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THE FORMATIVE VARIATIONS OF EXPERIENTIAL LEARNING PERFORMED WITHIN THE NON-FORMAL EDUCATIONAL SETTINGS OF PEDAGOGIC INSTITUTIONS

SUMMARY

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CONTENTS

Key words and phrases: experiential learning, non-formal education, pedagogical institutions, prosocial behaviour, altruism, academic motivation, curriculum cycles, learning styles, experiential learning cycle, social responsibility, empathy, moral reasoning oriented towards others, concern-based moral reasoning, offering help, altruism, intrinsic motivation for knowledge, intrinsic motivation for achievement, intrinsic motivation for incentives, identified extrinsic motivation, introjected extrinsic motivation, extrinsic motivation external for regulation.

Through our PhD thesis entitled "The formative variations of experiential learning performed within the non-formal educational settings of pedagogic institutions" we aimed to test the effectiveness of a non-formal education programme focused on activity systems involving experiential learning in students of pedagogic institutions.

The PhD thesis is organised in two main parts, the first representing the theoretical foundation, consisting of five chapters, the second comprising the research methodology, consisting of three chapters. The theoretical foundation begins with a systematic analysis of the literature, anchoring in the diachronic and synchronic approaches of non-formal education, in the convergence of educational forms in terms of the development of key competences, in the theoretical foundations of experiential learning, in the management of non-formal activities based on experiential learning, respectively in the educational experiences in the field of experiential learning at the National Pedagogic College "King Ferdinand" in Sighetu Marmației. In the evolving context of education, a theoretical foundation is essential to understand and capitalize upon the transformative potential of experiential learning in the context of non-formal education. This theoretical exploration embarks on a scientific journey, delving into the complex interaction of non-formal education, comparative analyses of educational forms, key competences and the multiple influences of formal, non-formal and informal education on student performance across different curriculum cycles.

Our investigation begins with an incursion into non-formal education. This form of education is a distinct field, characterised by its flexible, student-centred nature. We rely on comparative analyses of formal, non-formal and informal educational modalities to discern the unique attributes and contributions of each in the educational landscape. Within this framework, we explore the essential concept of key competences expressed in terms of essential knowledge, skills and attitudes that students acquire through education. Careful consideration is devoted to understanding the influences of formal, non-formal and informal education on the development of these competences among students in different curriculum cycles.

At the heart of our theoretical exploration is experiential learning - an approach that pleads for learning through direct experience. We engage in a comprehensive examination of its definitions, highlighting its dynamic and transformative nature. We then delve into the complex realm of experiential learning models and theory, including a comprehensive exploration of Kolb's famous experiential learning model from 1984. These models provide a structured framework for understanding how experiential learning takes place and its impact on learners. Our theoretical exploration extends to the concept of learning styles, acknowledging that learners possess various ways of processing and absorbing knowledge. In addition, we

deepen the role of community in experiential learning, recognizing the profound influence of peer interactions and collaborative experiences. Finally, we examine the profiles of the experiential learning teacher and the experiential learning student. We present the attributes and roles that define an effective experiential teacher, as well as the characteristics and qualities that distinguish an engaged and empowered experiential student.

Through this multifaceted theoretical framework, we aspire to lay the foundations for a deeper understanding of experiential learning in the context of non-formal education, particularly in the unique case of the National Pedagogic College “Regele Ferdinand" in Sighetu Marmației. This exploration aims to highlight the complex web of influences, patterns, competencies, and educational practices that shape the experiential learning journey, providing valuable insights for the subsequent empirical stages of our study. Furthermore, we turn our attention to the management of non-formal activities based on experiential learning. In this context, we examine the educational experiences of students at the National Pedagogic College “Regele Ferdinand” in Sighetu Marmației, analysing how the institution integrates experiential learning into its educational approaches and the impact of these experiences on its students.

The second part consists of three chapters describing the pedagogic research, the case study, represented by the above mentioned institution. We explored the transformative potential of integrated experiential learning activities in the context of non-formal education. Our main objective focuses on the question of how a programme based on experiential activities programme contributes to the development of essential life skills, namely prosocial skills, cultivation of altruistic behaviours, increased academic motivation, and accommodation of different learning styles. Our research was conducted in a pedagogic college, where non-formal education programmes provide opportunities for students to engage in experiential learning. These programmes, designed to transcend the boundaries of the traditional classroom, include a system of projects, activities and workshops aimed at enriching students' educational experiences.

The research design comprised three complementary phases:

1) In the initial **pre-experimental phase**, we aim to obtain the approval of the directorate to conduct the research and the signature of the informed consent by the parents, the formation of the sample of research participants, the application of the questionnaires addressed to the students of the proposed curriculum cycles, the evaluation, using the instruments mentioned above, of the performance of the research participants, and the design of the content sample to be used, in accordance with the criteria envisaged. The tools used were: Prosocial Personality Battery (PSP Penner, Fritzsche, Craiger & Freifeld, 1995), Altruistic Personality

Scale (Rushton, Chrisjoh & Fekken, 1981), Academic Motivation Scale (Vallerand et al., 1993) and KELP Learning Styles Questionnaire, 2021.

2) In the **formative experiment phase**, which is the core of our study, we aimed to develop and implement a non-formal education programme focused on systems of activities involving experiential learning for students in the five curriculum cycles, who attend pedagogic institutions. We administered the pretest to students in the 5 curriculum cycles in order to identify the level of social responsibility, empathy, moral reasoning oriented towards others, concern-based moral reasoning, offering help, altruism, intrinsic motivation for knowledge, intrinsic motivation for achievement, intrinsic motivation for incentives, identified extrinsic motivation, introjected extrinsic motivation, extrinsic motivation for external regulation and students' learning styles.

3) In the **post-experimental phase**, following the implementation of the experiential activities, we resumed this phase involving retesting and benchmarking to assess the long-term impact and effectiveness of our programme. We applied the questionnaires to the students of the proposed curriculum cycles attending pedagogic institutions and we evaluated, with the help of the above mentioned instruments, the performance of the research participants.

This research has deep implications for pedagogic practice and educational policy-making. By deciphering the complex interaction between experiential learning and non-formal education, we aim to provide valuable insights into how teachers can enhance students' holistic development and address various learning needs in the non-formal educational setting of a pedagogic school.

Our pedagogic research sails on the unexplored areas of experiential learning in non-formal educational settings in pedagogic institutions, with the overall aim of enhancing its transformative potential. This methodological pathway is harmonised to present a holistic exploration of the subject, fostering a tinted understanding of how experiential learning shapes the educational context.

The last chapter contains the final theoretical and practical and applied conclusions, research limitations and future directions of investigation.

The paper concludes with a list of bibliography sources and annexes.

Chapter I
NON-FORMAL EDUCATION - DIACHRONIC AND SYNCHRONIC APPROACHES

I.1. Concerns related to the conceptualisation of non-formal education

Education is the foundation to which we relate in our evolution, it is the system of programmes, of experiences received from nature, it is the precious/valuable/significant data base that we accumulate, develop and transfer. According to Dewey (1972, p. 70), ”education is that reconstruction or reorganization of experience which adds to the meaning of the preceding experience and which increases ability to direct the course of subsequent experience ”.

In „Dicționar de pedagogie” (Bocos et al. 2021a, pp. 405-406) we find a comprehensive definition of **education**. It is interpreted as a “complex psychosocial process, **teleological** (designed and carried out in accordance with educational/pedagogic goals) and **axiological** (promotes systems of values) aimed at the free and complete development of human individuality, the formation and perpetual development of the human personality, capable of social and professional integration, in relation to the requirements of the society. Since the influences of inheritance and environment on the process of human personality development are random, probabilistic, society has developed a mechanism to increase control over ontogenetic development, generically called education”. The concept of education is also approached from a pragmatic perspective, the authors stating that education “involves identifying the innate predispositions, the genetic potential of the individual and organising and directing the shaping influences of the social and human environment on the person”.

There are three main pathways/forms/directions/aspects along which/wherein education can be identified, based on the variety of learning situations and different levels of intentionality of action: formal education, non-formal education and informal education (Cucoș, 2002). These combine to define the profile of the individual/person adapted to the challenges of this changing society, not only during schooling but also after completion, throughout life.

In the new Law on pre-university education number 198 of July 4 2023, under the aegis of the Romanian President's national programme “România Educată”, in the *List of definitions of terms and expressions used throughout the law* we find education defined as follows: ”**education** is the set of processes for implementing learning programmes and activities and forming learning outcomes. Education includes both formal and non-formal or informal learning activities“(2023, p. 93). This definition has been slightly amended in relation to the former Education Law No. 1/2011 (2022, p. 304) consolidated with subsequent amendments

and supplements, which has been changed. We find the introduction of the expression “learning outcomes formation” instead of ”academic or vocational skills formation”, otherwise the definition remains the same.

Non-formal education, according to the definition found in the Dictionary of Pedagogy (Bocoș et al., 2021c, pp. 432-433), is a ”form of education that represents the set of deliberately organized, systematic actions carried out in an institutional setting, however outside the educational system, in institutions that do not have an explicit educational purpose”.

According to the aforementioned volume, non-formal education is determined by the following features:

- is institutionalised (it is carried out in institutions that are not intended for educational purposes);

- non-formal educational activities are extracurricular and less formalised than formal ones;

- non-formal educational activities are complementary to the formal ones, they are designed and carried out by the teacher in accordance with the educational goals pursued in formal education or in line with them and taking into account the options, possibilities and expectations of the learners;

- non-formal educational activities are aimed at well-defined and delimited goals, and thus generating formative and informative influences;

- non-formal educational activities are characterised by variety, flexibility, elasticity and are sometimes have an optional or facultative nature.

In the volume ” Pedagogie”, Cucoș states that **non-formal education** ”comprises all the educational influences that take place outside the classroom (extracurricular activities) or through optional or facultative activities“ (2002, p. 45). He confirms the statements of the author Teodor Cozma (1988) according to whom the term non-formal designates a less formalized or non-formalized educational reality, but each time with formative effects.

The National Education Law no. 1/ 2011 consolidated with subsequent amendments and additions, starting with the school year 2022-2023 has been changed. A new law on pre-university education, number 198 of July 4, 2023, which is part of the Romanian President's national programme ” România educată”, is under implementation and will take effect starting with the school year 2023-2024. It is published in the Official Gazette of Romania, Part I, NUMBER 613/ 5.VII. 2023 and will be the guiding document for Romania's future education system.

The new law proposes major changes at all levels. The document makes multiple references to the possibility of extracurricular programmes to make education more effective. It aims at implementing the programmes: „Școala după școală" (school after school), „Școala din spital" (school in hospital), „Învățare remedială", (remedial learning), „Școala altfel" (alternative school) and „Săptămâna verde" (green week).

I.2. What does non-formal education mean today?

Non-formal education, according to the definition found in the Dictionary of Pedagogy (Bocoș et al., 2021c, pp. 432-433), is a form of education that represents the set of deliberately organized, systematic actions carried out in an institutional setting, but outside the education system, in institutions that do not have an explicit educational purpose".

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I.3. Comparative analysis of forms of education in the lifelong learning paradigm. Competition or complementarity?

A more open society and a global economy require a focus on critical thinking and learning that enables individuals to understand the world, to produce new knowledge and to

define their own future. By promoting learning in all aspects of life, we need to respond to new challenges by creating environments where "living" means "learning", by stimulating local or even global processes of conceptualisation, by building a new system of open, diverse but interconnected learning communities, with the intention of creating **bridges between the formal, non-formal and informal frontiers of education**, conceiving learning as a holistic process of reflection and rethinking (Flueraș, 2005). Taking these ideas into account, it is appropriate for educational practitioners to integrate them into their own methods and curricula/content. It is possible to see communities as complex cultural entities that need not be limited to a particular location, to a particular geographical space.

Information explodes around us and this leads to the need to clarify the image of the world, of professions, of the future, of what we do with what we know and have, of what comes next. Young people want to find new ways/opportunities to apply their training and experience, to revitalise, reinvent themselves and discover new opportunities. **Perpetual, continuous education is associated with lifelong learning.**

Chapter II

CONVERGENCE OF FORMS OF EDUCATION IN THE DEVELOPMENT OF KEY COMPETENCES

II.1. Capitalizing upon the National Curriculum in the formation and development of the 8 key competences

The key competences, as recognised by the European Union, encompass a multifaceted spectrum of knowledge, skills and attitudes that transcend the boundaries of traditional fields. They are the indispensable building blocks for lifelong learning, adaptability and active citizenship. The formation and development of these competencies are not only prerequisites for personal fulfilment, but also critical determinants of a nation's social and economic prosperity and global competitiveness.

Romania's National Curriculum is a pedagogic compass guiding the educational approaches at all levels of education. Rooted in a commitment to cultivate informed, engaged and socially responsible citizens, the curriculum provides a structured pathway for students to acquire essential knowledge, skills and attitudes. This curriculum framework emphasises the need to capitalize its role in the formation and development of the eight key competences. There are 8 key competences, as set out in the *Recommendation of the European Parliament and of the Council on key competences for lifelong learning* (2006/962/EC) of 18 December 2006. Over time, these have undergone slight changes, and since 22 May 2018 the *Council Recommendation on key competences for lifelong learning* (2018/C 189/01) has been slightly adjusted. In the Law on pre-university education number 198 of 4 July 2023 in our country, we will find them below in table 1.II in comparative form:

Table 1.II.: Key competences. Comparative presentation (taken from 2006/962/EC, p.10 and Law on pre-university education No 198/ 4.07.2023, p. 35)

No.	Key competences (2006)	Key competences (2023)
1	Communication in mother tongue	Reading, writing and comprehension skills
2	Communication in foreign languages	Multilingual competence
3	Mathematical competence and basic skills in science and technology	Mathematical competence and competence in science, technology and engineering

4	Digital competence	Digital competence, including internet safety and cyber security
5	Learning to learn + Social skills component of social and civic competences	Personal, social and learning competence
6	Social and civic skills	Civic, legal and environmental competence
7	Initiative and entrepreneurship	Entrepreneurial competence
8	Cultural awareness and expression	Cultural awareness and expression competence

II.2. Adapting formal, non-formal and informal educational influences to the features of learners in different curriculum cycles

In the context of formal education, the process of accommodating students' traits requires the implementation of a comprehensive and multifaceted strategy. Differentiated training plays an essential role for students in the basic skills curriculum cycle. During the developmental curriculum cycle, formal education has the potential to integrate experiential learning experiences. This can include educational trips, collaborative tasks and additional activities to suit a wide range of interests and abilities. During the observation and orientation phase, it is compulsory that formal education incorporates counselling and career guidance services. In addition, teachers have the opportunity to use technology in their teaching practices to facilitate research and promote curiosity. During the advanced and specialization cycle, it is compulsory that formal education gives priority to research-intensive courses and practical experiences. Teachers are able to take on the role of mentors, providing guidance and support to students within their relevant areas of expertise.

Non-formal education serves as an essential component in highlighting the unique qualities of students, functioning as a complementary approach to formal education. For students in the basic and developmental skills curriculum cycles, engaging in non-formal activities such as creative workshops, sustainable education, music, environmental investigation provides an opportunity to explore their personal interests outside the academic field. During the developmental curriculum cycle, non-formal education encompasses many activities, such as clubs and non-formal programmes that are specifically designed to meet the diverse interests of students, from empirical scientific pursuits to artistic endeavours to community service involvement. During the observation and orientation phase, further education and specialisation cycles, non-formal education can include vocational training as a

means of facilitating the acquisition of practical skills and providing valuable information to students about future career paths.

II.3. Formal, non-formal and informal educational influences. Adequacy, complementarity, convergence, according to the students' features in the different curriculum cycles

The education process is a complex and diverse effort that undergoes transformations as students move through several curriculum cycles. In order to respond to the distinct requirements, developmental stages and individual preferences of students across the different educational cycles, it is essential to adopt a comprehensive approach to education. This essay explores the sufficiency, compatibility and convergence of formal, non-formal and informal educational influences, highlighting their contribution to promoting comprehensive development and facilitating effective learning.

The education system is mainly based on formal education, which is distinguished by its organised curricula and uniform assessments. The adequacy of this approach lies in its ability to provide a clearly defined and comprehensive framework of essential information and skills for all students. During the initial stage of knowledge acquisition, formal education plays a crucial role in ensuring the effective transmission of basic literacy and numeracy skills.

Chapter III
EXPERIENTIAL LEARNING - DEFINING ELEMENTS, EXPERIENTIAL LEARNING CYCLE, LEARNING STYLES

III.1. Definitions of experiential learning

Current concerns in the field of education, the specific educational objectives of the 21st century, at European, perhaps even global level, highlight the aim for institutions in the pre-university field / promoting education to insist on the need to ensure relevant learning, meaningful learning, and giving up on teaching plain content that fails to bring any satisfaction to the main beneficiaries of education.

A foray into pedagogic theories reveals a complex, comprehensive definition of experiential learning: "Experiential learning/by experience (direct)/from one's own experience - type of learning centred on the learner's needs and desires; which is based on the learner's own/personal significant experiences in real settings (an action, a problem, an event, etc.), experiences generating the need for understanding and which are used as learning opportunities (the person learns from experience). As a result of the internalization process, some of the most important phenomena of mental life, the objective elements (lived experiences, established relationships, etc.) are transformed into intersubjective reality, forming representations, mental structures, meanings and significance, decision-making, problem-solving." (Bocos et al., 2021f, pp. 882-883).

III.2. John Dewey's experiential learning model

The American researcher, John Dewey (1859-1952), made significant contributions to a variety of scientific fields, particularly philosophy, psychology and education. In his work, Experience and Education (Dewey, 1938), he pleaded for a "progressive approach" to education, which recognized that there was a very close and necessary relationship between the processes of real experience and education.

Considering the issues of experiential learning, we can say that the aforementioned work is underlying its theoretical foundation, with profound meanings in experiential education. An important motivation for his work in the field of education has been a democratic passion for education that enables everyone to participate actively and consciously in a joint life and to contribute to the harmonious development of the community of which the learner is a part.

According to Dewey (1938), all life is social and depends on interaction and communication. Humans are social beings who cannot thrive outside a community. They became the sophisticated beings they are today because of the social environment in which they evolved. The knowledge system on which the educational process is based is included here. Dewey argues that people and objects around them are the direct product of human influence, of human experience. Knowledge, as we perceive it, is built on the accumulation of these diverse experiences. The responsibility for educating students goes beyond the school gates and involves the entire social system.

Dewey's experiential learning model revolves around four stances of education, as cited by Bower (2014): (1) *social environment*: the relationship between teachers, beneficiaries, curriculum and community; (2) *content knowledge and organisation*: how learning takes place - students should be placed in learning experiences enabling them to ask and solve problems, give meaning, produce products and build relationships; (3) *student preparation and experience*: preparation for life as a citizen - experiences should be educational and connect to the real world; and (4) *learning outcomes*: the student learnt - the students should have the ability to acquire more knowledge through experiences than they knew prior to the experience.

III.3. Kurt Lewin's experiential learning model

On the ninth day of the ninth month of the 90s of the nineteenth century, the great experimental psychologist Kurt Lewin was born in a village in the former Prussia, now Poland. According to Marrow (1969), his sole purpose was to find deeper explanations for why people behave as they do and to discover how they can learn to behave better.

Lewin has been described in various ways: the proponent of group dynamics by some, the radical innovator in experimental psychology by others, the creator of field/areas theory and topology in psychology, or simply the first to initiate action research. What makes him stand out is that he was one of the few psychologists to successfully translate a real-world situation into a controllable experimental form.

Papanek (1973) mentions the following major contributions of Kurt Lewin:

1. field theory concepts, we are an amalgam of/product of everything we have ever known;

2. action research, integrating theoretical study, experiment, systematic field research and customer service;

3. the study of group dynamics;

4. approaches to sensitivity training.

His cognitive development has undergone two major phases: the first was closely linked to the period when he lived in Germany after the First World War, when his concerns related to his philosophy of science and the psychology of individual development, and the second took place on the American continent after the age of 40. His interest this time shifted from the individual to the group, to group dynamics as a field of study.

III.4. Jean Piaget's theory of cognitive development and the psychogenesis of knowledge

The philosopher of science who adopted the child as an object of study, the famous but little-known Jean Piaget, as Bringuier (1980) put it, has made valuable contributions in the field of cognitive development. He has fundamentally transformed our understanding of the progressive evolution of children's cognitive processes and their conceptualization of their environment, their understanding of the structure and dynamics of change in their understanding of the world (Demetriou, Shayer, Efklides, 2016). He is credited with several significant achievements. Thanks to the depth and importance of his work and the impact on subsequent research, the cognitive development theory can be divided into two main stages: B. P. (initials of the English words "Before Piaget") and A. P. (initials of the English words "After Piaget") (Barrouillet, 2015).

His key contribution is the wording of the theory of cognitive development in which he sets out the sequential progression of children's cognitive faculties in **four stages**:

- **sensory-motor stage** (0-2 years), the child accumulates knowledge through senses and motor actions, this stage is the foundation of thought, perceptions, interaction with the environment;
- **pre-operational stage** (2-7 years), the child shows more complex cognitive skills, language, thought, imagination and problem solving develop faster when interacting with pictures and symbols;
- **concrete operational stage** (7-11 years), the child develops the ability to create logical structures, performs mental operations, is the stage where problem solving and reasoning are strong enough to last a lifetime;
- **formal operational stage** (11-adolescence), the child develops abstract, conceptual thinking, social context is very important, concrete examples are needed to understand abstract relationships. (Piaget, 1983; Wood, Smiths & Grossniklaus, 2008; Lefa, 2014).

III.5. P. I. Galperin's gradual developmental and progressive/operational learning theory

The discipline of educational psychology has seen over its course the development of several theories of learning, each offering distinct perspectives on the process by which learners acquire knowledge, skills and attitudes. P. I. Galperin's theory of gradual development and progressive/operational learning has emerged as a prominent theoretical framework that has greatly enhanced our understanding of the learning process. The theory, worded by Pyotr Ivanovich Galperin, a renowned Russian psychologist, stresses the significance of a systematic and progressive methodology in learning, with a particular emphasis on cognitive development facilitated by operations. It provides a broad perspective on learning and teaching that goes beyond the acquisition of knowledge and skills and introduces an approach that looks in detail at learning processes and explains what it means to learn (Engeness & Lund, 2020).

Pyotr Ivanovich Galperin, a renowned Russian psychologist, worded the theory of gradual development and progressive/operational learning in the mid-20th century. Galperin's theoretical framework was shaped on the contributions of some valuable psychologists, such as Lev Vygotsky and Alexander Luria, along with his own practical investigations in the field of education. Galperin's theory argues that knowledge acquisition occurs through a progressive and sequential process in which cognitive activities are cultivated and refined in directed learning (Bocos, 2016).

III.6. David Kolb's experiential learning model. The experiential learning cycle. Learning styles

The last month of 1938 enriches the United States of America with an eminent scientist, professor emeritus, David Kolb, educational/education theorist, who, as he himself confessed in an interview in 2019, the most wonderful thing about his involvement in experiential learning is that he has spent his entire career, practically 50 years, on a single topic.

The year 1984 is a benchmark for the conceptualization of experiential learning, with the publication of the volume "Experiential Learning. Experience as a source of learning and development". David Kolb, fascinated by John Dewey's research on experiential theory guiding educational innovation, developed the field of experiential learning to provide a scientific foundation for practicing this type of learning. In other words, the field of experiential learning is an attempt and a success to synthesise the ideas of many great thinkers who have argued that direct personal experience is crucial to learning and development. They have been called "the

foundational scholars of experiential learning" (Kolb & Kolb, 2017, p. 10). They include Kurt Lewin and John Dewey.

III.6.1. The experiential learning cycle

According to Boyatzis, Kolb and Mainemelis (1999), the theory of "experiential learning" focuses on how people learn, grow and develop; it provides a holistic model of the learning process, highlighting the essential, central role that experience plays in the learning process. This type of learning differs from cognitivist learning theories, which emphasise cognition at the expense of affectivity, and from behavioural theories which reject the importance of individual experience. Life experience is an integral part of the learning process, "knowledge is created by transforming experience. Knowledge results from the combination of understanding and transformation of experience." (Kolb, 1984, p. 41).

His theory provides a framework for organizing and sequencing lessons, content or curriculum and provides references on how to approach homework, courses to facilitate effective student learning (Healey & Jenkins, 2000). According to Kolb (2014, p. 21), experiential, relevant, meaningful learning is cyclical, involving "four major stages:

- concrete experience - EC;
- observations and reflections - RO;
- formation of abstract concepts and generalisations - AC;
- testing the implications of concepts in new situations - AE".

The concept of learning style refers to the distinct approaches that individuals use as they progress through the learning process, which are influenced by their propensity towards the four distinct learning ways, namely concrete experience (CE), reflective observation (RO), abstract conceptualization (AC) and active experimentation (AE) (Kolb, 2007). These are learning styles in the traditional perspective. The development of a preferred learning style is influenced by the genetic make-up of the individual, specific life events and current environmental demands. The resolution of the tension between concreteness and abstraction, as well as between activism and reflexivity, follows discernible patterns and has specific tendencies.

Research over time has provided evidence that the original classification of learning styles into four types, namely: accommodating, assimilating, convergent and divergent, can be refined/reflected into a typology consisting of nine distinct styles. This created typology provides a more precise definition of individual learning patterns and alleviates the confusion caused by borderline cases in the previous four-style typology (Kolb & Kolb, 2004; Kolb &

Kolb, 2005; Boyatzis & Mainemelis, 2000). On receiving feedback from users, a fifth style, called the "balancing" style, was seen to emerge, which refers to people who scored near the middle of the learning style scale. Subsequently, it was determined that individuals who scored in close proximity to the scale demarcations exhibited discernible styles. As an illustrative example, it has been observed that there is an experimentation style between accommodating and divergent styles. Four types of styles are highlighted in this study, each of which corresponds to one of the four learning modes: experiential (CE), reflective (RO), thinking (AC) and action (AE) (Abbey, Hunt & Weiser, 1985). There are four additional types of styles that prioritise two modes of learning, one from the understanding dimension and one from the transformative dimension of the experiential learning theory model. These types of styles include imagination (CE & RO), analysis (AC & RO), decision (AC & AE) and initiation (CE & AE). According to Mainemelis, Boyatzis and Kolb (2002), the latter type of style strikes a balance between all four modes of the learning cycle.

Chapter IV

MANAGEMENT OF NON-FORMAL ACTIVITIES BASED ON EXPERIENTIAL LEARNING

Non-formal education, especially when based on experiential learning, offers a dynamic and influential approach to improving skills and promoting personal development. The learner-centred approach is a central idea in the management of non-formal experiential learning activities. This method focuses on the distinct requirements, propensities and goals of the people involved. Teacher facilitators need to develop programmes that are tailored to the specific interests and ambitions of the beneficiaries.

Effective management of non-formal activities based on experiential learning depends on the formulation of a clear learning goal and objectives. It is very important for teacher facilitators to set clear parameters regarding the distinct set of competences, knowledge and skills or key competences that participants are expected to acquire through their involvement in non-formal experiences.

The objectives work as a strategic framework for programme development, evaluation and assessment, facilitating direction setting and quantification of results. The experiential learning cycle, also known as Kolb's experiential learning cycle, is a theoretical framework that describes the experiential learning process mentioned in Chapter III.

Informal learning, distinguished by its adaptable nature and learner-centred focus, provides a dynamic framework for individual progress and competence acquisition. The strategic development and conceptualisation of non-formal learning oriented activities plays a key role in ensuring that students are able to engage in meaningful and rewarding experiences.

The foundation for planning, designing, implementing and evaluating non-formal learning activities is rooted in an approach that prioritises the needs and interests of learners. This principle underlines the importance of tailoring activities to align with the distinct requirements, preferences and goals of the people involved.

Formulating defined and measurable learning objectives is an essential component of effective planning. It is important that educators and organisers provide clear objectives for the expected learning outcomes or achievements that participants are expected to obtain through the activity.

Chapter V

EDUCATIONAL EXPERIENCES IN EXPERIENTIAL LEARNING AT THE LEVEL OF THE NATIONAL PEDAGOGIC COLLEGE "REGELE FERDINAND" SIGHETU MARMAȚIEI (2017-PRESENT)

V.1. National Pedagogic College "Regele Ferdinand" Sighetu Marmației - overview

A prestigious institution of Maramureș education, with a history of over 160 years, the National Pedagogic College "Regele Ferdinand" in Sighetu Marmației opens its doors year after year to hundreds of students, preparing them both in the humanities as well as sciences pathways, anchored in the reality of the times we live in, but also in the needs of the current society. Considered a symbol of the place, but also a significant landmark in the landscape of national education, the college has earned a reputation, first and foremost, by the assumed merit to train future educators and teachers, thus, earning a name in the landscape of elite pedagogic schools at national level. Relevant is also the fact that it is the only institution in the municipality that constitutes an educational complex, where training and educational activities are carried out at all levels of pre-university education (pre-school, primary, secondary, high school), with a distinct ethos, which has perpetually ensured students from Maramureș an exquisite, qualitative, continuously ascending education, in accordance with the demands of a democratic society, with European integration aspirations.

B. **MISSION OF THE SCHOOL ORGANISATION** *(What should I do*?)

The National Pedagogic College "King Ferdinand" in Sighetu Marmației promotes an innovative, inclusive, flexible vocational pedagogic and theoretic education, with a varied offer, with equal opportunities and expressing multiculturalism for all students, which trains them as future specialists able to meet the European requirements for active integration in the labour market and in society, helping the development of the community.

C**. MANAGERIAL VISION** *(What would I like to do*?)

The National Pedagogic College "King Ferdinand" in Sighetu Marmației aims at an education oriented towards democratic, European values, offering equal opportunities to each student to be creative and oriented towards success and performance, in a stable and safe environment, shall be a link between the local community, parents and students, strengthening its status as a respected institution for the quality of educational services, promoting education oriented towards a competitive and dynamic society.

D. **STRATEGIC OBJECTIVES** *(What do I need to do*?)

The strategic objectives stem from the vision of the National Pedagogic College "King Ferdinand" and represent the major objectives that will be achieved through the development strategy and whereby the mission we proposed in the strategic documents will be fulfilled. The objectives relate to European, national and regional strategies on education, graduate profile formation and vocational training.

The National Pedagogic College "King Ferdinand" in Sighetu Marmației is highly preoccupied with creating learning setting exceeding the limits of the conventional formal education system. This is where future teachers, , educators and childcare providers are trained to enter the job market, to profess/practice the educational act and measure learned in college and to carry forward what they have acquired. Everything that is relevant to their professional training concerns us. Therefore, it is sought to develop non-formal educational programmes, projects and activities that answer to the needs of our students, their parents and the community, improving/influencing practices in formal education through the acquisition of new skills.

In our institution two institutional structures operate in this direction, one **theatre**, which is concerned with the development of language/multilingual skills, and **one club where non-formal education programmes are developed**, focusing on the investigation of natural and cultural values of the community, environmental education and climate change, improving prosocial behaviour, altruism, developing academic motivation, experiential learning, adopting a healthy, responsible lifestyle, reducing over-consumption/consumerism, teamwork, knowledge and achievement of the 17 Sustainable Development Goals of the UN 2030 Agenda. We will present them below.

The "Ferdy" Francophone Theatrical Troupe of the National Pedagogic College "King Ferdinand" in Sighetu Marmației has been operating since 2005 and has been actively involved in several theatrical events, at both national and international level. Many talented students with a strong desire to improve their language and communication skills have had the privilege to showcase their talents on popular theatrical platforms such as *Franthousiasme, Amifran, Acting in Romania*, *Printemps theatral* and *Globe Théâtre* in France.

The second institutional structure we would like to present is the **GreenIMPACT Club "Misericordia" of the National Pedagogic College "King Ferdinand".** It is newer, operating since the 2017-2018 school year. Club activities, projects and programmes take place outside/in addition to/adjacent to classes in the form of meetings, workshops, over a defined period of time, depending on their purpose. The key terms on which the non-formal education programmes developed within the club were built/created are: communication, cooperation, education, environment, growth/evolution, health, well-being, diversity, friendship, innovation

and creativity, personal identity, empathy, motivation, sustainable development, active citizenship, sustainability, altruism, teamwork, vision, learning, digitalisation, community, leadership, language and multilingual skills, the 17 Sustainable Development Goals (SDGs).

In a dynamic and evolving global landscape, striving for a more promising future depends on an education system that not only facilitates intellectual empowerment but also promotes the development of scrupulous youth with a global perspective. In the pursuit of progress, two fundamental elements of sustainable development emerge as significant factors from our perspective: the provision of high quality education and the creation of sustainable cities and communities. At the heart of this approach are educational programmes that engage learners as active agents, facilitating the development of strategies for a symbiotic relationship with the environment and our fellows.

During 2017-2023 we have developed educational programmes based on experiential learning, in which we have confidently adopted the concepts of Sustainable Development Goal 4 (SDG 4) - *Quality Education* and Sustainable Development Goal 11 (SDG 11) - *Sustainable Cities and Communities*. These programmes have the ability to not only stimulate cognitive development, but also evoke a transformative response in the thoughts and emotions of our students. In "Dicționar de pedagogie" (Bocos (coord.) et al. 2021, p. 1659) we find the definition of the educational programme as follows: "a systematic sequence of educational approaches, actions and activities, which are carried out in a predetermined order, in order to achieve educational goals, using resources (strategies, methods, techniques, material resources, time resources, etc.), in formal, non-formal and informal settings".

Chapter VI

PRESENTATION OF THE PEDAGOGIC RESEARCH ON THE TOPIC "FORMATIVE VARIATIONS OF EXPERIENTIAL LEARNING PERFORMED WITHIN THE NON-FORMAL EDUCATIONAL SETTINGS OF PEDAGOGIC INSTITUTIONS". CASE STUDY - NATIONAL PEDAGOGIC COLLEGE "REGELE FERDINAND" IN SIGHETU MARMAȚIEI

VI.1. Research coordinates

VI.1.1. Research issues

Our pedagogic research deals with a visibly topical issue, in line with the challenges of social life and the need to promote education for sustainable development, for sustainability, of the experiential, relevant learning.

National pedagogic high schools and colleges are pre-university institutions that must deliver to the community highly trained teachers and adolescents capable of adopting meaningful cognitive and non-cognitive desirable behaviours, equipped with the key competencies required for personal fulfilment and development, and for promoting active citizenship. This occurs by capitalizing upon the shaping influences of all forms of education.

Through our paper we aim to investigate *formative variations of experiential learning performed within the non-formal educational settings of pedagogic institutions, present in the proposed curriculum cycles*. We have chosen this topic because non-formal education, through the programmes, activities and actions designed, harmoniously complements formal education, aiming at shaping the profile of the graduate at different stages of schooling.

VI.1.2. Research aims and objectives*

* the aim and objectives of the research concern the students of the National Pedagogic College "King Ferdinand" in Sighetu Marmației in the following curriculum cycles: development; observation and orientation; advanced; specialization.

The **aim of our research** is to test the effectiveness of a non-formal education programme focused on activity systems involving experiential learning in students from pedagogic institutions:

- positive change/ changing and adopting desirable behaviours (social responsibility, empathy, moral reasoning oriented towards others, moral reasoning based on concerns, offering help), desirable attitudes (intrinsic motivation for knowledge, intrinsic

motivation for achievement, intrinsic motivation for incentives, identified extrinsic motivation, introjected extrinsic motivation, extrinsic motivation for external regulation), as well as on the demotivation of students in the four curriculum cycles (developmental; observation and orientation; advanced; specialisation);

- learning styles and on the flexibility of learning acquired by students.

The research objectives are:

- O1. Design and implementation of a non-formal education programme focusing on systems of activities involving experiential learning for the above-mentioned students throughout a school year;
- O2. Follow-up of the influence of non-formal education programme focusing on activity systems involving experiential learning on students' learning style and learning flexibility in formal educational settings;
- O3. Verifying the effectiveness of the non-formal education programme focusing on activity systems involving experiential learning in terms of positive change in students' behaviours and attitudes, mentioned in the purpose of the research;

As a long-run goal envisaged by our research, we specify:

- Increasing interest and attractiveness of the teaching profession among students in the advanced and specialisation cycles.

VI.1.3. Research question

The main **research question** guiding our approach is:

What are the formative valences (desirable behaviours, desirable attitudes, learning styles and learning skills) of implementing a programme non-formal education programme focusing on activity systems involving experiential learning for students in pedagogic institutions?

VI.1.4. Research hypotheses and variables*

* the hypotheses and variables of the research refer to the students of the National Pedagogic College "King Ferdinand" in Sighetu Marmației in the following curriculum cycles: basic acquisition; development; observation and orientation; advanced; specialization

VI.1.4.1. Main research hypothesis

At the level of students in the five curriculum cycles, who are schooled in pedagogic institutions**, the implementation of a non-formal education programme** focused on activity

systems involving experiential learning **contributes significantly to the development of desirable behaviours, desirable attitudes, learning styles and skills**.

VI.1.4.2. Secondary research hypotheses

Based on the general hypothesis, we identify the following *secondary hypotheses*:

Hypothesis 1. Implementing a non-formal education programme focusing on activity systems involving experiential learning **contributes significantly to the development of social responsibility.**

Hypothesis 2. Implementing a non-formal **education programme** focusing on activity systems involving experiential learning **contributes significantly to the development of empathy.**

Hypothesis 3. The implementation of a non-formal education programme focusing on activity systems involving experiential learning **contributes significantly to the development of moral reasoning oriented towards others.**

Hypothesis 4. Implementing a non-formal education programme focusing on activity systems involving experiential learning **contributes significantly to the development of moral reasoning based on concerns.**

Hypothesis 5. Implementing a non-formal education programme focusing on activity systems involving experiential learning **contributes significantly to the development of offering help.**

Hypothesis 6. Implementing a non-formal education programme focusing on activity systems involving experiential learning **contributes significantly to the development of altruism.**

Hypothesis 7. The implementation of a non-formal education programme focusing on activity systems involving experiential learning **contributes significantly to the development of intrinsic motivation for knowledge.**

Hypothesis 8. Implementing a non-formal education programme focusing on activity systems involving experiential learning **contributes significantly to the development of intrinsic motivation for achievement.**

Hypothesis 9. Implementing a non-formal education programme focusing on activity systems involving experiential learning **contributes significantly to the development of intrinsic motivation for incentives.**

Hypothesis 10. The implementation of a non-formal education programme focusing on activity systems involving experiential learning **contributes significantly to the development of the identified extrinsic motivation.**

Hypothesis 11. The implementation of a non-formal education programme focusing on activity systems involving experiential learning **contributes significantly to the development of extrinsic motivation.**

Hypothesis 12. The implementation of a non-formal education programme focusing on activity systems involving experiential learning **contributes significantly to the development of extrinsic motivation for external regulation.**

Hypothesis 13. Implementing a non-formal education programme focusing on activity systems involving experiential learning **contributes significantly to reducing demotivation.**

Hypothesis 14. Implementing a non-formal education programme focusing on activity systems involving experiential learning **contributes significantly to identifying learning style and flexibility.**

Hypothesis 15. There are significant differences between the results of students participating in the activities proposed before and after the implementation of the non-formal education programme focusing on activity systems involving experiential learning **depending on biological gender**.

Hypothesis 16. There are significant differences between the results of students participating in the activities proposed before and after the implementation of the non-formal education programme focusing on activity systems involving experiential learning **depending on the background**.

VI.1.4.3. Research variables

Independent variable:

- Non-formal education programme focusing on systems of activities involving experiential learning at the level of students in the four curriculum cycles, schooled in pedagogic institutions
- **Dependent variables:**
  - the degree of development of desirable behaviours;
  - the degree of development of desirable attitudes;
  - the degree of shaping learning styles;

- the degree of development of learning skills;
- degree of flexibility;
- level of demotivation.

Operationalization of dependent variables*:*

- Development of desirable behaviours and attitudes operationalised using the following *indicators:*
    - ❖ social responsibility
    - ❖ empathy
    - ❖ moral reasoning oriented towards others
    - ❖ moral reasoning based on concerns
    - ❖ offering help
    - ❖ altruism
    - ❖ intrinsic motivation for knowledge
    - ❖ intrinsic motivation for achievement
    - ❖ intrinsic motivation for incentives
    - ❖ extrinsic motivation identified
    - ❖ introjected extrinsic motivation
    - ❖ extrinsic motivation for external regulation

Moderating variables*:*

- The curriculum cycle the students are part of
- Biological gender of students
- Background

VI.1.5. Time and venue

Our research was carried out at the National Pedagogic College "King Ferdinand" in Sighetu Marmației, during the school years 2021-2022 and 2022-2023, having as background the non-formal education programmes carried out since the school year 2017-2018, involving several stages, with specific activities associated to each, pursuing its aim and objectives, as well as verifying the main and secondary hypotheses. These are presented in Table 1.VI.

Table 1.VI. *Stages of pedagogical research*

Stage	Covered activities	Term
Establishment stage	- theoretical underpinning of non-formal education programme focusing on activity systems involving experiential learning and critical literature review	School year 2021-2022
Pre-experimental stage	- identification of experimental classes - application of the pretest	School year 2021-2022 School year 2022-2023
Experimental stage	-the actual formative experiment	School year 2021-2022 School year 2022-2023 (Jan. 2021 - May 2023)
Post-experimental phase	-post-test application, quantitative and qualitative analysis of the data obtained from the questionnaires	School year 2022-2023 June 2023

VI.1.6. Sample of participants

360 students, aged between 8 and 19 years old, enrolled at the National Pedagogic College "King Ferdinand" in Sighetu Marmației, participated in this research, as follows: 160 students within the development cycle, 100 students within the observation and orientation cycle and 100 students within the advanced and specialization cycle.

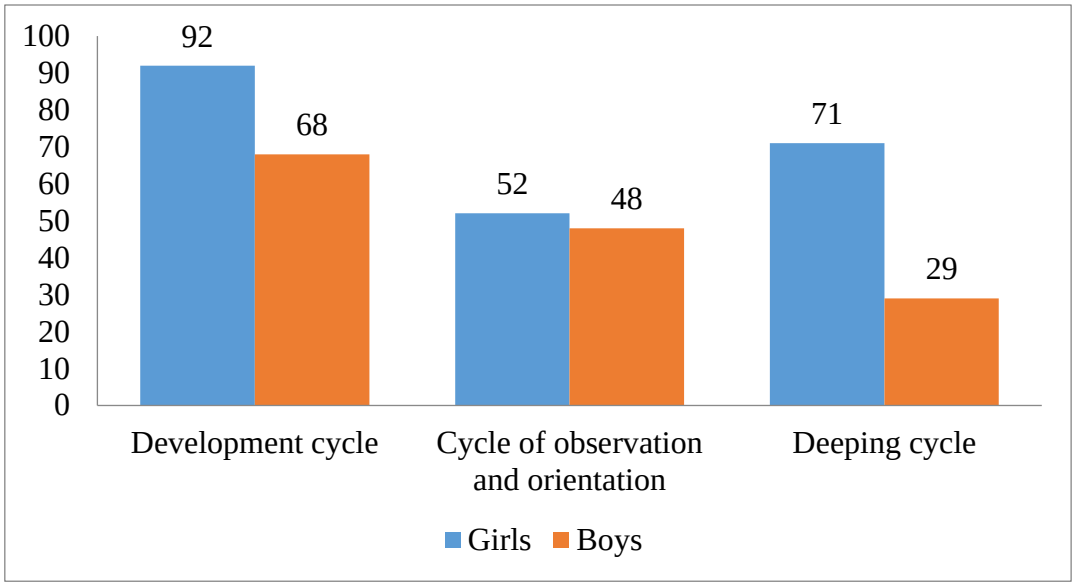

Figure 3.VI. *Graphical representation of the participants included in the research per biological gender*

VI.1.7. Content sample

Applied in the formative experimentation phase, the content sample adds to the non-formal education programme focusing on activity systems involving experiential learning for students in different curriculum cycles in our pedagogic institution. It is meticulously designed to facilitate the interweaving of academic knowledge with practical applications. In this context, our educational unit serves as an active experiential setting in which learners are motivated to explore content and situations beyond the conventional classroom environment, engaging in a wide range of meaningful learning settings, in practical activity exchanges, introspective exercises, and immersive educational interactions.

The programme developed was implemented between October 2022 and May 2023. 10 educational workshops were held for the sample of participants each month. These are presented in the form of programmes, projects and activities.

Nr crt	Activity	Key terms	Purpose	Period
1	"True Friends - Education and the Unwild"	Community, friendship, education, diversity, decision-making, pro-social behaviour, sustainability, sustainable development, health and well-being	Raise students' awareness of the impact of wildlife and education on our lives;	October 2022
2	„Cool School"	Community, altruism, creativity, diversity, well-being, pro-social behaviour, sustainable development.	Involvement of students, adults from our institution and school partners in the life of the local community through joint activities within the framework of the National Community Action Strategy - NACS.	21 – 29 November 2022
3	"My school is celebrating, 'Happy Birthday, Preparandia 160'!"	Community, prosocial behaviour, health and well-being, communication, personal identity, sustainable development	celebrating 160 years since the foundation of our institution	January –October 2022
4	"Maramures through the eyes of a child, at the turn of the years"	Community, diversity, creativity, environment, active citizenship, sustainable development.	developing aesthetic experiences and stimulating creativity by investigating/remembering the customs and traditions of winter holidays specific to Maramures County.	- December 2022 - January 2023
5	„Cea mai lungă lecție din lume – World's Largest Lesson",	Community, communication, diversity, sustainability, healthy lifestyle, sustainable development goals, active citizenship.	raising students' awareness of the impact of reducing excessive consumption and quality education on our lives.	February 2023
6	"Wandering through the beauties of Romania"	Community, humanity, health, education, sustainable development, humanity, teamwork, innovation and creativity, environment, active citizenship.	raise students' awareness of the importance of sustainable, clean transport and encourage them to adopt environmentally friendly modes of travel while minimising pollution; organising and holding a march to support sustainable movement in the community	13-17 March
7	"The story of my town"	Community, innovation and creativity, communication, personal identity, sustainability, altruism, decision-making, diversity, teamwork	developing and walking a guided walking tour that explores the cultural and natural values of our community	April-May 2023
8	"Dialogue between generations" - December 2022, May 2023	Community, diversity, altruism, digitalisation, personal identity, active citizenship, empathy.	Organising digital literacy sessions for adults and peer-to-peer sessions where older generations, especially graduates of our institution, share experiences from their past with current students and present diverse career paths.	Dec. 2022 -May 2023
9	"Movement without pollution"	Community, health, communication, environment, active citizenship, sustainability, sustainable development, friendship.	raise students' awareness of the importance of sustainable, clean transport and encourage them to adopt environmentally friendly modes of travel while minimising pollution; organising and holding a march to support sustainable movement in the community.	April 2023
10	"Sustainability Ambassadors"	Community, sustainability, active citizenship, sustainable development, decision-making, teamwork.	empowering students to become messengers and leaders in promoting sustainable practices within the school and community	April 2023 -May 2023

Chapter VII
RESEARCH RESULTS. INTERPRETATION AND ANALYSIS OF THE RESULTS OBTAINED

IBM SPSS Statistics for Windows, Version 26.0 Armonk, NY: IBM Corp software was used for statistical processing of the study data..

The t-test for paired samples was used to compare the averages of the parameters between paired samples.

The t-test for independent samples was used to compare the averages across dichotomous variables in the study.

Analysis of the association between categorical variables was done using the cross-tabulation and χ^2 (chi-square) Test. When the results of the chi-square test were sufficiently skewed that they could not be taken into account, Fisher's exact test was used.

***T*-test for dependent sample (pairs)**

This test compares the scores of two paired variables. In our case the approach aims to compare the evaluation of subjects at two different time points, the evaluation scale being the same.

The application of this test is specific to within-group or with repeated measures.

***T*-test for independent samples**

This test is used to examine the effects of an independent variable on one or more dependent variables, and its use is reserved for comparing two conditions or groups (two levels of the independent variable).

This is the most commonly used t-test version. Statistical significance assumes that the two samples differ up to one point, this difference not being due to chance and not a consequence of sampling. The inherent variability of these data variables is used to estimate the likelihood of any difference occurring between the two averages, if there were no difference between the two samples.

Cross-tabulation is one of the most common ways of analysing and interpreting data. "It shows the relationship between the answers to two different questions, in the manner of Latin squares" (Dumitru, 2001, p. 236).

χ^2 (chi-square) test

The chi-square test of association is used when we want to test the relationship between two variables, both measured on a categorical scale. It should be noted that categorical variables, although usually nominal, can be either ordinal, interval or ratio variables. What

characterises a categorical variable is not so much the measurement scale , but the fact that it receives few values, dividing the distribution into categories of values.

VII.1. Analysis and interpretation of the results of the pre-experimental phase

Table 2.VII. Descriptive analysis of the results obtained in terms of the prosocial behaviour of participants in the developmental cycle

Biological gender		Social Responsability	Empathy	Other-Oriented Moral Reasoning	Mutual Concerns Moral Reasoning	Helpfulness
Girls	N	92	92	92	92	92
	Mean	41,3	46,8	10,4	10,4	37,8
	Std. Dev.	5.5	5.8	2.3	2.3	8.4
	Minimum	25	31	4	4	17
	Maximum	57	70	18	18	60
	% of Total N	57,5%	57,5%	57,5%	57,5%	57,5%
Boys	N	68	68	68	68	68
	Mean	40,2	47,6	9,8	9,8	36,4
	Std. Dev.	6.2	6.6	2.7	2.7	9.1
	Minimum	23	30	4	4	18
	Maximum	60	72	19	19	63
	% of Total N	42,5%	42,5%	42,5%	42,5%	42,5%
Total	N	160	160	160	160	160
	Mean	40,8	47,1	10,2	10,2	37,2
	Std. Dev.	5.8	6.1	2.5	2.5	8.7
	Minimum	23	30	4	4	17
	Maximum	60	72	19	19	63
	% of Total N	100%	100%	100%	100%	100%

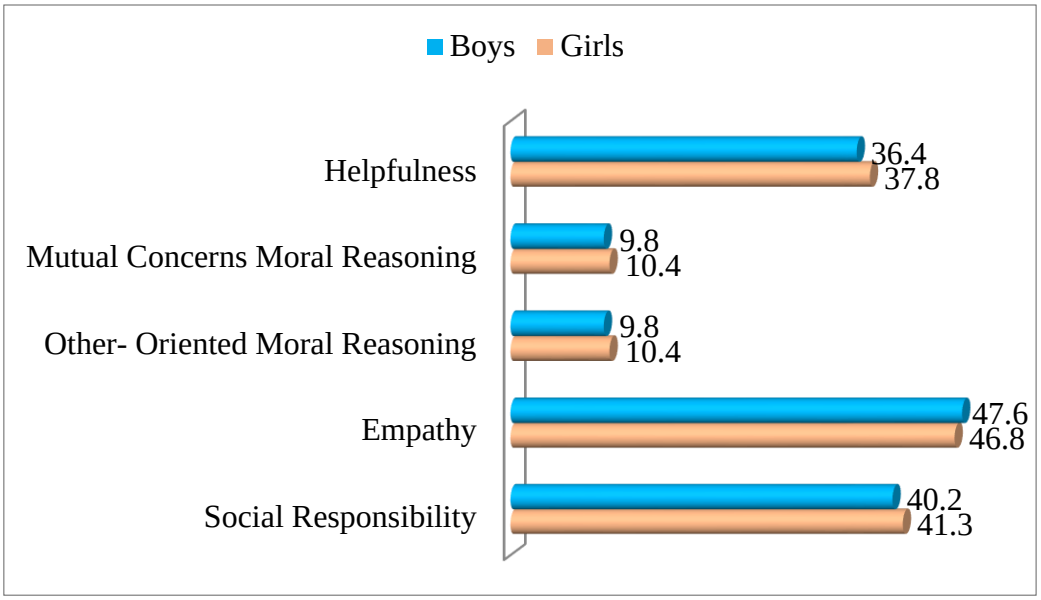

Figure 2.VII. Graphical representation of the results obtained for the variable prosocial behaviours

In terms of prosocial behaviours, there are significant differences in terms of biological gender. Thus, according to Table 2.VII., girls acquire a high level of social responsibility (M=41.3), empathy (47.6), moral reasoning oriented towards others (M=10.4), moral reasoning based on concerns (M=10.4) and offering help (M=37.8) which means that they feel responsible when a conflict arises to try and resolve it; when they have a group project for school, they prepare it out even if the rest of the members do not participate, if the others behave improperly or socially inappropriate, they prefer to behave well with them. In addition, girls feel more worried and anxious in certain emergency situations, if they are right, they have the patience to listen to the opinions or arguments of others, they easily put themselves in the shoes of others, imagining how things look from their perspective. Girls also often make decisions that are based on caring for others, on what is the right thing to do, taking into account the rights, needs and interests of all concerned, and aimed for the welfare of others. In addition to these aspects, girls are more open to helping those around them; they voluntarily get involved in certain charities, humanitarian campaigns or even in giving support to their classmates.

Table 4.VII. Descriptive analysis of the results obtained in terms of altruism of participants in the observation and orientation cycle

	Altruism					
Biological gender	N	Mean	Std. Dev.	Minimum	Maximum	% of Total N
Girls	52	46	14.8	25	95	52,0%
Boys	48	42,3	10.5	21	70	48,0%
Total	100	44,2	13	21	95	100,0%

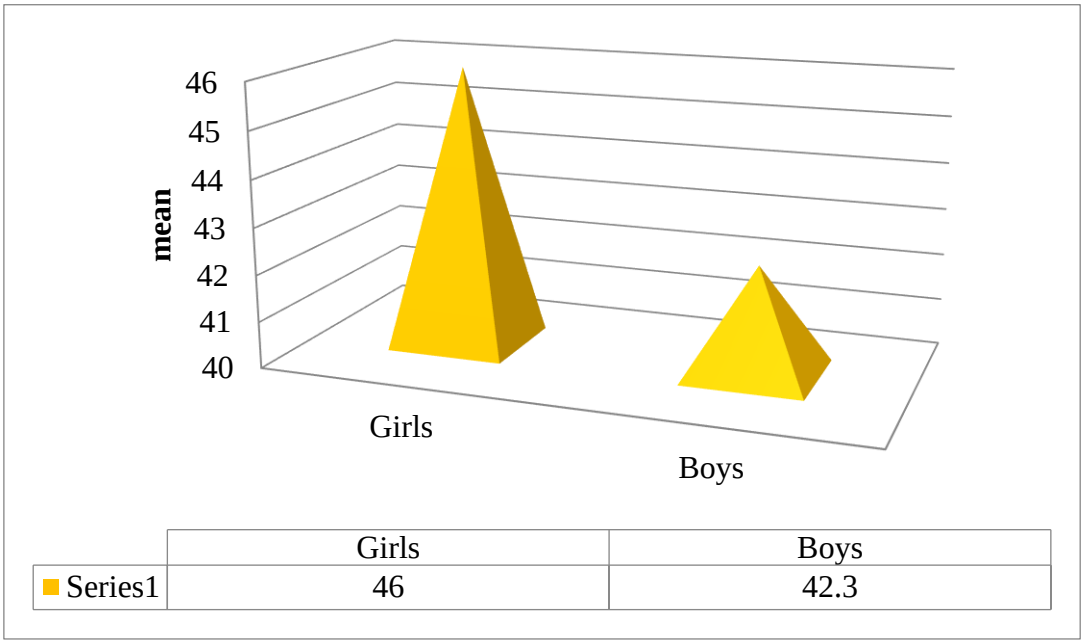

Figure 4.VII. Graphical representation of the results obtained for the variable altruism

According to Table 4.VII., it can be seen that there are significant differences in terms of biological gender with regard to the altruism variable. The interpretation of the results shows that girls have a high level of altruism (M=46) compared to boys (M=42.3). Therefore, girls are more frequently involved in humanitarian actions, fundraising/donation campaigns, have a high level of desire to do good to others without expecting any reward and have a higher helping behaviour compared to boys.

Table 6.VII. Descriptive analysis of the results obtained regarding the academic motivation of the participants in the advanced cycle

Biological gender		Intrinsic motivation - to know	Intrinsic motivation-toward accomplishment	Intrinsic motivation-to experience stimulation
Girls	N	71	71	71
	Mean	14,7	14,4	11,7
	Std. Dev.	3.2	3.1	3.1
	Minimum	4	4	4
	Maximum	20	20	20
	% of Total N	71%	71%	71%
Boys	N	29	29	29
	Mean	13,06	12,1	9,9
	Std. Dev.	3.5	3.3	3.4
	Minimum	5	5	4
	Maximum	20	19	17
	% of Total N	29%	29%	29%
Total	N	100	100	100
	Mean	14,2	13,7	11,2
	Std. Dev.	3.3	3.3	3.3
	Minimum	4	4	4
	Maximum	20	20	20
	% of Total N	100%	100%	100%

Table 6.VII. Descriptive analysis of the results obtained regarding the academic motivation of the participants in the advanced cycle (continued)

Biological gender		Extrinsic motivation -identified	Extrinsic motivation - introjected	Extrinsic motivation - external regulation	Amotivation
Girls	N	71	71	71	71
	Mean	16,02	15,05	15,3	6,5
	Std. Dev.	2.9	3.6	3.1	2.6
	Minimum	5	4	4	4
	Maximum	20	20	20	18
	% of Total N	71%	71%	71%	71%
Boys	N	29	29	29	29
	Mean	12,9	11,6	12,6	8,2
	Std. Dev.	3.6	4.2	4	3.3

	Minimum	4	4	5	4
	Maximum	20	18	20	15
	% of Total N	29%	29%	29%	29%
Total	N	100	100	100	100
	Mean	15,1	14	14,5	7
	Std. Dev.	3.4	4	3.6	2.9
	Minimum	4	4	4	4
	Maximum	20	20	20	18
	% of Total N	100%	100%	100%	100%

When analysing the results in Table 6.VII., it can be seen that there are significant differences in the subscales of academic motivation depending on the biological gender. Thus, girls have a high level of intrinsic motivation for knowledge (M=14.7), intrinsic motivation for achievement (M=14.4) and intrinsic motivation for incentives (M=11.7) compared to boys. Girls have an increased level of active involvement in a variety of activities just for the pleasure and satisfaction they experience while learning, exploring and discovering new things. Additionally, both girls and boys have a high level of identified extrinsic motivation, introjected and for external regulation. They still need rewards to increase their level of commitment and engagement in academic tasks, are still influenced by external pressures, and have low levels of self-appreciation and internalisation. Moreover, boys have a higher level of demotivation (M=8.2) compared to girls; they have a low level of intention, willpower, and the beliefs they hold are "the work is too demanding for me" and "no matter how much effort you put in it is never enough to successfully complete the tasks".

Table 7.VII. Descriptive analysis of the results obtained regarding the academic motivation of the participants in the advanced cycle depending on their background

Background		Intrinsic motivation-to know	Intrinsic motivation-toward accomplishment	Intrinsic motivation-to experience stimulation
Urban	N	44	44	44
	Mean	14,9	14,4	11,8
	Std. Dev.	3.1	3	2.7
	Minimum	9	9	6
	Maximum	20	20	19
	% of Total N	44%	44%	44%
Rural	N	56	56	56

	Mean	13,7	13,1	10,7
	Std. Dev.	3.5	3.5	3.6
	Minimum	4	4	4
	Maximum	20	20	20
	% of Total N	56%	56%	56%
Total	N	100	100	100
	Mean	14,2	13,7	11,2
	Std. Dev.	3.4	3.3	3.3
	Minimum	4	4	4
	Maximum	20	20	20
	% of Total N	100%	100%	100%

Table 7.VII. Descriptive analysis of the results obtained regarding the academic motivation of the participants in the advanced cycle depending on their background (continued)

Background		Extrinsic motivation-identified	Extrinsic motivation-introjected	Extrinsic motivation-external regulation	Amotivation
Urban	N	44	44	44	44
	Mean	15,8	14,8	15,7	6,6
	Std. Dev.	2.7	3.4	2.9	2.5
	Minimum	10	6	7	4
	Maximum	20	20	20	12
	% of Total N	44%	44%	44%	44%
Rural	N	56	56	56	56
	Mean	14,5	13,4	13,6	7,3
	Std. Dev.	3.8	4.4	3.8	3.2
	Minimum	4	4	4	4
	Maximum	20	20	20	18
	% of Total N	56%	56%	56%	56%
Total	N	100	100	100	100
	Mean	15,1	14	14,5	7
	Std. Dev.	3.4	4	3.6	2.9
	Minimum	4	4	4	4
	Maximum	20	20	20	18
	% of Total N	100%	100%	100%	100%

Significant differences in academic motivation also exist in terms of the background of the participants included in the research (see Table 7.VII.). Urban participants have an increased level of: intrinsic motivation for knowledge (M=14.9), intrinsic motivation for achievement

(M=14.4), intrinsic motivation for incentives (M=11.8), identified extrinsic motivation (M=15.8), introjected extrinsic motivation (M=14.8) and extrinsic motivation for external regulation (M=15.7). In contrast, rural participants have a higher level of demotivation (M=7.3) than urban participants.

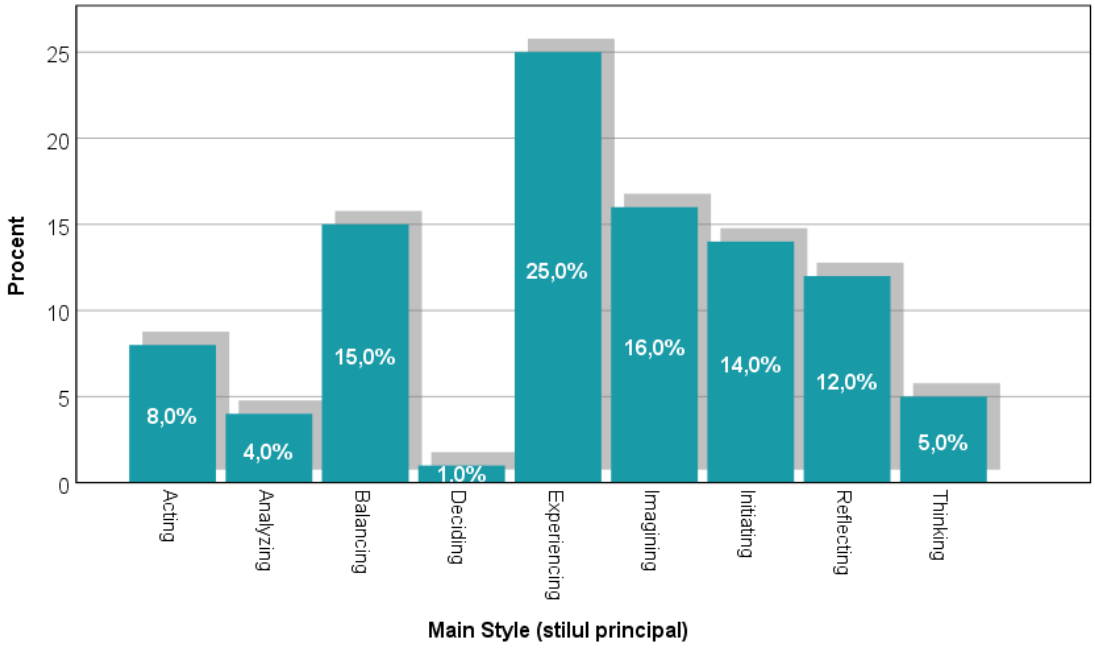

Figure 8.VII. Graphical representation of frequencies of main learning styles

Analysing the main learning styles for the sample studied (see Figure 8.VII), we see that the most common were: experiencing style for 25% of the students, imagining style for 16% of the students, balancing style for 16% of the students, initiating style for 14% of the students and reflecting style for 12% of the students.

The least common were deciding, analysing, thinking and acting styles.

In addition to the main learning styles, subjects also have complementary styles that supplement the main style. The most common styles were: balancing (77% of subjects), acting (47%), analysing (47%), reflecting (45%), thinking (43%) and imagining (41%).

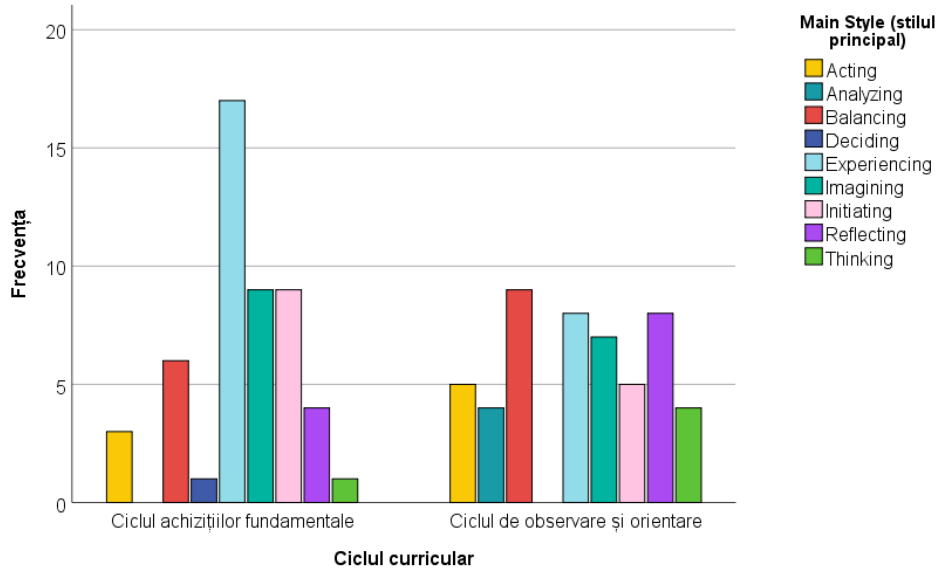

Figure 10.VII. Graphical representation for the association between the main learning style and the curriculum cycle

We also compared the complementary learning styles between the two curriculum cycles and it was observed that the most common styles for the basic acquisition cycle were balancing, acting, deciding, reflecting, thinking and experimenting. In the case of the advanced and specialisation cycle, the most common styles are balancing, analysing, reflecting, imagining, thinking and acting.

VII.2. Analysis and interpretation of the results of the post-experimental phase

Table 19.VII. Descriptive analysis of the results obtained in the post-experimental phase regarding the prosocial behaviour of the participants in the developmental cycle

Biological gender		Social Responsability	Empathy	Other-Oriented Moral Reasoning	Mutual Concerns Moral Reasoning	Helpfulness
Girls	N	92	92	92	92	92
	Mean	41,6	46,8	9,9	8,5	32,2
	Std. Dev.	6.3	6.5	2.7	2.6	10
	Minimum	20	34	4	4	14
	Maximum	55	62	14	14	68
	% of Total N	57,5%	57,5%	57,5%	57,5%	57,5%

Boys	N	68	68	68	68	68
	Mean	40,5	48,3	8,5	8,2	27,7
	Std. Dev.	7.2	8	3.1	3	10
	Minimum	24	25	4	4	14
	Maximum	54	70	16	16	49
	% of Total N	42,5%	42,5%	42,5%	42,5%	42,5%
Total	N	160	160	160	160	160
	Mean	41,2	47,4	9,3	8,4	30,3
	Std. Dev.	6.7	7.2	2.9	2.8	10.6
	Minimum	20	25	4	4	14
	Maximum	55	70	16	16	68
	% of Total N	100%	100%	100%	100%	100%

Table 19.VII. shows the mean values and standard deviations of the scores concerning prosocial behaviour in the post-experimental phase, differentiated depending on the biological gender of the respondents.

For boys, the average score for social responsibility is 38.21, while for girls it is 40.01.

The empathy score averages 14.97 for girls and 15.63 for boys.

Analysing the sample according to the score on moral reasoning oriented towards others, we find that girls scored an average of 9.62, while boys scored an average of 9.40.

The average score for moral reasoning based on concerns is 8.54 for boys and 8.52 for girls.

The self-reported altruism score averages 50.28 for girls, while for boys it is 47.66.

Analysing the sample depending on the score on empathy oriented towards others, it is found that girls obtained an average score of 89.09, while boys obtained an average score of 88.99.

The score on offering help stands at an average of 56.62 for girls. For boys the average was 54.24.

Table 21.VII. Descriptive analysis of the results obtained in terms of participants' altruism in the observation and orientation cycle in the post-experimental phase

Biological gender	N	Altruism Mean	Std. Dev.	Minimum	Maximum	% of Total N
Girls	52	51,3	15.7	28	95	52,0%
Boys	48	49,5	13.8	21	71	48,0%
Total	100	50,4	14.8	21	95	100,0%

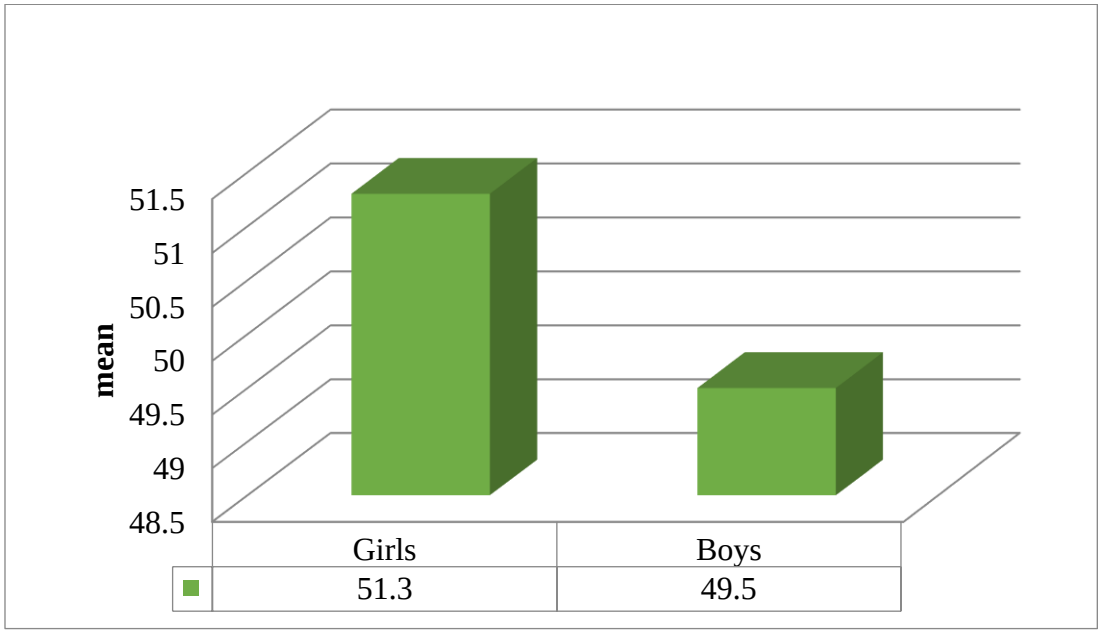

Figure 15.VII. Graphical representation of results obtained in the post-experimental phase for altruism

The mean values and standard deviations of the scores on altruism, measured in the post-experimental phase, obtained by the subjects of the two genders can be followed in the following table.

Male subjects scored an average of 46.67 with a standard deviation of 13.01, while female subjects scored an average of 46.65 with a standard deviation of 13.27.

Table 23.VII. Descriptive analysis of the results obtained regarding the academic motivation of the participants in the post-experimental phase of the advanced cycle

Biological gender		Intrinsic motivation - to know	Intrinsic motivation-toward accomplishment	Intrinsic motivation-to experience stimulation
Girls	N	71	71	71
	Mean	15,2	13,7	12,6
	Std. Dev.	3.5	4.3	4.2
	Minimum	4	4	4
	Maximum	20	20	19
	% of Total N	71%	71%	71%
Boys	N	29	29	29
	Mean	16,6	14	12,3
	Std. Dev.	4	4.5	3.9
	Minimum	6	4	5
	Maximum	20	19	17
	% of Total N	29%	29%	29%
Total	N	100	100	100
	Mean	15,6	13,8	12,5
	Std. Dev.	3.7	4.3	4.1
	Minimum	4	4	4
	Maximum	20	20	19
	% of Total N	100%	100%	100%

Table 23.VII. Descriptive analysis of the results obtained regarding the academic motivation of the participants in the post-experimental phase (continued)

Biological gender		Extrinsic motivation - identified	Extrinsic motivation-introjected	Extrinsic motivation - external regulation	Amotivation
Fete	N	71	71	71	71
	Mean	16,5	14,1	15,9	5,9
	Std. Dev.	3.4	4.3	3.2	3.3
	Minimum	7	5	7	4
	Maximum	20	20	20	19
	% of Total N	71%	71%	71%	71%
Băieți	N	29	29	29	29
	Mean	16,2	15,1	15	6,3
	Std. Dev.	4	4.6	4.1	2.5

	Minimum	6	5	4	4
	Maximum	20	20	19	12
	% of Total N	29%	29%	29%	29%
Total	N	100	100	100	100
	Mean	16,4	14,4	15,6	6
	Std. Dev.	3.6	4.4	3.5	3.1
	Minimum	6	5	4	4
	Maximum	20	20	20	19
	% of Total N	100%	100%	100%	100%

According to Table 23.VII., improvements in academic motivation are noted among the participants included in the research. Thus, both girls and boys had higher averages compared to the averages obtained in the pre-experimental phase for: intrinsic motivation for knowledge, intrinsic motivation for achievement, intrinsic motivation to experience stimulation, identified extrinsic motivation, introjected extrinsic motivation and extrinsic motivation for external regulation. In addition, the level of demotivation decreased among both girls (M=5.9) and boys (M=6.3).

VII.3. Comparative analysis of the results obtained in the pre-experimental and post-experimental phases

Table 25.VII. Comparative analysis of the results obtained regarding prosocial behaviours in the two experimental conditions

Experimental phase		Social Responsability	Empathy	Other-Oriented Moral Reasoning	Mutual Concerns Moral Reasoning	Helpfulness
Pre-experimental phase	N	160	160	160	160	160
	Mean	40,8	47,1	10,2	10,2	37,2
	Std. Dev.	5.8	6.1	2.5	2.5	8.7
	SEM	.46	.55	.21	.20	.69
Post-experimental phase	N	160	160	160	160	160
	Mean	41,2	47,4	9,3	8,3	30,3
	Std. Dev.	6.7	7.2	2.9	2.8	10.6
	SEM	.53	.56	.24	.22	.85

We followed the changes in prosocial behaviour scores by comparing them before and after the experiential learning activity programme. As can be seen in Table 25.VII., the averages of scores in the post-experimental phase were better than those obtained in the initial test, and the results of the statistical analysis showed statistically significant differences between the two tests in terms of all variables related to prosocial behaviour. Thus, the participants included in the research were able to be more empathetic both with their classmates and with the people around them, to think twice before acting or drawing certain hasty conclusions, to make decisions in a rational way and to proactively involve in various humanitarian actions organized by our educational institution.

Table 26.VII T-test results for paired sample for the prosocial behaviours variable

Variables	**Pre-test**		**Post-test**		**N**	**95% Confidence interval for the mean**	**t**	**df**	**d**
	M	**Std. Dev.**	**M**	**Std. Dev.**					
Social Responsability	40,8	5.8	41,2	6.7	160	-1,72; .98	.54	159	.04
Empathy	47,1	6.1	47,4	7.2	160	-2,43; .81	.98	159	.07
Other- Oriented Moral Reasoning	10,2	2.5	9,3	2.9	160	.41; 1,60	3.35*	159	.26
Mutual Concerns Moral Reasoning	10,2	2.5	8,3	2.8	160	1,35; 2.49	6.66*	159	.52
Helpfulness	37,2	8.7	30,3	10.6	160	5,10; 9,25	6.84*	159	.53

In order to assess the impact of the experiential learning-based activities programme on the development of prosocial behaviour in participants in the developmental cycle, effect sizes were calculated. After calculating the effect size, as shown in Table 26. VII., the proposed activities programme has an average effect on the moral reasoning oriented towards others (d=.26), the moral reasoning based on concerns (d=.52), and offering help (d=.53), and for social responsibility and empathy the programme has no effect, the results not being statistically significant.

Table 27.VII. Results of the t-test comparing in pre- and post-experimental conditions the elements of prosocial behaviour by biological gender of participants

Gender			t	df	p
Male	Pair 1	RS - Social Responsability - RS - Social Responsability - posttest	1,945	67	,056
	Pair 2	EC - Empathy - EC - Empathy - posttest	,802	67	,425

	Pair 3	O - Other- Oriented Moral Reasoning - O - Other- Oriented Moral Reasoning - posttest	,952	67	,345
	Pair 4	M - Mutual Concerns Moral Reasoning - M - Mutual Concerns Moral Reasoning - posttest	1,923	67	,059
	Pair 5	Helpfulness - Helpfulness - posttest	3,610	67	,001
Female	Pair 1	RS - Social Responsability - RS - Social Responsability - posttest	1,388	91	,168
	Pair 2	EC - Empathy - EC - Empathy - posttest	2,260	91	,026
	Pair 3	O - Other- Oriented Moral Reasoning - O - Other- Oriented Moral Reasoning - posttest	2,710	91	,008
	Pair 4	M - Mutual Concerns Moral Reasoning - M - Mutual Concerns Moral Reasoning - posttest	2,307	91	,023
	Pair 5	Helpfulness - Helpfulness - posttest	1,089	91	,279

In addition, we also followed the evolution of prosocial behaviour scores separately for each gender.

In the case of boys we observed statistically significant improvements in offering help [t(67)=3.610; p=0.001], and in the case of girls, the indicators that improved statistically significantly after the implementation of the experiential learning activity programme are: empathy [t(91)=2.260; p=0.026], moral reasoning oriented towards others [t(91)=2.710; p=0.008] and moral reasoning based on concerns [t(91)=2.307; p=0.023].

Table 28.VII. Comparative analysis of results obtained in terms of altruism in the two experimental conditions

Experimental phase	N	Mean	Std. Dev.	SEM
Pre-experimental phase	100	44,2	13	1,30
Post-experimental phase	100	50,4	14.8	1,48

*p<.01;

As can be seen in Table 28.VII., improvements can also be seen in terms of altruism. As a result of the experiential learning activity programme, the participants of the observation and orientation cycle developed a high level of altruism, helping others and an increased level of involvement in both humanitarian activities and towards their classmates.

Table 29.VII. T-test results for paired samples for the altruism variable

Variable	Pre-test		Post-test		N	95% Confidence interval for the mean	t	df	d
	M	Std. Dev.	M	Std. Dev.					
Altruism	44,2	13	50,4	14.8	100	-9,94; -2,43	3,20*	99	.32

*p<.01;

To see if the level of altruism differed significantly between the two assessment moments, we applied the t-test for paired samples. The results indicate that the difference is statistically significant (t=3.20; df=99; p=0.002).

In addition, to assess the impact of the experiential learning-based activities programme on the development of altruism in participants in the observation and orientation cycle, effect sizes were calculated. Following the calculation of the effect size (see Table 29.VII.), the proposed programme of activities has an average effect (d=.32) on the development of altruism.

Table 30.VII. Descriptive analysis of comparative altruism pre- and post-experiment by biological gender of participants in the observation and orientation cycle

Statistici descriptive

Gender			Mean	N	Standard deviation
Male	Pair 1	Altruism - pre-experimental phase	38,73	48	10,938
		Altruism - post-experimental phase	46,67	48	13,019
Female	Pair 1	Altruism - pre-experimental phase	42,83	52	16,085
		Altruism - post-experimental phase	46,65	52	13,278

Gender-differentiated analysis of the evolution of altruism shows that it was statistically significant only for boys (t=-3.704; df=47; p=0.001).

There was also an improvement in altruism for girls, but the result of the statistical analysis shows that it is statistically insignificant (t=-1.296; df=51; p=0.201).

Table 32. VII. Comparative analysis of the results obtained regarding academic motivation in the two experimental conditions

Experimental phase		Intrinsic motivation - to know	Intrinsic motivation-toward accomplishment	Intrinsic motivation-to experience stimulation
Pre-experimental phase	N	100	100	100
	Mean	14,2	13,7	11,2
	Std. Dev.	3.3	3.3	3.3
	SEM	.34	.33	.34
Post-experimental phase	N	100	100	100
	Mean	15,6	13,8	12,5
	Std. Dev.	3.7	4.3	4.1
	SEM	.37	.43	.43

Table 32. VII. Comparative analysis of the results obtained on academic motivation in the two experimental conditions (continued)

Experimental phase		Extrinsic motivation - identified	Extrinsic motivation-introjected	Extrinsic motivation - external regulation	Amotivation
Pre-experimental phase	N	100	100	100	100
	Mean	15,1	14	14,5	7
	Std. Dev.	3.4	4	3.6	3.5
	SEM	.35	.41	.36	.35
Post-experimental phase	N	100	100	100	100
	Mean	16,4	14,4	15,6	6
	Std. Dev.	3.6	4.4	3.5	3.1
	SEM	.36	.44	.35	.31

It is noted that there are improvements in the components of academic motivation (see Table 32.VII.) after the implementation of the experiential learning activities programme. Therefore, after the re-assessment of the participants, they acquired an increased level of: intrinsic motivation for knowledge (M=15.6), intrinsic motivation for incentive (M=12.5), identified extrinsic motivation (M=16.4) and extrinsic motivation for external regulation (M=15.6). The participants in the advanced cycle were able to value

the learning process more, realising the long-term benefits of their involvement in this process, i.e. giving them the opportunity to develop a set of skills, competences, aptitudes that will help them in the decision-making process regarding their career path. Moreover, by increasing their level of academic motivation, their level of demotivation decreased (M=6).

Table No 33.VII. T-test results for paired sample for the academic motivation variable

Variable	Pre-test		Post-test		N	95% Confidence interval for the mean	t	df	d
	M	Std. Dev.	M	Std. Dev.					
Intrinsic motivation- to know	14,2	3.3	15,6	3.7	100	-2,52; -.67	3,43*	99	.34
Intrinsic motivation- toward accomplishment	13,7	3.3	13,8	4.3	100	-1,15; .83	.32	99	.03
Intrinsic motivation- to experience stimulation	11,2	3.3	12,5	4.3	100	-3,67; -1,61	5,09*	99	.51
Extrinsic motivation- identified	15,1	3.4	16,4	3.6	100	-2,39; -.56	3,20*	99	.32
Extrinsic motivation- introjected	14	4	14,4	4.4	100	-1,60; .71	.76	99	.07
Extrinsic motivation- external regulation	14,5	3.6	15,6	3.5	100	-2,20; -.29	2,60**	99	.26
Amotivation	7	2.9	6	3.1	100	.08; 1,87	2,17**	99	.22

*p<.01; *p<.05;

In order to see whether the level of academic motivation is significantly better in the post-experimental phase than in the pre-experimental phase, we again applied the t-test for paired samples. The results regarding the components of academic motivation improved in the post-experimental phase compared to the pre-experimental phase, as can be seen in Table 33.VII. In addition to these aspects, to assess the impact of the experiential learning activity programme on the development of academic motivation in the participants of the advanced cycle, the effect size was calculated. After calculating the

effect size, the proposed activity programme has an average effect for: intrinsic motivation for knowledge (d=.34), intrinsic motivation to experience stimulation (d=.51), identified extrinsic motivation (d=.32), extrinsic motivation for external regulation (d=.26) and demotivation (d=.22), and for the remaining components the programme has no effect, the results not being statistically significant.

Chapter VIII
EDUCATIONAL AND MANAGERIAL RECOMMENDATIONS AND CONCLUSIONS

VIII.1. Conclusions on theoretical and practical and applied aspects

Our approach was based on the belief that experiential learning has the capacity to influence not only the field of education, but also to have a deep impact on the lives and perspectives of learners. The research we initiated and implemented aimed to test the general hypothesis that the **implementation of a non-formal education programme focused on activity systems involving experiential learning contributes significantly to the development of desirable behaviours, desirable attitudes, learning styles and skills** in students in the five curriculum cycles, attending pedagogic institutions**.**

Based on the main hypothesis, we identified the following *secondary hypotheses*:

Hypothesis 1. Implementing a non-formal education programme focusing on activity systems involving experiential learning **contributes significantly to the development of social responsibility.**

Hypothesis 2. Implementing a non-formal education programme focusing on activity systems involving experiential learning **contributes significantly to the development of empathy.**

Hypothesis 3. The implementation of a non-formal education programme focusing on activity systems involving experiential learning **contributes significantly to the development of moral reasoning oriented towards others.**

Hypothesis 4. Implementing a non-formal education programme focusing on activity systems involving experiential learning **contributes significantly to the development of moral reasoning based on concerns.**

Hypothesis 5. Implementing a non-formal education programme focusing on activity systems involving experiential learning **contributes significantly to the development of offering help.**

Hypothesis 6. Implementing a non-formal education programme focusing on activity systems involving experiential learning **contributes significantly to the development of altruism**

Hypothesis 7. The implementation of a non-formal education programme focusing on activity systems involving experiential learning **contributes significantly to the development of intrinsic motivation for knowledge.**

Hypothesis 8. Implementing a non-formal education programme focusing on activity systems involving experiential learning **contributes significantly to the development of intrinsic motivation for achievement.**

Hypothesis 9. Implementing a non-formal education programme focusing on activity systems involving experiential learning **contributes significantly to the development of intrinsic motivation for incentives.**

Hypothesis 10. The implementation of a non-formal education programme focusing on activity systems involving experiential learning **contributes significantly to the development of the identified extrinsic motivation.**

Hypothesis 11. The implementation of a non-formal education programme focusing on activity systems involving experiential learning **contributes significantly to the development of extrinsic motivation.**

Hypothesis 12. The implementation of a non-formal education programme focusing on activity systems involving experiential learning **contributes significantly to the development of extrinsic motivation for external regulation.**

Hypothesis 13. Implementing a non-formal education programme focusing on activity systems involving experiential learning **contributes significantly to reducing demotivation.**

Hypothesis 14. Implementing a non-formal education programme focusing on activity systems involving experiential learning **contributes significantly to identifying learning style and flexibility.**

Hypothesis 15. There are significant differences between the results obtained by students participating in the activities proposed before and after the implementation of the non-formal education programme focusing on activity systems involving experiential learning **depending on biological gender**.

Hypothesis 16. There are significant differences between the results obtained by students participating in the proposed activities before and after the implementation of the non-formal education programme focusing on activity systems involving experiential learning **depending on the background**.

In order to achieve the research objectives, data collected from 360 students aged between 8 and 19 enrolled at the National Pedagogic College "King Ferdinand" in Sighetu Marmației, Maramureș County, were used.

The statistical tools used to process the data were: descriptive statistical analysis, t-test for paired samples (dependent), t-test for independent samples and χ^2 test (chi-square).

Following the evaluation of the effectiveness of the non-formal education programme focusing on activity systems involving experiential learning in developing social responsibility, the results in the post-experimental phase are not statistically significant, therefore **hypothesis number 1** is not confirmed.

Calculating the effect size for empathy, we found that the results in the post-experimental phase are not statistically significant, therefore **hypothesis number 2** is not confirmed either.

For **hypothesis number 3**, we calculated the effect size in terms of moral reasoning oriented towards others and inferred that the intervention programme had an average effect statistically significant. Therefore the hypothesis **is confirmed.**

Following the implementation of the non-formal education programme focused on activity systems involving experiential learning, we calculated the effect size in relation to moral reasoning based on concerns, and the result proved that **hypothesis number 4 is confirmed**.

In the case of offering help, after evaluating the effectiveness of the non-formal education programme focused on activity systems involving experiential learning, we calculated the effect size and found that the programme had an average effect on this variable. **Hypothesis 5 is therefore confirmed.**

As a result of running the experiential learning activity programme, we calculated the effect size in relation to the level of altruism in students in the observation and orientation curriculum cycle and observed significant improvements, therefore **hypothesis number 6 is confirmed.**

We evaluated the effectiveness of the non-formal education programme focused on activity systems involving experiential learning at the advanced and specialization curriculum cycle, calculated the effect size and found that the programme has an average effect on intrinsic motivation for knowledge. Therefore **hypothesis number 7 is confirmed**.

In the case of intrinsic motivation for achievement, after calculating the size of the effect on it, we observed that there are no significant changes, therefore **hypothesis 8 is not confirmed.**

Calculating the effect size for the development of the non-formal education programme focused on activity systems involving experiential learning, we found that it had an average effect on intrinsic motivation for incentives. **Hypothesis number 9 is confirmed.**

In order to see whether the level of extrinsic motivation identified is significantly better following the implementation of the non-formal education programme focused on

activity systems involving experiential learning in the post-experimental phase, we calculated the effect size and observed significant improvements, therefore **hypothesis number 10 is confirmed.**

Calculating the effect size for the development of the non-formal education programme focused on activity systems involving experiential learning, we found that it had no effect on introjected extrinsic motivation. Therefore **hypothesis number 11 is not confirmed.**

Following the implementation of the non-formal education programme focused on activity systems involving experiential learning, we calculated the effect size in relation to extrinsic motivation for external regulation and the result showed an increased level. **Hypothesis number 12 is confirmed.**

The overall analysis of the level of academic motivation based on the application of the post-test calculating the effect size on demotivation showed an average effect in this situation. **Hypothesis number 13 is confirmed.**

Analysing the main learning styles for the sample, we observe that the most common were: experiencing style for 25% of the students, imagining style for 16% of the students, balancing style for 16% of the students, initiating style for 14% of the students and reflecting style for 12% of the students. The least common were deciding, analysing, thinking and acting styles. In addition to the main learning styles, subjects have complementary styles that supplement the main style. The most common styles were: balancing (77% of subjects), acting (47%), analysing (47%), reflecting (45%), thinking (43%) and imagining (41%); we found no significant association between the main learning style and the curriculum cycle. The share of main learning styles does not differ significantly between the two learning cycles analysed: the basic acquisition cycle and the advanced and specialisation cycle. Both in the cycle of basic acquisition and in the advanced and specialisation cycle, the main learning styles are the experimental style, the imaginative style, the initiating style and the balancing style. Comparing also the complementary learning styles between the two curriculum cycles, it was observed that the most frequent styles in the case of the basic acquisition cycle are the balancing, acting, deciding, reflecting, thinking and experimenting styles. In the case of the advanced and specialisation cycle, the most common styles are balancing, analysing, reflecting, imagining, thinking and acting. **Hypothesis number 14 is therefore confirmed**.

Analysing the sample depending on the score on introjected extrinsic motivation, there is a statistically significant difference between the two genders, with girls obtaining an average score of 15.79 and boys an average score of 13.97. Regarding the other elements of academic

motivation, no significant gender differences were found in the post-experimental phase. There are no significant differences between the two genders in terms of altruism level in the pre-experimental phase. There were no significant differences between the two genders in terms of the altruism level in the pre-experimental phase. In the pre-experimental phase, boys were found to have a significantly higher level of personal distress than girls, i.e. a significantly higher level in terms of offering help. **Hypothesis number 15 is therefore confirmed.**

The average score for altruism obtained by urban students in the pre-test is 39.46, while the average score obtained by rural students is 44.85, the difference not being statistically significant. Analysing the sample depending on the score on extrinsic motivation for external regulation, there is a statistically significant difference between the two backgrounds, with urban students obtaining an average score of 15.75 and rural students an average score of 13.88. In terms of the other elements of academic motivation, there were no significant differences between the two backgrounds - urban and rural. Therefore **hypothesis number 16 is confirmed**.

VIII.3. Research limitations

Like all research approaches, this research also contains certain limitations, listed below:

- A first limitation of this research is the tools used for data collection. They are merely translated into Romanian, without any language adaptation, and their psychometric properties remain unchanged.
- The second limitation would be related to the absence of investigation of exogenous variables such as parents' attitudes towards the valorisation of the learning process, and the absence of investigation of endogenous variables such as self-esteem, commitment, achievement motivation and awareness of natural and cultural values.
- The final limitation of this study would be the absence of a control group. We believe that the inclusion of a control group in a study allows for a meaningful comparison of results leading to an increase in the amplitude of the effect studied.

VIII.4. Future directions for investigation

A first future line of action would be to develop a study to investigate the extent to which experiential learning influences the formation of career aspirations in student in the advanced and specialization cycle.

Another future research direction would be to conduct a mediation analysis to investigate whether experiential learning is a predictor variable for increased academic motivation, respectively for the development of self-regulated learning in students in the observation and orientation cycle.

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