ABSTRACT OF DISSERTATION

"SOCIAL INCLUSION OF STUDENTS WITH INTELLECTUAL DISABILITY DURING EXTRACURRICULAR ACTIVITIES"

FOR AWARDING THE EDUCATIONAL AND SCIENTIFIC DEGREE "DOCTOR" BY PROFESSIONAL FIELD 1.2. PEDAGOGY (SPECIAL PEDAGOGY)

By: Maria Alexakoudi

Supervised by: Prof. Katerina Karadjova

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Author: Alexakoudi Maria
Supervisor: Prof. Katerina Karadjova

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Author: Alexakoudi Maria
Supervisor: Prof. Katerina Karadjova

Introduction

Since many decades ago, social inclusion of students with intellectual disabilities has been a significant problem (Brown et al., 2020). Social inclusion can be achieved through a variety of classroom activities as well as extracurricular activities when teachers provide professional direction and oversight. In terms of population, kind, degree, type, length of disability, and the requirement for individualized services and supports, intellectual disability refers to the same group of people who were previously classified as having intellectual disability. Both the intellectual disability and an emotional disorder like depression are not contagious (Pratt & Greydanus, 2007). The condition of intellectual disability cannot be cured. Children with intellectual impairments can, however, pick up a lot of new skills. They might merely need to take more time or study in a different way from other children. Children with intellectual disability who suffer additional specific learning disabilities sometimes lack age-appropriate social skills, which disrupts their social functioning (Patel, Cabral, Ho, & Merrick, 2020). It's critical to look into alternative options for social skill development because mainstreaming and social skills training in the classroom for these children has a limited impact. The benefits of activity involvement for children with intellectual and specific learning disabilities are poorly understood, but it is favorably correlated with children's social inclusion (Patel, Cabral, Ho, & Merrick, 2020).

Both intellectual functioning (such as communicating, learning, and problem-solving) and adaptive behavior are significantly more challenging for children with ID. ((Tassé, Luckasson & Schalock, 2016). ID can range from minor to serious. Children who have more severe cases usually need more support, especially in the classroom. In communities with strong instruction and support, children with milder ID can develop some independent skills (McKenzie et al., 2016). Early social inclusion are crucial learning opportunities that aid in the growth of children's adaptable social skills. Early social inclusion of children start in infancy and get more complicated as their language grows. By the time they are four years old, normally developing children can play cooperatively with their peers. Children want to participate in activities with their classmates their own age as they move through elementary and middle school (Simplican et al., 2015). They have the chance to build a repertoire of social skills through practical learning, which is essential for social adjustment. Also they initially learn how to interact socially by observing the social actions of their classmates and engage in various encounters that reinforce good social behaviors as they continue to develop their social skills.

Author: Alexakoudi Maria
Supervisor: Prof. Katerina Karadjova

In recent years, the concept of inclusion regarding the students participation in the school environment has emerged as one of the most significant problems. Children with intellectual disabilities can assimilate socially at school, according to the international scientific bibliography (Hall et al., 2015). The societal advantages of inclusive education, however, are not always realized. Studies have shown that simply enrolling students with ID in a regular classroom is not always sufficient because of their limited social skills and the consequent need for interventions. The authors look at how to include students with ID in school while keeping in mind that this is initially linked to changing instructional methods using a targeted, individual, structured, and integrated program for students with special educational needs. As one of their educational areas in the community, we will concentrate on improving their social abilities in relation to school. The fundamental priority for the inclusion of students with ID inside the school community is educational interventions that are centered on the enforcement of social skills (Louw et al., 2019). Children also learn about their undesirable social habits when they receive constructive criticism from other children. Children who struggle to develop and use effective social skills with other children are seen by their peers as socially inept and are at risk of social isolation. The chances to practice critical abilities that can improve social development are further limited by this isolation (Cummins & Lau, 2003). By conducting the current theoretical and experimental research it is expressed the hope for contribution to the current data base of information and strategies for improving the process of social inclusion of students with intellectual disability – in the present case – by applying different techniques and approaches during extracurricular activities.

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Supervisor: Prof. Katerina Karadjova

Theoretical overview: social inclusion of students with intellectual disability during extracurricular activities

1. Intellectual disability – definitions and general characteristics in school age period

Intellectual disabilities come in many forms, with numerous underlying reasons. The most prevalent developmental impairment is intellectual disability. When a person exhibits certain limitations in cognitive performance and skills, such as communication, social, and self-care abilities, it is said that they have an intellectual disability (ID). Due to these restrictions, a child may grow and learn more slowly or otherwise differently than a child who is growing normally. The most prevalent developmental impairment is intellectual disability. Intellectual disability is currently defined by the American Association on Intellectual and Developmental Disabilities (formerly American Association on Intellectual disability [AAMR]) as "a disability characterized by significant limitations both in intellectual functioning and in adaptive behavior as expressed in conceptual, social, and practical adaptive skills. This condition started before the age of 18. In order to better align with contemporary notions of disability, this group changed its name in 2007 as well as the name of the disability from the previous term, intellectual disability" (Tassé & Grover, 2013). In a similar manner, the American Psychiatric Association defines this disability as "a disorder with onset during the developmental period that includes both intellectual and adaptive functioning deficits in conceptual, social, and practical domains" in its Diagnostic and Statistical Manual, Fifth Edition. Additionally, since the upcoming ICD-11 is expected to use the term "intellectual developmental disorder" to imply involvement of impaired brain functioning early in life, the recently released DSM-5 uses the term "intellectual developmental disorder" as the equivalent term for "intellectual disability". Additionally, a federal legislation in the United States substitutes the term intellectual disability for intellectual disability; as a result, the term is used in American law and public policy while «learning disability» is used in the United Kingdom. Although there is no known treatment for IDs, most children can acquire a variety of skills. Simply put, it takes them longer and more work.

1.1 Intellectual disability students' social status

Socioeconomic status (SES) includes not only income but also level of schooling, financial stability, and self-perceived social standing and class. A person's socioeconomic status can include aspects of their quality of life as well as the chances and privileges that are available to them in society. People

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Supervisor: Prof. Katerina Karadjova

with disabilities are more likely to be unemployed and live in poverty despite these and other kinds of assistance. Two thirds of persons with disabilities, according to the American Association of persons with disabilities, are of working age and desire employment. The high rate of poverty among people with disabilities raises concerns about the sufficiency of public aid for these people and of incentives to assist people in finding new employment (Banks, 2017). Moreover, for many years, there have been inequalities in schooling. A significant survey of people 65 years and older found that 20.9 percent of those without disabilities did not finish high school, compared to 25.1 percent and 38.6 percent of those with no severe or severe disabilities, respectively. Great disparities occur when comparing the attainment of higher degrees. A bachelor's degree or greater has been earned by approximately 15.1% of people age 25 and older with a disability, according to the 2015 Census, compared to 33.0% of people in the same age group without a disability (Lamichhane, 2013). Also, according to research with individuals who have mobility issues, health promotion initiatives geared toward people with disabilities can improve quality of life and keep medical expenses under control. Family members who care for people with chronic or disabling conditions are at danger, according to a large body of study. The stress of providing care for elderly or disabled family can lead to emotional, mental, and physical health issues. Children who are integrated are typically excluded from their social group. Despite this, we believe that integrated settings are appropriate for both disabled and non-disabled pupils because of the opportunities for social development they can offer.

1.2 Social skills of students with intellectual disability in mainstream education

Students with intellectual disabilities should be mainstreamed. In other words children with ID should attend school with their non-disabled classmates. However, the majority of children with ID go to special needs institutions or are homeschooled. Mainstreaming offers a natural, real-world environment, which is its major benefit (Drossinou-Korea & Panopoulos, 2017). Important life skills are taught in such a setting. Regular classrooms offer a number of benefits for practical learning. First, mainstreaming provides a wealth of rewarding socialization chances. Numerous individuals with ID struggle socially. Their success in life is eventually hampered by these social constraints. Social skills can only be developed and taught in a social setting, which makes sense. The optimal social environment is provided by a regular classroom. For instance, through social imitation, students with disorders like Prader-Willi syndrome, Fragile X syndrome, and Down syndrome can succeed in social skills. These students gain a lot from

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Supervisor: Prof. Katerina Karadjova

watching and copying their classmates in a typical classroom. Moreover, mainstreaming introduces diversity to all children. In the real world, such diversity is met frequently. Children will ultimately meet many different people throughout their lives, whether or not they have an ID. The best place to observe and accommodate these differences is a classroom. This practical training is beneficial. It encourages acceptance of human variety (Drossinou-Korea & Panopoulos, 2017). Others contend that mainstreaming is unfair to students who are average scholars. This is because the students who need more individualized teaching receive it from the teachers. The remaining students are now left to fight for themselves. Others, however, contend that including children with special needs benefits regular pupils. It offers these more advanced students the chance to instruct and coach (Dwi Arini, Sunardi & Yamtinah, 2019).

Based on the above, mainstream schools are typically thought of as places where the academic, emotional, and social growth of children with disabilities can be accelerated. By the development of social skills as being equally important to learning academic concepts, the mainstream curriculum obviously caters to the requirements of students. The term «social skills» refers to the cultivated socially acceptable behaviors that support fruitful interpersonal encounters. On a related note, social competence was defined as the observable and quantifiable components of social behaviors that a targeted kid exhibits when interacting with others. Accordingly, developing these skills can help people form effective relationships with other people, which is an important developmental milestone for children (Jureviciene, Kaffemaniene & Ruskus, 2018). According to this viewpoint, there is mounting proof that children's overall developmental outcomes depend greatly on the growth and acquisition of social skills. According to research, the total degree of adaptive behavior in people with intellectual disabilities is significantly influenced by social skills. There is need for supporting the developmental outcomes of social integration, social competence, and social relationships for individuals with disabilities. Considering the acknowledged importance of social functioning, the development of social skills for children with disabilities should be a priority in their education as the acquisition of appropriate social skills will improve their overall functioning and increase their integration into the society (Jureviciene, Kaffemaniene & Ruskus, 2018). According to earlier studies on the social functioning of children with disabilities, the acquisition of social skills is a distinct learning goal for this population in particular because it comes with inherent limitations. There are many reasons to think that children with special needs will gain social benefits from participating in mainstream activities. Students with intellectual disability can learn social behaviors through the chances presented by their surroundings and from what

Author: Alexakoudi Maria
Supervisor: Prof. Katerina Karadjova

they see in other typically developing children. Social skills can be learned by imitating acceptable behaviors from others, even for seriously disabled children with highly individualized needs for whom academic requirements are irrelevant. Peers who are typically developing may be particularly helpful for students with intellectual disability because they can observe and mimic others (Imaniah & Fitria, 2018).

1.3 Educational environment as a main supporter of social skills improvement in students with intellectual disability

The majority of studies show that people with intellectual disabilities may advance in their degree of adjustment as they enter adulthood. However, they frequently exhibit improper behavior in social settings, leading to rejection and exclusion from their peers. They lack the social skills necessary to handle life's difficulties or successfully interact with society. Incorrect perceptions of social circumstances may lead to inappropriate social behavior in people with intellectual disabilities. Additionally, they struggle to recognize contextual cues and circumstances, comprehend social and emotional relationships, and comprehend the emotions and viewpoints of others (Musenyente, Han & Knigge, 2022). They might not comprehend how causes and effects work in societal contexts. They frequently lack knowledge of how to act appropriately in particular circumstances and how to speak differently with adults and their classmates. They might miss how other people react to them and misinterpret social cues and inflections. The goal of the current research was to determine the functional social skills of adults with intellectual disabilities and to analyze those skills in relation to gender, level of disability, type of school attended, and years of schooling (Musenyente, Han & Knigge, 2022).

Additionally, there is no widely recognized definition of social skills. However, there is general agreement that social skills are related to both fruitful social interactions and the capacity to create and uphold healthy social connections. People who possess social competence are able to use social encounters to further their own objectives while taking into account the objectives of others. This meaning distinguishes between interpersonal abilities that are crucial for oneself and interpersonal abilities that are focused on other people. The results of different researches are consistent with the hypothesis that social skills are only one reason for why some students with ID may be at greater risk of being less socially engaged in their classrooms than their peers. The poor level of social skills of students with ID did not appear to affect whether they made friends or were rejected. As a result, there must be other variables that have a greater impact on these students' social participation. On a personal level, potential causes can be

found. However, group procedures should also be taken into account. A strategy that has shown promise in the development and evaluation of interventions to promote social interactions among students with and without SEN is to place more emphasis on group processes than on individual characteristics. Everyone, including peers and teachers, must put forth effort and be involved in promoting social participation. Research on societal participation might also profit from this shift in viewpoint. This method requires that researchers pay more attention to factors at the classroom or group level than they do to individual traits. As a result of group and individual factors, social participation of students in inclusive classrooms is actually very likely to differ.

1.4 Social skills improvement of students with intellectual disabilities during extracurricular activities

Some studies look into the connection between high school students' participation in structured extracurricular activities, life satisfaction, and societal interest. Structured extracurricular activities were described by the authors as mentally or physically demanding endeavors, such as school-sponsored events, peer tutoring, sports, and volunteering at homeless shelters (Kavale & Mostert, 2004). After enrolling in secondary school, students were asked to list their extracurricular activities. The findings showed that teenagers who engaged in more organized extracurricular activities than their less involved peers gave their schools higher ratings of satisfaction. Predicting academic success has been a center of research on social participation. For example, in a longitudinal study of high-risk antisocial adolescents, students who participated in one or more extracurricular activity prior to the eleventh grade had lower rates of school dropout and criminal arrest in comparison to at-risk adolescents who did not participate in these activities. This result does not prove causation, but involvement in extracurricular activities may offer high-risk youth the beneficial social support they need (Mahoney, Cairns & Farmer, 2003). Research with school-aged children that looked at student involvement in extracurricular or out-of-school activities, like clubs, sports, or church activities, revealed also advantages of social experience. Other scholars looked into the connection between extracurricular activities and fourth grade students' adjustment. Participation in extracurricular activities was linked to better academic competence ratings from teachers.

1.5 Social inclusion of students with intellectual disabilities during extracurricular activities

Given that children with ID often lack social skills, we need to give them social support within the context of the classroom. In high school, when social expectations are higher and participation in class is

Author: Alexakoudi Maria
Supervisor: Prof. Katerina Karadjova

largely determined by social interaction, individuals with ID's social shortcomings become more apparent. Adolescents with ID need to apply social skills to programs that will improve their accuracy in skills (like expressing needs and wants, communicating, and waiting for my time to speak) in a regular school setting. This program will include behavioral and structured teaching interventions, as well as video modeling, to promote social function and help students use their skills swiftly and effectively. The frequency of the worn-out social functions displayed by adolescents with ID point to the need for effective social assistance and programs that can help them develop, generalize, and maintain their social skills (Drossinou-Korea et al., 2016). The use of a social skills education program in groups of students with and without ID produced similar findings in other studies. In order to assess the generalization of targeted social skills in general school settings as well as the long-term preservation of acquired social skills in students with ID, it is crucial, for instance, to implement the program video-based group instruction in general high schools. Students are expected to accomplish societal objectives, such as taking part in extracurricular activities with students who lack identification (Drossinou-Korea et al., 2016). For teenagers with ASD and moderate ID, the VGI intervention approach has the potential to be effective. A similar intervention could be used in a public education setting (Metsapelto & Pulkkinen, 2011). The level of social skills in students with ID is incredibly low in secondary education, despite the fact that conversation with teachers and peers is the primary form of social interaction in the classroom and expectations for appropriate communication and the demands for social approval grow. Therefore, it is essential to offer social skills instruction and opportunities for social interaction at the same time given that classmates with and without disabilities typically have limited interaction skills and few shared experiences. In this study, the social abilities of five ID students two of whom also had ASD were examined. Their typical friends instructed them on how to motivate themselves to pick up a communication book and start conversing with their peers. In the end, it became clear that these five students were more talkative with their typical peers in the schoolyard as a result of using the communication book in conjunction with the interaction opportunities (Drossinou-Korea et al., 2016). The research's findings contribute knowledge to the few published social skills interventions for high school students with ID and significantly expand the literature on using communication books with students who lack social skills. More intervention studies are required to apply teaching social skills to students with SEN, particularly to those who have cognitive, behavioral, and mental disabilities. Similar to this, other research discussed methods for modifying the social behavior of students with ID, such as honing cooperation abilities (working in groups, doing assignments in groups),

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and employing role models (modeling). The final intervention can be combined with knowledge of social stories and videos (video modeling). A study was done to examine the effects of an intervention that taught social skills to individuals with ID by combining video modeling and social stories. However, social tales have been used successfully to teach social skills, primarily to people with ID. Because he could reason and deal with any issue, research has shown that teaching a student with ID using social stories can enforce good behaviors. Stories that dealt with the development of eye contact through his morning activities, his leisure activities, his participation in the natural course, and how to get assistance were used in this search (Drossinou-Korea et al., 2016). In addition, other researchers studied how social stories in students with ID could be used to evaluate educational and instructional intervention programs. They came to the conclusion that because social stories aid in the development of social skills and the clarification of ideas pertaining to understanding of the analytical general curriculum, they are an effective and simple method of educating children with ID.

Summary and conclusion

Education interventions that place a high priority on the development of social skills are a fundamental issue for the integration of students with ID in the school community. Studies on students with ID have shown that they interact with and are accepted by their classmates despite having less developed social skills. In the future, concerns about including students with ID may instead focus on how and what they are taught, rather than just where it is done. The majority of social skills training courses employ task analysis methods to break down social obligations into more doable portions. They put a lot of emphasis on social games or the use of board games to police cooperation skills, as well as interaction skills for the enforcement of linguistic and nonlinguistic skills. They comprise instructional strategies, role-playing, rehearsal, constructive criticism, and reinforcement techniques during extracurricular activities. All of the aforementioned data pointed to methods to help children and teenagers with ID develop their social skills in order to support their inclusion in school. As a result of the design of this study and its constraints, we must choose future research directions to improve teaching techniques and methods in special education and treatment, with an emphasis on extracurricular activities.

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Supervisor: Prof. Katerina Karadjova

SECOND CHAPTER
Research design

2.1 Purpose, hypothesis, tasks of the research

The **purpose** of the present research is to be investigated whether the participation of students with intellectual disability in school – based extracurricular activities contributes to their better and more effective social inclusion.

The main hypothesis of the research is that students with intellectual disability who participate in school – based extracurricular activities develop better their skills and therefore achieve more effective social inclusion than students with intellectual disability who do not participate in extracurricular activities. In more details, the fowling research hypothesis were formulated and controlled through the research process:

Hypothesis 1: It is assumed that the participation in school – based extracurricular activities extracurricular activities improve the social skills (*responsibility, cooperation, assertion, self-control*) of students with intellectual disability.

Hypothesis 2: It is assumed that the participation in school – based extracurricular activities extracurricular activities improve the motor skills (*fine and gross*) of students with intellectual disability.

Hypothesis 3: It is assumed that the participation in school – based extracurricular activities extracurricular activities improve the perceptual skills (*characteristics, perception of edges, space, relationship, light/shadow, and whole)* of students with intellectual disability.

Hypothesis 4: It is assumed that there are not significant differences on the extent to which participating in school – based extracurricular activities extracurricular activities impact the social inclusion of students with intellectual disability depending on their demographic characteristics (gender and age).

Hypothesis 5: It is assumed that the more positive the teachers' perceptions of the importance of school – based extracurricular activities extracurricular activities, the more positive is the improvement of social, motor and perceptual skills of students with intellectual disability after participating in these.

Hypothesis 6: It is assumed that the more school culture is collaborative, the more positive is the improvement of social, motor and perceptual skills of students with intellectual disability after participating in school – based extracurricular activities extracurricular activities.

In order to fulfill the purpose of the dissertation, the following tasks were identified.

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1) Organization of research based on the experimental methodology in order to be showed the contribution of school – based extracurricular activities extracurricular activities on the improvement of the social inclusion of students with intellectual.

2) Analysis of mixed type results (quantitative and qualitative) of the experimental research.

3) Developing of special form for quantitative data analysis regarding the effect of students' with intellectual disability participation in school – based extracurricular activities extracurricular activities on their skills (social, motor, perceptual) improving.

4) Developing of special form for qualitative data analysis regarding the effect of students' with intellectual disability participation in school – based extracurricular activities extracurricular activities on their skills (social, motor, perceptual) improving.

5) Use of appropriate statistical tools to investigate the impact of objective (gender and age) and environmental (school culture and the teachers' perceptions) factors on the contribution of school – based extracurricular activities extracurricular activities on the improvement of social inclusion of students' with intellectual disability.

6) Providing secondary schools with an outline of ideas to create/ apply a school – based extracurricular activities extracurricular program for improving social inclusion of students with intellectual disability.

2.2 Philosophy of the research

The present research is based on the experimental methodology and especially on the philosophy of the teaching experiment. The teaching experiment is not a fully standardized process, but rather a conceptual tool for effectively organizing the activities of researchers. It is emphasized that it is primarily a tool aimed at investigation and that is largely based on the methodology of the clinical interview proposed by Piaget (Steffe & Thompson, 2000). Of course, the clinical interview aims to investigate the extent to which the students understood the new knowledge. In contrast, the teaching experiment focuses on understanding the extent to which students show improvement and progress, based on experimentation with ways and means of influencing knowledge. Therefore, teaching experiment has a functional and dynamic role in achieving the goals set by researchers, and undoubtedly the process is highly adaptable to these goals (Steffe & Thompson, 2000). The educational experiment includes a series of teaching episodes - scenarios, in which participate one or more students, a witness (researcher) who watches, but also a

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method of recording what happens is used. Through observation and recording, a conceptual analysis is made with the aim of revealing the progress of the participating students (Steffe & Thompson, 2000).

2.3 Research participants

2.3.1 Students

The participants in this research were a total of 22 secondary school students attending a Unified Special Vocational Gymnasium-Lyceum school (ENEEGIL). In Greece, students with special educational needs or moderate/high functioning disabilities attend these schools. All the students who participated have an official diagnosis of mild or moderate intellectual disability, while some have co-morbidity with other disorders such as autism spectrum disorder, motor, hearing and speech impairments, behavioral problems, as well epilepsy. The age of participating students ranges from 14 to 21 years old. From the total of 22 students, 12 (54.5%) participated in a school – based program with extracurricular activities (experimental group), while the remaining 10 (45.5%) were the control group. Additionally, for the completion of the extracurricular activities program, the researcher specializing in Agriculture collaborated with other teachers of different specialties (e.g. Music, Arts, Philology, and Mathematics). In more details, from the total of the students of the experimental group, 58.3% were male and 41.7% female. In regard to the age, 25.0% was at the age of 15 and 25.0% at the age of 16. 16.7% of the students was 14 years old and 16.7% 17 years old. Only one student is 18 years old and another one 21 years old. Regarding the co-morbidity, 3 students have ASD, 2 students have motor impairments, 1 student hearing/ speech impairments, 3 behavioral problems and 1 epilepsy (see Table 1). On the other site, the control group consist of 60.0% male and 40.0 female. 40% of the students was at the age of 16, 30% at the age of 18, 20% at the age of 17 and only 1 student was 15 years old. Finally 2 of these students have motor impairments, 2 behavioral problems and 1 ASD (see Table 2).

2.3.2 Teachers

In the research participated 8 teachers of various specialties who answered the questionnaire (see Appendix B) and were interviewed for the needs of the qualitative research. All the teachers work at the school where the experimental process took place, while they additionally collaborated with the researcher during the realization of the extracurricular activities and the assessment of the students' skills. Of the total of the sample, most of the teachers (75%) are female and the remaining 25% are male. Regarding the age,

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2 (25%) teachers are young (20-30 years old) and another 2 (25%) are between 41-50 years old. The remaining 4 (50%) are between 31 and 40 years old. 88% of the teachers (7 individuals) have a master's degree and only 1 has a PhD. Regarding work experience, 63% of the teachers have experience from 6 to 10 years, 25% 11 or more and only 1 has work experience 0- 5 years. Finally, in relation to the specialty, the teachers are distributed as follows: Agriculture (2), Music (1), Mathematics (1), Philology (1), Visual Arts (1), Gymnastics (1), and Informatics (1) (see Table 3).

2.4 Research tools

Observation form of educational experiment

The first research tool used was the observation form (see Appendix A). This form was completed for each of the extracurricular activities of the program implemented and includes specific criteria for evaluating the impact of the program on the three categories of skills of students under consideration (social, motor and perceptual). Each student was evaluated for each criterion according to a scale ranging from 1 to 5 with level 1 as the lowest (student never practices such skill during the activity) and level 5 as the highest (students always practices such skill during the activity). The different criteria are organized into groups - factors and have been obtained after studying relevant psychometric weighted scales. These scales are presenting below.

Social Skills Rating System (SSRS).

The scale SSRS was created by Gresham and Elliott (1990) to assess students' social skills, behavior problems, and academic performance. There are three versions for teachers, parents and students. For the present research, the version for teachers was used and in particular the items related to the social skills of the students in the following areas: "cooperation", "assertion", "responsibility" and "self-control". For these four factors there are a total of 30 items that were the criteria for evaluating the students' social skills. These were included in a separate observation form (see Appendix A). Regarding the evaluation, a five-point Likert scale was used from 1 to 5 with level 1 as the lowest (student never practices such skill during the activity) and level 5 as the highest (students always practices such skill during the activity) (**It was used for the control of Hypothesis 1 and 4**).

Motor Skills Assessment

The motor skills was done using 12 items resulting from the study of different scales such as Vineland-3 teacher Form, Bayley-III, Movement ABC-2 checklist (Matson, 2018). The items were organized into two

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factors. The first examines fine motor skills, while the second examines gross motor skills. These were included in a separate observation form (see Appendix A). Regarding the evaluation, a five-point Likert scale was used from 1 to 5 with level 1 as the lowest (student never practices such skill during the activity) and level 5 as the highest (student always practices such skill during the activity). (**It was used for the control of Hypothesis 2 and 4**).

<p align="center">*Perceptual Skills Assessment*</p>

The assessment of perceptual skills was done using 8 items that emerged from the study of the existing literature on weighted assessment scales of this kind of skills. These were included in a separate observation form (see Appendix A). Regarding the evaluation, a five-point Likert scale was used from 1 to 5 with level 1 as the lowest (student never practices such skill during the activity) and level 5 as the highest (student always practices such skill during the activity). (**It was used for the control of Hypothesis 3 and 4**).

Questionnaire for assessment of environmental factors (*school culture & teachers' perceptions about extracurricular activities*)

The questionnaire (see Appendix B) as research tool was used in order to be controlled the **Hypothesis 5** and **Hypothesis 6** about if environmental factors related to the school culture and the teachers' perceptions about extracurricular activities impact the effectiveness of such activities for the social inclusion of students with intellectual disability.

In the first part of the questionnaire there are questions about the demographic characteristics of teachers who participated (gender, age, specialty and work experience). The second part gathers questions that investigate the school culture in which the research was done. The items are from the *School Culture Triage Survey scale* (Wagner, 2006) which was translated from English to Greek using the double translation method (17 items in total). This scale assesses the general culture that governs the school. The items are structured on a five-point Likert-type scale with the following values: 1= Never, 2= Rarely, 3= Sometimes, 4= Quite often, 5= Very often/Always). The 17 items are organized into three factors: 1) "Professional Collaboration" between the teachers of the school: Five items of the first subscale aim to explore the levels of cooperation between teachers to solve problems of a professional nature such as administrative problems, curriculum issues, organizational problems, etc., 2) "Affiliative Collegiality": 6 items aim to examine whether teachers are satisfied with collective work, if they support each other and

if they finally feel that they are a team and 3) "Self-Determination/ Efficacy" of the teachers which is measured with 6 items. They examines whether teachers tend to work towards a common vision or feel isolated in an impersonal school. The questionnaire concludes with a question (3 items) examining the teachers' perceptions regarding whether extracurricular activities contribute to the strengthening of the skills of students with intellectual disability in the three areas examined (social, motor and perceptual skills).

Interview

The second research tool used for this dissertation with the aim of gathering the primary data of the qualitative research is the semi-structured interview with open-ended questions. This is a tool that was used with the aim to fill in in-depth information from the teachers and to support/enrich the data obtained during the observation of the experimental process. Specific questions were identified that served as guidelines so that each teacher was able to answer freely. In this direction, the researcher varied the wording of the question or asked for additional information in case this was necessary. The interview of this thesis consists of four axes (see Appendix C) and in particular: 1) knowledge perceptions about social inclusion; 2) Knowledge / experiences in relation to extracurricular activities; 3) Benefits for students with intellectual disability from participation in extracurricular activities; 4) Barriers to participation of students with intellectual disability in extracurricular activities.

2.5 Research process

The duration of the educational experimental process was one school year (from September 2021 until May 2022). Initially, the teachers who participated were informed about the purpose of the research and were given to fill in the questionnaire found in Appendix B, regarding the school culture, but also their perceptions about the importance of extracurricular activities and their impact on social inclusion of students with intellectual disability. Before starting, the teachers were informed that their participation is voluntary and they can withdraw from the process if they wish. The researcher then divided the students into two groups (experimental group and control group) (see section 2.3). The students of the experimental group attended all the school subjects. In some of them, however, the teaching of the course, according to the curricular, was replaced by an extracurricular activity. On the other site, the students of the control group exclusively attended the school subjects provided according to the curriculum. After the completion of each extracurricular activity, each student was evaluated according to the criteria of the observation form presented in Appendix A in regard to the social, motor and perceptual skills. The same criteria was

used and for the evaluating of skills of the students of the experimental group after participating in the different school curses. The following extracurricular activities were carried out during the school year.

- **1st extracurricular activity**

Title: Acquaintance time

Purpose: To deepen acquaintance between the participated students, as some of them attended the school for first time.

Duration: 2 teaching hours (September 2021)

Description: The students of the experimental team met in the meeting location (library). The researcher informed them about the aim of the activity and then the process started. Each student asked a question to classmate in order to get to know him/her better. The researcher gave relevant example about questions (eg "*what is your favorite food*") and then created a relevant conceptual table on the board writing the students' questions and answers (duration 45 minutes). During the 2nd teaching hour, the students answered a quiz with questions related to the information gathered during the 1st teaching hour. This quiz was created by the researcher using Google form. The aim of this activity was to be revealed if the students remember the information that their classmates gave about themselves. During the activity the researcher collaborated with two other teachers. Upon completion of the activity, the observation form for all criteria was completed for each student.

- **2nd extracurricular activity**

Title: Tie-dye time

Purpose: Students to follow specific instructions in order to be achieved the goal of the activity.

Duration: 3 teaching hours (October 2021)

Description: The students of the experimental team met in the meeting location (library). The researcher informed them about the aim of the activity and then the process started. It has been requested a week before, that each student should bring an old T-shirt that he/she no longer wears. There were two students who stated that they did not have such a T-shirt and for this reason, the researcher provided them with them. Also, the researcher has secured the rest of the materials such as rubber, bands and paints. Tie-dye technique was be used. The students enter a room and wrap their T-shirt with rubber bands after the researcher has shown them how to do it. Then they all go out into the yard. A black garbage bag was placed in front of each child. Each student puts the rolled up t-shirt in the garbage bag, along with three different colors of paint. The students closed the bag and mix the colors. After half an hour each student

washes the t-shirt in a separate basin in the yard. The students spread the t-shirts out on a tent to dry. The next day each student from the experimental group chose a student from the control group and gave him the t-shirt he had made. During the activity the researcher collaborated with three other teachers. Upon completion of the activity, the observation form for all criteria was completed for each student.

- **3nd extracurricular activity**

Title: Treasure hunt time

Purpose: Students to follow specific instructions and cooperate appropriately in order to be achieved the goal of the activity.

Duration: 2 teaching hours (November 2021)

Description: The students of the experimental team met in the meeting location (library). The researcher informed then about the aim of the activity and then the process started. The students were divided into two groups. Each group was given a list of specific objects. The researcher had hidden these objects in various parts of the school, but also in the yard. Additional information was also given in the list (e.g. it is round, fun and it hid in the grass). The students are asked to understand that this is a ball and to find it. For this, they are asked to read the instructions, work together and find the objects. During the activity the researcher collaborated with three other teachers. Upon completion of the activity, the observation form for all criteria was completed for each student.

- **4nd extracurricular activity**

Title: Game time

Purpose: Students to game and cooperate appropriately.

Duration: 2 teaching hours (December 2021)

Description: The students of the experimental team met in the meeting location (library). The researcher informed then about the aim of the activity and then the process started. In two different classrooms the desks are properly organized and six different board games are placed. Students are given the opportunity to freely choose the teams and games they wish to play. The researcher observed the children and intervenes if necessary. She was collaborated with three other teachers. Upon completion of the activity, the observation form for all criteria was completed for each student.

- **5nd extracurricular activity**

Title: Cooking time

Purpose: Students to make foods and cooperate appropriately.

Duration: 4 teaching hours (January 2022)

Description: The students of the experimental team met in the meeting location (library). The researcher informed then about the aim of the activity and then the process started. All the students went to the school kitchen. The researcher with the help of two other teachers had prepared the necessary materials with which the students made cookies. However, the students were asked to weigh the materials according to the recipe given to them. The students were divided into two groups. One group followed the steps of the recipe for butter cookies, while the second for chocolate cookies. When the cookies were baked and cooled, the students decorated them with truffles, chocolate and fondant. Finally, they placed them in small bags and distributed them to the students and teachers of the school. During the activity the researcher collaborated with three other teachers. Upon completion of the activity, the observation form for all criteria was completed for each student.

- **6nd extracurricular activity**

Title: Sport time

Purpose: The goal is for students to collaborate and practice motor, social and perceptual activities

Duration: 4 teaching hours (March 2022)

Description: The students of the experimental team met in the meeting location (library). The researcher informed then about the aim of the activity and then the process started. The students, accompanied by teachers, visited the city's park where they freely played various games and sports (mainly team sports such as football, basketball, volleyball, etc.). During the activity the researcher collaborated with three other teachers. Upon completion of the activity, the observation form for all criteria was completed for each student.

- **7nd extracurricular activity**

Title: Art time

Purpose: The goal is for students to collaborate, to express themselves and practice motor, social and perceptual activities

Duration: 5 teaching hours (April 2022)

Description: The students of the experimental team met in the meeting location (library). The researcher informed then about the aim of the activity and then the process started. Students drew and role-played (role-play games) based on various scenarios regarding human rights (gender equality, freedom of speech, etc.), social problems (violence, poverty, traffic accidents). At the end, the students drew their own comics

on topics of their choice, which they presented. They also saw related movies. During the activity the researcher collaborated with three other teachers. Upon completion of the activity, the observation form for all criteria was completed for each student.

- **8nd extracurricular activity**

Title: Music time

Purpose: The goal is for students to collaborate, to play music with musical instruments, but also to listen to melodies connecting them with the environment and with emotions.

Duration: 3 teaching hours (April 2022)

Description: The students of the experimental team met in the meeting location (library). The researcher informed then about the aim of the activity and then the process started. The students gathered in a class room and played musical instruments freely, but also under the instructions of the music teacher in collaboration with the researcher and two other teachers. Then the teachers covered the students' feet with scarves. Students listened to individual sounds and were asked to identify them (eg sound of running water, etc.). After that they were asked to dance to the beat of the music they were listening to. This was followed by the playing of well-known pieces of classical music and the students were asked to express their feelings in drawings. Finally, the students listened to the state orchestra of Greece (on line using an interactive table). During the activity the researcher collaborated with other teachers. Upon completion of the activity, the observation form for all criteria was completed for each student.

- **9nd extracurricular activity**

Title: Theatre time

Purpose: The goal is for students to collaborate and express themselves through theatre.

Duration: 3 teaching hours (April 2022)

Description: The students of the experimental team met in the meeting location (library). The researcher informed then about the aim of the activity and then the process started. The students were divided into groups and given drama scenarios in the form of comics with the aim of simplifying the teaching due to the cognitive limitations of some students. Rehearsals were held and the students were told that in addition to the words written in the scripts about human rights, they could improvise. At the end of the school year there was a presentation of the theatrical performances in front of the members of the school community. During the activity the researcher collaborated with three other teachers. Upon completion of the activity, the observation form for all criteria was completed for each student.

Author: Alexakoudi Maria
Supervisor: Prof. Katerina Karadjova

- **10ⁿᵈ extracurricular activity**

Title: Agriculture time

Purpose: The goal is for students to collaborate, to do agricultural work and practice motor, social and perceptual activities

Duration: 10 teaching hours (March 2022 until May 2022)

Description: The students of the experimental team met in the meeting location (library). The researcher informed then about the aim of the activity and then the process started. The students were divided into three groups. Each group was given different seeds for aromatic plants such as basil, oregano, lavender. Each group, using the appropriate tools, planted the seeds in the school's greenhouse. In each group the members took care of the plants and watched their progress, discussing and exchanging opinions with the members of the other groups. He was informed by the researcher and other teachers specializing in Agriculture regarding the properties and benefits of these plants. When the plants grew the students dried them and created scented sachets. A bazaar was held for the sale of these products and the money was given to the students' fund for the field trip. During the activity the researcher collaborated with three other teachers. Upon completion of the activity, the observation form for all criteria was completed for each student.

- **11ᵗʰ extracurricular activity**

Title: Trip – free time

Purpose: The goal is for students to collaborate and to be joined in the society

Duration: 3 teaching hours (May 2022)

Description: With the money collected from activity 10, take a day trip to a nearby larger city. All students from both the experimental and control groups participated in it. The students visited a local folklore museum, as well as an archaeological monument. They strolled through the main square and drank juice in one of the cafes. They ordered and paid for themselves. During the activity the researcher collaborated with three other teachers. Upon completion of the activity, the observation form for all criteria was completed for each student with emphasis on the comparison of the students of the two groups.
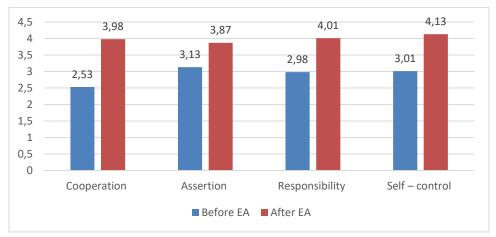
Results

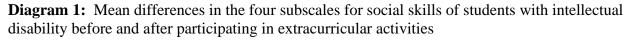## 2.1 Results of the quantitative research

In this section of the dissertation, the results of the quantitative research are presented, as they emerged after the appropriate statistical analysis of the data. Through this process, the research hypotheses were controlled.

2.1.1 Impact of participation in extracurricular activities on social skills of students with intellectual disability

Variations in social skills within the experimental group

First, a statistical assessment was done in order to be controlled if there are statistically significant differences in students' social skills before and after participating in extracurricular activities. According to the results, the average performance in social skills of the students with intellectual disability, is lower before the start of the extracurricular activities compared to the corresponding average performance after the completion of these activities. The mean performance for the subscale "cooperation" increases from 2.53 before participation in extracurricular activities to 3.98 after participation. For the subscale "assertion" there is an average increase in performance from 3.13 to 3.87, while for the subscale «responsibility» the average increase is from 2.98 to 4.01 and for the subscale "self-control" from 3.01 to 4.13. Therefore, for all four subscales that measure the students' social skills there is an improvement (see Diagram 1).

Diagram 1: Mean differences in the four subscales for social skills of students with intellectual disability before and after participating in extracurricular activities

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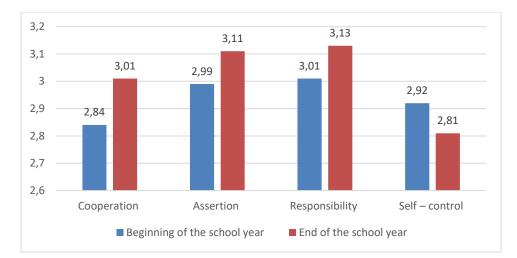Supervisor: Prof. Katerina Karadjova

According to the results of the paired Simple T – Test (see Table 1), there is a statistically significant difference in the average performance between students' social skills before and after participating in EA for the four subscales ("cooperation": $t = 2.213$; $df = 21$; $sig = 0.000 < 0.05$; "assertion": $t = 1.964$; $df = 21$; $sig = 0.012 < 0.05$; "responsibility": $t = 1.634$; $df = 21$; $sig = 0.021 < 0.05$; "self-control": $t = 2.648$; $df = 21$; $sig = 0.000 < 0.05$), as well as for the overall scale of students' social skills ("total score for social skills": $t = 1.989$; $df = 21$; $sig = 0.006 < 0.05$).

Table 1: Mean differences in social skills of students with intellectual disability before and after participating in extracurricular activities (paired Simple T – Test).

Pair 1st: Students with ID			95% CI of the difference				
	Mean	Std. Deviation	Lower	Upper	t	df	Sig.
before - after participating in EA (*total for social skills*)	1,14	1,262	1,253	4,215	1,989	21	0,006
Cooperation	1,45	0,965	1,123	3,962	2,213	21	0,000
Assertion	0,74	0,899	1,691	3,697	1,964	21	0,012
Responsibility	1,03	1,014	1,234	4,213	1,634	21	0,021
Self – control	1,12	0,789	1,325	4,129	2,648	21	0,000

Variations in social skills within the control group

After the above, a statistical assessment was done in order to be controlled if there are statistically significant differences in social skills of students of the control group who do not participate in extracurricular activities, but they only attended courses according to the curricular. The results showed that the average performance in the social skills of these students, does not vary greatly. More specifically, the mean performance for the subscale "cooperation" increases only from 2.84 at the beginning of the school year to 3.01 at the end. For both the subscale "assertion" (from 2.99 to 3.11) and "responsibility" (from 3.01 to 3.13) the average increase is very low, while for the subscale "self-control", there a low average decrease is observed from 2.92 to 2.81. Finally, for the total score of social skills there is low average increase (from 2.88 to 3.27). The above results are illustrated in diagram 2 where it is found that for the three subscales that measure the students' social skills there is an low increase in the average or in other words an improvement, while for the subscale "self – control" there is decrease in the average score.

Author: Alexakoudi Maria
Supervisor: Prof. Katerina Karadjova

Diagram 2: Mean differences in social skills of students with intellectual disability of the control group before the beginning of the school and at the end of the school year

The results of the paired Simple T – Test showed that there is not a statistically significant difference in the average performance of students' social skills before and the end of the school year for ("cooperation": t = 1.312; df = 21; sig = 0.211>0.05; ("assertion": t = 1.555; df = 21; sig = 0.177>0.05; "responsibility": t = 1.657; df = 21; sig = 0.324>0.05; "self-control": t = 1.478; df = 21; sig = 0.236>0.05; "total score for social skills": t = 1.126; df = 21; sig = 0.124>0.05) (Table 2).

Table 2: Mean differences in social skills of students with intellectual disability before and after participating in extracurricular activities (paired Simple T – Test).

Pair 1st: Students with ID			95% CI of the difference				
	Mean	Std. Deviation	Lower	Upper	t	df	Sig.
before - after participating in EA (*total for social skills*)	0,39	1,345	1,236	4,215	1,126	21	0,125
Cooperation	0,17	1,369	1,222	2,965	1,312	21	0,211
Assertion	0,12	1,214	1,721	2,412	1,555	21	0,177
Responsibility	0,12	1,236	1,478	3,216	1,657	21	0,324
Self – control	-0,11	0,412	1,411	2,965	1,478	21	0,236

Variations in social skills between experimental and control group

Below are presented the results of paired Simple T – Test aimed at revealing whether there are differences in social skills between the experimental group and the control group after the implementation of extracurricular activities for the first (see Table 3).
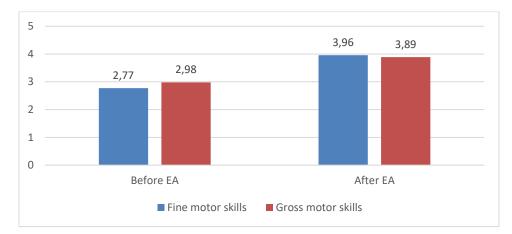
Table 3: Mean differences in social skills of students with intellectual disability between experimental and control group (paired Simple T – Test).

Pair 1st: experimental vs control group			95% CI of the difference				
	Mean	Std. Deviation	Lower	Upper	t	df	Sig.
Total for social skills	1,56	1,214	1,333	4,214	2,214	21	0,000
Cooperation	2,22	1,111	1,285	3,547	1,245	21	0,001
Assertion	1,74	1,414	1,624	2,133	1,741	21	0,003
Responsibility	2,01	1,621	1,321	3,478	1,659	21	0,000
Self – control	2,23	1,321	1,452	3,015	1,471	21	0,012

In summary, the participation in extracurricular activities improves the social skills of students of experimental group in regard to the four areas examined (cooperation, assertion, responsibility, self-control), but also for the overall score. The difference, comparing performance in social skills at the beginning of the school year and after applying extracurricular activities is statistically significant. Regarding the students of the control group, there was a very slight improvement in social skills in the fields of cooperation, assertion and, while a deterioration in self -control skills. In addition, there were no statistically significant results. Finally, comparing the performance of the students of the two groups after the implementation of extracurricular activities, a significant improvement for the students of the experimental team was highlighted. Consequently, the **research hypothesis 1** was confirmed according to which the participation in extracurricular activities improve the social skills (responsibility, cooperation, assertion, self-control) of students with intellectual disability.

2.1.2 Impact of participation in extracurricular activities on motor skills of students with intellectual disability

Variations in motor skills within the experimental group

The average performance in the motor skills of students with intellectual disability was lower before the start of the extracurricular activities compared to the corresponding average performance after the completion of these activities. More specifically, the mean performance for the subscale "fine motor skills" increases from 2.77 before participation in extracurricular activities to 3.96 after participation. For the subscale "gross motor skills" there is an average increase in performance from 2.98 to 3.89, while for the total score of motor skills there is also high increase on average from 2.88 to 3.92 (see Diagram 3).

Diagram 3: Mean differences in the two subscales for motor skills of students with intellectual disability before and after participating in extracurricular activities
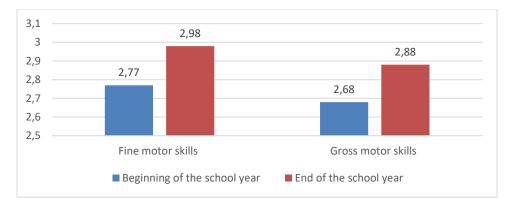
The paired Simple T – Test showed that there is a statistically significant difference in the average performance between students' motor skills before and after participating in EA for the two subscales ("fine motor skills": t = 2.111; df = 21; sig = 0.000<0.05; ("gross motor skills": t = 2.478; df = 21; sig = 0.000<0.05), as well as for the overall scale of students' motor skills ("total score for motor skills": t = 3.215; df = 21; sig = 0.000<0.05) (see Table 4).

Table 4: Mean differences in the two subscales for motor skills of students with intellectual disability before and after participating in extracurricular activities (paired Simple T – Test).

Pair 1st: Students with ID			95% CI of the difference				
	Mean	Std. Deviation	Lower	Upper	t	df	Sig.
before - after participating in EA (*total for motor skills*)	1,04	1,354	1,321	4,326	3,215	21	0,000
Fine motor skills	1,19	1,145	1,222	4,236	2,111	21	0,000
Gross motor skills	0,91	0,987	1,321	4,001	2,478	21	0,000

Variations in motor skills within the control group

A statistical assessment was done in order to be controlled if there are statistically significant differences in motor skills of students of the control group. According to the results, the average performance in the motor skills of these students does not vary greatly, while the mean performance for the subscale "fine motor skills" increases only from 2.77 at the beginning of the school year to 2.98 at the end and for the subscale "gross motor skills" the average increase is very low (from 2.68 to 2.88). Finally, for the total score of social skills there is low average increase (from 2.73 to 2.88) (see Diagram 4).

Author: Alexakoudi Maria
Supervisor: Prof. Katerina Karadjova

Diagram 4: Mean differences in motor skills of students with intellectual disability of the control group before the beginning of the school and at the end of the school year

Finally, according to the results of the paired Simple T – Test there is not a statistically significant difference in the average performance of students' motor skills before and the end of the school year for ("fine motor skills": t = 1.123; df = 21; sig = 0.069>0.05; ("gross motor skills": t = 1.214; df = 21; sig = 0.099>0.05), as well as for the overall scale of students' social skills ("total score for social skills": t = 1.111; df = 21; sig = 0.131>0.05) (see Table 5).

Table 5: Mean differences in motor skills of students with intellectual disability before and after participating in extracurricular activities (paired Simple T – Test).

Pair 1st: Students with ID			95% CI of the difference				
	Mean	Std. Deviation	Lower	Upper	t	df	Sig.
before - after participating in EA (*total for motor skills*)	0,99	1,425	1,121	3,652	3,478	21	0,000
Fine motor skills	0,98	1,211	1,123	3,755	2,695	21	0,000
Gross motor skills	1,01	0,986	1,021	3,426	2,748	21	0,022

Variations in motor skills between experimental and control group

Below are presented the results of paired Simple T – Test aimed at revealing whether there are differences in motor skills between the experimental group and the control group after the implementation of extracurricular activities for the first (see Table 6).

Table 6: Mean differences in social skills of students with intellectual disability between experimental and control group (paired Simple T – Test).

Pair 2nd: experimental vs control group			95% CI of the difference				
	Mean	Std. Deviation	Lower	Upper	t	df	Sig.
Total for social skills	1,56	1,214	1,333	4,214	2,214	21	0,000
Fine motor skills	2,22	1,111	1,285	3,547	1,245	21	0,001
Gross motor skills	1,74	1,414	1,624	2,133	1,741	21	0,003

Author: Alexakoudi Maria
Supervisor: Prof. Katerina Karadjova

In summary, according to the results the participation in extracurricular activities improves the motor skills of students of experimental group in regard to the two areas examined (fine and gross motor skills), but also for the overall score. The difference, comparing performance in motor skills at the beginning of the school year and after applying extracurricular activities is statistically significant. In regard to the control group, the students who did not participate in extracurricular activities, but only attended the courses designated in accordance with the curriculum, had a very slight improvement in motor skills and there were no statistically significant results. Finally, comparing the performance of the students of the two groups after the implementation of extracurricular activities, a significant improvement for the students of the experimental team was highlighted. Consequently, the **research hypothesis 2** was confirmed according to which the participation in extracurricular activities improve the motor skills (fine and gross) of students with intellectual disability.

2.1.3 Impact of participation in extracurricular activities on perceptual skills of students with intellectual disability

Variations in motor skills within the experimental group

In this section a statistical assessment was done in order to be controlled if there are statistically significant differences in students' perceptual skills before and after participating in extracurricular activities. Initially, tthe mean performance for the subscale "memory" increases from 2.23 before participation in extracurricular activities to 3.36 after participation. For the subscale "discrimination" there is an average increase in performance from 3.01 to 3.99, while for the subscale "*perception of edges, space, relationship, light/shadow, whole*, there was average increase from 2.69 to 3.44. For the total score of perceptual skills there is also high increase on average from 2.64 to 3.60 (see Diagram 5).

Diagram 5 Mean differences in the three subscales for perceptual skills of students with intellectual disability before and after participating in extracurricular activities

Author: Alexakoudi Maria
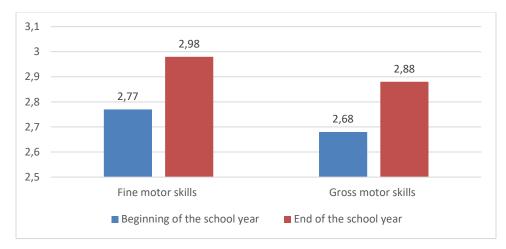Supervisor: Prof. Katerina Karadjova

The above differences in the average performance between students' perceptual skills before and after participating in EA are statistically significant for the three subscales ("memory": t = 2.456; df = 21; sig = 0.000<0.05); ("discrimination": t = 2.998; df = 21; sig = 0.001<0.05), ("perception of edges, space, relationship, light/shadow, whole": t = 2.649; df = 21; sig = 0.003<0.05), as well as for the overall scale of students' motor skills ("total score for motor skills": t = 3.632; df = 21; sig = 0.000<0.05) (see Table 7).

Table 7: Mean differences in the two subscales for motor skills of students with intellectual disability before and after participating in extracurricular activities (paired Simple T – Test).

Pair 3rd: Students with ID			95% CI of the difference				
	Mean	Std. Deviation	Lower	Upper	t	df	Sig.
before - after participating in EA (*total for perceptual skills*)	1,28	1,265	1,121	4,011	2,632	21	0,000
Memory	1,13	0,989	1,119	4,212	2,456	21	0,000
Discrimination	0,98	0,347	1,254	4,100	2,998	21	0,001
Perception of edges, space, relationship, light/shadow, whole	0,91	1,236	1,222	3,989	2,649	21	0,003

Variations in motor skills within the control group

A statistical assessment was done in order to be controlled if there are statistically significant differences in perceptual skills of students of the control group who do not participate in extracurricular activities, but they only attended courses according to the curricular. A comparison was made between the average performance in the perceptual skills criteria at the beginning and at the end of the school year. According to the results, the average performance in the perceptual skills of these students, does not vary. The mean performance for the subscale "discrimination" increases only from 2.72 at the beginning of the school year to 3,01 at the end, while for the subscale "perception of edges, space, relationship, light/shadow, whole" the average increase is very low (from 2.36 to 2.48). For the subscale "memory" there is a higher improvement (from 2.89 to 3.44). Finally, for the total score of perceptual skills there is low average increase (from 2.55 to 3, 02). The above results are illustrated in diagram 6 where it is found that for the two subscales that measure the students' perceptual skills there is a low improvement. Only for the subscale "memory", the improvement is higher.

Author: Alexakoudi Maria
Supervisor: Prof. Katerina Karadjova

Diagram 6: Mean differences in perceptual skills of students with intellectual disability of the control group before the beginning of the school and at the end of the school year

The results of the Simple T – Test showed that there is not a statistically significant difference in the average performance of students' perceptual skills before and the end of the school year for ("discrimination": t = 1.425; df = 21; sig = 0.125>0.05; ("perception of edges, space, relationship, light/shadow, whole": (t = 1.659; df = 21; sig = 0.098>0.05), as well as for the overall scale of students' social skills ("total score for social skills": t = 1.623; df = 21; sig = 0.121>0.05). Only for the scale "memory" there was statistically significant difference in the average performance of students' skills (t = 2.659; df = 21; sig = 0.042<0.05) (see Table 8).

Table 8: Mean differences in perceptual skills of students with intellectual disability before and after participating in extracurricular activities (paired Simple T – Test).

Pair 3rd: Students with ID			95% CI of the difference				
	Mean	Std. Deviation	Lower	Upper	t	df	Sig.
before - after participating in EA (*total for social skills*)	0,47	1,444	1,123	2,985	1,623	21	0,121
Memory	0,55	1,102	1,123	3,569	2,659	21	0,042
Discrimination	0,16	0,71	1,021	2,659	1,425	21	0,125
Perception of edges, space, relationship, light/shadow, whole	0,12	0,689	1,452	2,745	1,659	21	0,098

Variations in motor skills between experimental and control group

Below are presented the results of paired Simple T – Test aimed at revealing whether there are differences in perceptual skills between the experimental group and the control group after the implementation of extracurricular activities for the first (see Table 9).

Author: Alexakoudi Maria
Supervisor: Prof. Katerina Karadjova

Table 9: Mean differences in social skills of students with intellectual disability between experimental and control group (paired Simple T – Test).

Pair 3rd: experimental vs control group	Mean	Std. Deviation	95% CI of the difference		t	df	Sig.
			Lower	Upper			
Total for social skills	0,90	1,656	1,147	3,656	3,214	21	0,000
Memory	-0,08	1,222	1,214	4,121	2,698	21	0,000
Discrimination	1,11	1,752	1,321	3,654	1,555	21	0,000
Perception of edges, space, relationship, light/shadow, whole	1,12	1,656	1,101	3,214	1,478	21	0,000

In summary, according to the results the participation in extracurricular activities improves the perceptual skills of students of experimental group in regard to the three areas examined (memory, discrimination, perception of edges, space, relationship, light/shadow, whole), but also for the overall score. The difference, comparing performance in perceptual skills at the beginning of the school year and after applying extracurricular activities is statistically significant. In regard to the control group, the students who did not participate in extracurricular activities, but only attended the courses designated in accordance with the curriculum, had a very slight improvement in perceptual skills and there were no statistically significant results. Finally, comparing the performance of the students of the two groups after the implementation of extracurricular activities, a significant improvement for the students of the experimental team was highlighted. Consequently, the **research hypothesis 3** was confirmed according to which the participation in extracurricular activities improve the perceptual skills (*memory, discrimination, perception of edges, space, relationship, light/shadow, whole)* of students with intellectual disability.

2.1.4 Impact of participation in extracurricular activities on social inclusion of students with intellectual disability

In this section, the results are presented regarding whether the participation in extracurricular activities of students with intellectual disability improve their social inclusion. Social inclusion has been calculated as a total score of the performance of students' social, motor and perceptual skills. According to the research results, there are statistically significant differences in the average social inclusion of

students before and after participating in extracurricular activities (t = 4.123; df = 21; sig = 0.000<0.05). This participation improves their social inclusion of (see Table 10).

Table 10: Mean differences in social inclusion of students with intellectual disability before and after participating in extracurricular activities (paired Simple T – Test).

Pair 4th: before - after participating in EA			95% CI of the difference				
	Mean	Std. Deviation	Lower	Upper	t	df	Sig.
Total score for social inclusion	1,12	1,757	1,012	4,12	4,123	21	0,000

2.1.5 Differences of impact of extracurricular activities on social inclusion of students with intellectual disability depending on their demographic characteristics

In this section, the results are presented regarding whether there are differences of impact of extracurricular activities on social inclusion of students with intellectual disability depending on their demographic characteristics. In regard to the gender, the results are statistically non-significant both for the total score that measures social inclusion (t = 1.124; df = 21; sig = 0.069>0.05) and for the three examined skills items (social skills t = 1.645; df = 21; sig = 0.125>0.05; motor skills t = 2.141; df = 21; sig = 0.634>0.05 and perceptual skills t = 1.989; df = 21; sig = 0.478>0.05). Therefore there are not differences depending on the students' gender (see Table 11).

Table 11: Differences of impact of extracurricular activities on social inclusion of students with intellectual disability depending on their gender

	Gender	N	Mean	Std. Deviation	t	df	Sig.
Total score for social inclusion	Male	7	3,79	1,236	1,124	21	0,069
	Female	5	3,99	1,475			
Social skills	Male	7	4,01	0,989	1,645	21	0,125
	Female	5	4,12	1,475			
Motor skills	Male	7	3,45	1,659	2,141	21	0,634
	Female	5	3,65	1,784			
Perceptual skills	Male	7	3,98	1,653	1,989	21	0,478
	Female	5	4,11	1,569			

Similarly, in regard to the students' age, the results are also statistically non-significant both for the total score that measures social inclusion (t = 1.452; df = 21; sig = 0.112>0.05) and for the three examined skills items (social skills t = 1.366; df = 21; sig = 0.098>0.05; motor skills t = 1.989; df = 21; sig = 0.214>0.05 and perceptual skills t = 1.236; df = 21; sig = 0.211>0.05). Therefore there are not differences depending on the students' age (see Table 12).
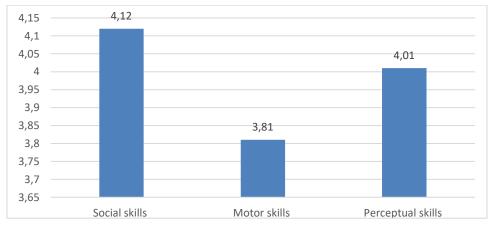
Author: Alexakoudi Maria
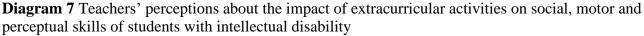Supervisor: Prof. Katerina Karadjova

Table 12: Differences of impact of extracurricular activities on social inclusion of students with intellectual disability depending on their age

	Age	N	Mean	Std. Deviation	t	df	Sig.
Total score for social inclusion	14-16	8	3,68	1,328	1,452	21	0,112
	17-21	4	3,88	1,458			
Social skills	14-15	8	4,21	1,647	1,366	21	0,098
	16-17	4	4,30	1,111			
Motor skills	14-15	8	3,67	1,478	1,989	21	0,214
	16-17	4	3,89	1,648			
Perceptual skills	14-15	8	4,11	1,557	1,236	21	0,211
	16-17	4	4,36	1,632			

Based on the above, the **hypothesis 4,** according to which there are not significant differences on the extent to which participating in extracurricular activities impact the social inclusion of students with intellectual disability depending on their demographic characteristics, is confirmed.

2.1.6 Differences of teachers' perceptions about the impact of extracurricular activities on social inclusion of students with intellectual disability.

In this section, teachers' perceptions regarding the contribution of extracurricular activities to the better social inclusion of students with intellectual disability are explored. The teachers largely agree that the participation of students with intellectual disability in extracurricular activities contributes significantly to improving their social inclusion, since on average the answers for the total score are positive (Mean = 3.98; SD = 1.283). The greatest contribution, according to teachers' opinions, concerns social skills (Mean = 4.12; SD = 1.147), followed by perceptual (Mean = 4.01; SD = 1.245) and finally motor skills (Mean = 3.81; SD = 1.458) (see Diagram 7).

Diagram 7 Teachers' perceptions about the impact of extracurricular activities on social, motor and perceptual skills of students with intellectual disability

Author: Alexakoudi Maria
Supervisor: Prof. Katerina Karadjova

The results of table 13 show that there is a statistically significant positive relationship between teachers' perceptions regarding the importance of extracurricular activities and the degree of improvement in students' skills (social skills: r = 0.675, sig <0.01; motor skills: r = 0.569, sig<0.05; perceptual skills: r = 0.635, sig. <0.01) after participating in these activities.

Table 13: Relationship between teachers' perceptions about the contribution of extracurricular activities and extent of improving of students' social, motor and perceptual skills

	Teachers' perceptions about the contribution of extracurricular activities
Social skills	0,675**
Motor skills	0,569*
Perceptual skills	0,635**
Total score for social inclusion	0,741**

Therefore the **Hypothesis 6,** according to which the more positive the teachers' perceptions of the importance of extracurricular activities, the more positive their assessments of the improvement of social, motor and perceptual skills of students with intellectual disability, is confirmed.

2.1.7 The impact of the school culture in the contribution of extracurricular activities on social inclusion of students with intellectual disability.

The teachers express positive perceptions about the culture of the school in which the experimental procedure is applied. In other words, it is a school with a collaborative culture, since the overall score obtained is on average close to the answer "agree" (Mean = 4.13, SD = 1.527). In particular, teachers largely agree that there is a very good level of cooperation between teachers in solving problems of a professional nature (Mean = 4.32, SD = 1.245). In addition, teachers' satisfaction with collective work is high which means that teachers support each other and feel to a large extent that they are a team (Mean = 4.11, SD = 1.647). Finally, the mean value for the "self-determination/ efficacy" subscale is also high, which means that teachers tend to work towards a common vision (see Diagram 8).
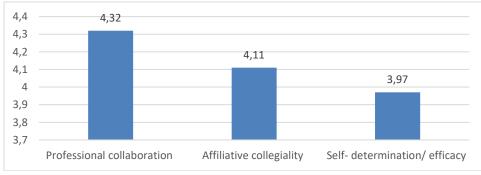

Diagram 8: Teachers' perceptions about the school culture

Author: Alexakoudi Maria
Supervisor: Prof. Katerina Karadjova

The results of table 14 show that there is a statistically significant positive relationship between collaborative school culture and the degree of improvement in students' skills (social skills: r = 0.842, sig <0.01; motor skills: r = 0.456, sig<0.05; perceptual skills: r = 0.555, sig. <0.01) after participating in extracurricular activities.

Table 14: Relationship between teachers' perceptions about the school and extent of improving of students' social, motor and perceptual skills through extracurricular activities

	Collaborative school culture
Social skills	0,842**
Motor skills	0,456*
Perceptual skills	0,555*
Total score for social inclusion	0,812**

Therefore the **Hypothesis 7,** according to which more school culture is collaborative, the more positive is the improvement of social, motor and perceptual skills of students with intellectual disability after participating in extracurricular activities, is confirmed.

2.2 Results of the qualitative research

In this section, the results of the qualitative research are presented, as they emerged after the appropriate analysis of the data collected by the interviews with participating teachers.

2.2.1 Teachers views about the importance of social inclusion of students' with intellectual disabilities

From the analysis of the primary data of the qualitative research, it was established that the participating teachers in the present research have a high understanding of the term "social inclusion" as they associate it with abilities and opportunities given to people in order to participate equally and with dignity in society. For example, teacher T3 states "*social inclusion" is the process in which the individual, especially the one with some limitations, manages to become an equal member of our society... it is not an easy process and it does not happen overnight either. It requires time and effort from everyone.*" In addition, teachers recognize that this is a complex and multidimensional issue. To this direction T6 states: «*social inclusion has political, economic and cultural dimensions and of course it works at various social levels...it is also influenced by many dimensions related to the identity of the individual...so you understand how complex the whole issue is*».

In particular, focusing on students with intellectual disabilities, it is appeared that teachers consider social inclusion of these students to be of the utmost importance since it determines the quality of their

lives. In this direction, teacher T6 states "*The social inclusion of students with intellectual disability is very important. And this issue is multidimensional since it is related to the work they will find, to the quality of the social relationships they will manage to develop, to their ability to serve themselves, to define themselves... there are many, many issues and they are very important.*"

2.2.2 Teachers views about the importance of extracurricular activities

From the answers of the teachers, it can be seen that they have understood what extracurricular activities mean. As most of them mention these activities can take place both outside and inside the school. Also, teachers agree that extracurricular activities break away from the strict structure of curricula and are more creative and interesting for students. They lead to learning and skill development in a creative way. For example, teacher T3 states "*extracurricular activities are very important for students...they learn in a playful way...it is a creative process and so important for the development of social skills*". Teacher T1 focuses on the fact that extracurricular activities contribute to experiential learning based on students' experiences: "*anything that goes beyond sterile knowledge and memorization offers an opportunity for experiential learning. This happens in extracurricular activities. The students learn in an experiential way and that's why they like this process and it works*". In addition, it appears that teachers connect extracurricular activities with interdisciplinary learning in various scientific fields. In this direction, teacher T5 states "*...trough extracurricular activities you can marry many sciences together...music, art, theater, mathematics, language, history, environment...this interdisciplinary learning is very effective*». Finally, extracurricular activities are not only associated with learning and socialization outside the classroom, but also with the possibility of applying them within the school environment. For example T2 mentions "*many students attend extracurricular activities after school. But in recent years, many related programs and actions have been implemented within the school and this is very important....the school is changed...*" From the answers of the teachers it is also established that there is a need for more organized programs. It seems that extracurricular activities are usually implemented individually during the school year, without a long duration and without being based on a well-defined plan. In this direction, teacher T2 states «*...extracurricular activities in schools and especially in special schools are not well organized with minor exceptions.*"

The above also explains the fact that very few teachers state that in the past they have organized or participated in school – based extracurricular activities. In all the cases it is not about something

Author: Alexakoudi Maria
Supervisor: Prof. Katerina Karadjova

organized, but about something casual. For example, teacher T8 mentions "*...at another school I was organized extracurricular sports activities for a day. The children enjoyed it.*" It is therefore evident that the extracurricular activities are indeed not part of the program, are not well organized and do not seem to be used innovative techniques and methods.

2.2.3   Benefits extracurricular activities for students with intercultural disability

The participants express a very high degree of satisfaction with the extracurricular activities program implemented for the needs of this dissertation, underlining that it was very beneficial for the students and well organized. For example teacher T5 mentions "*amazing experience, the students escaped the sterile knowledge transfer process in the traditional lesson*" The teacher in question makes a comparison between extracurricular and school activities, emphasizing the positive contribution of the former. Teacher T2, as well as T4, state that such extracurricular programs should be established in schools because they have a positive effect on students' development. It is important to refer to T7's statement. The specific teacher states that extracurricular programs are important not only for students, but also for the teachers themselves, contributing to their own professional development. Teachers seem to learn through collaboration. In particular, T7 states "*It goes without saying that these activities and in general the whole program was very beneficial for the students. However, I think it was beneficial for us the teachers as well. I personally feel that I learned from colleagues.*"

Focusing more on the benefits for the students, it is found from the statements of the teachers that extracurricular activities contribute to a great extent to the development of social skills mainly due to the continuous interaction between students, taking responsibility in group work, the development of self-control skills, etc. For example, teacher T1 states: "*... the extracurricular activities we implemented improved the students' social skills...First of all they learned to cooperate with patience...to wait...to control themselves. Most of the activities also required teamwork.*" In addition, the teachers stated that they also noticed an improvement of students' the motor skills mainly during the extracurricular activities that required fine motor skills. In this direction, teacher T5 mentions "*...in many of the activities the students practiced fine motor skills...they cut paper, made cookies, took care of plants, etc....of course they also improved gross skills such as for example during of sports activities.*" The statement of teacher T6 is also characteristic: "*...due to the use of real images, auditory stimuli and various materials, I also noticed*

an improvement in the perceptual skills of some students, such as better memory, but also a better perception of self and the relationships between objects."

2.2.4   Barriers to participation of students with intellectual disability in extracurricular activities

Despite the benefits of extracurricular activities, it was found from the teachers' statements that there were also obstacles to the implementation of the program. The first major barrier appears to be teachers' limited time and pressures to follow curriculum guidelines in relation to teaching core subjects. In other words, teachers are under pressure to follow specific times for teaching their specialty subjects and as a result it was extremely difficult to integrate extracurricular activities into school hours. But this was necessary because many of the students travel with buses to their homes, which come at a certain time after the end of the lessons. Thus, students staying at school in the afternoon, for example, is impossible. In this direction, teacher T2 states: "*...it was not at all easy to find the time available to carry out the extracurricular activities*." Another obstacle was the separation of the students into two groups, although this was necessary for the needs of completing the experimental process. For example, teacher T8 states: "*We had complaints from the students who did not participate in the extracurricular activities, but continued to do only their lessons inside the school classrooms. I know that the colleague did research and it was not possible, but it was an obstacle*." Finally, it is important to note that the school administration, as well as the parents, seem to have largely supported the teachers in completing the extracurricular activities program, both morally and materially. For example teacher T1 states "*The principal helped us a lot...he is excellent,*" Similarly T4 mentions "*without the help of the manager none of this would have been possible...*"

Conclusion

The purpose of the present dissertation was to be investigated whether the participation of students with intellectual disability in school – based extracurricular activities contributes to their better and more effective social inclusion. The main hypothesis was that students with intellectual disability who participate in school – based extracurricular activities develop better their skills and therefore achieve more effective social inclusion than students with intellectual disability who do not participate in extracurricular activities. Initially, the first three research hypotheses of the thesis were confirmed according to the fact that the participation in school – based extracurricular activities extracurricular activities improve the social, motor and perceptual skills of students with intellectual disability. In other words, extracurricular activities help better social integration of students with intellectual disabilities. This stems from the fact that extracurricular activities offer the possibility for collaborative, investigative and experiential learning in an interesting and original way. Students have the opportunity to work together in groups or even when working on an item alone, they are asked to respect, wait in line and follow procedures. Additionally, many of the extracurricular activities implemented required the use of students' motor and perceptual skills for which significant improvements were also observed. All these improve the skills of cooperation, self-control, responsibility, empathy of each student which are important social skills, necessary to achieve independent living. This is very important for students with mental management considering that in addition to deficits in cognitive functioning, they also have deficits in adaptive functioning. In this direction, it was revealed that extracurricular activities contribute to a large extent. Despite the significant limitations that exist in Greek schools such as lack of infrastructure and logistical equipment, but also limited time of teachers due to pressures to follow the instructions of the syllabus, it was possible to complete the program of extracurricular activities carried out in the present research. A key factor that helped in this was the positive attitudes and intentions of the teachers, but also the collaborative culture of the school with the support of the principal. After all, this research confirmed that these external factors do indeed have an effect on the degree of effectiveness of extracurricular activities. Indeed in a working school. Indeed, a school that functions as a community in which everyone cooperates and exchanges opinions gradually turns into a learning community. Therefore, it could be argued that the program of extracurricular activities, in addition to a positive contribution to improving the social integration of students, was also a way of school improvement through the development of all members of the school.

Author: Alexakoudi Maria
Supervisor: Prof. Katerina Karadjova

CONTRIBUTIONS OF THE RESEARCH

The research initially contributes to the enrichment of the existing literature regarding the implementation of new practices and especially extracurricular activities for students with mental disability in order for improvement their social skills. At a practical level, the present research reveals a program of extracurricular activities that could be apply in school and that will contribute to the effective integration of students with mental disability.

RECCOMEDATIONS FOR PRACTICE

1. Implementation of teachers' training programs about the contribution of extracurricular activities to the development of social skills in students
2. Collaborations between schools both in Greece and abroad for the information and implementation of innovative practices related to extracurricular activities for students with mental disability.
3. Investigating ways to optimize educational policies for the inclusion of extracurricular activities in curricula

LIST OF PUBLICATIONS

1. „Possibilities for social inclusion of students with intellectual disability during extracurricular activities" - Maria Alexakudi - "Education and Arts: Traditions and Perspectives" - "Sofia University" - 2020, p.396
2. „Extracurricular activities as a way for social inclusion for students with intellectual disability" - Maria Alexakudi - "Education and Arts: Traditions and Perspectives" - "Sofia University" - 2020, p.400
3. „The impact of extracurricular activities on the social inclusion of students with intellectual disability" – Maria Alexakudi - "Education and Arts: Traditions and Perspectives" - "Sofia University" - 2023, p.627

Author: Alexakoudi Maria
Supervisor: Prof. Katerina Karadjova