even if some of them do not want to get involved at all or do so only to a small extent. A significant part of this partnership provides the parent with information about his or her child's achievements. (Bilton, 2010)

CHAPTER IV. MANAGEMENT OF SPACE, TIME AND RESOURCES IN OUTDOOR EDUCATION ACTIVITIES

IV.1. The role of space in carrying out outdoor activities

Outdoor education, through the various environments in which it operates, offers major educational and recreational benefits, contributing to the harmonious development of the human being. Many believe that the only place where outdoor activities can take place is nature. It offers the most diverse range of materials and natural resources, which are available to everyone, but in addition to the natural environment, outdoor education also uses other outdoor environments, which are as varied and abundant in terms of educational resources offered. The

activities related to outdoor education can be carried out in one of the following spaces: school yard, parks, cities, villages, forests, fields, hilly areas, etc.

IV.1.1. Ways of choosing and organizing the spaces for conducting outdoor activities

The outdoor environment, or the place where the outdoor activities take place, must be organized and chosen in such a way that it is efficient in its use. It is proposed in this regard to go through some practical ideas, because in organizing the activities related to outdoor education, difficulties may arise in the sense of finding a suitable place. This depends on factors such as: number of participating children, size of available areas, weather conditions, lack of equipment or selection of the appropriate ones from existing ones, choosing natural materials or promoting some of them, establishing contexts or frames in which they will take place. Outdoor education can take place in multiple spaces, from school grounds to historic sites, from villages to cities, in local or national parks, residential experiences in the city or hometown, but also expeditions to other countries, providing a wealth educational resources waiting to be discovered. Each outdoor learning opportunity gives children and young people the chance to explore new places and share these experiences. Educators can show creativity in the use of local areas, which were not included in the plan made by the teachers.

IV.1.2. The role of the geographical, economic and socio-cultural environment in the deployment of outdoor activities

Regarding the importance of the space where learning takes place, in the literature, Tovey suggests that outer space has meaning, because any space created or divided becomes a place. The place is defined by it as a space soaked with feelings and meanings. (Tovey, 2007) Walsh raises the issue of the environment in outdoor activities because it considers that it is of great importance, that the outdoor environment in which the learning takes place is as natural as possible, but also aesthetically pleasing. (Walsh, 1991)

The spaces chosen for conducting outdoor activities must be flexible so as to reflect the needs and interests of the students. The criteria differ from person to person, so the areas of learning and development that are to be reached through outdoor activities must be mentioned. These are listed as follows: personal, social and emotional development; communication, language and literature; problem solving, reasoning and numbering; science and understanding of the surrounding world; physical development and creative development (DfCSF, 2008)

IV.2. The complexity of the resources used during the activities related to outdoor education

The most difficult step in forming an educational routine that includes activities related to outdoor education, is often the first step, namely the exit from the classroom. The initial planning and preparation very well done, can ease this process. In this subchapter, the most useful ways of using natural resources will be discussed, so that they represent educational resources useful for learning. Outdoor education increases the value of the equipment and tools used during the related activities, and transforms them into didactic means, they serve a well-defined educational purpose and motivate the attainment of proposed aims.

IV.2.1. Criteria for selecting the educational means used in outdoor education activities

At the time of preparing the activities, a good leader must foresee the entire course of the moments from which the learning process is formed. The curricular content pursued, the objectives, the aims, the constraints that might arise, the offer of the chosen external environment, but also the needs of the participants must be taken into account. As specified above, most materials are already in the chosen external environment, and a good organizer chooses to supplement them by using other pre-prepared tools. As part of the activities related to outdoor education, students will be asked to choose the materials they need to carry out the

tasks themselves, usually through the gradual transition from using artificial materials to natural ones. It is expected that they will feel extinguished at first, denying in nature everything they think they need, but during the course, being put in the situation of not having everything offered by the educator, they will develop their creativity and make new correlations. Materials such as stones, sticks, twigs, shells, are not uniform, so their use across different areas or disciplines helps in problem solving, critical thinking and communication development. In natural environments, such as forests or beaches with sand and stones, the opportunities for using natural materials are part of the learning process and approach to learning, as the scale and quantity of materials available increase. (Robertson, 2012)

In each learning experience that takes place in the external environment, participants must have at their disposal relevant resources with which to operate. Ideally, these resources should be placed in a space always at hand, as found in nature. This is not always possible, so organizers need to find efficient storage solutions. Children should have the freedom to move different equipment from indoor to outdoor space to complete their learning process as they see fit. The handiest resources that can be used in outdoor activities are: stones, clay, twigs, plants, insects, shells, sand, wood, trees, fruits, or water. All materials collected from nature can be used as a support for learning activities or as objects of learning.

IV.3. Ways of organizing and planning time in outdoor education

In life, as well as in education, time has become a defining constraint. Everything has to be planned according to a defined amount of time, and each member participating in the educational process has to cope with the fast pace of each day in schools. The amount of activities and contents specified in the school programs can become a burden for teachers who do not I also know how they divide their time so that they succeed in completing everything they have set as goals, as well as for students who are exhausted under the weight of the disciplines they have to go through after a fixed schedule. Since outdoor education appears as a curricular discipline only in some educational systems in the world, the school institutions that want to implement it in the daily routine of the students, have to adapt the contents and timetables so that the outdoor activities are present as often in the education of the children. Students need a flexible approach to the schedule in the sense that they have to participate as often as possible in learning or playing activities with as few interruptions from teachers or time constraints. Participation in frequently discontinued activities induces the inability to focus on a particular task. When organizing outdoor education activities, each educator must adapt the schedule so that the contents of each discipline from that day or from that time period can be found in the activity performed. Parents must be notified in advance to be able to prepare if it is a more elaborate activity. For spontaneous activities, there is not much training required in terms of time or content. Usually, the time will be organized so that the departure is made early, preferably in the first part of the day, so that the students have enough time to spend on the road but also at the selected place, and especially for the students to can return to school until the end of the program. (Paley, 1984)

IV.3.1. Forms of adapting the schedule with the purpose of introducing outdoor activities in the instructional-educational routine of students

With the development of new technologies and intense social development, more and more students spend their breaks using smart phones, playing different online games or even checking social media. It is well to remember that every break can be positively benefited by the use of outdoor education activities. These can be realized in the form of workshops, creative workshops, sports activities, trips, games or household activities, by involving different age groups.

IV.4. Organizational requirements and didactic constraints in outdoor education

Transforming an educational environment into one that is safe, becomes challenging, and children will have fewer decision-making experiences, fewer opportunities to assess their own boundaries, and fewer opportunities to gain self-confidence and self-esteem through independent coping. (Stephenson, 2003) From a physical point of view, the outdoor learning area must be safe for all participants, but at the same time it must allow a certain level of risk and challenge. According to Bilton, a specialist in outdoor education, safety is defined as a permissiveness to let things run naturally, not closing doors that can create new learning or development opportunities. (Bilton, 2010 a) Before any outdoor learning activity, it is compulsory to undertake an assessment of the risky situations by a qualified person. These assessments should include information about any disability, learning difficulty or behavioral issues of all group members. (Gherguț, 2007)

One of the best ways to teach students about risk is by teaching them how to cope with difficult situations by experiencing risks in controlled situations. Eliminating all risks is never the right choice, because life itself is not without risks. Controlled environment means both that the students will always be under the supervision of the qualified personnel, but also that the place of performance will be carefully chosen, following the specificity of the activity pursued. It is also important for organizers and teachers to monitor whether students are responsible for following safety procedures and if they are properly and realistically assessing the risks involved. (Bundy, 2014)

IV.4.1. Practical ways of reorganizing outdoor activities according to the weather conditions

The most unpredictable component of outdoor education is undoubtedly the weather and weather conditions. This should be seen as normal and operated so that students are not hindered in outdoor activities. Regarding the place chosen for the outdoor activities but especially the design of the area or the work surface, all possible changes of the weather that may take place must be considered before engaging in activities.

In order to overcome the obstacles of the time, covered or protected learning areas are the best answer, because as such, students are not required to give up on outdoor learning activities, but can complete them regardless of weather conditions. Parents can contribute financially or materially if the school does not have the opportunity to create veranda areas for outdoor activities, by purchasing covers that can be used as needed. If an activity has already been planned, and is much more complex than going out around the school, it will be canceled until the safety is guaranteed on all levels.

CHAPTER V. STRATEGIES FOR DEVELOPING TRANSVERSAL COMPETENCES THROUGH ACTIVITIES RELATED TO OUTDOOR EDUCATION

V.1. Analysis of outdoor education as an interface between the traditional and modern approach to learning

The modern teacher will always be caught between the two major types of educational approach: the traditional one, well organized and well founded, stable and deeply researched that has been the basis of the educational systems for decades, and the modern, flexible one, based on interactive learning methods, on communication and development through the use of teamwork techniques. New results cannot be achieved using the same methods, and this is especially true when it comes to education. (Crețu, 1997) Students are becoming more and more bored, not being concerned with skills development, integrated learning or increasing their own performance, and the classes become laboratories that create identical and robotic final products.

V.2. Analysis of the educational curriculum at the level of the core procurement cycle from the perspective of integrating the activities related to outdoor education

V.2.1. Specificity of the preparatory class curriculum

Primary education is the first stage of compulsory education and its main objective is to create equal opportunities for all children, in order to achieve a balanced cognitive, emotional and psychomotor development, adapted to individual needs. The primary education comprises the preparatory grades and grades Ist – IVth, and the preparatory grade is the first stage of the primary education. (***M.E.N., 2017) The preparatory grade represents a period destined to accommodate the school life, a time that allows the students a good adaptation to the program, the community and the specific requirements of this diversified environment, in order to develop socio-emotional, intellectual and physical. From a socio-emotional point of view, the preparatory class supports the child to receive confidence in his own strengths, to increase his self-esteem, initiative and desire to succeed. The curriculum for the preparatory class marks the beginning of an unprecedented curricular modernization in Romania, with the elaboration of numerous curricular documents of a high quality and the continuation with the preparation of the teachers in this regard, by attending courses and seminars that offer them specializations in order to accumulate the competences of training at this level.

V.2.2. Study of the curricular characteristics in the 1st grade

The second level of the fundamental acquisition cycle is class I. At this level the students take part in school programs that make use of the learning experience accumulated up to the age of seven, including that of the preparatory class. For the children who did not graduate the preparatory grade, there is no obstacle in the accumulation of knowledge, and then the development of skills. The current school programs promote experiential learning, by directly involving the student in the studied reality. The emphasis is placed on the realization of the knowledge, skills and values acquired in real contexts, by increasing the weight of activities with a practical-applicative character within each school discipline. The development of competences depends to a large extent on the way in which the teacher designs and organizes the learning and on the degree to which he emphasizes the applicative dimension of knowledge. (Dumitrescu, 2013)

V.2.3. Research of the curriculum particularities at the level of the second grade

Second grade is the last level of the three belonging to the core procurement cycle. Specifically, until the end of the second grade, the student's training profile is realized. By analyzing the skills needed for a student who has completed the second class, completing the cycle of fundamental acquisitions, one can observe the requirement of a dynamic, natural, open education, an education that is in permanent connection with the society and its members, but especially an education permanently concerned with the environment, natural areas, harmonious physical and cognitive development in the natural environment. It is also observed the encouragement of self-discovery and of relationships that are based on communication, sharing, discovery, experience, and learning being holistic and especially interdisciplinary. The purpose of this level of education is to provide the conceptual, mental and behavioral bases that allow the child to adapt effectively to the next stage of schooling, but especially the social integration of each individual as quickly as possible. The skills can be accumulated more easily and faster if each teacher prepares the necessary space and resources for a modern learning, starting from the needs and interests of each child. This can be done mainly through the use of outdoor education activities.

V.3. Good practices in integrating outdoor education activities into the educational curriculum

Recent studies in the field of primary education have attracted the attention of specialists on the improvement of teaching methods and strategies, as well as of the activities carried out in the class of students. In the last period, it is desired to renew the pedagogical methods, so that the learning becomes one that aims at the development of new skills. Thus, the teachers must organize their educational approach taking into account: curricular provisions, organizational strategies and teaching methodology. Modern education no longer distinguishes between the importance of some methods and the placement of others in inferior positions. Currently, education follows the way in which these methods are used to achieve the objectives. (Cerghit, 2006)

V.3.1. Adaptation of the dedicated teaching methods in the context of outdoor education

Outdoor education, whether used as a unique form of learning or as a learning strategy in traditional education, brings with it positive changes both in addressing learning styles and in how to adapt existing methods in various situations. The most common form of use of the outdoor approach is by using methods already established and known in outdoor contexts. In this way, outdoor education becomes efficient and easy to use by each teacher, regardless of the age of the group they work with. In outdoor education, both traditional learning methods and interactive methods can be used that develop the level of cohesion in the group. Depending on the objectives set, the number of participants, the aims and the chosen framework, it is possible to determine the methods that will be used, but also how they will be adapted, so that they correspond to the needs of the group and for the entire activity to lead to learning. Outdoor education operates with all types of known methods, the traditional ones, consecrated, used mainly inside the classrooms, but also with the modern ones, interactive ones, used in any environment in which learning situations can be organized. A short list of teaching methods, as shown in the literature of the authors Ionescu - 2003, Cerghit - 1997, Bocoș - 2007, Dulamă - 2006 and described by Roman (Roman, 2010) are recommended to be adapted and used in outdoor education.

V.3.2. Examples of activities related to outdoor education in the core procurement cycle

In some educational systems, the National Curriculum includes directions for participation of students of all ages in a series of outdoor, planned, progressive and creative learning experiences. These are challenging opportunities that take place throughout and throughout the school. In Romania, following the analysis of the National Curriculum, we observe the encouragement of this type of activities and learning experiences even if they are not mentioned in documents as activities pertaining to outdoor education. Outdoor education is used in schools around the world, at all curricular levels. The practice of outdoor activities within the central disciplines reflects the confidence of the teachers that the curricular objectives can be achieved through this approach. Also, the members of the management of the schools in which this type of education is constantly used, declare that they have visibly intensified the learning effects, motivated the students and encouraged the teachers to be innovative. In this subchapter, we present practical ways in which teachers can use outdoor education in different curricular areas.

V.4. Presentation of theoretical studies undertaken on the topic of outdoor education with relevance in the development of transversal competences

Within this subchapter, different studies are presented, both at home and abroad, which have used outdoor education in different activities undertaken, and have presented more educational values. Elements of non-formal education pursued during the project were: student-

centered educational methods, management of non-formal educational activities, community education, and active citizenship education.

V.5. Conclusions

Outdoor education is a modern learning strategy, within the new disciplines, which can significantly develop students' transversal competences. It is also a way to make learning acquisitions in an organized but pleasant way, in a free environment, without constraints.

The benefits of outdoor education are recognized in educational systems, on several levels: physical, emotional, cognitive and psycho-social. In the century of speed and of the overloaded school contents, there is a need for a didactic strategy that facilitates the instructive-educational process. Outdoor education comes to the aid of the teachers through the various forms and means of development, through the activities they offer with the use of unlimited resources found in the natural environments. Outdoor education has been the basis of the educational theories on which modern learning theories are built. These, developed and adapted to the needs of the contemporary society, develop key and transversal competences, necessary for the life of postmodern educators. Also, through the activities in which it involves individuals, it develops life skills and facilitates the assimilation of curricular contents.

Outdoor education as an interface between formal and non-formal education, improves the instructional-educational process by extending the classroom and considering learning environments, as a whole that functions as a unit in order to develop each individual fully.

CHAPTER VI. Formative experiment conducted on the topic of "DEVELOPMENT OF TRANSVERSAL COMPETENCES THROUGH OUTDOOR EDUCATION ACTIVITIES IN THE CORE PROCUREMENT CYCLE"

VI.1. Motivation of the experimental action

After a careful radiography of the Romanian educational system, but not only, one can observe the need for change, novelty and modernization especially in the formal space. This topic has been repeatedly debated in the last decade, but the process has proved difficult due to its institutional and regularized nature. Even if legislation exists both nationally and internationally that would motivate changes in education, they are delayed, forcing teachers to become personally involved and to act individually, according to the needs of each group with whom they work. The responsibility falls, therefore, on the shoulders of the educator, who is the binder between the institution and the educable one, the changes taking place starting from this level. The school environment has become increasingly artificial, less interactive and intuitive, foreign and cold, due to the unfamiliarity of the methods and tools used, widening the spectrum of differences between the three main forms of education: formal, non-formal and informal education. More and more generations of children are growing away from what would mean authentic and properly completed education.

In order to evaluate and analyze this educational model, a study was carried out, within three schools in Arad, between October 2017 and May 2018, with the participation of students from classes in the level of core procurement. Following the identification of the current level of the transversal competences in the cycle of fundamental acquisitions, as well as following the analysis of the level at which the concept of outdoor education is known among the teachers, and especially how often these activities are included in their daily routine, it was implemented a formative intervention, which consists in the introduction of outdoor education activities.

VI.2. Purpose, objectives and research questions

VI.2.1. The purpose of the research

The purpose of this research is to experiment with the training intervention program that has been applied, to see if the activities related to outdoor education contribute to the formation of transversal competences at the level of the fundamental acquisition cycle. Also, without hindering the students 'program, the research comes in response to the need to refresh the

students' daily routine by introducing new educational strategies. This research aims at the formal education, at the level of the preparatory grade, Ist grade and IInd grade, due to the fact that the development of the transversal competences is found as a compulsory purpose in the curriculum of the classes mentioned above, but mainly due to the high applicability of the intervention program at this level.

VI.2.2. The objectives of the research

The objectives formulated for the proposed research are:

• The bibliographic documentation in order to obtain the information necessary to carry out the research

• Defining and describing the transversal competences and highlighting them in the activity of children at the level of fundamental purchasing cycle

• Presentation of an accurate image regarding the current state of the situation of the use of outdoor learning activities in school policies and in the national curriculum, but also as a practice in schools in Arad

• Identification of the opinion of the teachers regarding the importance and the impact of the use of outdoor learning activities in the educational activities

• Analysis of the existing relationships between the development of the selected transversal competences and the methods used by the teachers in the school activity

• Evaluation of the main instrumental functions that could determine the development of the following transversal competences in Annex 7 to OMEN no. 3371 of 12.03.2013:

- *Manifestation of positive initiatives in school and extracurricular activities*
- *Use of the knowledge obtained in several ways to solve some work tasks*
- *Use of the capacities formed to solve problem situations in the known environment*
- *and to improve the attitude towards learning*

• Radiography of the availability of the group of students and of the teaching staff participating in the research, in order to implement the outdoor learning activities

• Designing evaluation grids to facilitate the selection of the target group

• Designing / designing and applying intervention programs for the target group in order to develop transversal competences

• Analysis of the results obtained in order to apply the intervention program

• Testing the efficiency of the elaborated intervention program

• Proposing the use of the training intervention program in the formal education of institutions other than the participating ones.

VI.2.3. The questions of the research

1. Is formal education sufficiently and successfully concerned at the level of the fundamental acquisition cycle of the development of the selected transversal competences (manifesting positive initiatives in school and extracurricular activities, using the knowledge gained in several ways to solve work tasks, using the trained capacities. to solve problem situations in the known environment and to improve the attitude towards learning)?

2. To what extent do outdoor activities influence the development of transversal skills in students belonging to the fundamental acquisition cycle?

3. What are the resources that are actually available in the current educational system in Romania, and what might motivate the use of outdoor activities in the daily routine of the students?

4. Can a training intervention program be successfully introduced at the level of the fundamental procurement cycle, which is based on outdoor activities through the use of outdoor activities within it in a training sense, thus supporting the formal curriculum?

VI.3. Research hypotheses

The general hypothesis underlying the proposed experiment is:

Participation in the intervention program comprising activities related to outdoor education, complementary to the classroom activities, contributes significantly to the development of the following transversal competences to the students belonging to the level of the core procurement cycle:

- showing positive initiatives in school and extra-curricular activities,

- use of the knowledge obtained in several ways to solve some work tasks

- use of the capacities formed to solve problem situations in the known environment

- the quality of the attitude towards learning.

Specific hypotheses:

1. The results obtained by the students regarding the transversal competences concerned (manifesting positive initiatives in school and extracurricular activities, using the knowledge obtained in several ways to solve work tasks, using the skills formed to solve problem situations in the known environment and to improve the attitude towards learning) are not influenced by the gender belonging of the students.
2. There are no significant differences between the results obtained by the students belonging to the control group and the experimental group in the pre-test stage, regarding the level of development of the selected transversal competences (manifesting positive initiatives in school and extracurricular activities, use of knowledge) obtained in several ways for solving work tasks, using the skills formed to solve problem situations in the known environment and to improve the attitude towards learning).
3. There are significant differences in the results obtained regarding the scores showing the level of development of the transversal competences concerned, (manifesting positive initiatives in school and extracurricular activities, using knowledge gained in several ways to solve work tasks, using the capacities formed to solve problem situations from the known environment and to improve the attitude towards learning), during the post-test phase, between the experimental groups and the control groups.
4. The participation of students in the activities related to outdoor education based on time, space and resources management specific to this type of education, significantly develops the positive attitudes towards learning of the students.

VI.4. Research variables

The variables represented by the subjects can be delimited in two categories:

• Variables that describe the participants: class and gender,

• Variables that describe the presence, absence or level of competencies analyzed.

The independent variable consists in diversifying the opportunities for training the transversal competences of the students by participating in the intervention program comprising activities specific to outdoor education.

The dependent variables show changes in the development of transversal competences through the use of outdoor activities:

- the level of manifestation of positive initiatives in school activities

- use of the knowledge obtained in several ways to solve some work tasks

- the degree of use of the capacities formed to solve problem situations in the known environment

- the stage of improving the attitude towards learning

- the level of the results after the intervention, which tests the extent to which each competency pursued has changed, which has been subjected to an analysis on three levels: skills, knowledge and attitudes.

Nominal variables were used regarding the descriptive data of the participants, both of

the teachers responding to the questionnaire addressed to them and of the participants in the experiment. In the case of the experiment itself, the data were entered using the following variables: name (var = NAME), class (var = CLASS), gender (var = GEN), group of which it belongs (var = GROUP). The dichotomous variables that refer to the scores accumulated on the three levels of the competences concerned can be: the observation sheet of the orientation activity, the knowledge verification item (var = FO30PI1a, var = FO30PI1b, etc). For the final scores on the items were used the variables (var = TOTALFO30PI1PRE) for the pre-test stage, respectively the variables (var = TOTALFO30PI3POST) for the post-test stage. For the total scores per test / instrument for measuring and analyzing the variables, variables of type (var = SCORTOTALFONRNATPOST) and (var = SCORTOTALFONRNATPRE) were used. The ordinal variables were present only in the evaluation sheets of the transversal competences, in the student participants, in the experimental and the post-test period and were represented by numeric interval values, respectively 0-not at all, 1-little, 2-very, 3 -total, etc. For the items with the answer yes and no, scores were awarded according to the minimum or maximum used on the respective evaluation: yes (var = 4), no (var = 0). The scalar variables are represented in the present paper by the scores obtained on the tests of skills, knowledge and attitudes (var = FOI3a) etc., with the mention that the observation sheets were made mainly using the Likert scale. The test scores for the initial stage represent sums of the subsections for each instrument measuring and analyzing the variables.

In the case of the questionnaire addressed to the teachers, there are a large number of dichotomous variables, which is due to the items that offer the possibility to select several options, each answer being converted so that a clear, relevant and real statistical analysis can be performed. In this questionnaire, as examples of variables can be given the following:

1. Nominal variables for gender (var = GEN), specialization (var = Specialization), professional environment (var = Med), the rate of integration of outdoor activities in daily activities (var = Integr), factors that influence the use of the method (var = Fact) and the opinion about who should lead these activities (var = Believe).

2. Ordinary variables related to familiarity regarding the concept of outdoor education (var = Fam), experiences related to outdoor education (var = Exp), time allocated to outdoor education (var = Perm), frequency of class involvement in outdoor activities (var = Often), enthusiasm (var = Ent), evaluation of interest (var = Interest), level of trust granted (var = Confidence). Also, the ordinary variables were used in the case of analyzing the participation of the media elements in the absence of the open air during the formal education (var = Particip) and in the item in which it is analyzed whether the teachers consider that they can carry out outdoor activities (var = consider).

3. The variables of scale type, for age, seniority and other two items that refer to the personal opinion regarding the concept and personal interest related to the activity in developing certain competences.

Ordinary variables were given scores between 0 and 5, the value 0 never representing, and the value 5 representing the highest value, for example, often, very often, always, etc.

VI.5. Population / sample

The sample of subjects with whom we worked was established on the basis of criteria and taking into account the chronological age of the subjects (students aged 6-8, the level of fundamental acquisition cycle). We worked with a number of 129 subjects, of which 65 belonged to the experimental group and 64 to the control group. The subjects were selected from schools belonging to different areas: rural, urban as well as schools of different educational and social levels, all in order to have a varied variation.

The quality of the study participant was identified under the following conditions:

1. Participation in the experiment is made within the institutions with which a partnership contract was concluded, with the knowledge of the school directors, of the teachers from both groups, respectively experimental and control, during the course hours and / or

during the hours allocated to the afterschool programs, under the supervision of the teachers and with the verbal agreement of the parents of all participants, in the presence of the scientific researcher.

2. Expression of the non-motivated participation agreement at two research sessions: the experimental phase and the post-test phase.
3. Providing minimum personal data in order to be able to verify the personal and group evolution of the classes.
4. Participation of the teachers in the initial preparation in order to know the concepts that have to do with outdoor education and the involvement by carrying out predetermined activities within the experimental stage.
5. The age of the participants should be between 6-8 years, provided that the participants of the parallel classes belong to the same institution.

VI.5.1. Sampling

The initial testing was performed according to the established research design, ie all participants were subjected to the tests of observation and evaluation of transversal competences, taking into account the three preset levels. In the actual experiment phase, a number of 65 students participated, passing through three or five outdoor education activities during 5 weeks, activities described in an organized manner in the following chapters. The control group totaled 64 participants, they were re-evaluated in the post-test stage, using the same type of evaluation as for the 65 participants in the experiment itself.

The number of teachers in primary education who participated in the questionnaire from the preliminary study stage and whose answer can be considered is 117. The total number of teachers who participated in the focus group during the pre-test period is 28, they belong to partner institutions and participants in the experiment. At this stage, not only did the teachers directly involved those from the fundamental procurement cycle, but also some teachers from the same institutions, but from the third and fourth grades and interested parents, whose children participated in the experimental phase.

VI.6. The research stages

VI.6.1. The stage of consultation and study of specialized literature in order to elaborate the working tools

In this stage, the study of the specialized literature that is the basis of the theoretical basis of the present thesis was carried out. We consulted both specialized literature in the country and abroad, as well as different scientific articles regarding the conceptual landmarks and definitions that are in line with the researched theme. The bibliographic sources are current, and collect an interesting number of authors of the twelfth century who were concerned with similar topics and studies, but also group older studies that stand as inspiration and starting points to the current ones. First of all, we have analyzed works that are concerned with the topic of outdoor education in the specialized world literature, of which resonant names are mentioned: Donaldson, 1958; Priest, 1990; Smith, 1955; Higgins, 2002; Hammerman, Hammermn & Hammerman, 1985; Smith, 1972; Neill, 2004; Monday, 2002; Donaldson and Donaldson, 1958; Ford, 1980; Moldovan, 2007; Cook, 2001; Barker et al., 2002; English Outdoor Council, 2013; Wilson, 2013; Potter, Dyment, 2016 and Șerban, 2014. The skills issue was approached and carefully analyzed under the names of well-known academics and educators from the country and abroad: Șerban, 2014; Ionescu, 2003; Roman, 2010; Chis, 2005; Ștefan, 2006; Chis, 2002; Bocoș, 2002; Ilica, 2013; Care, Luo, 2016; Novel, 2014; Meyer, 2000; thus clarifying all the concepts that are closely related to the term mentioned above.

VI.6.2. The stage of working tools development

At this stage, the following personalized working and evaluation tools have been developed:

• Questionnaire addressed to teachers
• Focus group interview guide
• Observation protocol
• Questionnaire addressed to parents
• Instrument for observation and analysis of variables

VI.6.3. The stage of piloting the instruments used

At this stage, the set of tools used according to the elements proposed in the research design was piloted. This step was carried out in 3 stages, because the need to optimize the instruments used in the study was observed. During the three sessions, groups of 15 children, aged between 6 and 8, from General Schools and National Colleges from Arad participated. During these sessions, the students were analyzed regarding the experience of participation and evaluation. As a result of these sessions, the number of tests initially set was reduced, to a number of 7-10 activities per level, and practically after that, the next stage was started, namely the initial testing.

VI.6.4. The stage of preliminary study

Within this stage, the analysis of the real and objective situation of the knowledge and application of the method of outdoor education at the preschool and school level, especially at the cycle of fundamental acquisitions, was carried out. At this stage, a questionnaire was applied, aimed at teachers, which would highlight the level of knowledge about the given method, its degree of use, the way of using it, the opinions of the teachers regarding some aspects regarding the knowledge and application of the outdoor education activities: enthusiasm, efficiency, degree of participation, introduction of the method in the program and daily routine of the students. This stage was necessary because before applying any intervention, the environment, style, interest, the clear, correct and real situation of the educational environment must be known, in order to prepare and develop tools perfectly adapted to the action to be worked with.

Another way by which the pre-experimental stage was achieved was by administering a questionnaire addressed to parents. We considered this to be important, because we wanted to know the level at which, outside of formal education, it is not fair to say formal education, allow children to spend time in the external environment. We were also interested in the reasons why they choose to do this or not. In conducting the research, we also wanted to involve them in organizing and carrying out the activities related to outdoor education in the control groups, in order to have a complex understanding of what this method means. The time allowed for children to be spent in the outdoor environment is important in the classroom as well, since home education complements that of the classroom, and the readiness of educators to get involved or not in a specific activity depends significantly on how well I spend time outside of class hours.

Therefore, the results analyzed following the application of the questionnaire, as well as the structure of this instrument used will be presented below. To this questionnaire addressed to parents, 42 people answered, both male and female. The children of some of the respondents participated in this experiment. The questionnaire was structured on 11 closed variables and one sub-variable with open answer. The questionnaire also included 4 identification variables, which were used at the end of the questionnaire. Of the 42 respondents, there were 14 males and 28 females. Of these, the majority, a percentage of 54.8 respondents were between the ages of 31 and 40, which means that their children are around the age of the sample included in the present research. A total of 10 respondents, a percentage of 23.8 persons in total, were between 20 and 30 years old. The rest of the percentage is comprised of 8 parents with the declared age between 41 and 50 years, and a single parent over 50 years.

VI.6.5. The pre-experimental stage

This stage was carried out on three levels:

- **the initial testing phase,** which took place after the elaboration of the research instruments, consisted in the application of observation sheets of the institution and of the level of knowledge for each class, as well as the x-ray of the level where at each participating class, the cross-cutting competencies are present. wishing to be developed This phase, had as main objective the initial evaluation of the sample of subjects, similar to the preliminary study conducted with teachers, only that it could not be achieved by applying a questionnaire, due to the early age of the participants with whom they worked.
- **the phase of statistical investigation,** which consisted in the initial introduction, processing and analysis of the data collected and introduced in the preliminary study phase and that of the initial testing, in order to identify the statistically significant relationships.
- **the qualitative investigation phase** was achieved by organizing three focus-group sessions, with the teachers of the classes participating in the study, as well as from the other classes in the institutions where the research was conducted. The purpose of these sessions was to clarify the concepts, a better knowledge of this new method applied, a better mastery of the method and tools used, as well as an x-ray of how they present openness to participate in similar actions, but also openness to observe the changes that occur in the group of participants, both experimental and control.

VI.6.5.1. The results of the focus group interview in the investigative phase

This method was used in order to know the real situation regarding the perception of the teachers regarding the outdoor education, its value in the development of transversal competences, as well as aspects regarding the design, organization, development and evaluation of the outdoor education activities. The information thus obtained helped to identify the problem, from the point of view of qualitative research, so that later they would be used in quantitative research. It is useful because it is conducted on a small number of respondents and shows a deeper picture on the topic under discussion. The focus group interview was addressed to teachers from educational institutions in the area of Arad Municipality, who profess at the level of the fundamental procurement cycle, in 2017-2018. The semi-structured interview aimed to identify the perception of the teachers regarding the introduction of outdoor activities into the educational-educational activity. Following the analysis of the data, the following were found: several clear directions can be distinguished regarding the perception of the teachers about the educational and learning activities carried out outside the classroom.

VI.6.6. The experimental stage

This stage was carried out in two distinct phases:

- **the consultative phase,** in which meetings were held with the teachers and students participating in the study, in order to design activities-tools that are in accordance with the level, requirements and preferences of each group.
- **the phase of the formative intervention,** in which the beginning of the actual experiment was marked, establishing the control classes and the experimental groups together with the teachers, establishing the working period according to the calendar schedules of the participating classes, either belonging to the experimental group or to the target group, the analysis of the calendar schedules on learning units with the choice of the exact working data concurrently with the contents that will be adapted to the outdoor method.

VI.6.7. The post-experimental stage

This step was achieved after the completion of the intervention plan. During this stage,

the evaluation observation sheets were applied to all the participating classes after a certain period of time, in order to see what and how much of the contents presented by the outdoor method were assimilated and how much content was lost over time, the same themes are taken into account.

VI.7. Instruments used in the research

VI.7.1.Teachers questionnaire

This instrument was applied during the preliminary study phase, with the purpose of collecting data regarding the opinions, knowledge and experiences of the teachers from Arad County regarding the concept and activity of outdoor education. This procedure is necessary because a study cannot be started without a clear foundation related to the level of knowledge and applicability of the method of education outside the classroom. The items of the questionnaire aimed at an algorithm that measures around three components for each type of content, respectively components aimed at: knowledge, attitude, experience. The other data that appear in the questionnaire are personal and identifying information of the teacher participant, educational experience, gender, age, environment in which they profess and the specialization they have.

Considering the purpose of the study, the items were elaborated in accordance with the two major topics of interest: outdoor education and cross-curricular skills. The items were elaborated maintaining the same objective structure, using different scales.

VI.7.2. Focus-group interview guide

The focus group interview was addressed to the teachers who profess at the level of the fundamental acquisitions cycle, in 2017-2018. The semi-structured interview aimed to identify the perception of the teachers regarding the introduction of outdoor activities into the educational-educational activity, containing 17 questions.

Focus group topic: Introduction of outdoor learning activities in schools (fundamental procurement cycle)

The purpose of the focus group:

- identification of the opinions and feelings of the teachers regarding the importance of the activities within the outdoor education
- identification of the way in which the activities related to outdoor education are carried out within the class of students.

VI.7.3. The observation protocol

In the case of the present research, the observation protocol was created in such a way as to provide a framework for systematizing the objectives pursued. Thus, based on the observed behavior, we can form an opinion regarding the psychic development of the child. Given that the entire behavior of the child cannot be tracked in an observation session, it was necessary to establish an aspect to be followed in a particular session and to note the specific behaviors that occur during the observation period in the form of behavioral indicators. There was also a free observation of the behavior of the students from the control classes and the experimental classes, the delimitation being done according to some aspects followed, presented in the form of scales: the presence of the key and transversal competences, the extent to which they are present at the level of each class, the economic level of each class, the educational space / environment, the activity of the students, the level of knowledge of the classes, the involvement of the students in activities, the material basis of the institutions to which the research is carried out, in order to obtain real information on the spaces that can be used in the accomplishment of the outdoor activities, the motivation level of the teacher, the methods used in the educational instructional process, the variety of the sample of subjects as well as the resources and the tools used during the course hours.

VI.7.4. Parents questionnaire

This instrument was used in the preliminary study phase in order to know the needs of the students in the cycle of fundamental acquisitions regarding the use of the outdoor method, by applying a questionnaire addressed to their parents. The instrument was organized by using 4 items of personal identification: gender, age, level of education and environment in which the respondents live and 11 items trying to find a response to the attitude, knowledge and experience of parents regarding the activities related to outdoor education. We considered this step important because the positive attitude of the parents in this regard, as well as the consent given to the involvement of children in activities that take place and in the external environment was decisive in the accomplishment and choice of activities for children.

VI.7.5. Variable observation and analysis instruments

In the research, this instrument represented the scientific basis by which the criteria for verifying the level of development of cross-cutting skills were chosen, at different age levels, taking into account three main verification categories:

- the criterion of knowledge or content acquisition
- skills criterion
- the attitudinal and affective criterion.

During the research, at each age level the following were applied, namely: the preparatory class, the first and the second class, a number of three fact sheets verifying the development of the level of transversal competences. These were applied in the pretext phase, when no outdoor education activities have yet been carried out, and in the post-test phase, after activities related to outdoor education were applied to each class. Also, these measurement and analysis tools for the development of the level of transversal competences were applied in the two phases of the research, both to the experimental group and to the control group, to verify the existence of psycho-socio-educational differences at the level development of transversal competences.

The competency observation sheets were made according to the three major criteria that are in the composition of each transversal competence existing in the curriculum of the fundamental procurement cycle, stipulated by the M.E.N. (*** M.E.N., 2017) but also in accordance with the school syllabus for each discipline integrated in the activities related to outdoor education carried out in each class. According to the age level at which the outdoor educational activity was carried out, a number of competencies were chosen for each criterion that is part of some transversal competences. Thus, in the preparatory classes, within an activity was taken into account a smaller number of competences pursued, it increasing numerically with the age of the students. In the second classes, the level of development of several competences was followed. The skills observation sheets were made in a personalized way for each class participating in the study, either experimental or control. To achieve this, a scale with values from 1 to 5 was used, according to the Likert scale model, for each level, 1 being the lowest value and 5 being the highest value that can be assigned to a student. The score was awarded both in the pre-test and post-test phase, following the observation of each student individually, during the educational activities that followed the proposed topics. For certain items, only values 1 and 5 were used, representing the existence or lack of a competency pursued.

VI.8. Test battery design

The distribution of samples within the test battery was made according to logistical considerations and to some of a psycho-educational nature. The ones of a logistical nature are related to the transfer of data in the databases developed for the purpose of statistical processing, and those of a psycho-educational nature refer to the energy resources needed to complete the observation sheets of the cross-curricular competences, as well as the realization of the proposed activities in time, the control class as well as the experimental one, according to the

calendar planned by the teachers from the classes involved. The order of applying and completing the observation sheets was made according to the time when each teacher planned his calendar to carry out the activities related to the outdoor education, to the experimental groups and to the contents routinely, according to the program, to the control classes. During the post-test phase, the same tools for measuring and analyzing the variables were applied, not changing the criteria initially followed and the items, they were used at this phase in exactly the same order as in the pre-test phase, in order to be able to verify and compare the results statistically.

VI.9. The training intervention program

VI.9.1. The conceptual model of the training intervention program

Schema conceptuală a intervenției formative propuse conține următoarele elemente:

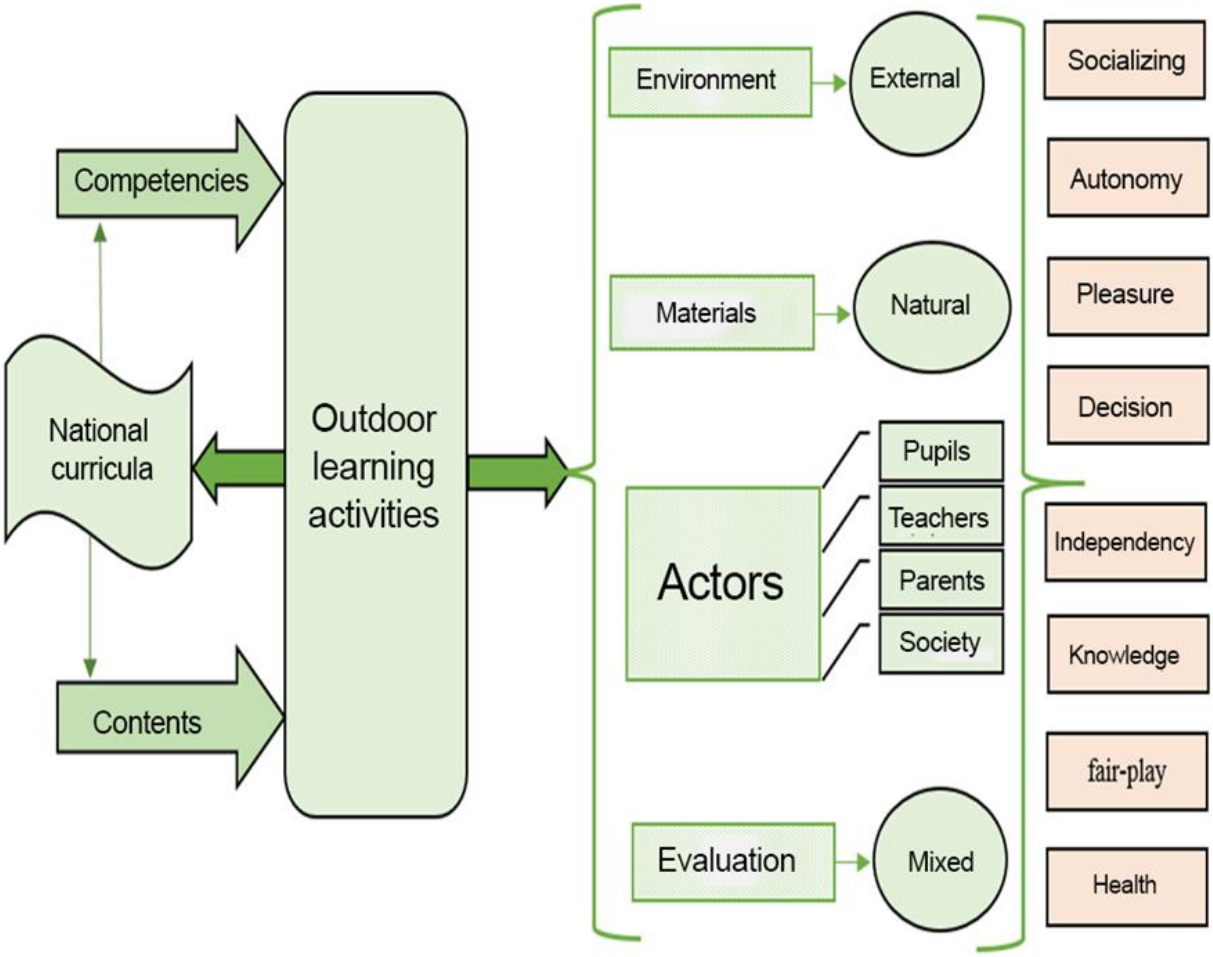

Figure nb. 2. Conceptual scheme of the intervention model

VI.9.2. The implemented training intervention program

The intervention program implemented experimentally, was structured on the model presented above. Starting from the steps of the model we elaborated, and especially from two of the three types of instruments applied in the pre-test phase, the Institution Observation Sheet and the Focus-group interview guide, some improvements were made in the intervention model previously thought. Also, observing what is the reality of the classroom regarding the knowledge of the teachers on the subject, or the students' practice on this subject and analyzing the statistical data from the pre-test stage with the expected ones, I have outlined the strategy of elaborating the intervention program: activities related to outdoor education in accordance with the curricular requirements and the resources available at each institution. Finally, the design of the intervention evolved in a relatively different form from the one in which it was

initially conceived, in the sense that the outdoor activities were carried out for shorter periods of time, in spaces much closer to the educational institution than previously thought.

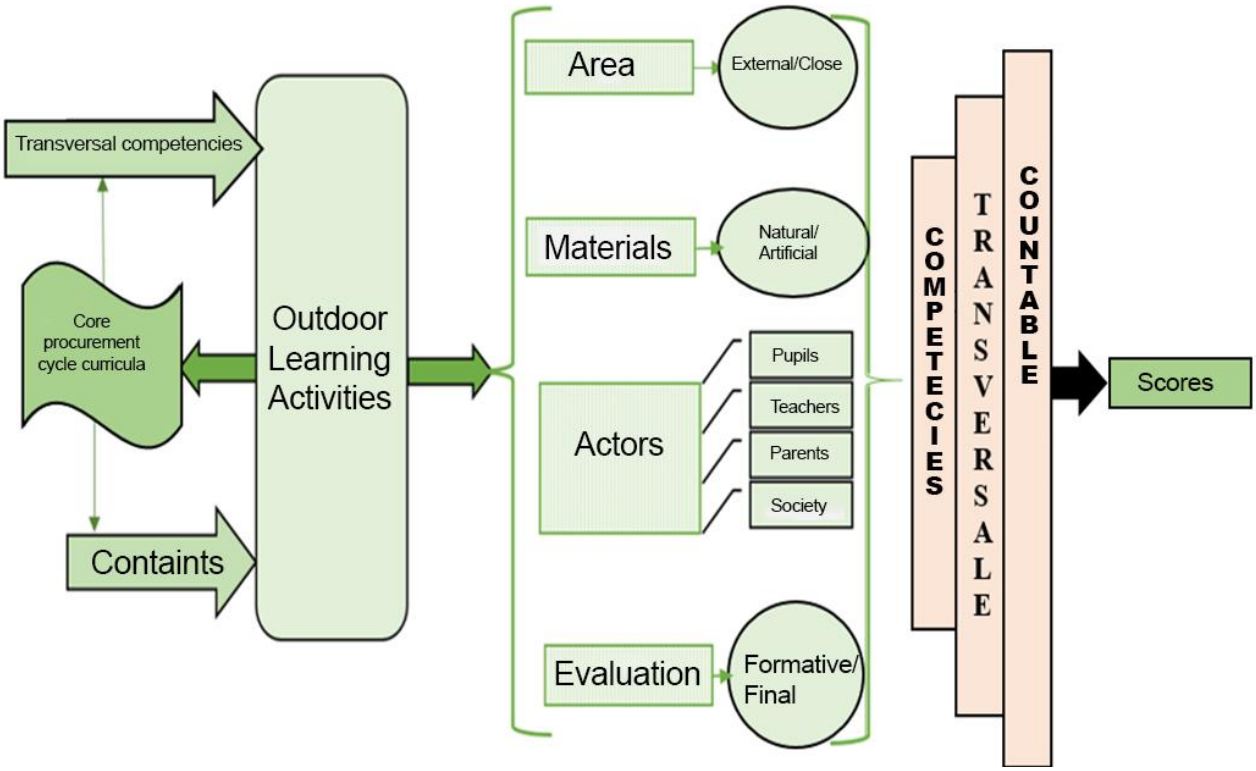

Figure nb. 3. Scheme of the final model of the implemented intervention program

The model of elaboration of the instruments for verifying the level of development of the competences pursued was realized starting from the following scheme:

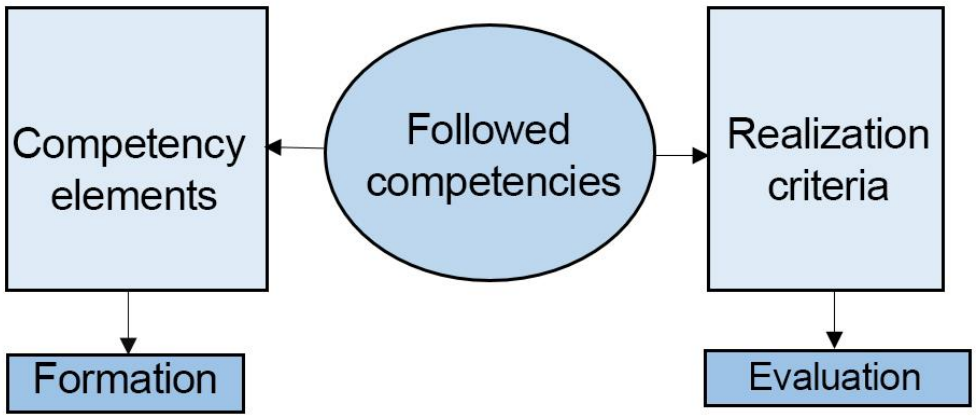

Figure nb. 4. Model of elaboration of the tools for measuring the development of competences

According to the above model, the instrument for measuring the degree of development of transversal competences was achieved through the study of the National Education Law no. 1/2011, with the subsequent modifications and completions (www.legeaz.net) and of the way of their formation and evaluation.

We also want to present the model according to which we have chosen the criteria for selecting and measuring transversal competences from the level of fundamental acquisitions:

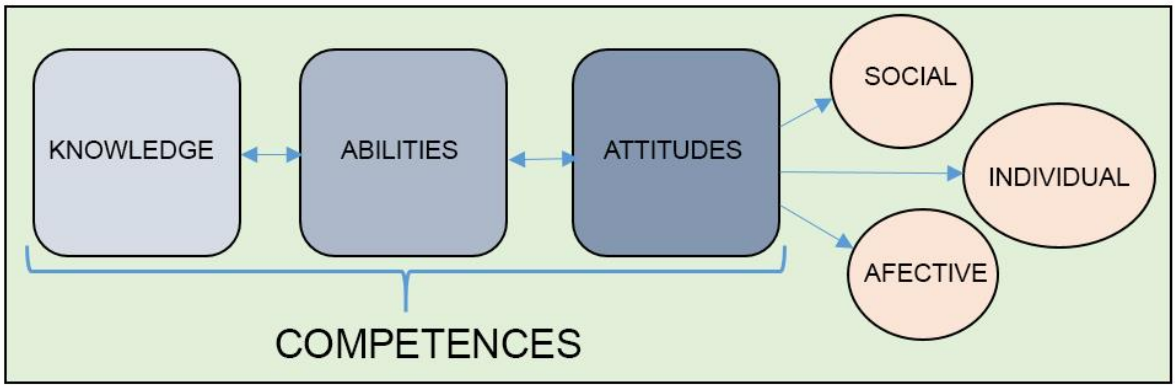

Figure nb. 5. The model of elaboration of the criteria for selecting and measuring the transversal competences

We have considered this step important in our approach, because the assessment of the level of acquisition of the competences and the elements of competence selected for each level, was carried out according to the three criteria: knowledge, skills, and attitudes.

As the research is based on investigating how the training of the transversal competences at the level of fundamental procurement cycle is influenced by the activities related to the outdoor education, we will briefly present the relation between the transversal competences aimed at being developed and the activities related to the outdoor education used in the training intervention program and presented in the research.

TRANSVERSAL COMPETENCE	PREPARATORY GRADE LEVEL			FIRST GRADE LEVEL			SECOND GRADE LEVEL		
	ACTIVITY nr.1	ACTIVITY nr.2	ACTIVITY nr. 3.	ACTIVITY nr. 1	ACTIVITY nr. 2	ACTIVITY nr. 3	ACTIVITY nr. 1.	ACTIVITY nr. 2	ACTIVITY nr. 3
INITIATIVE	x			x					
INVOLVMENT	x		x	x	x	x	x	x	x
FAIR PLAY	x				x				
INTEREST		x					x	x	x
DECISION TAKING		x							
AUTONOMY			x		x	x		x	
ORIENTATION			x						
COMUNICATION					x	x	x		
CONSECVENCY				x					
LATERALITY					x				
RESPONSABILITY						x			
FREE SELF EXPPRESSION								x	x

Table nb. 1. List of transversal competences developed in each activity presented in research, by classes

VI.9.2.1. First study, conducted in the preparatory grade

The first study within the present paper was carried out in an institution from the rural area, at the level of the preparatory class, in an institution located a few kilometers from the city of Arad, in a village well developed from an economic and social point of view. The students at this level are 47, of which 24 belong to the control group and a number of 23 students from the experimental group.

The activities chosen to be presented are three in number, and are based on the following model:

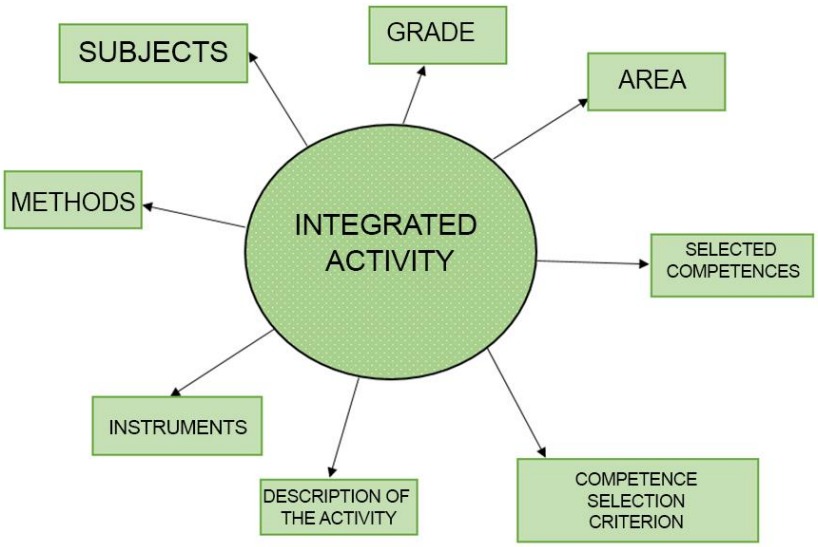

Figure nb. 6. Schematic analysis of integrated activities within the implemented program

We have chosen to present, therefore, three practical and enjoyable activities for children of this level, namely: an integrated sensory activity, in which they have the opportunity to come into direct contact with various materials, a musical activity and an artistic-plastic one.

VI.9.2.2. Second study, conducted in first grade

We would like to present the program implemented at class I, the second level in the fundamental procurement cycle. We have chosen three integrated activities for this level, running over three non-consecutive days, starting from the data collected and analyzed from the institution's observation grid. Within the class I, from the institution in the central area of the city of Arad, there are 49 enrolled students, who also attend the courses offered by this institution. A total of 24 students participated in the experimental group, none of whom were of any different ethnic group. In the control group there are a total of 25 students, where the ethnic situation is the same. The three activities chosen to be presented at this level are: the indication of time with the help of the solar clock, the built environment and the human dimensions (the architecture of the city), and the ”collection of treasures from nature”, being implemented in three different days, respecting the planning carried out by to the teaching staff from the experimental group, and is based exclusively on the class I curriculum and its characteristics, using the method related to outdoor education. The activities have a high practical degree, placing the student in a position to operate directly with the resources that are made available to him or that he himself chooses.

VI.9.2.3. Third study, conducted in the second grade

We want to continue with the program implemented in the second class, the highest level in the fundamental procurement cycle. Three integrated activities were chosen for this level, running over three days, starting from the data collected and analyzed from the institution's observation grid. The activities chosen to be presented are: the activity that tests the general culture, called "30 posters", an activity of orientation by using the map and the compass and a mathematical activity, in which the natural numbers were presented and the operation was practiced with them.

VI.10. The challenges and limitations of the studies carried out at the level of core procurement cycle

Even though the design of the study is relatively simple, a number of difficulties were encountered during the implementation of the program, some of which were solved and others

were limited. The limitations were present in the following categories: the target population, the reticence of the teachers, the elaboration of tools that will accommodate their application during the conduct of integrated activities within the outdoor education, the space, the time and the selection of the experimental batch.

It is important to specify that these limitations were not the same as the training intervention program. This is due to the fact that at the time it was conceived, it was not realized within the scope of limitations. However, there are challenges in its implementation, because the variety of constituent elements is great, as well as the needs of the beneficiaries, the topics addressed, the novelty of the subject, the available institutional resources, the skills and competences concerned and the training of the teachers in this regard. In the case of the implementation of the proposed intervention program, there are limitations regarding the freedom offered by the management bodies but also the lack of material resources within the participating institutions.

CHAPTER VII. PRESENTATION AND INTERPRETATION OF RESULTS

VII.1. Introductory considerations

Within this chapter, the results were analyzed and interpreted in three distinct parts, because on the three levels of the procurement cycle, a separate study was performed. This was so because we wanted to analyze the extent to which transversal competences can be developed at different age levels, but especially because for each age level among the three, we have carried out personalized activities within the outdoor education. At the same time, an important criterion for carrying out the study in the way presented above, is that we wanted to analyze to what extent the outdoor activities can be implemented and how they influence the development of the transversal competences, depending on the environment in which the institution is located, and depending on the environment in which the participants carry out their educational activities.

Following the analysis presented, it can be observed that at the level of the procurement cycle students participated in a total number of 129, of which a number of 65 students attending the control group and participating directly through the training intervention program. A number of 64 students, indirectly participating in the present study, through the observations they were subjected to, during the instructional-educational process.

VII.2. Procedure of presenting and interpreting results

The activities within the training program were applied during the courses, during the school program, being carried out through activities within the outdoor education. The observation sheets were completed in real time, for each individual student, either from the experimental group or from the control group, for both stages of the study. These were completed on paper, the students' anonymity being maintained throughout the study, but comparisons could be made between the scores accumulated from one stage to another. Also, the scores received were transcribed on electronic medium, then processed and analyzed in the statistical program. The data collection took place between October 2017 - May 2018, and the completion of the evaluation sheets took approximately 50 minutes for the students in the control classes and around 5-6 hours for the students in the experimental group.

VII.3. Presentation and interpretation of the results for the first study, realized in the preparatory grade from the rural area

The first study was conducted in the preparatory class, from the rural area, from a locality near the city of Arad.

VII.3.1. Analysis of the results regarding the sample involved in the research

The population was made up of students from the preparatory class, from the rural area, from a general school in the village of Fântânele in Arad. The students participating in the first

study were of both genders, between the ages of 5 and 7 years. The distribution of the population participating in the first study is homogeneous in number and in age. It can be seen that in the control group a number of 24 students participated, compared to the experimental group, where 23 students participated. The distribution was made at random, because as a result of analyzes from the pre-test stage and those from the preliminary study, no significant differences were identified between the two classes of preparatory level within the institution located in the rural area.

VII.3.2. Fidelity analyzes performed on the instruments used

In order to verify the validity of the scales used, fidelity analyzes were performed for the three instruments used in the assessment of transversal competences for the students of the preparatory classes. This step was not compulsory, because the tools used in the approach are curriculum based and have a solid foundation in the school syllabuses at the level of procurement cycle.

VII.3.2.1. Fidelity analysis on the instrument of observation and analysis of variables for the sensory activity

The observation sheet for the Sensory activity obtained an Alpha-Cronbach score (α =, 726). The analysis was performed on 3 items, each representing a total score of the evaluation. The minimum mean was M = 3.60 for the first total score (var = TOTALFOASI1PRE) and the maximum was M = 8.09 the last total score (var = TOTALFOASI3PRE). The maximum standard deviation was within the ability criterion, SD = 1.853.

The Alpha-Cronbach index is above the threshold (α≤0.70) is admitted for experimental measurement, which ensures the possibility of using in observation conditions the observation sheet related to the sensory activity.

VII.3.2.2. Fidelity analysis on the instrument of observation and analysis of variables for the activity „Music around me"

In the case of the activity evaluation sheet related to the musical activity, we did not perform a fidelity test, because it contained a too small number of items that could not be tested. This is due to the fact that within two criteria there is only one item that makes up the total, and correlations between sub scales cannot be made. In this activity, we only wanted to track or test only a small number of competences.

VII.3.2.3. Fidelity analysis on the instrument of observation and analysis of variables for the painting and collage activity with the use of natural resources

The observation sheet related to the activity in the arts, obtained an Alpha-Cronbach score (α =, 306). The analysis was performed on 3 items, each representing a total score of the evaluation. The minimum mean was M = 3.36 for the first total score (var = TOTALFOPII1PRE) and the maximum was M = 5.55 for the second total score (var = TOTALFOPII3PRE). The maximum standard deviation was within the *abilities* criterion, SD = 3,676.

The Alpha-Cronbach index is above the threshold (α≤0.30) is allowed for experimental measurement, which ensures the possibility of using in observation conditions the observation sheet related to painting and collage activity with natural materials.

Even though each set of tests that we have applied at the level of the preparatory class is based on curricular elements extracted from the syllabuses of the disciplines related to this level, we considered it necessary to perform the fidelity test of the observation sheets.

VII.3.4. Distribution of scores

The distribution of scores within the pre-experimental stage is not homogeneous among the entire population evaluated, for any of the tests applied. Within the three skills assessment

sheets it was observed that the distribution of scores is not relatively normal. This may be due to several factors, (the sample of subjects is too small in number to be able to use parametric tests, the data have exceptions that cannot be eliminated between variables, in the case of using nominal and ordinal scales) and has as consequences the need to use parametric statistical tests in combination with non-parametric ones. The tests that can be used in this case and those that we will use in the analysis of statistical data are: the T test, Anova, Cramers V and Chi Square. (Www.isixsigma.com)

The distribution of scores within the post-experimental stage is not homogeneous at the level of the whole population evaluated, for any of the tests applied. From the distribution perspective, the evaluation sheets can be considered consistent, within the post-experimental stage, the averages of the evaluation test scores (var = SORTOTALFOASPOST), (var = SCORTOTALFOMJMPOST) and (var = SCORTOTALFOPPOST) in the second test instance is also an abnormal distribution of scores.

VII.3.5. Hypotheses testing

For the results to be presented as clearly as possible, we organized the analysis and interpretation of the results according to the established hypotheses. This will allow to easily track each set objective and each research question.

1. The first hypothesis of the study was formulated as follows: *The results obtained by the students regarding the concerned transversal competences (manifesting positive initiatives in school and extracurricular activities, using the knowledge gained in several ways to solve work tasks, using the trained skills to solve problem situations from the known environment and to improve the attitude towards learning) are not influenced by the gender belonging of the students.*

To test this hypothesis, the t-test was used, having as a criterion variable the gender, and as a dependent variable, the results obtained by the students in the post-test stage. There were no significant differences between the results obtained at the post-test (the analysis performed on the three criteria: knowledge, skills, attitudinal and socio-affective) between girls and boys in the observation sheets of the competences applied at the level of the preparatory class, regardless depending on the group or phase of the study (pre / post experimental), the scores, although apparently inhomogeneous, are not significantly different, thus, the first specific hypothesis is confirmed. In the contemporary educational systems, the classes are varied as gender, this not influencing the school results of the students, as in this case the gender does not influence the scores accumulated by the students. (Dughi, Roman, 2009)

2. The second hypothesis of the present study was formulated as follows: *There are no significant differences between the results obtained by the students belonging to the control group and the experimental group in the pre-test stage, regarding the level of development of the selected transversal competences (showing positive initiatives in school and extracurricular activities, using the knowledge gained in several ways to solve work tasks, using the trained skills to solve problem situations in the known environment and improving the attitude towards learning).*

To test this hypothesis, tests were applied for non-parametric data, Cramer's V and Chi-Square, as versions of non-parametric tests of the correlations respectively of the regressions of the parametric data, dividing the population into two groups: experimental and control. According to these analyzes, performed on the scores given in the three fact sheets of the observations of the preparatory class, it can be concluded that there are no statistically significant differences between the experimental and the control group during the pre-test period, thus hypothesis 2 is confirmed, and by this it can be stated that the preparatory classes belonging to the rural environment are homogeneous both in terms of age and in the level of competences analyzed on the three criteria: knowledge, skills, attitudes.

3. The third hypothesis of the study was formulated as follows: *There are significant differences in the results obtained regarding the scores showing the level of development of the*

transversal competences concerned, (manifesting positive initiatives in school and extracurricular activities, use of the knowledge obtained on several ways to solve some work tasks, the use of the trained skills to solve problem situations in the known environment and to improve the attitude towards learning), during the post-test phase, between the experimental groups and the control groups.

To test this hypothesis we used the t test, having as a criterion variable the group of the participants in the study, respectively experimental and control, and as a dependent variable, the results obtained at the post-test, structured on the three criteria followed at the level of each measuring instrument and analyzing the variables in the preparatory class. Following the analysis of the results, it can be said that outdoor education develops substantially the transversal competences within the preparatory class, on two of the three criteria followed. Outdoor education increases the level of involvement in activities, increases autonomy, significantly develops the sense of freedom, develops relationships within the group helping to better self-knowledge, increases the level of interest in participating and completing the proposed task, through the free environment in which it takes place, enough time allocated to each activity, integrated learning and especially placing the educable in the place it deserves: in the center of educational activities. Even if the activities were varied, we have shown that the activities related to outdoor education can be realized and adapted in multiple ways, the results being the same: the development of transversal competences.

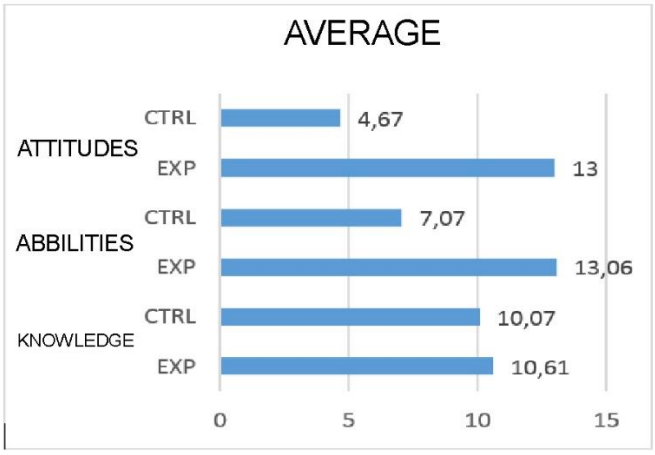

Figure no. 7. Differences between the experimental and the control group, at the level of the three criteria in the first activity

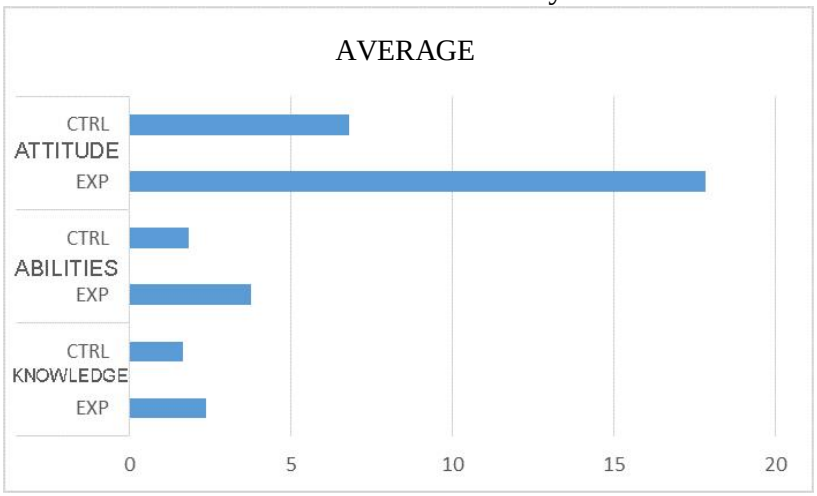

Figure no. 8. Differences between the experimental and the control group, at the level of the three criteria in the second activity

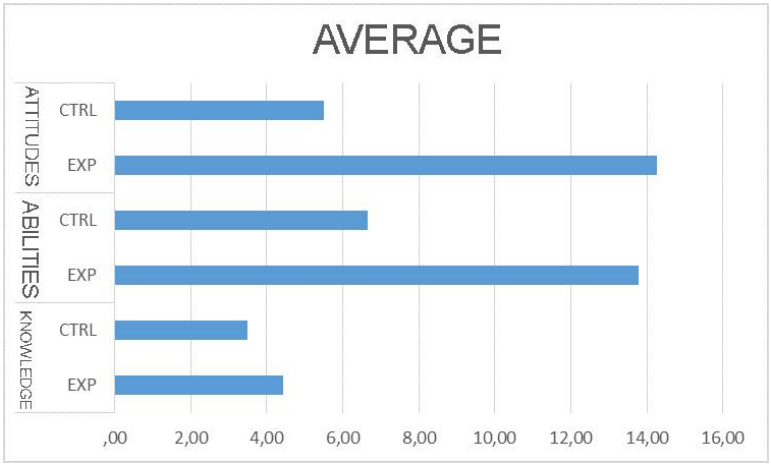

Figure no. 9. Differences between the experimental and the control group, at the level of the three criteria in the third activity

4. The fourth hypothesis set for the level of the preparatory class is: *The participation of students in the activities related to outdoor education based on time, space and resources management specific to this type of education significantly develops the positive attitudes of students towards learning.*

To test this hypothesis, a comparison was made between the degrees of development of positive attitudes towards the educational instructional process in correlation with the three activities implemented. Following the data from the analysis, it can be stated that although there are no statistically significant differences regarding the averages accumulated by the experimental group in all the variables, there are nevertheless differences between the items followed for each of the integrated activities. Thus, it can be observed that the activity with the highest degree of involvement and interest given to learning is the sensory activity. The interest given to the activity by the students from the experimental group at the level of the preparatory class was maximum in the sensory activity, with a score of 5/5 maximum points. (FOASI3BB being the variable that measures, within the post-test stage, the scores for the interest given in the integrated activity realized through sensory activity.)

Group Statistics

	GRUP	N	Mean	Std. Deviation	Std. Error Mean
FOASI3AA	EXP	23	4,83	,388	,081
FOASI3BB	**EXP**	**23**	**5,00**	**,000**	**,000**
FOMJMI3AA	EXP	23	4,74	,449	,094
FOMJMI3CC	EXP	23	4,65	1,152	,240
FOPI3AA	EXP	23	4,61	,499	,104
FOPI3BB	EXP	23	4,65	,487	,102

Table no. 2. The averages of the scores accumulated during the post-experimental stage by the experimental group, at the items that measure the attitudes towards learning

Based on the same results, it can be observed that the involvement in the activity was the highest among the students participating in the training program during the integrated activities based on the sensory activity. The hypothesis is partially confirmed, because even though there are statistically differences in the scores awarded for each activity in terms of the items pursued, (involvement in activity var: FOPI3AA, FOMJMI3AA, FOASI3AA and interest given to activity var: FOPI3BB, FOMJMI3BB, FOASI3BB), we considered that the activity

can be carried out also in the indoor environment, not needing resources or spaces only from the external environment.

VII.3.6. The conclusions of the study conducted in the preparatory grade

In the first study, four hypotheses were tested which together measure the development of the level of transversal competences in the preparatory class through the activities related to outdoor education. It can be stated that at this level, through the intervention program that was implemented, positive changes were made at the level of transversal competences. At this level, the outdoor education through the related activities, carried out correctly and according to the methodology in force, adds value to the formal and non-formal education, through the positive changes that it brings to the participating students at the skills level, which are visibly developed following an outdoor program, at life skills, at operating directly with the resources that contribute to the instructional-educational activities realized in the education and of the experience that it offers to the students in learning through discovery. The activities within the outdoor education are based on the curriculum, closely following the school syllabuses and taking into account the competences meant to be developed at each level, being easily adapted to the level of the preparatory class, significantly developing the transversal competences at this level. The activities related to outdoor education bring value to formal and non-formal education, supporting them by developing plans that could not be achieved through other teaching strategies. Outdoor education at the level of the preparatory class has proved to be, on the basis of the present study, a preface between formal and non-formal education, as well as a bridge between contents, skills and attitudes that fall within the key and transversal competences required for this level. The communication within the group of students was visibly developed, and significant improvements were observed in terms of sharing ideas and during outdoor activities, but also in the classroom, after their completion. Outdoor education has a real basis in the national curriculum, constantly being concerned with the approach of the existing contents in the current school syllabuses, in unique and pleasing ways for the students, involving them to the maximum in the learning process. It develops the students completely, contributing positively and significantly to a development of their quality of life and a real knowledge of the environment that surrounds them, be it natural, artificial or socially.

VII.4. Presentation and interpretation of the results for the second study, realized in the first grade within the urban-central area

The second study was conducted in 1st grade, from urban environment, central, at a top institution in the city of Arad.

VII.4.1. Analysis of the results regarding the sample involved in the research

The population was made up of students belonging to 1st grade, from the urban-central area, from a National College in the city of Arad. The students participating in the second study were of both genders, aged between 6 and 8 years. The distribution of the population participating in the second study is homogeneous in number and age. A total of 25 students participated in the control group, compared to the experimental group, where 24 students participated. The distribution was made at random, because as a result of the analyses from the pre-test stage and those from the preliminary study, no significant differences were identified between the two 1st grades within the institution located in the urban-central area.

VII.4.2. Fidelity analyzes performed on the instruments used

In order to verify the validity of the scales used, fidelity analyzes were performed for the three tools used in the assessment of transversal competences for the students of the first grade. The instruments were presented above, under the form of appendix and were realized on the basis of three criteria: cognitive criterion, abilities criterion and affective / attitudinal criterion.

VII.4.2.1. Fidelity analysis on the instrument of observation and analysis of the variables for the activity of time indication using the Solar Clock

The observation sheet related to the activity of learning to specify the time by means of a solar clock obtained an Alpha-Cronbach score (α =, 710). The analysis was performed on 3 items, each representing a total score of the evaluation. The minimum average was M = 4.41 for the last total score (var = TOTALFOCSI3PRE) and the maximum one was M = 5.78 for the first and second total score (var = TOTALFOCSI1PRE, var = TOTALFOASI2PRE). The maximum standard deviation was within the knowledge criterion, SD = 3,847. The Alpha-Cronbach index is above the threshold (α≤0.70) is admitted for experimental measurement, which ensures the possibility of using in observation conditions the observation sheet related to the time learning activity by using the solar clock.

VII.4.2.2. Fidelity analysis on the instrument of observation and analysis of variables for the activity „Built environment and human dimensions" (the city architecture)

The observation sheet related to the learning activity *The built environment and the human dimensions / the architecture of the city* obtained an Alpha-Cronbach score (α =, 691). The analysis was performed on 3 items, each representing a total score of the evaluation. The minimum average was M = 4.37 for the last total score (var = TOTALFOMCI3PRE) and the maximum one was M = 7.07 the first total score (var = TOTALFOMCI1PRE). The maximum standard deviation was within the knowledge criterion, SD = 4,052. The Alpha-Cronbach index is above the threshold (α≤0.70) is allowed for experimental measurement, which ensures the possibility of using in observation conditions the observation sheet related to the learning activity "The built environment and the human dimensions".

VII.4.2.3. Fidelity analysis on the instrument of observation and analysis of variables for the nature treasure hunting activity

The observation sheet related to the activity in the treasure hunt activity in nature, obtained an Alpha-Cronbach score (α =, 582). The analysis was performed on 3 items, each representing a total score of the evaluation. The maximum average was M = 7.22 for the first total score (var = TOTALFONHI1PRE) and the minimum was M = 3.67 the last total score (var = TOTALFONHI3PRE). The maximum standard deviation was within the abilities criterion, SD = 3,536. The Alpha-Cronbach index is above the threshold (α≤0.30) is allowed for experimental measurement, which ensures the possibility of using in observation conditions the observation sheet related to the activity of treasure hunting in nature.

VII.4.3. Distribution of scores

The battery of tests at this level consists of applying three relatively similar structured tests, measuring transversal competences and their level of development. The test battery was used in two phases of the study: the pre-test stage and the post-test stage for both interest groups, respectively the experimental and the control group. The distribution of scores within the pre-experimental stage is not homogeneous among the entire population evaluated, for any of the tests applied. Within the three skills assessment sheets it can be observed that the distribution of scores is not relatively normal. This may be due to several factors, (the sample of subjects is too small in number to be able to use parametric tests, the data have exceptions that cannot be eliminated between variables, in the case of using nominal and ordinal scales) and has as consequences the need to use parametric statistical tests in combination with non-parametric ones. The tests that can be used in this case and those that we will use in the analysis of statistical data are: the T test, Anova, Cramers V and Chi Square. (www.isixsigma.com)

VII.4.4. Hypotheses testing

In order to present the results as clearly as possible, the analysis and interpretation of the results were organized according to the established hypotheses. In this way, each set objective and each research question will be easily followed.

1. The first hypothesis of the present study was formulated as follows: *The results obtained by the students regarding the concerned transversal competences (manifesting positive initiatives in school and extracurricular activities, using the knowledge gained in several ways to solve work tasks, using the trained skills to solve problem situations from the known environment and to improve the attitude towards learning) are not influenced by the gender belonging of the students.*

To test this hypothesis, the t-test was used, having as a criterion variable the gender, and as a dependent variable, the results obtained by the students during the post-test stage. In this approach we used the statistical test t, to compare the scores obtained on the three criteria followed during the post-test phase, on three of the activities carried out in the experiment at the level of 1st grade in correlation with the gender of the students. No significant differences were obtained between the results obtained during the post-test stage (the analysis performed on the three criteria: knowledge, skills, attitudinal and socio-affective) between girls and boys in the observation sheets analyzed, regardless of the group or from the study phase (pre / post experimental), the scores, although apparently inhomogeneous, are not significantly different, thus, the first specific hypothesis is confirmed. This is because according to the specialized literature, the gender of the students does not influence the instructional-educational process nor the development of skills.

2. The second hypothesis of the present study was formulated as follows: *There are no significant differences between the results obtained by the students belonging to the control group and the experimental group in the pre-test stage, regarding the level of development of the selected transversal competences (showing positive initiatives in school and extracurricular activities, using the knowledge gained in several ways to solve work tasks, using the trained skills to solve problem situations in the known environment and improving the attitude towards learning).*

To test this hypothesis, we chose to apply tests for non-parametric data, Cramer's V and Chi-Square, as non-parametric test versions of the correlations respectively of the parametric data regressions, dividing the population into two groups: experimental and control. According to these analyzes, performed on the scores given in the three records of the 1st grade observations, it can be concluded that there are no statistically significant differences between the experimental and the control group in the pre-test period, thus hypothesis 2 is confirmed, and by this it can be stated that the 1st grades belonging to the central environment are homogeneous both in terms of age and level of competences, analyzed on the three criteria: knowledge, skills, attitudes.

3. The third hypothesis of the study was formulated as follows: *There are significant differences in the results obtained regarding the scores showing the level of development of the concerned transversal competences, (manifesting positive initiatives in school and extracurricular activities, use of the knowledge obtained on several ways to solve some work tasks, the use of the trained skills to solve problem situations in the known environment and to improve the attitude towards learning), during the post-test phase, between the experimental groups and the control groups.*

To test this hypothesis we used the t test, having as a criterion variable the group of the participants in the study, respectively experimental and control, and as a dependent variable, the results obtained at the post-test, structured on the three criteria at the level of each instrument measuring and analyzing the variables in 1st grade.

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
TOTALFONHI1POST	Equal variances assumed	,738	,395	21,052	47	**,000**	6,432	,306	5,817	7,046
	Equal variances not assumed			20,960	44,214	**,000**	6,432	,307	5,813	7,050
TOTALFONHI2POST	Equal variances assumed	21,308	,000	9,920	47	**,000**	7,903	,797	6,301	9,506
	Equal variances not assumed			10,060	33,362	**,000**	7,903	,786	6,306	9,501
TOTALFONHI3POST	Equal variances assumed	1,561	,218	19,415	47	**,000**	9,425	,485	8,448	10,402
	Equal variances not assumed			19,540	43,845	**,000**	9,425	,482	8,453	10,397

Table 3. Independent test related to the activity of natural treasure hunting in the post-test phase correlated with the group

Based on the obtained results, it is possible to propose the use of outdoor education complementary to the educational activities carried out in the classroom, for the value it brings in the development of knowledge, skills and attitudes that cannot be developed other than by direct exposure to the immediate environment and operation directly with the resources found there. Also the opportunity to communicate and share ideas and resources, bring valuable benefits to the students involved by developing inter-group communication but also individual development, in a free and unconstrained environment.

4. The fourth hypothesis set at the level of 1st grade is: *The participation of students in the activities related to outdoor education based on time, space and resources management specific to this type of education significantly develops the positive attitudes of students towards learning.*

To test this hypothesis, a comparison was made between the degrees of development of positive attitudes towards the educational instructional process in correlation with the three activities implemented. The results show that the hypothesis is partially confirmed, because even if there are statistical differences in the scores awarded for each activity in terms of the items pursued, (involvement in activity var: FOCSI3AA, FOMCI3AA, FONHI3AA, autonomy: var FOCSI3CC , FONHI3CC, and initiative in fulfilling the task given: FOCSI3BB), these differences are not statistically significant to the activities assumed by us. This shows that activities that are more specific to outdoor education activities compared to other outdoor education activities of the same kind do not develop students' attitudes towards learning more significantly.

Group Statistics

	GRUP	N	Mean	Std. Deviation	Std. Error Mean
FOCSI3AA	EXP	24	4,88	,338	,069
FOCSI3BB	EXP	24	4,67	1,129	,231
FOMCI3AA	EXP	24	4,92	,282	,058
FOMCI3CC	**EXP**	**24**	**5,00**	**,000**	**,000**
FONHI3AA	EXP	24	4,42	,504	,103
FONHI3CC	EXP	24	4,67	1,129	,231

Table no. 4. The averages of the scores accumulated during the post-experimental stage by the experimental group, at the items that measure the attitudes towards learning, at the level of 1st grade

VII.4.5. The conclusions of the study conducted in the first grade

In this study, four hypotheses were tested which together measure the development of the level of transversal competences in first grade through the activities related to outdoor education. It can be stated that at this level, through the intervention program that was implemented, positive changes were made at the level of transversal competences. Significant changes were observed in the development of the transversal competences by comparing the scores of the experimental group with those of the control group, at the level of abilities and at the attitudinal / affective level in the post-test period, after applying the intervention program. At the level of knowledge, changes were reported, but these were not statistically significant. This is explained by the fact that outdoor education through the related activities develops skills and modifies behaviors, socio-educational attitudes at a significant level, but at the level of knowledge it cannot take the place of the education realized in the classroom. It develops life skills and offers the space for development through communication and freedom in sharing ideas related to the contents of learning, however, the theoretical knowledge is better transmitted and assimilated through traditional learning inside the classroom through the use of resources and tools from both learning environments. The activities carried out during this study from the outdoor education are based on the national curriculum, following the school syllabuses and taking into account the competences meant to be developed at each level, being easily adapted to the first grade level, following the analysis of the competences destined to develop it at this level, significantly developing transversal competences at this level. Activities related to outdoor education add value to formal and non-formal education, supporting them by developing acquisitions that could not be achieved through other teaching strategies. Outdoor education at the level of first grade is, according to the present study, a link between formal and non-formal education, as well as a link between content, skills and attitudes that are part of the key and transversal competences needed to be developed at this level. Outdoor education is based on the national curriculum, constantly focusing on addressing existing content in current school curricula, in unique and pleasing ways to students, involving them actively in the educational process.

VII.5. Presentation and interpretation of the results for the third study, conducted in the second grade from the urban-peripheral area

The third study was conducted in the first grade, from the urban environment, at an educational institution on the outskirts of Arad.

VII.5.1. Analysis of the results regarding the sample involved in the research

The population was composed of students belonging to the second class, from the urban-peripheral environment, from a General School in Arad. The students participating in the third study were of both genders, aged between 8 and 9 years. The distribution of the population participating in the third study is homogeneous in number and in age group. Within the control group a number of 15 students participated, compared to the experimental group, where 18 students participated.

VII.5.2. Fidelity analyzes performed on the instruments used

In order to verify the validity of the scales used, fidelity analyzes were performed for the three instruments used in the assessment of transversal competences for the students of the second grade.

VII.5.2.1. Fidelity analysis on the instrument of observation and analysis of the variables for the integrated activity “30 posters”

The observation sheet related to the learning activity through general culture activities obtained an Alpha-Cronbach score (α =, 701). The analysis was performed on 3 items, each representing a total score of the evaluation. The minimum average was M = 4.64 for the third total score (var = TOTALFO30PI3) and the maximum was M = 9.91 the first total score (var =

TOTALFO30PI1PRE). The maximum standard deviation was within the attitudes criterion, SD = 2.485. The Alpha-Cronbach index is above the threshold (α≤0.70) is admitted for experimental measurement, which ensures the possibility of using in observation conditions the observation sheet related to the time learning activity by using the solar clock.

VII.5.2.2. Fidelity analysis on the instrument of observation and analysis of variables for the mathematical activity "Natural numbers"

The observation sheet related to the mathematical learning activity obtained an Alpha-Cronbach score (α =, 369). The analysis was performed on 3 items, each representing a total score of the evaluation. The minimum average was M = 2.00 for the second total score (TOTALFONRNATI2PRE) and the maximum was M = 7.52 the first total score (var = TOTALFONRNATI1PRE). The maximum standard deviation was within the abilities criterion, SD = 1,064. The Alpha-Cronbach index is above the threshold (α≤0.70) is admitted for experimental measurement, which ensures the possibility of using the observation sheet related to the mathematical activity under experimental conditions.

VII.5.2.3. Fidelity analysis on the instrument of observation and analysis of the variables for the orientation with map and compass activity

The observation sheet related to the learning activity based on map and compass orientation obtained an Alpha-Cronbach score (α =, 883). The analysis was performed on 3 items, each representing a total score of the evaluation. The minimum average was M = 2.85 for the second total score (TOTALFOORIENTEERINGI2PRE) and the maximum was M = 4.30 for the first total score (var = TOTALFOORIENTEERINGI1PRE). The maximum standard deviation was within the abilities criterion, SD = 2.399. The Alpha-Cronbach index is above the threshold (α≤0.70) is admitted for experimental measurement, which ensures the possibility of using in observation conditions the observation sheet related to the map and compass orientation activity. Even though each set of tests that we have applied at the level of the second grade is based on curricular elements extracted from the syllabuses of the disciplines related to this level, we considered it necessary to perform the fidelity test of the observation sheets.

VII.5.3. Distribution of scores

The battery of tests at this level consists in the application of three tests created in a similar way, measuring transversal competences and their level of development. The test battery was used in two phases of the study: the pre-test stage and the post-test stage for the experimental and control group in the second grade. The distribution of scores within the pre-experimental stage is not homogeneous among the entire population evaluated, for any of the tests applied. Within the three skills assessment sheets it can be observed that in general the distribution of scores is not relatively normal. This can be due to several factors: (the sample of subjects is too small as a number to be able to use parametric tests, the data have exceptions that cannot be eliminated between variables, for nominal and ordinal scales but especially because of the scale used, in the case of the present paper a Lickert scale in which scores from 1 to 5 and scores of 1 and 5 were used) and brings as a consequence the need to use parametric statistical tests in combination with non-parametric ones. The tests that can be used in this case and those that we will use in the analysis of statistical data are: the T test, Anova, Cramers V and Chi Square. (www.isixsigma.com)

VII.5.4. Hypotheses testing

1. The first hypothesis of the study was formulated as follows: *The results obtained by the students regarding the concerned transversal competences (manifesting positive initiatives in school and extracurricular activities, using the knowledge gained in several ways to solve work tasks, using the trained skills to solve problem situations from the known environment and to improve the attitude towards learning) are not influenced by the gender belonging of the*

students.

To test this hypothesis we used the t test, having as a criterion variable the gender, and as a dependent variable, the results obtained by the students in the post-test stage. In this approach we used the statistical test t, to compare the scores obtained on the three criteria followed during the post-test phase, on the three activities carried out in the experiment at the level of the second grade in correlation with the gender of the students. Following the analysis of the results, it can be said that, no significant differences were obtained between the results obtained at the post-test (the analysis performed on the three criteria: knowledge, skills, attitudinal and socio-affective) between different genres in the observation sheets analyzed, regardless of the group or phase of the study (pre / post experimental), the scores, although apparently non-homogeneous, do not show significant differences, thus, the first specific hypothesis is confirmed. This is because according to the specialized literature, the gender of the students does not influence the instructional-educational process or the development of competences. Heredity, environment and education can influence the development of the human personality. In the contemporary educational systems, the classes are varied as gender, this not influencing the school results of the students, as in this case the gender does not significantly influence the scores accumulated by the students. (Dughi, Roman, 2009)

2. The second hypothesis of the present study was formulated as follows: *There are no significant differences between the results obtained by the students belonging to the control group and the experimental group in the pre-test stage, regarding the level of development of the selected transversal competences (showing positive initiatives in school and extracurricular activities, using the knowledge gained in several ways to solve work tasks, using the trained skills to solve problem situations in the known environment and improving the attitude towards learning).*

To test this hypothesis, we chose to apply tests for non-parametric data, Cramer's V and Chi-Square, as non-parametric test versions of the correlations respectively of the parametric data regressions, dividing the population into two groups: experimental and control . According to these analyzes, performed on the scores given in the three records of the observations at the level of the second grade, it can be concluded that there are no statistically significant differences between the experimental and the control group during the pre-test period, thus hypothesis 2 is confirmed, and by this it can be stated that the preparatory classes belonging to the peripheral urban environment are homogeneous both in terms of age, and in terms of competences, analyzed on the three criteria: knowledge, skills, attitudes.

3. The third hypothesis of the study was formulated as follows: *There are significant differences in the results obtained regarding the scores showing the level of development of the concerned transversal competences, (manifesting positive initiatives in school and extracurricular activities, use of the knowledge obtained on several ways to solve some work tasks, the use of the trained skills to solve problem situations in the known environment and to improve the attitude towards learning), during the post-test phase, between the experimental groups and the control groups.*

To test this hypothesis, we used the t test, having as a criterion variable the group of the participants in the study, respectively experimental and control, and as a dependent variable, the results obtained in the post-test stage, structured on the three criteria followed at the level of each instrument for measuring and analyzing the variables in the second grade.

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
TOTALFOORIENTEERINGPOST	Equal variances assumed	7,605	,010	8,920	31	**,000**	6,089	,683	4,697	7,481
	Equal variances not assumed			9,433	25,991	**,000**	6,089	,646	4,762	7,416
TOTALFOORIENTEERINGI2POST	Equal variances assumed	2,842	,102	4,400	31	**,000**	4,667	1,061	2,503	6,830
	Equal variances not assumed			4,533	30,428	**,000**	4,667	1,030	2,565	6,768
TOTALFOORIENTEERINGI3POST	Equal variances assumed	,140	,711	6,762	31	**,000**	4,556	,674	3,182	5,930
	Equal variances not assumed			6,703	28,740	**,000**	4,556	,680	3,165	5,946

Table no. 5. Independent test for map and compass orientation activity in the post-test phase, correlated with the group

The results analyzed and presented at the level of the second grade can be taken as reference points regarding the development of transversal competences through integrated activities within the outdoor education. As was observed in the studies carried out in this paper at the level of the preparatory classes and the first grades, we can observe the educational and formative valences that the outdoor education has in developing the transversal competences at the level of the procurement cycle. If in the previous studies the results were not statistically significant in all the criteria followed, in the study conducted in the second grade, at two out of three activities were statistically significant results on all the three criteria followed. This may mean that outdoor education develops transversal competences at each level pursued, adding value to the formal education system if used in compliance with each stage of its planning and implementation. If the results of the present study are corroborated with those realized and presented in the theoretical foundation part of the present paper, we observe the strong instructive-educational valences of the outdoor education and its activities, not only in the school results, but especially in the development of skills of life, transversal competences or even in improving the quality of life of the practicing students. Therefore, even after a short-term use of the activities related to outdoor education, significant improvements can be observed in the areas pursued, and if the activities are correctly carried out methodologically, they can significantly develop the development of transversal competences in the students belonging to the procurement cycle.

4. The fourth hypothesis set at the level of the second grade is: *Participation of students in the activities related to outdoor education based on time, space and resources management specific to this type of education significantly develops positive attitudes of students towards learning.*

In order to test this hypothesis, we want to first of all make a comparison between the degrees of development of the positive attitudes towards the educational instructional process in correlation with the three activities implemented. Following the data from the analysis, we can say that although there are no statistically significant differences in terms of the averages accumulated by the experimental group in any of the variables pursued, there are nevertheless differences between the items tracked for each of the integrated activities. The activity with the highest degree of interest in carrying out the learning activities related to outdoor education is the mathematical activity: natural numbers. The interest given to the activity by the students in the experimental group at the level of the second grade was close to the maximum in the mathematical activity, with an average m = 4.78 out of 5. (FONRNATI3AA being the variable

that measures, during the post-stage test, scores for the interest given in the integrated activity realized through mathematical activity). Activities that are more specific to outdoor education activities compared to other outdoor education activities of the same kind do not develop students' attitudes towards learning at the second grade level more significantly.

Group Statistics

	GRUP	N	Mean	Std. Deviation	Std. Error Mean
FOORIENTEERINGI3AA	EXP	18	4,56	,511	,121
FONRNATI3AA	EXP	18	4,78	,428	,101
FO30PI3BB	EXP	18	4,11	,323	,076

Table no. 6. The averages of the scores accumulated during the post-experimental stage by the experimental group, at the items that measure the attitudes towards learning, at the level of the second grade

VII.6. Conclusions of the study conducted in the second grade

In this study, four hypotheses were tested that measure the development of the level of transversal competences in the second grade through the activities related to outdoor education that we created and implemented at this level. Following the analysis of the data collected and analyzed, and after testing the hypotheses, it can be observed that the transversal competences were developed at the level of the second grade.

At the level of the second grade, by presenting three of the implemented activities related to outdoor education, there were positive effects regarding the attitudes of students towards learning and intergroup communication, sharing of ideas and information but also regarding the autonomy of the students. These results were not only reflected during the activities carried out within the program, but the positive results were reflected in the classroom shortly after the completion of the activities related to outdoor education that were implemented at this level. In the second grade, we received positive feedback, in the sense that outdoor activities were requested by parents throughout the school year, even though initially there was skepticism regarding the deployment and the results that can be obtained, in this regard. As development spaces, those around the institution were chosen, benefiting from the large courtyard and natural garden, as well as areas close to where outdoor activities can be successfully carried out. Thus, members of the community and parents of the students in the experimental class were also involved. It can be observed that during the outdoor activities, the students not only showed interest in completing the proposed activities, but they wanted to repeat the activity as many times as possible. Outdoor education through the related activities develops skills and modifies behaviors, socio-educational attitudes at a significant level, but at the level of knowledge it cannot take the place of the education realized in the classroom. It develops at a great extent the level of autonomy and increases the level of self-confidence in the students of the second grade, increases the interest and especially the involvement in activities. Thus, beneficial communication relationships developed and the quality of life of the students increased considerably.

CHAPTER VIII. CONCLUSIONS AND EDUCATIONAL PROPOSALS

VIII.1. Conclusions

The present doctoral research project aimed and managed to investigate the extent to which outdoor education can influence the development of transversal competences for students within the procurement cycle in educational institutions in three different areas of Arad County. Also, from a theoretical point of view, it investigated to what extent this type of education is practiced within the formal education in Romania as well as what is the degree and the form in which the outdoor education is used within the Romanian curriculum.

In the theoretical basis of the thesis, studies from specialized literature have been explored (for example, Bilton, 2010; Bocoș, 2007; Cerghit, 2002; Chiș, 2005; Cucoș, 2008; Gherguț, 2007; Herlo, 2014; Ionescu, 2003; Păun, Potolea, 2002; Pânișoara, 2017; Potolea, Manolescu, 2006; Roman, Balaș, 2010; Smith, 1995), who investigated the relationship of the variables mentioned above with the development of transversal competences in the procurement cycle. The aim was not only to substantiate the research included in the present work, but also to explore possible new links that could occur between the studied variables, which had not previously been identified in the literature, especially in the Romanian literature. The theoretical models from the analyzed specialized literature, argue that the combination of the methods that are practiced in the Romanian formal education with the outdoor education method can favor the development of transversal competences at the procurement level, on three different domains: the cognitive field, the skills field and the attitudinal field. (Bilton, 2010; Smith, 1955; Ketchie, nd; Hipkins et all, 2005; Hammerman et all, 1985; Griffin & Care, 2015). Of the multiple theoretical approaches (Bagnes, 1995; Banning, 2011; Barker, 2002; Bratton et all, 2005; Bilton, 2010 a; Smith, 1995) that have been used in the literature to provide explanations regarding outdoor education, history, theories on which the concept is contrived, spaces of use, organization of time, the place it can occupy within the three types of education (formal, non-formal, informal), efficient ways of insertion into daily practice, connecting elements with the national curriculum, in this doctoral thesis we approached a holistic but personalized direction of the curricular conditions and of the practice in Romania, in order to understand and explain this relatively new concept in the Romanian education. It was established on the basis of the analysis of the specialized literature and of the complex approaches in this regard, that outdoor education can be used within the formal educational systems in Romania as a modern method of teaching, having strong educational valences regarding cognitive, attitudinal and socio-educational procurement. Therefore, outdoor education was classified on the basis of definitions, according to the following criteria: psycho-socio-educational criterion and environmental criterion. (Higgins, 1997; Neill, 2001; Lund, 2002; Whitebread et al, 2008; Higgins, Loynes, 1997; Șerban, 2014; Donaldson, 1958; Priest, 1990).

An analysis of the specialized literature regarding the education for competences has been carried out, which is closely related to the valences of the outdoor education, and especially with the main hypothesis that we set in this doctoral thesis. The purpose of the analysis of these works was to establish the terms and the transition from key competences to transversal competences and to create a connection between outdoor education and the ways in which it can develop transversal competences at the level of procurement cycle. (Ionescu, 2003; Roman, 2010; Chiș, 2005; PânișoarĂ, 2017; Stevahn, L. et al. 2005; Neacșu, 2015; Stoica, 2003; Meyer, 2000) At the same time, the way in which transversal competences can be evaluated, was analyzed, thus creating connections with the evaluation of activities related to outdoor education. From here, we managed to develop practical ways by which transversal competences can be effectively integrated into formal educational practice. This can only be achieved if a reassessment of the competences required in the teaching profession is sought from the perspective of the formation of new generations.

The deepening of understanding the studied phenomenon could be achieved through the

holistic but also specific exploration of the training valences that outdoor education can have; independent of the valence of developing some competences. In this context, we analyzed the specialized literature that deals with the physical development of the students, the positive influence of the environmental factors on the health of the children, their psychic and emotional development, the development of the sense of freedom for preschoolers and small pupils, but also of the risks and challenges in activities related to outdoor education. The role of adults, the attribution of teachers, as well as the active involvement of parents in activities related to outdoor education were the new directions discovered in this regard. (Robson & Hunt, 1999; Gill, 2007; Guldberg, 2009; Cunningham, 2006; Stephenson, 2002).

In the context of this doctoral research project, the ways of organizing space and time in the activities related to outdoor education were investigated, with the result of proposing examples of spaces for conducting outdoor activities, ways of choosing and organizing the spaces for carrying out these activities, the delimitation of the role of the village / city in carrying out the outdoor activities, as well as the equipment and tools that can be used during the outdoor activities. The novelty brought by the present research was the proposal of criteria for the selection of materials and instruments used in the activities of the external environment, as well as the presentation of safety norms, legislative limitations and elements of risk management in outdoor education. We considered it important to present them, because during the direct research conducted in the experiment, we found that most teachers do not use the method of outdoor education even though they are aware of its formative validity, due to the lack of information on the real risks that they subject to together with the class.

Prior to the completion of the three studies within the research part, which represents the original contribution of this doctoral work, a synthesis of the specialized literature was realized describing and explaining aspects regarding the practical modalities of developing transversal competences through outdoor education, which also represent elements of originality and novelty for the Romanian education. To achieve this, we started with the analysis of outdoor education as an interface between the traditional and modern approach to learning and presented practical ways of integrating the methods established in the context of outdoor education. Following the analysis of the specialized literature, we managed to develop a new approach to the association of learning through experience with the development of transversal competences. This was the basis of the research conducted in the selection part of the activities that were the basis of the experiment carried out in the procurement cycle. The main bibliographic sources used for this purpose were: Ciolan, 2008; Crețu, 1999; Ionescu, 2003; Roman, 2010; Cerghit, 1997; Bocoș, 2007; Dulamă, 2006 and Mitrofan, 1997; which, through the current approaches to the training methodology, have succeeded in providing a new vision for outdoor education within formal education. In order to achieve the most efficient integration of the activities related to outdoor education, a study was needed on the curriculum at the level of the procurement cycle. For this research, documents elaborated by M.E.N were used: *** M.E.N., 2017; *** Progress of competences in the Procurement Cycle; *** Annex 7 to OMEN no. 3371 / 03.12.2013; *** Note on the elaboration of the framework plan for primary education, Preparatory Class and Classes I - II, 2013; but also a selective bibliography of some authors from the specialized literature that is concerned with the analysis of these curricular documents, of the objectives and finalities proposed: Soare, 2012; Potolea, 2006; Crețu, 1999; Bocoș, 2007; Dumitru, 2005, Iucu, 2008 and Cerghit, 2006. These approaches have contributed to the real and practical connection between the curricular objectives at this level and the objectives on which outdoor education is based. This step represented an opening in the conduct of the research, because it offered the certainty of the existence of a practical connection between the way of achieving the outdoor education and the competences mentioned in the programs of the procurement cycle. From here, the achievement of the instruments of recording and verifying the evolution of the individual competences of each student participating in the study was achieved.

Theoretical and practical contributions

Based on the contents presented above, and in order to make it possible to investigate the complexity of the studied concepts, the first study (Study I, conducted in the preparatory class) aimed to investigate to what extent gender, age, environment or group can have effects on the development of transversal competences in the preparatory class within the procurement cycle. The fundamental question from which we started in the research approach was the discovery of the extent to which a training intervention program can be successfully introduced, program which is based on outdoor activities through its use in a formative sense, thus supporting the formal curriculum. In the specialized literature we could not identify references, examples or practical ways of realizing or evaluating the activities related to outdoor education, even though in the curriculum there are references to the use of the external space in organizing the learning activities, therefore, following the analysis of the curriculum at this level, we have developed outdoor activities, based on the skills meant to be developed at the level of the preparatory class in correlation with well-structured objectives and correlated with the paradigms on which outdoor education is based.

The tools for scoring and evaluating the outdoor activities as well as the level of development of the transversal competences following the application of the method related to the outdoor education, were identified as being adequate to reach the objectives of this doctoral research project, having very good practical and quantification properties, representing elements of novelty and originality within the formal educational systems in Romania.

The correlation of the objectives of each activity with competences extracted from the programs of the multiple disciplines involved in each of the three activities elaborated at the level of the preparatory class, having as purpose the competency evaluation sheets, are versions whose practical properties made it possible to investigate the complexity of the method studied in this work, becoming original and personalized models for teachers who want to adapt and use the activities related to outdoor education in daily practice. This question was preceded by others, initial ones, which led to previous studies carried out on the experiments at the three levels. They started from the paradigm of outdoor education to create real and practical connections between all the members participating in the educational process: parents, students, teachers, society and the management of educational institutions. Therefore, a series of focus-group meetings were held with teachers from Arad County and with students, future teachers in primary education, in order to collect real information about how they practice outdoor education in the instructional- educational process. At the same time, a questionnaire was applied for teachers, meant to supplement the information gathered during the focus-group meetings, in order to involve teachers from all over the country, in order to broaden the scope of the proposed research. Also, a questionnaire was applied to the parents of those involved in the experiment, either in the control group or in the experimental group to find out to what extent they regard and support this type of education.

The results of the first study (Study I, conducted in the preparatory class) are positive and relevant for the use of outdoor education in the instructional-educational process as a complementary method to the dedicated ones to successfully assess the transversal competences and develop them at the level of the preparatory class through the use of outdoor education activities. There were positive changes to two of the three criteria for developing the competences pursued, namely the skills and the socio-attitudinal one. No substantial changes were identified at the cognitive level, which could mean that outdoor education at the preparatory class level cannot replace classroom learning. Therefore, it can be concluded that based on the results of this study, outdoor education not only significantly develops transversal competences, but also offers the possibility of creating real connections between the participating educational institutions and the local community, presenting transparency in education. The research results highlighted that the formative intervention developed has the potential to improve the quality of the formal education from the level of procurement cycle, in a way that does not interfere with the formal education process, being developed to a

statistically significant extent, the transversal competences that refer to the skills criterion and the socio-attitudinal criterion.

An original contribution of the first study (Study I, carried out in the preparatory class) was represented by the elaboration of the customized outdoor activities for the level of the preparatory class, in accordance with the curricular requirements, the objectives, the aims, the competences and the contents of each syllabus, as well as the achievement of an interdisciplinary approach and especially the elaboration of the tools for collecting and verifying the results obtained by each student. At the same time, the realization and elaboration of the observation protocols applied for each class and institution led to the possibility of realizing conceptual models of the training intervention programs at the level of the preparatory class, and also to the original contribution of this first study.

The dissemination of the results of the first study, realized in the preparatory class, was achieved by publishing the article, "Working on transversal competences out of doors (Torkos, 2017), and with the participation in the 6th edition of the international conference "Education, Reflection, Development" and the article, "The evaluation of outdoor learning activities in primary school" (Torkos & Roman, 2018).

The second study of the doctoral thesis aimed to investigate how gender, age, environment and time of testing can influence the development of transversal competences at the level of I grade. As in the case of the first study the activities were carried out according to the information collected in the pre-test phase, in order to elaborate personalized activities for the curriculum of this level, the environment in which the institution is located, the personality of the students and the resources existing within the institution. The same conceptual model was used, which means that it is adapted to any age and type of activity, because it is stable in terms of achievement, but flexible in terms of adaptation.

The results obtained partially confirmed the 4 hypotheses of Study II, underlining the importance of using outdoor education as a complementary method to those dedicated, at the level of Ist grade, in order to develop competences selected from the syllabus at this level, according to the three criteria followed: cognitive, abilities and socio-affective. Another result revealed in study II was that the success or failure in the development of transversal competences does not depend on the gender of the participants, the different age within the same class, the environment in which the institution where the participating students are located or the weight of carrying out activities in the external environment or those which have a greater specificity of time, resources and space of this type of education. Also, the development of transversal competences is not conditioned by the age of the students, but by the specificity of the activities within the outdoor education.

In the analysis of the results of Study II, it was further emphasized that according to the cognitive criterion, the same results were observed on average as in Study I, carried out in the preparatory class, namely that outdoor education cannot replace the education conducted in the classroom, but it comes to its aid, developing skills and attitudes, motivating intergroup interaction and promoting independence and autonomy in the accomplishment of tasks, giving enough time and space for learning activities.

In conclusion, the study II, realized in Ist grade, managed to identify practical and sustainable ways through the students in this age category, develops positive skills and attitudes significantly compared to the students who carry out learning activities in the traditional way, this being also supported by the results of the assessment of the transversal competences, as well as following the analysis of the feedback from the class within the follow-up activities.

The dissemination of the results of the second study was achieved by publishing the article "Social and psychological aspects of outdoor education" (Torkos, 2017), with the participation in the international conference ISREJE, with the work "Risk management in outdoor learning experiences".

Study III, carried out in the second grade, aims to investigate the extent to which outdoor education through personalized activities at this level, can develop a series of competences

selected from the syllabus of the disciplines involved in the elaborated activities. The students of the second grade participated in a training program based on experiment, consisting of activities related to outdoor education in accordance with the calendar planned by the teacher in the classroom. The activities used were designed so that they are in line with the age and emotional development of the participating students, closely following the national curriculum specific to this level.

In this study (Study III, conducted in II grade), three data collection and evaluation tools were used, adapted to the activities developed at this level. The activities were in accordance with the environment where the institution belongs but also the level of cognitive development of students. This has facilitated the elaboration of activities of great complexity, both as a level of difficulty and as a duration.

The results obtained, partially confirmed the hypothesis of the study at the level of the second grade, which indicates that the course of educational syllabus in the field of outdoor education, can significantly influence the development of transversal competences on the criteria of skills and attitudes, and as opposed to the two levels previously stated, the preparatory class respectively grade I, at II grade, appeared substantial results also within the cognitive criterion. This fact indicates the safe use of activities in the field of outdoor education at the level of the procurement cycle, in order to develop transversal competences.

The dissemination of the results of the 3rd study was achieved by publishing the article "The development of communication skills through outdoor canoeing activities in primary school" (Torkos, 2017), within the international ERD conference, with the participation in the international conference ISREJE, with the paper "Positive attitude build out at second graders through outdoor education activities" (Torkos, Roman, 2019).

The practical contributions of this doctoral research project can be identified both from a global point of view, as well as within each study (the three researches described above) in the direction of awareness of the training valences that outdoor education can have at the level of the procurement cycle.

Particular importance is given to the practical utility of the tools for collecting and evaluating the results of the outdoor activities, elaborated in this research project, in all the three studies carried out within the experiment. Also, the elaboration of the integrated outdoor learning activities for each level represents elements of originality. Thus, within this study, models for interdisciplinary activities related to outdoor education are offered to the academic community and to the specialists in the educational field, together with the customized assessment tools adapted to each activity, as well as a conceptual model on which teachers can develop activities from outdoor education to any level. At the same time, it offers a screening of the main problems faced by teachers keen to use outdated activities for educational purposes, to develop skills that are impossible to develop in other ways and practical ways to overcome them through adaptation and personalization. These tools can be used in practice to develop the transversal competences present in the national curriculum, at the level of the procurement cycle or to continue the present research in other directions, possibly developing activities that will develop the cognitive criterion too.

The results of the studies presented in the doctoral thesis, were able to identify relevant information about the modalities that could have a significant impact on the development of behaviors and skills necessary for future education. This information has a significant practical value, because based on these, individualized outdoor education programs can be implemented on different age groups that can offer solutions to the educational problems facing the current educational systems, parents, but also the society. Each of the three studies, has practical applicability having a major impact on the development of students' abilities within the procurement cycle, but also on the development of positive, autonomous behaviors regarding themselves and those around them, as well as on the decision-making capacity and problem solving abilities.

General conclusions

As a general conclusion, it can be said that the results of the studies performed both in the pre-test stage and after the experimental stage have implications of both theoretical and practical-application nature, which allowed the completion of this doctoral research project, but it has also contributed to providing useful tools for developing and evaluating transversal competences at the level of the procurement cycle, to the academic and professional community in the educational field, especially at the primary cycle level. The results of the 3 studies performed in the experimental stage were able to identify a series of models for the realization and practices of the activities related to the outdoor education in the formal education, also they managed to identify some models of evaluation of the transversal competences subject to development by using these individualized models and they managed to highlight some elements that could have the potential to significantly develop transversal competences in students in the procurement cycle. Finally, through the three studies, we managed to investigate the impact that the educational programs focused on outdoor education have on the development of positive social behaviors, communication, skills, independence and positive attitudes regarding learning, the world and life in different educational environments within the area of Arad County.

VIII. 2. Proposals, educational recommendations and future research directions

We want to propose for validation the conceptual model of formative intervention as a priority, the process requiring time, as well as the application and study in multiple instances of the efficiency of the interventions elaborated based on this conceptual model, in the educational field, on several levels, curricular areas or disciplines, on different school populations and in different educational and geographical environments. The comparative analyzes following the implementation of the intervention programs, will provide information of great importance in making some improvements and adaptations on the conceptual model, depending on the parameters subject to observation and analysis. We consider that the efficiency of the conceptual model realized can increase in the case of certain disciplines or curricular areas, but decrease at the higher education cycles due to the increase of the presence of the theoretical disciplines in favor of the practical ones, therefore the limitations of this model must be studied holistically, through a series of follow-up studies.

The additional studies targeting the components of the training program could delimit to what extent the proposed parameters are in relation to the development of the transversal competences, and following the identification of the relationship between them, the maximum efficiency point of the proposed program could be highlighted. This approach could lead to the elaboration in experimental regime of similar formative intervention programs, realized at different age levels and based on the conceptual model developed in the present paper, targeting as many disciplines, fields of knowledge or curricular areas.

Therefore, we propose to validate the proposed model by observing the constituent elements of the original model, which underpin the developed program. We consider this step important to be able to select those elements that are generally valid, regardless of the age or the environment in which the program is implemented. Also, it is important to disseminate the proposed conceptual model in order to make possible additions to it, in order to improve it.

We consider particularly important the awareness of the educational staff of the training activities of the outdoor education activities, by disseminating information that will discover the modalities of its channeling for educational purposes, in order to develop the cognitive criterion of the selected skills.

We also recommend the exploitation in the formal education systems of the method of outdoor education and of the natural resources, as its bases, in order to be able to cover or to fill the gaps that other types of contents of educational resources cannot do. Such programs could help the teachers adapt more effectively the contents existing in the school syllabus to the individualized needs of each student participating in the instructional-educational process. In

this sense, according to the three studies, outdoor education could offer solutions to those classes of students facing an unfavorable educational climate. Based on these results, I would like to concern myself in future studies with the adaptation of programs that contain outdoor activities to conflict resolution situations and to elements of the management of the student class in general.

Also, it is desired to establish as a future research direction the way in which outdoor education can contribute within the institutions dealing with the education of children with S.E.R. and even in the classes within the formal education systems in which there is a need to adapt the curricula to students with special needs.

The great changes in the world lead to the need for change in the educational systems. These changes should aim to fill the gaps in the local community and society in general, but above all, the permanent motivation for developing the curiosity of students from the earliest ages. The discovery of the world around begins with the discovery of the self, and this can only be achieved if the educational systems offer development programs in which each student is sufficiently free and motivated to discover phenomena and processes that take place in the immediate vicinity. Outdoor education, through the activities it proposes to complement the formal educational activities, is closely linked to the national curricular requirements, objectives and aims, developing skills, forming characters and motivating the autonomous learning of students through continuous communication.

We consider, therefore, that the present doctoral thesis brings a big plus in the specialized literature regarding the complexity of the activities it analyzes and proposes, offering results that can contribute to a better understanding, organization and evaluation of the educational activities within the primary schools. The results discovered through this study cover with success the gaps that appear in the specialized literature of our country regarding the outdoor education along with its activities, and those regarding the multiple benefits that it offers both educationally as well as individually and socially.

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