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# POLICY RECOMMENDATION REPORT

Developed by the project partnership:

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# POLICY RECOMMENDATION REPORT

## Supporting Children with Autism through Physical Education

### Strengthening Inclusive Physical Education through Innovation, Virtual Reality, and European Cooperation

Erasmus+ Cooperation Partnership

Project No. 2024-1-LT01-KA220-SCH-000246848

Developed by the Project Partnership

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The partnership gratefully acknowledges the commitment of educators, students, parents, specialists, and policymakers who participated in surveys, pilot activities, network-building events, and dissemination initiatives throughout the project.

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## Foreword

Inclusive education represents one of the most important priorities of contemporary European educational policy. Across Europe, schools are increasingly expected to provide learning environments that recognise diversity, promote equal opportunities, and ensure that every learner can participate meaningfully in educational and social life. For children with Autism Spectrum Disorder (ASD), achieving genuine inclusion requires not only supportive educational policies but also practical teaching approaches that address their individual strengths, needs, and learning styles.

Physical education occupies a unique position within inclusive education. Beyond its contribution to physical fitness, well-being, and healthy lifestyles, physical education provides valuable opportunities for developing communication skills, social interaction, emotional regulation, cooperation, self-confidence, and independence. When appropriately adapted, physical education can become one of the most effective environments for promoting participation and inclusion among students with ASD.

Despite growing awareness of inclusive education, significant disparities remain across European countries regarding teacher preparation, access to specialist support, availability of adapted teaching materials, use of innovative educational technologies, and cooperation among schools, families, and healthcare professionals. These challenges highlight the need for evidence-based policies capable of supporting educators while ensuring equal educational opportunities for all learners.

The Erasmus+ Cooperation Partnership project *Supporting Children with Autism through Physical Education* was established to address these needs through international collaboration among educational institutions, universities, non-governmental organisations, and special education centres from Lithuania, Latvia, Türkiye, and Macedonia. The project combined educational innovation with scientific evidence to develop practical resources that enhance inclusive physical education for students with ASD.

A distinctive feature of the project is the integration of innovative digital technologies, particularly three-dimensional Virtual Reality (VR) applications, into physical education. These tools provide engaging, motivating, and structured learning environments that can support participation, reduce anxiety, increase attention, and facilitate skill acquisition among students with ASD. Together with the Teacher's Guide, curriculum, professional training activities, pilot implementation, and stakeholder engagement, the project demonstrates how technology can complement evidence-based educational practice.

This Policy Recommendation Report synthesises the experiences, evidence, and lessons learned throughout the project. It combines findings from pilot testing, teacher and parent feedback, dissemination activities, stakeholder consultations, and comparative analyses of educational policies across the participating countries. Rather than presenting recommendations solely for project partners, the report seeks to contribute to broader European discussions on inclusive education and educational innovation.

The recommendations presented in this report are intended for policymakers, ministries of education, teacher education institutions, school leaders, teachers, therapists, researchers, and organisations working to improve educational opportunities for children with ASD. They offer practical strategies for strengthening teacher competencies, promoting innovative educational technologies, enhancing collaboration between schools and families, improving access to specialist support, and ensuring the sustainability of successful educational practices.

## Table of content

|                                                                                  |           |
|----------------------------------------------------------------------------------|-----------|
| <b>1. Executive Summary .....</b>                                                | <b>5</b>  |
| <b>2. Policy Recommendations.....</b>                                            | <b>7</b>  |
| <b>3. Expected Impact.....</b>                                                   | <b>7</b>  |
| <b>4. Conclusion .....</b>                                                       | <b>8</b>  |
| <b>Chapter 1. Background .....</b>                                               | <b>9</b>  |
| <b>Chapter 2. Project Overview.....</b>                                          | <b>11</b> |
| <b>Chapter 3. National Context (Lithuania, Latvia, Türkiye, Macedonia) .....</b> | <b>17</b> |
| <b>Chapter 4. Comparative European Analysis.....</b>                             | <b>34</b> |
| <b>Chapter 5. Project Results .....</b>                                          | <b>39</b> |
| <b>Chapter 6. Evidence and Findings.....</b>                                     | <b>46</b> |
| <b>Chapter 7. Challenges Identified.....</b>                                     | <b>52</b> |
| <b>Chapter 8. Policy Recommendations .....</b>                                   | <b>58</b> |
| <b>Chapter 9. Implementation Roadmap .....</b>                                   | <b>65</b> |
| <b>Chapter 10. Expected Impact .....</b>                                         | <b>73</b> |
| <b>Chapter 11. Sustainability.....</b>                                           | <b>79</b> |
| <b>Chapter 12. Conclusions.....</b>                                              | <b>85</b> |
| <b>References.....</b>                                                           | <b>90</b> |

# 1. Executive Summary

## 1.1. Introduction

The Erasmus+ Cooperation Partnership project *Supporting Children with Autism through Physical Education* was developed in response to the growing need for innovative, evidence-based approaches that enhance educational inclusion for children with Autism Spectrum Disorder (ASD). While many European countries have made substantial progress towards inclusive education, significant challenges remain in ensuring equitable access to high-quality physical education for students with diverse learning needs.

Children with ASD frequently experience difficulties participating in traditional physical education settings due to differences in communication, sensory processing, motor coordination, social interaction, behavioural regulation, and executive functioning. Without appropriate adaptations, these challenges may reduce participation, increase anxiety, and limit opportunities for developing essential physical, social, and emotional competencies.

Recognising these challenges, six partner organisations from Lithuania, Latvia, Türkiye, and Macedonia collaborated to develop innovative educational resources, strengthen teacher competencies, promote digital innovation, and establish sustainable networks supporting inclusive physical education.

## 1.2. Project Objectives

The project pursued several interconnected objectives:

- Improve inclusive physical education for students with ASD.
- Increase teachers' competencies in adapting physical education activities.
- Develop evidence-based educational resources.
- Introduce Virtual Reality technologies into inclusive education.
- Promote collaboration among teachers, families, therapists, and policymakers.
- Strengthen European cooperation and exchange of good practices.

## 1.3. Main Project Outputs

The partnership successfully produced several major intellectual outcomes:

- Comprehensive Teacher's Guide for inclusive physical education.
- Curriculum supporting professional development.
- Four interactive Virtual Reality educational applications.
- Teacher training programmes.

- Pilot implementation across partner countries.
- Network-building events.
- National dissemination activities.
- International multiplier events.
- Policy recommendations for educational stakeholders.

Together, these outputs provide an integrated framework for improving educational inclusion through innovative physical education practices.

## 1.4. Evidence Base

The recommendations presented in this report are based on multiple sources of evidence collected throughout the project, including:

- Pilot implementation in partner countries.
- Teacher questionnaires.
- Parent feedback.
- Student observations.
- Stakeholder consultations.
- Evaluation meetings.
- Dissemination activities.
- Comparative review of educational policies.
- International scientific literature on autism and inclusive education.

The triangulation of these data sources strengthens the reliability and practical relevance of the recommendations.

## 1.5. Major Findings

Project findings consistently demonstrated several important outcomes.

Teachers reported increased confidence in planning and delivering inclusive physical education activities after participating in project training.

Students with ASD showed higher motivation, greater participation, improved attention, and increased enjoyment during adapted physical education sessions incorporating structured teaching methods and VR-supported activities.

Parents recognised positive changes in their children's engagement, self-confidence, and willingness to participate in physical activities both within and outside school settings.

Stakeholders highlighted the importance of interdisciplinary cooperation involving teachers, therapists, families, healthcare professionals, universities, and educational authorities.

The project also confirmed that digital technologies, when appropriately implemented, can enhance rather than replace effective teaching practices.

## 1.6. Challenges Identified

Despite these positive outcomes, several barriers continue to limit implementation across Europe.

The most significant challenges include:

- Limited teacher preparation in autism-specific physical education.
- Unequal access to specialist support.
- Insufficient availability of innovative educational technologies.
- Limited cooperation between educational and healthcare sectors.
- Lack of practical teaching resources.
- Inconsistent implementation of inclusive education policies.
- Financial constraints affecting schools.
- Limited opportunities for continuous professional development.
- Insufficient dissemination of good practices.
- Need for long-term sustainability beyond project funding.

These findings were remarkably consistent across all participating countries, although national contexts varied regarding legislation, educational organisation, and resource availability.

## 2. Policy Recommendations

Based on project evidence, six overarching policy recommendations are proposed:

1. Strengthen professional development in inclusive physical education.
2. Promote wider integration of innovative technologies, including Virtual Reality.
3. Enhance collaboration between schools, families, healthcare professionals, and community organisations.
4. Improve accessibility and inclusiveness of physical education environments.
5. Strengthen dissemination and sustainability of evidence-based educational practices.

6. Recognise physical activity as an essential component of educational planning for students with ASD.

Each recommendation includes practical implementation strategies for national governments, educational authorities, schools, universities, and other stakeholders.

### 3. Expected Impact

Implementation of these recommendations is expected to produce substantial benefits.

For students:

- Increased participation.
- Improved physical fitness.
- Better communication.
- Enhanced social inclusion.
- Greater emotional well-being.

For teachers:

- Increased professional confidence.
- Improved competencies.
- Better access to innovative teaching resources.
- Greater collaboration with specialists.

For schools:

- More inclusive educational environments.
- Improved educational quality.
- Stronger partnerships with families.
- Greater organisational capacity.

For policymakers:

- Evidence-based guidance for educational reforms.
- Improved implementation of inclusive education policies.
- Better alignment with European priorities.
- Increased sustainability of educational innovation.

## 4. Conclusion

The project demonstrates that inclusive physical education can become a powerful vehicle for promoting participation, well-being, and educational success among children with Autism Spectrum Disorder.

International collaboration, evidence-based educational practice, teacher professional development, and innovative digital technologies together provide a strong foundation for future educational policies that are inclusive, equitable, sustainable, and responsive to the diverse needs of learners across Europe.

The recommendations presented in this report are intended to support policymakers and educational stakeholders in translating these experiences into long-term systemic improvements that benefit current and future generations of students with ASD.

# Chapter 1. Background

## 1.1 Autism Spectrum Disorder and Inclusive Education

Autism Spectrum Disorder (ASD) is a lifelong neurodevelopmental condition characterised by differences in social communication, social interaction, and patterns of behaviour, interests, and sensory processing. Contemporary scientific understanding recognises autism as a spectrum encompassing considerable diversity in cognitive abilities, language development, adaptive functioning, sensory experiences, and support needs. Consequently, educational systems must adopt flexible and individualised approaches that recognise the strengths and needs of each learner rather than applying uniform interventions.

Over the past two decades, international educational policy has increasingly embraced inclusive education as a fundamental human right. The United Nations Convention on the Rights of Persons with Disabilities (UNCRPD), the Salamanca Statement, UNESCO's Framework for Action on Inclusive Education, and European Union strategies collectively affirm that all learners, regardless of disability, should have access to equitable, high-quality education within inclusive environments. These frameworks emphasise participation, accessibility, equality, and non-discrimination as essential principles guiding educational policy and practice.

Within this context, children with ASD should not only be physically present in mainstream or specialised educational settings but should also experience meaningful participation, appropriate educational support, and opportunities to develop academically, socially, emotionally, and physically. Inclusive education therefore extends beyond classroom placement; it requires systemic changes in teaching methodologies, curriculum design, assessment practices, professional development, collaboration, and resource allocation.

Despite considerable policy progress across Europe, implementation remains uneven. Schools frequently report shortages of specialised personnel, limited teacher training in autism-specific educational approaches, insufficient collaboration between educational and healthcare sectors, and unequal access to evidence-based teaching resources. These challenges are particularly evident in physical education, where teachers often report lower confidence in adapting activities for students with diverse developmental needs.

## 1.2 Physical Education as a Foundation for Inclusion

Physical education is uniquely positioned to support holistic child development. In addition to promoting physical health and motor competence, participation in structured physical activity contributes to social interaction, communication, emotional regulation, executive functioning, cooperation, resilience, and self-esteem. For children with ASD, well-designed physical education programmes can provide highly structured, motivating, and predictable learning environments that encourage participation while reducing anxiety associated with unfamiliar social situations.

Research increasingly demonstrates that regular physical activity is associated with improvements in motor skills, physical fitness, attention, adaptive behaviour, and quality of life among children with ASD. Participation in inclusive physical education also creates opportunities for peer interaction, collaborative learning, and the development of social relationships, thereby supporting broader educational inclusion.

However, these benefits are not automatically realised. Teachers require specialised knowledge to modify activities, manage sensory sensitivities, support communication, differentiate instruction, and create

environments that enable successful participation. Schools likewise need appropriate equipment, specialist support, and institutional commitment to inclusive practice.

### 1.3 Innovation and Digital Technologies in Inclusive Education

Technological innovation has become an increasingly important component of inclusive education. Digital learning environments, assistive technologies, augmented reality, and Virtual Reality (VR) applications offer new opportunities for adapting educational experiences to individual learning needs. For students with ASD, these technologies can provide predictable, visually structured, and highly engaging environments that facilitate learning while reducing cognitive and sensory overload.

Within physical education, VR technologies can enhance motivation, improve attention, encourage repeated practice of motor tasks, and provide safe environments for skill development. When integrated appropriately into pedagogical practice, these technologies complement rather than replace teacher-led instruction, enabling educators to diversify learning experiences and increase student engagement.

The Erasmus+ project builds upon this emerging evidence by developing practical VR applications specifically designed to support inclusive physical education. Pilot implementation across partner countries demonstrated that technology is most effective when embedded within broader evidence-based educational practices supported by teacher training and interdisciplinary collaboration.

### 1.4 The European Policy Context

European education policy increasingly recognises the importance of inclusion, innovation, digital transformation, and lifelong learning. Initiatives such as the European Education Area, the Digital Education Action Plan, and the European Pillar of Social Rights encourage Member States to improve accessibility, reduce educational inequalities, strengthen teacher competencies, and integrate digital technologies into teaching and learning.

The Erasmus+ Programme has played a significant role in advancing these priorities by supporting transnational cooperation, educational innovation, and the exchange of good practices. The *Supporting Children with Autism through Physical Education* project contributes directly to these objectives by developing practical resources, strengthening institutional capacity, and promoting evidence-informed policy development across participating countries.

The policy recommendations presented in this report are therefore aligned with broader European priorities while remaining responsive to the specific educational contexts of Lithuania, Latvia, Türkiye, and Macedonia. They seek to bridge the gap between policy aspirations and classroom practice, ensuring that inclusive physical education becomes an achievable reality for children with ASD throughout Europe.

## Chapter 2. Project Overview

### 2.1 Introduction

The Erasmus+ Cooperation Partnership project **Supporting Children with Autism through Physical Education** (Project No. **2024-1-LT01-KA220-SCH-000246848**) was developed in response to the growing need for innovative, evidence-based educational approaches that promote the inclusion, participation, and well-being of children with Autism Spectrum Disorder (ASD). While significant progress has been made across Europe in advancing inclusive education policies, many schools continue to face practical challenges in providing high-quality physical education that is responsive to the diverse needs of students with ASD.

Physical education is widely recognised as an essential component of children's holistic development. Beyond promoting physical fitness and healthy lifestyles, it offers unique opportunities to strengthen social interaction, communication, emotional regulation, motor competence, self-confidence, and independence. For children with ASD, participation in appropriately adapted physical education can contribute significantly to educational inclusion, improved quality of life, and successful engagement within the school community.

Despite these recognised benefits, many teachers report limited confidence in adapting physical education activities to meet the needs of students with ASD. Schools frequently lack specialised teaching resources, practical training opportunities, and access to innovative technologies that could facilitate inclusive teaching. Furthermore, cooperation between schools, families, healthcare professionals, and community organisations often remains fragmented, limiting the effectiveness and sustainability of educational interventions.

The project was designed to address these challenges by bringing together complementary expertise from educational institutions, universities, special education centres, and civil society organisations across four European countries. Through collaborative development, pilot implementation, and evaluation, the partnership sought to strengthen teacher competencies, introduce innovative digital solutions, and promote sustainable educational practices supporting inclusive physical education.

### 2.2 Project Rationale

The project was founded on the principle that every child has the right to participate fully in education, including physical education, regardless of disability or support needs. This principle is firmly grounded in international human rights instruments, including the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD), UNESCO's Framework for Inclusive Education, the Salamanca Statement, and the European Pillar of Social Rights. These frameworks emphasise that inclusive education is not merely the physical placement of students in schools but the creation of learning environments where every learner can actively participate, achieve meaningful educational outcomes, and develop their full potential.

Children with ASD often experience difficulties related to communication, social interaction, sensory processing, executive functioning, motor coordination, and behavioural regulation. These characteristics may create barriers to participation in conventional physical education programmes if teaching approaches are not appropriately adapted. At the same time, research consistently demonstrates that regular physical

activity can improve motor skills, physical fitness, attention, adaptive behaviour, emotional well-being, and social participation among children with ASD.

The project therefore recognised physical education as an important yet underutilised opportunity for fostering inclusion. By combining evidence-based teaching approaches with innovative technologies, particularly Virtual Reality (VR), the partnership sought to create practical solutions capable of supporting both teachers and students in everyday educational settings.

Another important rationale for the project was the recognition that educational challenges are shared across Europe. Although national education systems differ in organisation, legislation, and available resources, many schools encounter similar obstacles when implementing inclusive physical education. International cooperation therefore provided valuable opportunities to exchange good practices, compare educational approaches, and jointly develop resources applicable across diverse educational contexts.

## 2.3 Project Partnership

The project brought together six organisations representing complementary areas of expertise in education, special education, autism, teacher training, and research.

The consortium consisted of:

- **Kauno Prano Daunio Education Centre (Lithuania)** – Project Coordinator
- **Çukurova University (Türkiye)**
- **Macedonian Scientific Society for Autism (Macedonia)**
- **Multi Act STDD (Türkiye)**
- **Rēzeknes Pamatskola – Attīstības Centrs (Latvia)**
- **Valmieras Gaujas Krasta Vidusskola – Attīstības Centrs (Latvia)**

The diversity of the partnership represented one of the project's greatest strengths. It combined academic expertise, practical school experience, teacher education, autism advocacy, educational research, and direct work with children with ASD. This multidisciplinary approach enabled the development of educational resources that were both scientifically informed and practically applicable.

Each partner contributed according to its institutional expertise while actively participating in all stages of the project, including needs assessment, curriculum development, preparation of educational materials, pilot implementation, dissemination, evaluation, and policy development.

## 2.4 Project Objectives

The overall objective of the project was to improve educational inclusion for children with Autism Spectrum Disorder through innovative approaches to physical education.

Specific objectives included:

- strengthening teachers' competencies in inclusive physical education;
- developing practical educational resources based on current scientific evidence;
- promoting inclusive teaching methodologies responsive to diverse learning needs;
- integrating Virtual Reality technologies into physical education;
- increasing participation and motivation of students with ASD;
- supporting cooperation among teachers, families, therapists, and educational institutions;
- promoting the exchange of good practices across Europe;
- increasing awareness of inclusive education among educational stakeholders;
- strengthening institutional capacity to implement innovative educational practices;
- developing evidence-based policy recommendations supporting long-term educational reform.

These objectives were closely aligned with Erasmus+ priorities related to inclusion and diversity, digital transformation, innovation, teacher professional development, and European cooperation.

## 2.5 Project Activities

The implementation of the project consisted of several interconnected activities designed to ensure both educational quality and long-term sustainability.

### Needs Assessment

The project began with an analysis of existing educational practices, teacher needs, available resources, and challenges related to inclusive physical education in each participating country. This assessment informed the development of all subsequent project outputs.

### Development of Educational Resources

Building upon scientific literature, existing good practices, and stakeholder consultations, the partnership developed a comprehensive Teacher's Guide and Curriculum focusing on inclusive physical education for students with ASD. These resources provide practical guidance on adapting physical activities, managing sensory needs, promoting communication, facilitating peer interaction, and implementing individualised teaching strategies.

### Development of Virtual Reality Applications

One of the project's most innovative achievements was the development of four educational Virtual Reality applications designed specifically to support physical education activities for children with ASD. These applications provide structured, engaging, and motivating environments that enable students to practise motor skills, improve attention, and participate in physical activities within predictable learning contexts.

Rather than replacing teachers, the VR applications were designed to complement evidence-based teaching practices and provide additional opportunities for individualised instruction.

### **Staff Training**

Professional development represented a central component of the project. Teachers, specialists, and educational professionals participated in international training activities focusing on inclusive teaching methodologies, autism-specific educational approaches, and the effective use of VR technologies within physical education.

The training promoted the exchange of professional experience among partner countries while strengthening participants' confidence in implementing innovative educational practices.

### **Pilot Implementation**

Project resources were piloted within participating schools and educational institutions. Teachers integrated the developed curriculum, teaching materials, and VR applications into their educational practice while systematically documenting experiences, observations, and outcomes.

Pilot implementation provided valuable evidence regarding feasibility, usability, teacher satisfaction, student engagement, and educational effectiveness.

### **Dissemination Activities**

Throughout the project, partners organised national and international dissemination events targeting teachers, school leaders, policymakers, researchers, therapists, parents, and representatives of civil society organisations.

Dissemination activities aimed not only to present project results but also to stimulate dialogue regarding inclusive education, educational innovation, and future policy development.

### **Network Building**

The project placed strong emphasis on creating sustainable professional networks connecting educational institutions, universities, non-governmental organisations, healthcare professionals, families, and policymakers.

These networks are expected to continue supporting knowledge exchange and collaborative initiatives beyond the lifetime of the Erasmus+ project.

## **2.6 Project Outputs**

The project generated several important intellectual and practical outputs that together form an integrated framework for inclusive physical education.

The principal outputs include:

- A comprehensive Teacher's Guide for Inclusive Physical Education.
- A Curriculum supporting teacher professional development.

- Four interactive Virtual Reality applications.
- Teacher training materials.
- Pilot implementation reports.
- Evaluation reports.
- Dissemination materials.
- Policy Recommendation Report.
- Digital educational resources.
- Good practice examples for schools.

Together, these outputs provide educators with practical tools supporting the planning, implementation, and evaluation of inclusive physical education activities for students with ASD.

## 2.7 Innovative Aspects of the Project

Several characteristics distinguish this project from traditional educational initiatives.

First, the project combines educational research with practical implementation. Rather than developing theoretical recommendations alone, all resources were tested within authentic educational environments involving teachers, students, parents, and specialists.

Second, the project integrates Virtual Reality technology into inclusive physical education. While digital technologies have increasingly been introduced into education, relatively few initiatives have explored their application specifically within physical education for children with ASD.

Third, the project adopts a multidisciplinary approach involving educators, researchers, therapists, psychologists, special education professionals, and autism organisations. This collaboration ensured that educational resources reflected diverse professional perspectives and practical experience.

Finally, the international composition of the partnership enabled the comparison of educational systems and facilitated the transfer of good practices across countries with different legislative frameworks, institutional structures, and educational traditions.

## 2.8 Evaluation and Quality Assurance

Quality assurance was integrated throughout every stage of project implementation. Educational resources underwent continuous review by project partners, external experts, teachers, and other stakeholders before being finalised.

Pilot implementation generated valuable qualitative and quantitative evidence regarding the effectiveness, usability, accessibility, and relevance of project outputs. Feedback obtained from teachers, parents, and educational professionals informed successive revisions and improvements to the developed materials.

Evaluation activities also examined broader project outcomes, including teacher confidence, student participation, stakeholder satisfaction, dissemination effectiveness, and institutional capacity building. This evidence forms the basis of the policy recommendations presented in the subsequent chapters of this report.

## 2.9 Contribution to European Educational Priorities

The project contributes directly to several strategic priorities of European education policy.

By promoting inclusive education, it supports the European Education Area's commitment to ensuring equitable access to quality education for all learners. Through the integration of Virtual Reality and digital learning resources, the project contributes to the objectives of the Digital Education Action Plan by encouraging meaningful educational innovation and strengthening digital competencies among educators.

The project also aligns closely with Erasmus+ priorities concerning inclusion and diversity, participation in democratic life, digital transformation, and environmental sustainability through the creation of openly accessible educational resources that can be adapted and reused by schools across Europe.

Furthermore, the project supports the implementation of the United Nations Sustainable Development Goal 4, which calls for inclusive and equitable quality education and lifelong learning opportunities for all.

## 2.10 Sustainability and Future Perspectives

Although the Erasmus+ project has a defined implementation period, its long-term value extends beyond the formal duration of project activities. Sustainability has therefore been considered a fundamental component throughout the project lifecycle.

The Teacher's Guide, Curriculum, Virtual Reality applications, and other educational resources have been designed for continued use within schools, teacher education programmes, and professional development initiatives. The established networks among partner organisations provide a strong foundation for future collaboration, research, dissemination, and innovation.

The Policy Recommendation Report represents one of the project's most important sustainability outcomes. By translating project experiences into evidence-based policy recommendations, the report seeks to influence educational practice beyond the participating institutions and contribute to future national and European policy development.

Ultimately, the project demonstrates that meaningful improvements in inclusive education require more than isolated educational interventions. Sustainable progress depends upon long-term collaboration among policymakers, educational institutions, universities, researchers, teachers, families, and civil society organisations. Through its multidisciplinary and international approach, *Supporting Children with Autism through Physical Education* provides a practical model for how European cooperation can strengthen educational inclusion and improve learning opportunities for children with Autism Spectrum Disorder across diverse educational contexts.

## Chapter 3. National Context (Lithuania, Latvia, Türkiye, Macedonia)

### 3.1 Lithuania

#### 3.1.1 National Education System

Lithuania has developed a comprehensive education system that is firmly grounded in the principles of equity, accessibility, and lifelong learning. Governed primarily by the **Law on Education of the Republic of Lithuania**, the system aims to provide high-quality educational opportunities for all learners while promoting inclusion, equal participation, and respect for diversity. Education is compulsory until the age of 16 and encompasses pre-primary, primary, lower secondary, upper secondary, vocational, and higher education.

Over the past two decades, Lithuania has undertaken significant reforms to align its educational policies with European Union priorities and international human rights frameworks, particularly those promoting inclusive education. The Ministry of Education, Science and Sport plays a central role in developing national educational policies, establishing curriculum standards, coordinating teacher professional development, and ensuring quality assurance across educational institutions.

Inclusive education has become one of the principal priorities of Lithuanian educational reform. Schools are increasingly expected to provide learner-centred educational environments that recognise individual differences and ensure meaningful participation for all students, including those with disabilities and special educational needs. Educational support services have been progressively strengthened through multidisciplinary teams consisting of psychologists, speech and language therapists, special educators, social pedagogues, and other specialists working collaboratively with classroom teachers.

Although Lithuania has made considerable progress in strengthening inclusive education, implementation varies between municipalities and schools depending on available resources, specialist availability, infrastructure, and local capacity. Rural schools, in particular, often experience greater challenges related to access to specialised services and professional support.

Overall, Lithuania demonstrates a strong policy commitment to educational inclusion, supported by ongoing investments in teacher education, curriculum development, digital innovation, and international cooperation through European programmes such as Erasmus+.

#### 3.1.2 Policy and Legislative Framework for Inclusive Education

Lithuania has established a robust legislative framework supporting inclusive education. The country's educational policies are guided by constitutional principles guaranteeing equal access to education and are reinforced by the **Law on Education**, which recognises the right of every learner to receive education appropriate to individual abilities and educational needs.

Lithuania is a signatory to the **United Nations Convention on the Rights of Persons with Disabilities (UNCRPD)** and has incorporated its principles into national educational legislation. National policy increasingly emphasises the transition from segregated educational models towards inclusive schooling,

ensuring that children with disabilities can participate alongside their peers whenever appropriate support is available.

Recent educational reforms have strengthened requirements for schools to provide individual educational planning, reasonable accommodation, multidisciplinary assessment, and personalised educational support. Municipal Pedagogical Psychological Services play an important role in assessing children's educational needs and recommending appropriate support measures.

National curriculum reforms have also encouraged greater flexibility in teaching methodologies, differentiated instruction, and competency-based learning. Schools are expected to adapt educational environments, teaching materials, assessment procedures, and instructional strategies to accommodate diverse learners.

Teacher professional development has become an important component of Lithuania's inclusive education strategy. Continuous learning opportunities are increasingly available through universities, educational centres, and European-funded projects, although further expansion remains necessary, particularly regarding autism-specific educational approaches.

Despite these positive developments, challenges remain in ensuring consistent implementation across the country. Variability in available resources, specialist support, teacher preparedness, and financial capacity continues to influence the quality of inclusive education experienced by students with ASD.

### **3.1.3 Autism Spectrum Disorder in the Educational Context**

The prevalence of Autism Spectrum Disorder has increased steadily in Lithuania, reflecting international trends associated with improved awareness, earlier diagnosis, and expanded diagnostic services. As increasing numbers of children with ASD attend mainstream educational settings, schools face growing demands for specialised educational support and evidence-based teaching practices.

Children with ASD present highly diverse educational profiles. Differences in communication, social interaction, executive functioning, sensory processing, behavioural regulation, and motor development require individualised educational planning rather than standardised instructional approaches. Lithuanian educational policy recognises this diversity and increasingly promotes personalised learning supported by multidisciplinary collaboration.

Teachers are expected to work closely with special educators, psychologists, speech and language therapists, parents, and other professionals to develop individual education plans tailored to each learner's strengths and support needs. However, access to specialist services differs considerably among municipalities, creating inequalities in educational provision.

Research conducted in Lithuania has highlighted several priority areas for improving educational outcomes for students with ASD. These include strengthening teacher competencies, increasing specialist availability, promoting evidence-based interventions, enhancing family-school collaboration, and improving access to adapted teaching resources.

Growing public awareness has contributed to greater acceptance of neurodiversity within educational settings. Nevertheless, misconceptions regarding autism continue to influence educational practice in some

contexts, emphasising the importance of ongoing professional development and public education initiatives.

### **3.1.4 Physical Education and Inclusion**

Physical education occupies an important position within the Lithuanian national curriculum, contributing not only to physical health but also to social, emotional, and cognitive development. Educational policy increasingly recognises physical activity as an essential component of children's overall well-being and lifelong healthy lifestyles.

For students with ASD, participation in physical education offers unique opportunities to improve motor coordination, physical fitness, communication, peer interaction, emotional regulation, and self-confidence. Structured physical activities can also support attention, behavioural regulation, and adaptive functioning, thereby complementing broader educational objectives.

Despite these recognised benefits, many teachers report uncertainty regarding appropriate adaptations for students with ASD during physical education lessons. Common challenges include managing sensory sensitivities, adapting team activities, supporting communication, maintaining student engagement, and addressing diverse motor abilities within mixed classrooms.

The Erasmus+ project addressed these needs by developing practical resources specifically designed for inclusive physical education. The Teacher's Guide provides evidence-based strategies for adapting activities, organising inclusive learning environments, supporting positive behaviour, and promoting participation among students with ASD.

The project also introduced innovative Virtual Reality (VR) applications that complement traditional physical education. These digital tools provide structured and motivating learning environments where students can practise movement skills, improve attention, and participate at their own pace before engaging in group-based physical activities.

Teachers participating in pilot implementation reported that the combination of practical guidance and innovative technology increased their confidence in delivering inclusive physical education while improving student motivation and participation.

### **3.1.5 Challenges Identified During the Project**

Project implementation identified several challenges affecting the successful delivery of inclusive physical education in Lithuania.

One of the most significant challenges concerned teacher preparedness. Although teachers demonstrate strong commitment to inclusive education, many reported limited pre-service or in-service training specifically addressing autism and adapted physical education. Professional development opportunities remain unevenly distributed across regions.

Access to specialist support also varies considerably between schools. While larger urban centres often benefit from multidisciplinary teams, smaller municipalities may experience shortages of psychologists, occupational therapists, physiotherapists, and autism specialists, limiting the support available to teachers.

Resource availability represents another important challenge. Schools differ substantially in access to adapted equipment, sensory materials, assistive technologies, and digital educational resources. Financial constraints frequently influence schools' capacity to introduce innovative teaching methods.

Teachers also identified time constraints associated with individual educational planning and collaboration among professionals. Effective inclusion requires regular communication between teachers, specialists, parents, and school leadership, yet opportunities for interdisciplinary planning remain limited in many schools.

Finally, although digital innovation is increasingly encouraged within Lithuanian education, access to Virtual Reality technologies and teacher confidence in their educational use remain limited outside pilot initiatives.

### **3.1.6 Good Practices and Project Contributions**

The Erasmus+ project generated several examples of good practice that demonstrate the potential for strengthening inclusive physical education in Lithuania.

The development of the Teacher's Guide and Curriculum provided educators with practical, evidence-based resources that can be integrated into everyday teaching practice. Teachers particularly valued the clear instructional guidance, adaptable activity examples, and emphasis on individualised educational planning.

The introduction of Virtual Reality applications represented an innovative contribution to inclusive education. Pilot implementation demonstrated that VR can increase student motivation, improve attention, reduce anxiety associated with unfamiliar activities, and provide structured opportunities for practising motor skills.

International staff training enabled Lithuanian educators to exchange professional experiences with colleagues from Latvia, Türkiye, and Macedonia. Participants reported increased confidence in implementing inclusive teaching strategies and greater awareness of European approaches to autism education.

The project also strengthened collaboration among schools, universities, autism organisations, and educational authorities. This multidisciplinary cooperation contributed to more comprehensive educational planning and facilitated the dissemination of good practices beyond participating institutions.

Perhaps most importantly, the project demonstrated that technological innovation is most effective when integrated within evidence-based pedagogy rather than viewed as an independent educational solution. Teachers consistently emphasised that VR applications complemented, rather than replaced, professional judgement and high-quality teaching.

### **3.1.7 Future Directions and Policy Implications**

The experiences gained during the project suggest several priorities for the continued development of inclusive physical education in Lithuania.

First, sustained investment in teacher professional development is essential. National training programmes should include comprehensive modules addressing autism, inclusive pedagogy, adapted physical education, sensory processing, communication strategies, and the educational use of innovative technologies.

Second, greater investment is needed to strengthen multidisciplinary support services within schools. Expanding access to psychologists, special educators, occupational therapists, physiotherapists, and speech and language therapists would improve educational outcomes for students with ASD while supporting classroom teachers.

Third, national educational policy should encourage wider adoption of evidence-based digital technologies, including Virtual Reality, supported by appropriate infrastructure, technical assistance, and pedagogical guidance. Digital innovation should remain firmly embedded within learner-centred educational practice.

Fourth, stronger collaboration among schools, universities, healthcare services, autism organisations, and families should become an integral component of inclusive education policy. Sustainable partnerships facilitate knowledge exchange, improve continuity of support, and promote consistent educational planning across settings.

Finally, the project's findings highlight the importance of continued participation in European cooperation initiatives. Erasmus+ projects provide valuable opportunities for exchanging expertise, developing innovative educational resources, and strengthening international networks that contribute to long-term improvements in inclusive education.

By building upon the experiences and evidence generated through this project, Lithuania is well positioned to further strengthen its inclusive education system and ensure that children with Autism Spectrum Disorder have equitable opportunities to participate, learn, and thrive within high-quality physical education programmes. These efforts will contribute not only to improved educational outcomes but also to broader societal goals of inclusion, participation, and equal opportunities for all learners.

## 3.2 Latvia

### 3.2.1 National Education System

Latvia has established a comprehensive education system that is guided by the principles of equity, accessibility, quality, and lifelong learning. Education policy is coordinated by the Ministry of Education and Science and is based on national legislation that promotes equal educational opportunities for all learners. Over recent decades, Latvia has undertaken significant educational reforms aimed at modernising curricula, improving teaching quality, and strengthening inclusive education in accordance with European Union priorities and international human rights standards.

The Latvian education system comprises pre-school education, basic education, secondary education, vocational education, higher education, and adult learning. Basic education is compulsory and is designed to provide all children with the knowledge, competencies, and skills necessary for further education and active participation in society. Recent curriculum reforms have introduced a competency-based approach that encourages student-centred learning, interdisciplinary teaching, critical thinking, and active participation.

Inclusive education has become a central objective of educational policy in Latvia. The country has gradually shifted from a predominantly segregated model towards greater inclusion of learners with special educational needs in mainstream schools, while maintaining specialised educational institutions for students

requiring intensive support. This transition reflects Latvia's commitment to providing equitable educational opportunities while recognising the diverse needs of individual learners.

Special education schools and development centres continue to play an important role within the Latvian education system by providing specialised expertise, professional support, and methodological guidance to mainstream schools. The participation of **Rēzeknes Pamatskola – Attīstības Centrs** and **Valmieras Gaujas Krasta Vidusskola – Attīstības Centrs** in this Erasmus+ project illustrates the valuable contribution of these institutions in developing and disseminating innovative educational practices for children with Autism Spectrum Disorder (ASD).

Although Latvia has made considerable progress in strengthening inclusive education, differences remain between municipalities regarding access to specialist services, teacher training opportunities, educational resources, and technological infrastructure. Continued investment in professional development and intersectoral cooperation remains essential to ensure consistent implementation of inclusive education across the country.

### 3.2.2 Policy and Legislative Framework for Inclusive Education

The Latvian legislative framework provides a strong basis for inclusive education and equal access to learning opportunities. The **Education Law**, together with the **General Education Law**, establishes the right of every child to receive education appropriate to his or her individual needs and abilities. National education policy promotes equal participation, non-discrimination, and personalised educational support for learners with disabilities and special educational needs.

Latvia has ratified the **United Nations Convention on the Rights of Persons with Disabilities (UNCRPD)** and has incorporated its principles into national legislation and educational policy. Inclusive education is recognised as an essential element of educational quality, requiring schools to provide reasonable accommodations, adapted teaching methods, and appropriate support services to enable meaningful participation of all learners.

The National Development Plan and successive education policy documents have emphasised strengthening inclusive education through curriculum reform, teacher professional development, improved accessibility, and enhanced cooperation among educational institutions, families, healthcare providers, and social services. Schools are encouraged to develop individual educational plans, differentiate instruction, and implement evidence-based teaching strategies that address the diverse learning profiles of students with special educational needs.

Educational support is provided through multidisciplinary teams that may include psychologists, speech and language therapists, special educators, social pedagogues, and other professionals. However, the availability of these services varies across municipalities, and smaller schools often face greater challenges in recruiting specialised personnel.

Latvia has also invested in digital transformation within education, recognising the growing importance of educational technologies in supporting inclusive learning environments. National initiatives encourage schools to integrate digital resources into teaching and learning while strengthening teachers' digital competencies. Nevertheless, practical implementation remains uneven, particularly regarding innovative technologies such as Virtual Reality (VR), which are still emerging within educational practice.

### 3.2.3 Autism Spectrum Disorder in the Educational Context

The increasing identification of children with Autism Spectrum Disorder has created new opportunities and challenges for the Latvian education system. Growing awareness among healthcare professionals, educators, and families has contributed to earlier diagnosis and increased enrolment of students with ASD in both mainstream and specialised educational settings.

Children with ASD present highly diverse educational profiles, requiring flexible and individualised approaches to teaching and learning. Differences in communication, social interaction, executive functioning, sensory processing, behavioural regulation, and motor development influence participation across all areas of school life, including physical education.

Latvian educational policy recognises the importance of multidisciplinary assessment and individual educational planning to ensure that educational support reflects each learner's strengths, interests, and support needs. Schools increasingly collaborate with families, psychologists, therapists, and medical professionals to provide coordinated educational interventions.

Nevertheless, teachers frequently report that they require additional knowledge and practical experience to address the complex needs of students with ASD effectively. Although awareness of autism has improved substantially, professional confidence varies considerably according to previous training, teaching experience, and availability of specialist consultation.

Parents also play a central role in supporting educational inclusion. Effective communication between schools and families contributes to greater consistency between home and school environments, facilitates early identification of challenges, and supports the development of individual educational goals. The Erasmus+ project further strengthened this collaborative approach by actively involving parents in pilot activities, evaluation processes, and dissemination events.

### 3.2.4 Physical Education and Inclusion

Physical education is recognised within Latvia as an important component of holistic child development, contributing to physical health, emotional well-being, social participation, and the development of lifelong healthy lifestyles. The national curriculum promotes active participation, teamwork, movement competence, and positive attitudes toward physical activity for all students.

For children with ASD, inclusive physical education offers opportunities that extend beyond physical fitness. Adapted physical activities can improve balance, coordination, motor planning, communication, social interaction, self-confidence, emotional regulation, and participation in school life. Structured physical education environments also provide valuable opportunities to practise following routines, cooperating with peers, and developing adaptive skills within meaningful social contexts.

Despite these recognised benefits, implementing inclusive physical education remains challenging. Teachers frequently report difficulties in adapting activities for students with diverse sensory profiles, communication styles, behavioural needs, and motor abilities while simultaneously meeting curriculum objectives for the entire class. Limited access to adapted equipment, specialist guidance, and autism-specific training further complicates implementation.

The Erasmus+ project addressed these challenges by developing practical educational resources specifically designed for inclusive physical education. The Teacher's Guide and Curriculum introduced evidence-based teaching strategies that support activity adaptation, differentiated instruction, positive behaviour support, and structured learning environments.

The integration of Virtual Reality applications represented a particularly innovative aspect of the project. Teachers reported that VR-supported activities increased student motivation, sustained attention, and willingness to participate while providing safe, predictable, and engaging learning experiences. Students often demonstrated increased confidence when practising movement skills within virtual environments before transferring these skills to group-based physical education activities.

### **3.2.5 Challenges Identified During the Project**

Project implementation identified several challenges that continue to influence the quality and consistency of inclusive physical education in Latvia.

Teacher preparedness emerged as one of the most frequently reported concerns. Although educators strongly support inclusive education, many indicated that pre-service teacher education had provided limited preparation regarding Autism Spectrum Disorder, adapted physical education, sensory processing differences, or the use of innovative technologies in inclusive teaching.

Another significant challenge concerns unequal access to specialist support across regions. Larger municipalities generally have greater availability of psychologists, speech and language therapists, occupational therapists, physiotherapists, and special educators, whereas schools in rural areas often experience shortages of specialised services.

Schools also reported limited access to innovative educational technologies and adapted physical education equipment. Financial constraints can affect opportunities to introduce new teaching resources, particularly within smaller educational institutions. Teachers emphasised that sustained investment is necessary to ensure equitable access to innovative educational tools.

Time constraints represented another practical challenge. Effective inclusion requires regular collaboration among classroom teachers, physical education teachers, specialists, school leadership, and families. However, opportunities for interdisciplinary planning are often restricted by organisational demands and limited staffing.

Finally, project partners recognised that greater dissemination of evidence-based practices remains necessary. Many schools continue to rely on individual teacher experience rather than structured professional guidance when adapting physical education for students with ASD. Expanding access to high-quality educational resources therefore remains an important priority.

### **3.2.6 Good Practices and Project Contributions**

The Erasmus+ project generated numerous examples of good practice that have the potential to strengthen inclusive education both within Latvia and across Europe.

The collaborative development of the Teacher's Guide and Curriculum produced practical resources that combine scientific evidence with classroom experience. Teachers participating in pilot implementation

valued the clear methodological guidance, adaptable activity examples, and emphasis on individualised teaching approaches.

One of the project's most innovative contributions was the development and implementation of four Virtual Reality applications supporting inclusive physical education. Pilot testing demonstrated that VR technologies can enhance student engagement, facilitate repeated practice of movement skills, reduce anxiety associated with unfamiliar activities, and increase participation among learners with ASD.

International staff training activities provided valuable opportunities for Latvian educators to exchange knowledge with colleagues from Lithuania, Türkiye, and Macedonia. Participants reported improved professional confidence, greater awareness of European good practices, and increased motivation to implement innovative teaching strategies within their own schools.

The project also strengthened cooperation among schools, universities, autism organisations, families, and policymakers. Network-building activities created sustainable professional relationships that extend beyond the formal duration of the project and provide a foundation for future collaboration.

An important lesson emerging from the project was that successful innovation depends upon comprehensive teacher support. Technology alone does not transform educational practice; rather, meaningful improvements occur when innovative tools are integrated within evidence-based pedagogy, ongoing professional development, and collaborative school cultures.

### **3.2.7 Future Directions and Policy Implications**

The experiences gained during the project suggest several strategic priorities for the continued development of inclusive physical education in Latvia.

First, teacher professional development should remain a national priority. Continuous education programmes should include specialised modules addressing autism, inclusive pedagogy, adapted physical education, sensory integration, communication strategies, behavioural support, and the educational application of emerging technologies such as Virtual Reality.

Second, greater investment is required to strengthen multidisciplinary support services within schools. Expanding access to psychologists, occupational therapists, physiotherapists, speech and language therapists, and special educators will improve educational outcomes while supporting teachers in implementing inclusive practices.

Third, educational authorities should encourage wider adoption of evidence-based digital innovation. National guidance on the pedagogically appropriate use of Virtual Reality and other educational technologies would facilitate broader implementation while ensuring that technological solutions remain aligned with educational objectives and individual learner needs.

Fourth, stronger partnerships among schools, universities, healthcare providers, families, municipalities, and non-governmental organisations should be promoted to ensure coordinated educational planning and long-term sustainability of inclusive practices. Collaborative networks facilitate knowledge exchange, improve continuity of support, and contribute to evidence-informed policy development.

Finally, the project highlights the continuing importance of European cooperation through programmes such as Erasmus+. International partnerships enable educators to exchange expertise, compare educational systems, develop innovative resources, and collectively address shared challenges in inclusive education.

The experiences of the Latvian partners demonstrate that high-quality inclusive physical education is achievable when supported by strong educational policy, well-prepared teachers, multidisciplinary collaboration, innovative technologies, and sustained commitment to educational equity. Continued investment in these areas will strengthen opportunities for children with Autism Spectrum Disorder to participate fully in school life, develop their potential, and enjoy the lifelong benefits of physical activity and inclusive education.

### 3.3. Turkey

#### 3.3.1 National Education System

Turkey has a centralized education system governed primarily by the Ministry of National Education (MoNE). The system consists of pre-primary education, compulsory primary and lower-secondary education, upper-secondary education, and higher education. Since the implementation of the **4+4+4 education reform in 2012**, compulsory education has been extended to 12 years, consisting of four years of primary school, four years of lower-secondary school, and four years of upper-secondary education.

Inclusive education has gradually become an important component of the Turkish education system, with increasing efforts to ensure access, participation, and achievement for students with disabilities and special educational needs (SEN). Students with disabilities may receive education through different models, including mainstream schools with support services, special education classes within mainstream schools, and specialized special education schools.

The Turkish education system has increasingly adopted approaches based on early identification, individualized educational planning, and multidisciplinary cooperation among teachers, special education professionals, families, and healthcare providers. Individualized Education Programs (IEPs) represent a central mechanism for adapting educational objectives, teaching methods, and assessment procedures according to students' individual needs.

#### 3.3.2 Policy and Legislative Framework for Inclusive Education

The legal foundation of inclusive education in Turkey is based on the principles of equal educational opportunities and the right of every child to education. The **Law No. 573 on Special Education** provides the main legislative framework regulating special education services and emphasizes early intervention, individualized support, and integration of students with disabilities into educational environments.

The Ministry of National Education has developed several regulations and strategic documents to strengthen inclusive education practices. These policies promote the participation of students with disabilities in mainstream education settings whenever appropriate and encourage cooperation between schools, families, and support services.

Turkey's inclusive education framework is also aligned with international agreements, including the **United Nations Convention on the Rights of Persons with Disabilities (UNCRPD)**, which emphasizes inclusive education as a fundamental human right. Recent policy developments have focused on improving teacher

competencies, increasing accessibility, strengthening support services, and reducing barriers to participation for students with disabilities.

Despite significant legislative progress, implementation remains variable across regions due to differences in resources, teacher preparedness, infrastructure, and availability of specialized support professionals.

### **3.3.3 Autism Spectrum Disorder in the Educational Context**

Autism Spectrum Disorder (ASD) has received increasing attention within Turkey's special education policies due to growing recognition of the importance of early diagnosis, intervention, and educational support. Children with ASD are generally supported through special education services, including inclusive education programs, special education classes, and specialized educational institutions.

Educational approaches for students with ASD emphasize individualized instruction, structured learning environments, communication development, social skills training, and functional independence. Applied Behavior Analysis (ABA)-based interventions, structured teaching approaches, visual supports, and alternative communication methods are among the strategies used in educational settings.

However, challenges remain regarding the consistency and quality of educational provision. These include limited access to early intervention programs, insufficient numbers of trained professionals, variability in teachers' knowledge of evidence-based autism practices, and difficulties in ensuring meaningful participation of students with ASD in general education environments.

The transition from educational access to genuine inclusion remains a key priority, requiring not only placement in mainstream schools but also active participation, social interaction, and academic progress.

### **3.3.4 Physical Education and Inclusion**

Physical Education (PE) represents an important area for promoting inclusion, participation, motor development, social interaction, and physical well-being among students with ASD. In Turkey, inclusive PE practices are increasingly recognized as valuable components of special education; however, implementation differs considerably between schools.

Students with ASD may experience challenges related to motor coordination, sensory processing, communication, social interaction, and adaptation to group activities. Therefore, effective inclusive PE requires individualized adaptations, structured activities, predictable routines, visual instructions, peer support, and cooperation between PE teachers and special education professionals.

Research and practical experiences indicate that adapted physical activities can improve motor skills, physical fitness, communication, emotional regulation, and social participation among children with ASD. Nevertheless, many PE teachers report limited preparation regarding autism-specific strategies, highlighting the need for specialized professional development programs.

The integration of inclusive PE approaches into teacher education and continuous professional training represents an important step toward creating more accessible and supportive learning environments.

### **3.3.5 Challenges Identified During the Project**

During the project implementation, several challenges related to inclusive education and PE participation of children with ASD were identified in Turkey:

- **Limited autism-specific knowledge among educators:** Many teachers require additional training regarding ASD characteristics, sensory needs, communication strategies, and behavioral support.
- **Insufficient inclusive PE resources:** Schools often lack adapted equipment, structured programs, and practical guidelines for implementing inclusive physical activities.
- **Differences between urban and rural areas:** Access to specialized services and trained professionals varies significantly across regions.
- **Limited interdisciplinary collaboration:** Cooperation between PE teachers, special educators, therapists, and families needs further strengthening.
- **Challenges in student participation:** Some students with ASD experience social barriers, reduced peer interaction, and difficulties participating fully in group physical activities.
- **Need for family involvement:** Families require greater support and opportunities to participate actively in educational planning.

### 3.3.6 Good Practices and Project Contributions

The project contributed to strengthening inclusive education practices by promoting cooperation among educational institutions, teachers, families, and professionals working with children with ASD.

Key contributions and identified good practices include:

- Development of teacher competencies through targeted training activities focused on ASD and inclusive PE.
- Promotion of evidence-based strategies for adapting physical activities according to individual abilities and needs.
- Encouragement of collaborative approaches involving PE teachers, special educators, and families.
- Increasing awareness about the importance of physical activity for children with ASD's health, participation, and quality of life.
- Supporting the development of practical educational resources and guidelines that can be applied in school environments.

The project also highlighted the importance of moving from a traditional support-based model toward a participation-oriented inclusive education approach, where students with ASD are active members of the school community.

### 3.3.7 Future Directions and Policy Implications

Future developments in Turkey should focus on strengthening sustainable and evidence-based inclusive education practices. Key priorities include:

- Expanding autism-specific training programs for teachers, particularly PE teachers and classroom teachers.
- Integrating inclusive PE methodologies into teacher education curricula.
- Developing national guidelines for inclusive physical education for students with ASD.
- Increasing accessibility of adapted sports and physical activity opportunities.

- Strengthening multidisciplinary cooperation between education, health, and social sectors.
- Improving monitoring and evaluation systems to assess the effectiveness of inclusive education policies.
- Supporting research on educational interventions, physical activity outcomes, and long-term participation of individuals with ASD.

A comprehensive approach combining legislative support, professional development, community involvement, and evidence-based educational practices is essential to achieving meaningful inclusion of children with ASD within Turkey's education system.

## 3.4 Macedonia

### 3.4.1 National Education System

Macedonia has developed a comprehensive education system based on the principles of equal access, quality education, inclusion, and lifelong learning. The national education system is regulated by the Ministry of Education and Science and is supported by a legislative framework that aims to ensure educational opportunities for all children, including learners with disabilities and special educational needs (SEN).

The Macedonian education system consists of pre-school education, primary education, secondary education, vocational education, higher education, and adult education. Primary education is compulsory and free of charge, with the aim of providing all children with fundamental knowledge, competencies, and social skills necessary for further educational development and active participation in society.

Over recent years, Macedonia has undertaken significant reforms aimed at strengthening inclusive education, modernising curricula, improving teacher competencies, and aligning educational practices with European and international standards. These reforms reflect a gradual transition from traditional models of special education towards more inclusive approaches that emphasise participation, accessibility, and individualised support.

Inclusive education has become a central priority within the Macedonian education system. Children with disabilities and special educational needs are increasingly educated within mainstream schools, supported by adapted teaching approaches, Individual Educational Plans (IEPs), educational assistants, and multidisciplinary teams. Special schools continue to provide specialised expertise and support services, while gradually strengthening their role as resource centres for inclusive education.

A significant milestone in the development of inclusive education was the introduction of educational assistants and support teams within mainstream schools, enabling greater participation of children with disabilities in regular educational environments. These mechanisms represent an important step towards ensuring that inclusion is not limited to school placement but involves meaningful participation and educational progress. Despite important advances, challenges remain regarding the availability and consistency of support services, particularly between urban and rural areas. Differences continue to exist in access to specialised professionals, teacher training opportunities, adapted educational materials, and inclusive infrastructure. Continued investment in professional development, interdisciplinary cooperation, and evidence-based practices remain essential for achieving sustainable inclusion.

### 3.4.2 Policy and Legislative Framework for Inclusive Education

The legislative framework for inclusive education in Macedonia has undergone substantial development in recent years, reflecting the country's commitment to protecting the rights of children with disabilities and ensuring equal educational opportunities. The **Law on Primary Education (2019)** represents a significant reform that introduced inclusive education as a fundamental principle of the education system and established mechanisms for supporting students with disabilities within mainstream schools.

Macedonia has ratified the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD), committing itself to the implementation of inclusive education principles, reasonable accommodation, accessibility, and non-discrimination. These international commitments have influenced national educational policies and reforms aimed at improving participation of children with disabilities in all levels of education.

The national framework promotes the development of Individual Educational Plans, multidisciplinary assessment, differentiated teaching approaches, and cooperation among schools, families, healthcare professionals, and social services. Inclusive education policies emphasise the importance of identifying individual strengths and support needs rather than focusing exclusively on limitations associated with disability.

The establishment of school inclusion teams has strengthened the capacity of schools to coordinate support for students with SEN. These teams typically include teachers, professional associates, educational assistants, psychologists, pedagogues, special educators, and other relevant professionals. Their role is to support educational planning, monitor student progress, and promote effective participation in school activities.

However, implementation of inclusive education policies remains influenced by several systemic factors. Limited availability of specialised professionals, insufficient practical preparation of teachers, uneven access to support services, and differences in local capacities continue to affect the quality of inclusive education. Strengthening monitoring mechanisms and ensuring consistent implementation across municipalities remain important policy priorities.

Digital transformation in education has also become increasingly relevant in Macedonia. The integration of digital resources and innovative educational technologies provides new opportunities for supporting diverse learners. Nevertheless, access to advanced technologies, including Virtual Reality-based educational tools, remains at an early stage and requires further investment, teacher training, and strategic planning.

### 3.4.3 Autism Spectrum Disorder in the Educational Context

Autism Spectrum Disorder (ASD) has gained increasing recognition within Macedonia's educational and social policy framework. Improved awareness among healthcare professionals, educators, and families has contributed to earlier identification of children with ASD and increased demand for appropriate educational support.

Children with ASD demonstrate diverse developmental profiles, requiring individualised educational approaches that consider differences in communication, social interaction, sensory processing, executive functioning, adaptive behaviour, and motor development. Effective educational support requires structured

environments, predictable routines, visual support, adapted communication strategies, and teaching approaches based on individual strengths and needs.

Within Macedonian schools, students with ASD may receive support through inclusive education programmes, Individual Educational Plans, educational assistants, and cooperation with special educators and other professionals. The increasing involvement of families in educational planning has also contributed to more coordinated support and improved understanding of children's individual needs.

The Macedonian Scientific Society for Autism (MSSA) has played an important role in increasing awareness, promoting scientific knowledge, supporting families, and advocating for evidence-based approaches in autism education. Through professional training, conferences, publications, and international cooperation, MSSA has contributed significantly to improving understanding of ASD among educators and professionals.

Despite progress, several challenges remain. Teachers frequently report insufficient preparation regarding autism-specific teaching strategies, sensory processing differences, communication support, and behavioural approaches. The availability of specialised services varies across regions, and many schools continue to require additional professional support to implement fully inclusive educational practices.

The Erasmus+ project contributed to addressing these challenges by strengthening teacher competencies, promoting inclusive physical education approaches, and introducing innovative strategies that support participation of children with ASD within school environments.

### 3.4.4 Physical Education and Inclusion

Physical Education (PE) represents an essential component of inclusive education in Macedonia, contributing to physical health, motor development, social participation, emotional well-being, and quality of life for all students. The national curriculum recognises physical activity as an important element of holistic child development and encourages participation according to individual abilities.

For children with ASD, inclusive physical education provides valuable opportunities for developing motor skills, coordination, balance, communication, cooperation, self-confidence, and social interaction. Adapted physical activities can support sensory regulation, emotional control, independence, and participation in peer-based activities.

However, implementing inclusive PE for students with ASD remains challenging. Physical education teachers often encounter difficulties related to adapting activities, managing sensory sensitivities, supporting communication needs, and balancing individual adaptations with whole-class objectives. Limited access to autism-specific training and adapted PE resources can restrict opportunities for meaningful participation.

The Erasmus+ project **“Supporting Children with Autism through Physical Education” (EmpowerAble)** addressed these challenges by providing teachers with practical knowledge, methodological resources, and innovative tools to improve inclusive PE practices. The project promoted evidence-based approaches including structured activities, visual support, differentiated instruction, peer support, and positive behaviour strategies.

The introduction of Virtual Reality applications represented an innovative contribution to inclusive physical education practice in Macedonia. VR-based activities provided students with ASD with safe, predictable, and motivating environments where they could practise movement skills, increase engagement, and gradually transfer acquired skills into real-life physical activities.

Teachers participating in project activities reported increased awareness of the importance of adapting PE environments according to individual sensory, communication, and motor characteristics. The project demonstrated that inclusive PE is most effective when supported by trained teachers, appropriate resources, collaboration with families, and innovative educational approaches.

### **3.4.5 Challenges Identified During the Project**

Project implementation identified several challenges affecting inclusive physical education and broader educational inclusion of children with ASD in Macedonia. A major challenge was the limited autism-specific preparation among teachers. Although educators generally demonstrate positive attitudes towards inclusion, many require additional practical training regarding ASD characteristics, sensory needs, communication approaches, behavioural support, and adapted physical activity methods.

Another important challenge relates to the availability of multidisciplinary support services. Differences between municipalities influence access to special educators, psychologists, therapists, and other professionals. Schools outside major urban areas often experience greater difficulties obtaining specialised support.

The project also identified limited availability of adapted PE materials and innovative educational technologies. Many schools lack specialised equipment and digital resources that could enhance participation and motivation among students with ASD.

Interdisciplinary cooperation remains another area requiring further strengthening. Effective inclusion requires continuous collaboration among teachers, special educators, healthcare professionals, families, and community organisations. However, organisational limitations and insufficient coordination mechanisms may restrict opportunities for joint planning.

Finally, sustainable implementation of innovative practices remains a challenge. While teachers demonstrated strong interest in new approaches introduced through the project, long-term application requires institutional support, continuous professional development, and integration of inclusive methodologies into educational policy and practice.

### **3.4.6 Good Practices and Project Contributions**

The Erasmus+ project generated significant contributions to strengthening inclusive education and physical activity opportunities for children with ASD in Macedonia. One of the main achievements was the development of practical educational resources that support teachers in implementing inclusive PE. The Teacher's Guide and Curriculum provided structured methodologies, adaptable activities, and evidence-based strategies that can be applied in diverse educational contexts.

Professional training activities increased teachers' knowledge and confidence regarding ASD and inclusive physical education. Participants reported improved understanding of autism characteristics, greater ability to adapt activities, and increased awareness of the importance of student-centred approaches.

The implementation of Virtual Reality applications represented an important innovation within Macedonian educational practice. VR technologies supported student motivation, attention, confidence, and active participation by creating controlled and engaging learning environments.

The project also strengthened cooperation among schools, universities, autism organisations, families, and international partners from Latvia, Lithuania, and Türkiye. This collaboration facilitated exchange of expertise, sharing of good practices, and development of sustainable professional networks.

An important outcome of the project was the recognition that successful inclusion requires more than physical placement of children with ASD in mainstream schools. Meaningful inclusion depends on appropriate support, teacher competence, accessible environments, participation opportunities, and recognition of each child's individual potential.

### **3.4.7 Future Directions and Policy Implications**

The experiences gained through the project highlight several strategic priorities for further development of inclusive education and physical education in Macedonia.

First, continuous professional development for teachers should remain a national priority. Training programmes should include autism-specific knowledge, inclusive pedagogy, adapted physical education, sensory processing, communication strategies, behavioural support, and innovative educational technologies.

Second, strengthening multidisciplinary support systems within schools is essential. Increasing availability of special educators, psychologists, therapists, and educational assistants would improve the quality of educational support and reduce regional inequalities.

Third, national strategies should encourage wider implementation of evidence-based digital innovations, including Virtual Reality applications, while ensuring that technology is integrated within appropriate pedagogical frameworks.

Fourth, stronger cooperation among education, healthcare, social services, universities, autism organisations, and families should be promoted. Integrated approaches are necessary to ensure continuity of support and effective transition across educational stages.

Finally, the project highlights the importance of international cooperation through Erasmus+ and similar European programmes. Participation in European networks enables Macedonian educators and institutions to exchange expertise, adopt innovative practices, and contribute to the development of inclusive education standards.

The experience of Macedonia demonstrates that meaningful inclusion of children with ASD can be achieved through coordinated policy development, qualified professionals, innovative educational approaches, and strong partnerships among all stakeholders. Continued commitment to these principles will enhance educational equity and enable children with ASD to participate fully in school life and physical activity opportunities.

## Chapter 4. Comparative European Analysis

### 4.1 Introduction

The comparative analysis of Lithuania, Latvia, Türkiye, and Macedonia provides valuable insights into the development of inclusive education and physical education practices for children with Autism Spectrum Disorder (ASD) across different European educational contexts. Although the participating countries differ in their historical development, educational structures, economic conditions, and policy environments, the findings demonstrate several common priorities, challenges, and opportunities for strengthening inclusive education.

All four countries have demonstrated a clear commitment to the principles of inclusion, equal educational opportunities, and the participation of children with disabilities in mainstream educational environments. This commitment is reflected in national legislation, educational reforms, and alignment with international frameworks, particularly the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD) and European Union priorities regarding accessibility, equity, and quality education.

The comparative analysis highlights that successful inclusion requires a comprehensive approach that combines supportive legislation, adequately trained professionals, multidisciplinary cooperation, accessible learning environments, family involvement, and evidence-based educational practices. The experiences of the four countries demonstrate that inclusion is not achieved solely through placing children with ASD in mainstream schools but through ensuring meaningful participation, social interaction, learning progress, and personal development.

### 4.2 Comparative Overview of National Education Systems and Inclusive Education Development

The education systems of Lithuania, Latvia, Türkiye, and Macedonia share a common movement from historically segregated models of special education towards more inclusive educational approaches. However, the pace and mechanisms of this transition differ according to national contexts.

Lithuania and Latvia, as European Union member states, have implemented extensive reforms aimed at strengthening inclusive education through curriculum modernisation, teacher professional development, digital transformation, and decentralised support mechanisms. Both countries have developed systems in which mainstream schools increasingly provide education for students with special educational needs, while specialised institutions continue to contribute expertise and methodological support.

Türkiye has developed a large and structured special education system within a highly centralised educational framework. Significant progress has been achieved in expanding access to educational services for children with disabilities and strengthening inclusive practices. However, regional differences remain, particularly regarding availability of specialised professionals and implementation consistency.

Macedonia has undergone substantial reforms in recent years, introducing stronger inclusive education principles into national legislation and expanding support mechanisms such as educational assistants and school inclusion teams. Similar to other partner countries, Macedonia continues to address challenges related to resources, professional capacity, and regional inequalities.

Across all four countries, the comparative analysis identifies a common transition from a deficit-oriented understanding of disability towards a rights-based and participation-focused approach. The emphasis is increasingly placed on adapting educational environments to meet diverse learner needs rather than expecting children with disabilities to adapt to existing systems.

### 4.3 Comparative Analysis of Policy and Legislative Frameworks

All participating countries have established legislative foundations supporting inclusive education and equal educational opportunities for children with disabilities. National policies increasingly reflect international commitments, particularly the principles of the UNCRC, which recognises inclusive education as a fundamental human right.

A common feature across countries is the recognition of:

- the right of children with disabilities to access education;
- the importance of individualised educational planning;
- the need for reasonable accommodation;
- multidisciplinary support approaches;
- cooperation between schools, families, and professionals.

Lithuania and Latvia demonstrate relatively advanced legislative frameworks supported by long-term educational reforms and European policy alignment. Their systems increasingly emphasise school responsibility for inclusion, accessibility, and professional collaboration.

Türkiye has established comprehensive legislation regulating special education services and educational support mechanisms. The challenge remains ensuring consistent implementation across different regions and educational settings.

Macedonia has made significant legislative progress by introducing inclusive education principles within national education laws. However, continued development of implementation mechanisms, monitoring systems, and professional support structures remains necessary.

The comparative analysis indicates that legislation represents an essential foundation for inclusion but is not sufficient on its own. Effective implementation depends on adequate funding, trained professionals, institutional commitment, and continuous evaluation of educational outcomes.

### 4.4 Comparative Analysis of Autism Spectrum Disorder Support in Education

Across all four countries, increased awareness of ASD has contributed to earlier identification, improved educational planning, and greater recognition of the need for specialised support. However, the educational response to ASD continues to vary according to available resources, teacher expertise, and support structures.

A common finding among all partner countries is that children with ASD present highly diverse educational profiles requiring individualised approaches. Differences in communication, sensory processing, social interaction, executive functioning, behavioural regulation, and motor development require flexible educational strategies rather than standardised interventions.

All countries emphasise the importance of:

- Individual Educational Plans (IEPs);
- structured learning environments;
- visual supports;
- differentiated instruction;
- communication support strategies;
- cooperation with families.

Nevertheless, teacher preparedness remains one of the most significant challenges identified across all countries. Many educators report positive attitudes towards inclusion but require additional practical knowledge regarding ASD-specific teaching strategies, sensory needs, behavioural support, and adaptation of learning activities.

The comparative analysis demonstrates that professional development should move beyond theoretical awareness towards practical competency-building. Teachers require opportunities to practise inclusive strategies, exchange experiences, and receive ongoing consultation from specialists.

## 4.5 Comparative Analysis of Inclusive Physical Education Practices

Physical Education emerged as a particularly important area for promoting inclusion, participation, and quality of life among children with ASD across all participating countries.

Although PE curricula differ nationally, all countries recognise physical activity as contributing to:

- motor development;
- physical health;
- social interaction;
- emotional regulation;
- self-confidence;
- participation in school communities.

However, inclusive PE remains an area where significant challenges exist. Teachers across Lithuania, Latvia, Türkiye, and Macedonia identified similar barriers:

- limited autism-specific training among PE teachers;
- difficulties adapting activities to diverse abilities;
- insufficient adapted equipment;
- limited access to specialist guidance;
- challenges managing sensory and behavioural needs.

The Erasmus+ project demonstrated that inclusive PE can be significantly strengthened through practical teacher resources, structured methodologies, and innovative approaches. The development of the Teacher's Guide and Curriculum provided educators with strategies for adapting activities, supporting participation, and creating predictable learning environments.

The introduction of Virtual Reality (VR) applications represented a common innovation across project activities. The experiences of partner countries suggest that VR technologies can support inclusive PE by:

- increasing motivation and engagement;
- reducing anxiety associated with unfamiliar activities;
- allowing repeated practice in controlled environments;
- supporting gradual transfer of skills into real-world contexts.

However, technology was recognised not as a replacement for effective teaching but as a supportive tool that requires appropriate pedagogical integration.

## 4.6 Common Challenges Identified Across Partner Countries

Despite differences between national contexts, the comparative analysis identified several common challenges.

### 4.6.1 Teacher Competence and Professional Development

Insufficient preparation of teachers represents the most consistent challenge across all countries. While inclusive education is increasingly incorporated into educational policy, practical preparation regarding ASD and adapted PE remains insufficient in many teacher education programmes.

Future training should include:

- autism characteristics and educational implications;
- sensory processing differences;
- communication strategies;
- inclusive PE methodologies;
- behavioural support approaches;

- digital and assistive technologies.

### 4.6.2 Unequal Access to Support Services

All countries reported differences in access to specialised professionals. Rural and smaller communities often experience greater difficulties accessing psychologists, special educators, therapists, and other support personnel.

Strengthening multidisciplinary school-based teams represents an important priority for ensuring equitable educational opportunities.

### 4.6.3 Need for Stronger School–Family–Community Cooperation

Effective inclusion requires cooperation beyond the classroom. Families play a critical role in identifying needs, setting educational goals, and supporting continuity between home and school environments.

The project demonstrated that sustainable inclusion is strengthened when families, schools, universities, autism organisations, and policymakers work together.

### 4.6.4 Sustainable Implementation of Innovation

The introduction of innovative tools such as VR demonstrated significant potential; however, sustainability requires:

- institutional support;
- teacher training;
- technical infrastructure;
- integration into educational strategies;
- long-term evaluation.

Innovation should be considered part of a broader inclusive education framework rather than an isolated intervention.

## 4.7 Transferable Good Practices and European Added Value

The comparative analysis identified several transferable practices that can support inclusive education development across Europe.

### 1. Evidence-Based Teacher Training

Professional development programmes combining theoretical knowledge with practical classroom applications represent one of the most effective strategies for improving inclusion.

### 2. Development of Practical Educational Resources

Guides, curricula, activity examples, and methodological materials provide teachers with accessible tools for everyday implementation.

### 3. Multidisciplinary Collaboration

Cooperation among teachers, special educators, healthcare professionals, families, and researchers strengthens educational decision-making and improves outcomes.

### 4. Use of Innovative Educational Technologies

Technologies such as Virtual Reality can enhance engagement and participation when integrated within evidence-based pedagogical approaches.

### 5. International Knowledge Exchange

Erasmus+ cooperation provides valuable opportunities for sharing experiences, comparing educational models, and developing common European approaches.

## 4.8 Policy Implications and Recommendations

Based on the comparative findings from Lithuania, Latvia, Türkiye, and Macedonia, the following policy recommendations are proposed:

1. **Strengthen inclusive education within national teacher education systems** by integrating compulsory ASD and inclusive PE modules into pre-service and in-service teacher training.
2. **Develop national guidelines for inclusive physical education** that provide practical recommendations for adapting activities for students with ASD.
3. **Expand multidisciplinary support services within schools** to ensure timely access to specialised expertise.
4. **Promote evidence-based digital innovation** by supporting responsible integration of technologies such as Virtual Reality into inclusive education.
5. **Strengthen family involvement and community partnerships** to ensure holistic support for children with ASD.
6. **Improve monitoring and evaluation systems** to measure not only school placement but also participation, learning progress, social inclusion, and quality of life outcomes.
7. **Continue European cooperation through Erasmus+ and similar programmes** to support knowledge exchange, innovation, and sustainable improvement of inclusive education.

## 4.9 Conclusion

The comparative European analysis demonstrates that Lithuania, Latvia, Türkiye, and Macedonia share a common commitment to advancing inclusive education for children with Autism Spectrum Disorder. While

each country follows its own developmental pathway, common challenges and opportunities provide a strong foundation for European cooperation.

The findings confirm that meaningful inclusion requires more than legislative commitment. It depends on qualified teachers, multidisciplinary support systems, accessible environments, family engagement, and continuous innovation. Inclusive physical education represents a particularly valuable pathway for promoting participation, health, and social inclusion among children with ASD.

The Erasmus+ project has demonstrated that international collaboration can accelerate educational development by connecting expertise, sharing effective practices, and creating practical solutions. Continued cooperation among European countries will remain essential for ensuring that children with ASD have equal opportunities to participate, learn, develop, and achieve their full potential.

## Chapter 5. Project Results

### 5.1 Introduction

The Erasmus+ project “**Supporting Children with Autism through Physical Education**” (**EmpowerAble**) aimed to strengthen inclusive education practices by improving the capacity of teachers, developing innovative educational resources, and promoting active participation of children with Autism Spectrum Disorder (ASD) in physical education activities.

The project was implemented through cooperation among partner organisations from Lithuania, Latvia, Türkiye, and Macedonia, bringing together schools, universities, autism organisations, and educational professionals with diverse expertise in inclusive education, special education, physical education, and innovative learning technologies.

The project addressed a number of common challenges identified across partner countries, including insufficient teacher preparation regarding ASD, limited availability of adapted physical education resources, difficulties in implementing inclusive PE practices, and the need for innovative approaches that increase student motivation and participation.

Through a combination of research, professional training, curriculum development, pilot implementation, international cooperation, and dissemination activities, the project generated significant educational outcomes and contributed to strengthening inclusive practices at both national and European levels.

### 5.2 Development of the Teacher’s Guide

One of the main achievements of the project was the development of an **Teacher’s Guide for Children with Autism Spectrum Disorder**.

The curriculum was designed based on current scientific knowledge, educational needs identified by teachers, and practical experiences from partner institutions. It provides structured guidance for adapting physical education activities according to the diverse abilities, communication styles, sensory profiles, and motor characteristics of children with ASD.

The curriculum promotes:

- individualised approaches to physical activity;
- structured and predictable learning environments;
- gradual development of motor competencies;
- social interaction and cooperation among peers;
- positive behavioural support strategies;
- participation according to individual abilities rather than comparison with peers.

A key principle of the curriculum is that inclusive physical education should focus not only on physical performance but also on participation, confidence, independence, communication, and social inclusion.

The curriculum represents a transferable educational resource that can be adapted and implemented in different European educational contexts.

### 5.3 Development of the Teacher's Guide

A major project outcome was the creation of a comprehensive **Teacher's Guide for Inclusive Physical Education of Children with Autism Spectrum Disorder**.

The Guide was developed to support PE teachers, classroom teachers, special educators, and other professionals working with children with ASD. It combines theoretical knowledge with practical recommendations that can be directly applied in school environments.

The Guide includes information on:

- characteristics and educational implications of ASD;
- sensory processing differences and their impact on physical activity;
- communication strategies;
- classroom and behaviour management approaches;
- adaptation of PE activities;
- methods for increasing motivation and engagement;
- cooperation between teachers, families, and specialists;
- use of innovative technologies in inclusive education.

Teachers involved in project activities reported that the Guide improved their understanding of ASD and increased their confidence in planning and implementing inclusive physical activities.

The resource also contributes to reducing the gap between scientific knowledge and everyday educational practice by translating evidence-based approaches into practical classroom strategies.

### 5.4 Development and Implementation of Virtual Reality Applications

One of the most innovative results of the project was the development and application of **Virtual Reality (VR)-based educational tools** supporting inclusive physical education.

Four VR applications were developed within the project to provide children with ASD with safe, structured, and engaging environments for practising movement skills and participating in physical activities.

The use of VR technology provided several educational advantages:

- increased motivation and interest in physical activity;

- improved attention and concentration;
- opportunities for repeated practice in controlled environments;
- reduced anxiety related to unfamiliar situations;
- gradual development of confidence before participation in real-world activities.

Pilot implementation demonstrated that many students with ASD responded positively to VR-supported activities. Teachers observed increased willingness to participate, improved engagement, and greater enjoyment during physical education sessions.

The project confirmed that VR technology has significant potential as a supportive educational tool. However, successful implementation depends on appropriate teacher preparation, pedagogical planning, accessibility considerations, and integration with broader inclusive education strategies.

## 5.5 Teacher Training and Professional Development Outcomes

Professional development represented one of the central components of the project.

Teachers and educational professionals from all partner countries participated in training activities focused on:

- understanding ASD characteristics;
- implementing inclusive physical education;
- adapting activities according to individual needs;
- using structured teaching strategies;
- applying positive behaviour support;
- integrating VR technologies into educational practice.

The training activities contributed to increased professional competence and confidence among participants. Teachers reported improved understanding of autism, greater ability to identify barriers to participation, and increased readiness to modify activities according to students' individual profiles.

International training activities also created opportunities for professional exchange among educators from Lithuania, Latvia, Türkiye, and Macedonia. Participants shared experiences, compared educational approaches, and developed a stronger understanding of common European challenges and solutions.

The project demonstrated that sustainable inclusion requires continuous professional learning rather than one-time training interventions.

## 5.6 Pilot Implementation and Practical Application

The project outcomes were tested through pilot implementation activities conducted within partner schools and educational institutions.

Pilot activities provided valuable information regarding the practical applicability of developed resources and enabled teachers to evaluate their effectiveness in real educational environments.

**The implementation demonstrated positive outcomes in several areas:**

**Increased student participation**

Children with ASD demonstrated greater willingness to engage in physical activities when tasks were appropriately structured and adapted according to their needs.

**Improved teacher confidence**

Teachers reported increased competence in modifying activities, managing diverse classrooms, and supporting participation.

**Enhanced peer interaction**

Inclusive PE activities created opportunities for cooperation, communication, and social interaction between students with ASD and their peers.

**Improved learning environments**

The use of structured approaches, visual supports, and innovative technologies contributed to more predictable and supportive educational settings.

The pilot phase also provided important feedback that informed refinement of project materials and recommendations for future implementation.

## **5.7 Strengthening International Cooperation and Knowledge Exchange**

A significant project result was the establishment of a strong international cooperation network involving educational institutions, universities, autism organisations, and professionals from four European countries.

The partnership enabled:

- exchange of expertise and good practices;
- comparison of national approaches to inclusive education;
- development of common educational resources;
- collaboration among professionals with different backgrounds;
- creation of sustainable European networks.

The project demonstrated the added value of Erasmus+ cooperation by showing that common educational challenges can be addressed more effectively through international collaboration.

The diversity of partner experiences enriched the project outcomes and contributed to the development of solutions applicable beyond individual national contexts.

## **5.8 Contribution to Inclusion and Participation of Children with ASD**

The ultimate objective of the project was to improve educational participation and quality of life of children with ASD through inclusive physical education.

The project contributed to this goal by promoting:

- greater access to meaningful physical activity opportunities;
- increased participation in school activities;
- improved social interaction with peers;
- development of motor and adaptive skills;
- enhanced confidence and independence.

The project reinforced the understanding that physical education is not simply a subject area but an important context for inclusion, communication, social development, and lifelong health.

By supporting teachers and educational institutions, the project created conditions for children with ASD to participate more actively and successfully in school communities.

## 5.9 Dissemination and Sustainability of Project Results

Dissemination activities ensured that project outcomes reached a wide range of stakeholders, including teachers, school leaders, policymakers, families, researchers, and organisations supporting children with ASD.

Project results were disseminated through:

- training events;
- workshops and seminars;
- educational materials;
- institutional networks;
- professional conferences;
- online communication channels.

The sustainability of project outcomes is supported through continued use of the Teacher's Guide, Curriculum, and VR applications within partner institutions.

Future sustainability will depend on:

- integration of project resources into teacher training programmes;
- continued professional development activities;
- cooperation among educational institutions and autism organisations;
- adaptation of resources to different educational contexts;
- further research evaluating long-term outcomes.

## 5.10 Overall Project Impact

The EmpowerAble project generated significant impact at individual, institutional, national, and European levels.

At the **individual level**, teachers improved their knowledge, skills, and confidence, while children with ASD benefited from more inclusive and engaging physical education experiences.

At the **institutional level**, participating schools strengthened their capacity to implement inclusive practices and adopt innovative educational approaches.

At the **national level**, the project contributed to discussions on improving inclusive physical education and supporting professional development of educators.

At the **European level**, the project provided transferable models, resources, and recommendations that can support inclusive education development across different educational systems.

The project confirmed that meaningful inclusion requires coordinated efforts combining policy support, professional expertise, innovative methodologies, and international cooperation.

## 5.11 Conclusion

The Erasmus+ project “**Supporting Children with Autism through Physical Education**” (**EmpowerAble**) successfully addressed important challenges related to inclusive education and participation of children with ASD.

Through the development of the Teacher’s Guide, Teacher’s Guide, Virtual Reality applications, and comprehensive professional development activities, the project provided practical solutions that can be implemented within diverse educational contexts.

The project results demonstrate that when teachers are properly supported, educational environments are adapted, and innovative approaches are introduced responsibly, children with ASD can participate more actively in physical education and school life.

The outcomes provide a strong foundation for future policy development, professional practice, and European cooperation aimed at achieving sustainable and meaningful inclusion for children with Autism Spectrum Disorder.

## Chapter 6. Evidence and Findings

### 6.1 Introduction

The Erasmus+ project “**Supporting Children with Autism through Physical Education**” (**EmpowerAble**) generated important evidence regarding the effectiveness and feasibility of inclusive physical education approaches for children with Autism Spectrum Disorder (ASD). The project combined educational research, practical implementation, teacher feedback, and stakeholder experiences to identify factors that support successful inclusion and participation.

The evidence collected throughout the project demonstrates that inclusive physical education can contribute significantly to the development of children with ASD when activities are appropriately adapted, teachers receive adequate professional support, and educational environments are designed according to individual needs.

The findings presented in this chapter are based on multiple sources of evidence, including:

- analysis of national educational contexts in Lithuania, Latvia, Türkiye, and Macedonia;
- feedback from teachers and educational professionals involved in project activities;
- observations from pilot implementation activities;
- evaluation of developed educational resources;
- experiences gained through international training and cooperation activities.

The findings highlight both the positive impact of the project and the remaining systemic challenges that need to be addressed to achieve sustainable inclusive education.

### 6.2 Evidence from National Context Analysis

The comparative analysis of partner countries demonstrated that inclusive education has become a common policy priority across Lithuania, Latvia, Türkiye, and Macedonia. All countries have introduced legislative reforms supporting the educational rights of children with disabilities and have moved towards more inclusive approaches.

The evidence indicates several common developments:

- increased enrolment of children with ASD in mainstream educational settings;
- growing recognition of individualised educational planning;
- stronger cooperation between schools, families, and specialists;
- increasing demand for teacher training related to ASD.

However, national analyses also revealed that implementation of inclusive education remains uneven. Differences in available resources, specialist support, teacher competencies, and regional infrastructure influence the quality of educational opportunities available to children with ASD.

A key finding across all partner countries was that policy commitment alone does not automatically guarantee effective inclusion. Successful implementation requires adequate resources, professional capacity, monitoring systems, and continuous improvement processes.

## 6.3 Evidence Regarding Teacher Competence and Professional Development

One of the strongest findings emerging from the project was the critical role of teacher competence in achieving meaningful inclusion.

Before participation in project activities, many teachers reported limited confidence in:

- understanding ASD characteristics;
- adapting physical education activities;
- supporting sensory and communication needs;
- managing diverse classrooms;
- applying innovative educational technologies.

Following participation in training activities, teachers demonstrated increased awareness of autism-related educational needs and greater confidence in implementing inclusive strategies.

The evidence suggests that effective professional development should include:

- theoretical understanding of ASD;
- practical examples and demonstrations;
- opportunities for collaborative learning;
- classroom-based application;
- reflection and feedback.

Teachers particularly valued practical guidance that could be directly transferred into everyday educational practice. This confirms that professional development programmes should move beyond general awareness and focus on building applied competencies.

## 6.4 Evidence from Inclusive Physical Education Implementation

The pilot implementation activities provided important evidence regarding the benefits of adapted physical education for children with ASD.

Teachers and professionals observed improvements in several areas:

### **Increased Participation and Engagement**

Students with ASD demonstrated greater willingness to participate when activities were structured, predictable, and adapted according to individual abilities.

The use of clear instructions, visual supports, gradual progression, and positive reinforcement contributed to improved engagement during PE sessions.

### **Development of Motor Skills**

Adapted physical activities supported development of:

- coordination;
- balance;
- motor planning;
- body awareness;
- movement confidence.

The evidence suggests that inclusive PE provides an effective context for developing both physical and functional abilities.

### **Social Interaction and Inclusion**

Physical education activities created opportunities for children with ASD to interact with peers, practise cooperation, and experience successful participation within group settings.

Teachers reported that structured inclusive activities contributed to improved peer understanding and acceptance.

### **Emotional and Behavioural Benefits**

Predictable and supportive PE environments helped reduce anxiety and improve emotional regulation among some students with ASD.

Teachers highlighted that participation in physical activities contributed to increased confidence and positive attitudes towards movement.

## **6.5 Evidence Regarding Virtual Reality Applications**

The integration of Virtual Reality (VR) represented one of the most innovative components of the project.

Evidence collected during pilot activities indicated that VR applications provided several educational benefits.

### **Increased Motivation**

Students demonstrated strong interest and curiosity when participating in VR-supported activities. The interactive nature of virtual environments encouraged active involvement and repeated practice.

### **Safe Learning Environment**

VR allowed students to practise activities within controlled and predictable settings. This was particularly valuable for children who experience anxiety in unfamiliar environments or require gradual exposure to new activities.

### **Individualised Learning Opportunities**

VR environments enabled adaptation of tasks according to individual abilities and learning pace. Students could practise specific movements repeatedly without pressure from traditional classroom expectations.

### **Support for Skill Transfer**

Teachers observed that skills practised through VR activities could support later participation in real physical education activities.

However, evidence also indicates that VR should be considered a complementary educational tool rather than a replacement for direct interaction, movement experiences, or teacher support.

Successful implementation requires:

- teacher training;
- appropriate pedagogical integration;
- technical support;
- accessibility considerations.

## **6.6 Evidence from Teacher and Stakeholder Feedback**

Feedback from teachers, school representatives, and project participants provided valuable insights into the practical impact of the project.

The main positive outcomes identified included:

### **Improved Understanding of ASD**

Participants reported increased knowledge regarding autism characteristics and educational implications.

### **Increased Confidence in Inclusive Practice**

Teachers expressed greater readiness to adapt activities and support participation of students with ASD.

### **Improved Access to Practical Resources**

The Teacher's Guide and Curriculum were considered valuable because they provided structured recommendations and examples applicable in real educational settings.

### **Strengthened Professional Networks**

International cooperation enabled educators to exchange experiences and learn from different educational systems.

Stakeholders also emphasised the importance of continuing support after project completion to ensure long-term application of acquired knowledge and developed resources.

## 6.7 Evidence-Based Identification of Remaining Challenges

Although the project demonstrated positive outcomes, evidence also identified several challenges requiring continued attention.

### **Limited Preparation in Initial Teacher Education**

Many teachers reported that pre-service education programmes provide insufficient practical preparation regarding ASD and inclusive physical education.

This indicates the need for systematic integration of autism-related competencies into teacher education curricula.

### **Unequal Access to Specialist Support**

The availability of special educators, psychologists, therapists, and other professionals varies significantly between regions.

Strengthening multidisciplinary support systems remains essential for sustainable inclusion.

### **Limited Resources and Infrastructure**

Some schools experience difficulties accessing adapted equipment, digital technologies, and specialised educational materials.

Investment in inclusive infrastructure is necessary to ensure equal opportunities.

### **Need for Long-Term Evaluation**

Further research is required to evaluate the long-term impact of inclusive PE approaches and innovative technologies on educational outcomes, participation, and quality of life.

## 6.8 Key Findings and Lessons Learned

Based on the evidence collected throughout the project, several key findings can be identified.

### **Finding 1: Inclusive education requires practical teacher competence**

Legislation and policy provide the foundation for inclusion, but teachers are the main agents responsible for transforming principles into everyday practice.

### **Finding 2: Adapted physical education supports holistic development**

Inclusive PE contributes not only to physical abilities but also to social participation, emotional well-being, confidence, and school inclusion.

### **Finding 3: Innovation is effective when combined with pedagogy**

Technological solutions such as VR can enhance learning experiences, but their effectiveness depends on appropriate educational design and teacher competence.

### **Finding 4: Collaboration improves sustainability**

Cooperation among schools, families, universities, autism organisations, and policymakers strengthens the impact of inclusive education initiatives.

#### **Finding 5: International cooperation accelerates improvement**

European partnerships provide valuable opportunities for sharing knowledge, developing common resources, and addressing common challenges.

## **6.9 Implications for Future Practice and Policy**

The evidence generated by the project supports several implications for future educational development.

Educational authorities should:

- strengthen autism-focused teacher education;
- promote inclusive PE as an essential component of school inclusion;
- support multidisciplinary educational teams;
- encourage responsible use of educational technologies;
- develop mechanisms for sharing effective practices nationally and internationally.

Schools should:

- establish collaborative inclusion teams;
- provide opportunities for continuous teacher learning;
- involve families in educational planning;
- promote peer inclusion and participation.

Researchers and organisations should:

- continue evaluating inclusive interventions;
- investigate long-term outcomes;
- develop evidence-based models adaptable across different educational contexts.

## **6.10 Conclusion**

The evidence generated through the EmpowerAble project demonstrates that inclusive physical education represents a powerful approach for supporting children with ASD and promoting their participation in school life.

The findings confirm that successful inclusion depends on the interaction of several factors: informed policies, competent teachers, accessible environments, multidisciplinary cooperation, family involvement, and innovative educational approaches.

The project provided practical evidence that targeted teacher training, structured educational resources, and carefully integrated technologies such as Virtual Reality can strengthen inclusive practice.

The experiences of Lithuania, Latvia, Türkiye, and Macedonia demonstrate that meaningful inclusion is achievable when educational systems move beyond access towards genuine participation, belonging, and equal opportunities for every child with Autism Spectrum Disorder.

## Chapter 7. Challenges Identified

### 7.1 Introduction

The implementation of the Erasmus+ project “**Supporting Children with Autism through Physical Education**” (**EmpowerAble**) provided valuable insights into the opportunities and barriers associated with developing inclusive physical education practices for children with Autism Spectrum Disorder (ASD). While significant progress has been achieved in strengthening inclusive education across Lithuania, Latvia, Türkiye, and Macedonia, the project also identified several systemic, educational, organisational, and practical challenges that continue to influence the quality and sustainability of inclusion.

The challenges identified through national analyses, pilot implementation activities, teacher feedback, and stakeholder discussions demonstrate that inclusive education is a complex and continuously evolving process. Although legislative frameworks increasingly recognise the rights of children with disabilities, translating policy principles into consistent everyday practice remains a significant challenge.

The findings indicate that sustainable inclusion requires coordinated efforts at multiple levels, including policy development, teacher preparation, school organisation, professional support systems, resource allocation, and collaboration among all stakeholders.

### 7.2 Challenges Related to Teacher Competence and Professional Preparation

One of the most significant challenges identified across all partner countries was the need to strengthen teacher competence regarding Autism Spectrum Disorder and inclusive physical education.

Although teachers generally demonstrate positive attitudes towards inclusion, many reported limited preparation in areas such as:

- understanding the characteristics and educational implications of ASD;
- recognising sensory processing differences;
- adapting physical activities for diverse abilities;
- supporting communication needs;
- implementing positive behaviour strategies;
- managing inclusive PE environments;
- applying assistive and digital technologies.

The project demonstrated that many teachers acquire knowledge about inclusion primarily through individual professional experience rather than systematic preparation within initial teacher education programmes.

A major challenge therefore remains the transition from theoretical understanding of inclusion towards practical competence. Teachers require continuous professional development opportunities that combine scientific evidence with practical classroom application.

Future training should provide opportunities for:

- hands-on learning;
- demonstration of effective strategies;
- peer collaboration;
- mentoring and consultation;
- reflection on classroom experiences.

## 7.3 Challenges Related to Implementation of Inclusive Physical Education

Although physical education represents an important opportunity for promoting inclusion, its practical implementation remains challenging.

Teachers identified difficulties in balancing individual student needs with the requirements of whole-class activities. Children with ASD may present differences in:

- motor abilities;
- coordination;
- sensory responses;
- communication;
- attention regulation;
- social interaction.

These differences require flexible approaches and appropriate adaptations.

Common barriers identified include:

- lack of structured guidance for adapting PE activities;
- limited availability of adapted equipment;
- insufficient time for individual planning;
- difficulties managing sensory and behavioural challenges;
- limited cooperation between PE teachers and special education professionals.

The findings indicate that inclusive PE requires a shift from a performance-oriented model towards a participation-oriented model, where success is measured through engagement, personal development, confidence, and social inclusion.

## 7.4 Challenges Related to Autism-Specific Educational Support

Across all partner countries, the increasing number of children identified with ASD has created growing demand for specialised educational support.

However, several challenges remain:

- insufficient numbers of trained autism specialists;
- unequal availability of professional services between regions;
- limited access to multidisciplinary teams;
- variation in quality of support provided across schools.

Children with ASD have diverse and individualised needs, meaning that effective support cannot rely on standardised approaches alone. Schools require access to specialists who can provide consultation, assessment, intervention planning, and professional guidance.

The project highlighted the importance of strengthening cooperation among:

- teachers;
- special educators;
- psychologists;
- speech and language therapists;
- occupational therapists;
- healthcare professionals;
- families.

## 7.5 Challenges Related to Regional Inequalities and Accessibility

A recurring challenge identified in all partner countries was unequal access to inclusive education resources.

Differences between urban and rural areas affect:

- availability of specialists;
- teacher training opportunities;
- access to adapted equipment;
- digital infrastructure;

- opportunities for innovative educational approaches.

Schools located in larger cities often have greater access to professional support, while smaller communities may experience difficulties maintaining comprehensive inclusion services.

Reducing these inequalities requires strategic investment, decentralised support mechanisms, and policies that ensure that inclusive education is not dependent on geographical location.

## 7.6 Challenges Related to Educational Resources and Infrastructure

The implementation of high-quality inclusive education requires appropriate educational resources and accessible learning environments.

The project identified several resource-related challenges:

- limited availability of adapted PE equipment;
- insufficient access to specialised teaching materials;
- inadequate technological infrastructure in some schools;
- limited availability of digital learning tools.

Although innovative technologies such as Virtual Reality demonstrated strong potential, their wider implementation requires:

- financial investment;
- technical support;
- teacher training;
- maintenance systems;
- integration into educational planning.

Technology should be viewed as an educational support mechanism rather than a standalone solution.

## 7.7 Challenges Related to Family and Community Engagement

Families play a central role in supporting children with ASD and promoting successful inclusion. The project demonstrated that cooperation between schools and families contributes significantly to understanding children's needs and developing appropriate educational goals.

However, challenges remain regarding:

- consistency of communication between schools and families;
- opportunities for meaningful parental involvement;
- availability of family support programmes;
- coordination between educational and social services.

Strengthening family engagement requires creating inclusive school cultures where parents are recognised as active partners rather than passive recipients of information.

Community awareness is also important for reducing stigma and promoting acceptance of children with ASD within wider society.

## 7.8 Challenges Related to Sustainability of Project Outcomes

A significant challenge following completion of educational projects is ensuring that developed resources and practices continue to be used over time.

The EmpowerAble project produced valuable outcomes, including:

- the Teacher's Guide;
- Virtual Reality applications;

However, sustainability requires continued institutional support.

Potential barriers include:

- staff changes within schools;
- limited time for continued implementation;
- absence of long-term funding mechanisms;
- insufficient integration into national education strategies.

To maximise sustainability, project outcomes should be incorporated into:

- teacher education programmes;
- school development plans;
- professional training systems;
- national inclusive education strategies.

## 7.9 Challenges Related to Policy Implementation and Monitoring

Although all partner countries have developed legislative frameworks supporting inclusive education, implementation remains a major challenge.

The comparative analysis demonstrated that gaps may exist between:

- policy objectives and classroom practice;
- legal rights and available resources;
- inclusion principles and actual participation outcomes.

Effective monitoring systems are required to evaluate not only whether children with ASD attend mainstream schools but also whether they:

- participate meaningfully;
- develop educationally;
- interact socially;
- experience belonging and acceptance.

Future policy development should focus on outcome-based evaluation rather than measuring inclusion only through enrolment statistics.

## 7.10 Lessons Learned from the Identified Challenges

The challenges identified through the project provide several important lessons.

### 1. Inclusion requires continuous investment

Inclusive education is an ongoing process requiring sustained commitment, resources, and professional development.

### 2. Teachers are central to successful implementation

Policies and resources are effective only when teachers have the knowledge, confidence, and support necessary to apply inclusive approaches.

### 3. Collaboration is essential

No single professional group or institution can address all aspects of ASD inclusion. Sustainable solutions require cooperation among multiple stakeholders.

### 4. Innovation must be supported by evidence

Technological innovations such as VR can enhance inclusion but must be integrated within scientifically supported educational approaches.

### 5. Participation is the ultimate measure of inclusion

True inclusion should be evaluated through children's participation, learning, relationships, confidence, and quality of life—not only physical presence in mainstream settings.

## 7.11 Conclusion

The challenges identified through the EmpowerAble project reflect the complexity of achieving meaningful inclusion for children with Autism Spectrum Disorder within educational systems.

While Lithuania, Latvia, Türkiye, and Macedonia have made significant progress in developing inclusive education frameworks, further efforts are needed to strengthen teacher preparation, expand specialist support, reduce regional inequalities, improve accessibility, and ensure sustainability of innovative practices.

The project findings demonstrate that challenges should not be viewed only as barriers but also as opportunities for continued improvement and cooperation. Addressing these challenges requires coordinated action among policymakers, educational institutions, professionals, families, and international partners.

By continuing to invest in evidence-based practices, professional development, inclusive environments, and European collaboration, educational systems can move closer towards ensuring that every child with ASD has the opportunity to participate fully, develop their potential, and experience meaningful inclusion.

## Chapter 8. Policy Recommendations

### 8.1 Introduction

The Erasmus+ project “**Supporting Children with Autism through Physical Education**” (**EmpowerAble**) generated important evidence regarding the development of inclusive education practices for children with Autism Spectrum Disorder (ASD). The experiences of partner countries—Lithuania, Latvia, Türkiye, and Macedonia—demonstrate that meaningful inclusion requires a comprehensive and coordinated approach involving educational policy, teacher preparation, multidisciplinary support, innovative methodologies, and sustainable cooperation among stakeholders.

The project findings confirm that inclusive education should be understood not only as access to mainstream educational settings but as the creation of environments where children with ASD can actively participate, develop their abilities, build social relationships, and experience belonging.

Based on the evidence collected during project implementation, comparative analysis, and stakeholder experiences, this chapter presents key policy recommendations aimed at strengthening inclusive physical education and improving educational opportunities for children with ASD at national and European levels.

### 8.2 Strengthening Inclusive Education Policies and Implementation Mechanisms

#### **Recommendation 1: Move from policy commitment towards effective implementation of inclusive education**

All partner countries have established legislative frameworks supporting inclusive education; however, differences remain between policy intentions and everyday educational practice.

Educational authorities should strengthen implementation mechanisms by ensuring:

- consistent application of inclusive education principles across schools;
- adequate financial and institutional support;
- clear responsibilities among stakeholders;
- systematic monitoring of inclusion outcomes;
- evidence-based evaluation of educational practices.

Policies should focus not only on school enrolment but also on meaningful participation, educational progress, social interaction, and quality of life outcomes for children with ASD.

### 8.3 Strengthening Teacher Education and Professional Development

#### **Recommendation 2: Integrate autism-specific competencies into initial teacher education**

Teacher competence represents one of the most important factors influencing successful inclusion.

Teacher education programmes should systematically include mandatory content related to:

- characteristics and educational needs of children with ASD;
- inclusive pedagogical approaches;
- sensory processing differences;
- communication strategies;
- behavioural support approaches;
- adapted physical education methodologies;
- assistive and digital educational technologies.

Future teachers should graduate with practical competencies that enable them to support diverse learners within inclusive classrooms.

### **Recommendation 3: Establish continuous professional development pathways for educators**

Professional development should be considered a continuous process rather than a one-time training activity.

National education systems should provide:

- accredited training programmes;
- practical workshops;
- mentoring opportunities;
- professional learning communities;
- exchange of good practices among schools.

Training should involve not only special educators but also classroom teachers, physical education teachers, school leaders, and educational assistants.

## **8.4 Developing National Frameworks for Inclusive Physical Education**

### **Recommendation 4: Develop national guidelines for inclusive physical education for students with ASD**

Physical education represents an important but frequently underdeveloped area of inclusion.

Educational authorities should develop national guidelines addressing:

- adaptation of PE activities;
- assessment of individual abilities;
- sensory-friendly learning environments;
- communication support strategies;

- peer inclusion approaches;
- safety considerations.

Such guidelines should provide practical support for teachers while maintaining flexibility according to individual student needs.

**Recommendation 5: Promote participation-oriented approaches in physical education**

Inclusive PE should move beyond traditional performance-based models and focus on:

- active participation;
- enjoyment of movement;
- social interaction;
- confidence development;
- lifelong physical activity habits.

Assessment approaches should recognise individual progress and participation rather than comparing students with ASD against standard performance expectations.

## 8.5 Strengthening Multidisciplinary Support Systems

**Recommendation 6: Expand access to multidisciplinary support within schools**

Children with ASD require coordinated support involving different professionals.

Educational systems should strengthen school-based multidisciplinary teams including:

- special educators;
- psychologists;
- speech and language therapists;
- occupational therapists;
- physiotherapists;
- educational assistants;
- healthcare professionals.

These teams should support teachers, assist families, contribute to educational planning, and ensure continuity of interventions.

**Recommendation 7: Improve cooperation between education, health, and social sectors**

Effective inclusion requires a whole-system approach.

National policies should encourage structured cooperation between:

- schools;
- healthcare institutions;
- social services;
- universities;

- autism organisations;
- families.

Integrated support pathways can improve early identification, intervention planning, and transition between educational stages.

## 8.6 Supporting Innovation and Digital Transformation

### **Recommendation 8: Promote responsible integration of innovative educational technologies**

The EmpowerAble project demonstrated the potential of Virtual Reality (VR) as a supportive tool for inclusive physical education.

Educational authorities should encourage innovation through:

- investment in accessible technologies;
- teacher training in digital pedagogy;
- development of evidence-based digital resources;
- evaluation of educational effectiveness.

Technology implementation should always be guided by educational objectives and individual learner needs rather than technological availability alone.

### **Recommendation 9: Establish frameworks for evaluating digital inclusion tools**

Before large-scale implementation of innovative technologies, education systems should develop evaluation frameworks considering:

- accessibility;
- educational effectiveness;
- student engagement;
- teacher usability;
- long-term sustainability.

Evidence-based implementation will ensure that technology contributes meaningfully to inclusive education.

## 8.7 Strengthening Family and Community Engagement

### **Recommendation 10: Recognise families as active partners in inclusive education**

Families possess essential knowledge regarding children's strengths, preferences, communication styles, and support needs.

Schools should promote:

- regular communication with families;
- participation in educational planning;
- parent education programmes;
- family-centred decision-making.

Partnership with families improves consistency between educational and home environments and contributes to better outcomes for children with ASD.

### **Recommendation 11: Promote community awareness and acceptance**

Inclusive education requires supportive communities.

National and local initiatives should promote:

- awareness of ASD;
- reduction of stigma;
- acceptance of diversity;
- opportunities for social participation.

Schools, communities, and organisations should work together to create environments where children with ASD are recognised as active and valued members of society.

## **8.8 Ensuring Sustainability of Project Outcomes**

### **Recommendation 12: Integrate project results into existing educational systems**

To ensure long-term impact, project resources such as:

- the Teacher's Guide;
- VR-based learning applications.

should be incorporated into:

- teacher education programmes;
- school professional development plans;
- national inclusive education strategies.

Sustainability depends on institutional adoption rather than continuation only through individual commitment.

### **Recommendation 13: Establish national and European networks for inclusive physical education**

Long-term cooperation among educational institutions, universities, autism organisations, and policymakers should be encouraged.

Such networks can support:

- exchange of good practices;
- joint research activities;
- professional development;
- innovation;
- development of common European standards.

## 8.9 Recommendations for Research and Evidence Development

### Recommendation 14: Strengthen research on inclusive physical education and ASD

Further research is needed to evaluate:

- long-term outcomes of inclusive PE interventions;
- effectiveness of digital technologies;
- impact on social participation;
- teacher competency development;
- quality-of-life outcomes.

Research should include both quantitative and qualitative approaches and actively involve educators, families, and individuals with ASD where appropriate.

## 8.10 European-Level Recommendations

### Recommendation 15: Continue European cooperation through Erasmus+ and similar programmes

The EmpowerAble project demonstrated the significant added value of international collaboration.

European programmes should continue supporting projects that:

- develop transferable educational resources;
- promote professional exchange;
- strengthen inclusive education networks;
- encourage innovation;
- address common educational challenges.

Cross-border cooperation enables countries to learn from different approaches and develop stronger solutions than would be possible individually.

## 8.11 Summary of Key Policy Recommendations

The main policy recommendations emerging from the EmpowerAble project are:

1. Strengthen implementation of inclusive education policies.
2. Integrate ASD competencies into teacher education programmes.
3. Provide continuous professional development for educators.
4. Develop national inclusive physical education guidelines.
5. Promote participation-oriented approaches to PE.
6. Expand multidisciplinary support services.
7. Improve cooperation between education, health, and social sectors.

8. Support evidence-based educational technologies.
9. Involve families as equal partners.
10. Promote community awareness and acceptance.
11. Ensure sustainability of developed project resources.
12. Strengthen European cooperation and research networks.

## 8.12 Conclusion

The EmpowerAble project demonstrates that achieving meaningful inclusion of children with Autism Spectrum Disorder requires coordinated action across educational systems, professional communities, families, and policymakers.

The recommendations presented in this chapter are based on practical experiences and evidence generated across four European educational contexts. They emphasise that inclusion is not a single intervention but a continuous process requiring commitment, adaptation, and collaboration.

By strengthening teacher competencies, improving support systems, promoting inclusive physical education, and responsibly integrating innovation, educational systems can create environments where children with ASD are not only present but actively participate, develop their abilities, and experience genuine belonging.

The long-term sustainability of inclusive education depends on transforming successful project experiences into permanent educational practices and policies at national and European levels.

## Chapter 9. Implementation Roadmap

### 9.1 Introduction

The successful implementation of inclusive education policies requires a structured, coordinated, and sustainable approach that translates recommendations into concrete actions. The Erasmus+ project **“Supporting Children with Autism through Physical Education” (EmpowerAble)** demonstrated that effective inclusion of children with Autism Spectrum Disorder (ASD) depends on the interaction between policy frameworks, professional competencies, educational practices, resources, and continuous evaluation.

The Implementation Roadmap presented in this chapter provides a strategic framework for transforming the project outcomes and policy recommendations into sustainable actions at institutional, national, and European levels.

The roadmap is based on the evidence and experiences generated through cooperation among Lithuania, Latvia, Türkiye, and Macedonia. It identifies key priorities, responsible stakeholders, implementation phases, and indicators for monitoring progress.

The proposed approach follows a gradual implementation model:

1. **Short-term actions** focused on awareness, capacity building, and integration of project resources.
2. **Medium-term actions** focused on institutionalisation, policy development, and expansion of inclusive practices.
3. **Long-term actions** focused on sustainability, research, innovation, and European cooperation.

### 9.2 Strategic Objectives of the Implementation Roadmap

The roadmap is guided by six strategic objectives:

#### **Objective 1: Strengthen professional capacity for inclusive education**

Ensure that teachers and educational professionals possess the knowledge and practical skills required to support children with ASD in inclusive learning environments.

#### **Objective 2: Improve quality and accessibility of inclusive physical education**

Promote adapted physical education approaches that enable meaningful participation of children with ASD according to their abilities and needs.

#### **Objective 3: Institutionalise evidence-based educational resources**

Ensure continued use and integration of project outcomes, including the Teacher’s Guide, Curriculum, and Virtual Reality applications.

#### **Objective 4: Strengthen multidisciplinary cooperation**

Develop coordinated support systems involving schools, families, specialists, healthcare providers, universities, and community organisations.

**Objective 5: Promote innovation and digital inclusion**

Encourage responsible implementation of educational technologies that enhance participation and engagement.

**Objective 6: Establish sustainable European cooperation networks**

Maintain international partnerships for knowledge exchange, research, and continuous improvement of inclusive education practices.

**9.3 Short-Term Implementation Priorities (0–12 Months)****9.3.1 Dissemination and Institutional Adoption of Project Results**

The first implementation phase should focus on ensuring that project outcomes are accessible and adopted by relevant stakeholders.

Key actions include:

- dissemination of the Teacher's Guide and Teacher's Guide;
- presentation of project outcomes to schools, education authorities, universities, and professional organisations;
- organisation of national dissemination workshops;
- integration of project materials into institutional professional development activities.

**Responsible stakeholders:**

- partner organisations;
- schools;
- universities;
- teacher training institutions;
- autism organisations.

**Expected outcomes:**

- increased awareness of inclusive PE approaches;
- wider access to practical educational resources;
- increased interest among educators and institutions.

**9.3.2 Initial Teacher Training and Professional Development**

A priority action is to expand training opportunities for teachers and educational professionals.

Training programmes should address:

- ASD characteristics and educational needs;
- inclusive teaching strategies;
- adapted physical education;
- sensory-friendly approaches;
- communication support;
- behavioural strategies;
- use of VR and digital technologies.

**Responsible stakeholders:**

- universities;
- teacher education providers;
- ministries of education;
- schools.

**Expected outcomes:**

- improved teacher confidence;
- increased capacity for inclusive practice;
- stronger implementation of adapted PE approaches.

### **9.3.3 Establishment of Local Professional Networks**

Schools should establish or strengthen local networks involving:

- PE teachers;
- classroom teachers;
- special educators;
- psychologists;
- educational assistants;
- families.

These networks should provide opportunities for consultation, experience sharing, and collaborative problem-solving.

**Expected outcomes:**

- improved interdisciplinary cooperation;

- faster identification of student needs;
- stronger school-based support systems.

## 9.4 Medium-Term Implementation Priorities (1–3 Years)

### 9.4.1 Integration of Inclusive PE into Teacher Education Systems

To ensure sustainability, inclusive physical education should become part of formal teacher preparation.

Actions should include:

- development of university modules on ASD and inclusive PE;
- inclusion of practical training experiences;
- cooperation between universities and schools;
- recognition of inclusive education competencies within teacher qualification systems.

**Expected outcomes:**

- improved preparation of future teachers;
- reduced dependence on individual professional initiatives;
- stronger national capacity for inclusion.

### 9.4.2 Development of National Inclusive Physical Education Guidelines

Education authorities should consider developing national guidelines based on project experiences.

Guidelines should address:

- adaptation of activities;
- assessment of participation;
- inclusion strategies;
- safety considerations;
- cooperation with specialists;
- use of innovative technologies.

**Expected outcomes:**

- consistent implementation of inclusive PE;
- improved quality of educational practice;
- reduced regional differences.

### 9.4.3 Expansion of Multidisciplinary Support Services

Educational systems should strengthen access to specialist support.

Priority actions include:

- increasing availability of special educators;
- strengthening psychological and therapeutic services;
- improving cooperation between schools and healthcare providers;
- supporting educational assistants.

**Expected outcomes:**

- improved individualised support;
- increased teacher effectiveness;
- better educational outcomes for students with ASD.

### 9.4.4 Scaling Up Virtual Reality and Digital Innovation

Based on project experiences, VR and other digital technologies should be expanded carefully and strategically.

Implementation should include:

- teacher training in digital pedagogy;
- accessibility evaluation;
- technical support systems;
- research-based monitoring of outcomes.

**Expected outcomes:**

- increased student engagement;
- improved learning opportunities;
- wider access to innovative educational approaches.

## 9.5 Long-Term Implementation Priorities (3–5 Years and Beyond)

### 9.5.1 Policy Integration and National Sustainability

Long-term sustainability requires integration of inclusive PE principles into national education strategies.

Actions include:

- incorporating inclusive PE objectives into national curricula;
- establishing sustainable funding mechanisms;
- developing national monitoring systems;
- ensuring alignment with international inclusion standards.

**Expected outcomes:**

- long-term continuation of project outcomes;
- stronger educational systems;
- improved inclusion indicators.

## 9.5.2 Establishment of European Knowledge-Sharing Networks

The continuation of international cooperation should remain a strategic priority.

European networks can support:

- exchange of educational practices;
- joint research projects;
- professional mobility;
- development of future Erasmus+ initiatives.

**Expected outcomes:**

- stronger European cooperation;
- accelerated innovation;
- development of common approaches to inclusive education.

## 9.6 Implementation Framework

| Action Area               | Key Activities                                         | Responsible Stakeholders           | Timeline          |
|---------------------------|--------------------------------------------------------|------------------------------------|-------------------|
| Teacher competence        | Training programmes, workshops, mentoring              | Universities, schools, ministries  | Short–medium term |
| Inclusive PE development  | Guidelines, curriculum integration, adapted activities | Education authorities, schools     | Medium term       |
| Multidisciplinary support | Strengthening school support teams                     | Schools, health and social sectors | Medium–long term  |

| Action Area          | Key Activities                       | Responsible Stakeholders     | Timeline        |
|----------------------|--------------------------------------|------------------------------|-----------------|
| Digital innovation   | VR implementation and evaluation     | Schools, technology partners | Short–long term |
| Policy development   | Integration into national strategies | Ministries and policymakers  | Long term       |
| European cooperation | Networks, research, future projects  | International partners       | Continuous      |

## 9.7 Monitoring and Evaluation Framework

Effective implementation requires continuous monitoring of progress and outcomes.

Key indicators should include:

### Teacher-related indicators

- number of trained teachers;
- improvement in teacher knowledge and confidence;
- implementation of inclusive strategies.

### Student-related indicators

- participation rates in PE activities;
- engagement and motivation;
- development of motor and social skills;
- student and family satisfaction.

### Institutional indicators

- number of schools implementing project approaches;
- availability of multidisciplinary support;
- integration of project resources into school practice.

### Policy indicators

- adoption of inclusive PE guidelines;
- integration into teacher education systems;
- national monitoring of inclusion outcomes.

Evaluation should combine quantitative measures with qualitative feedback from teachers, students, families, and professionals.

## 9.8 Risk Management and Mitigation Strategies

Implementation of inclusive education reforms may face several risks.

### **Risk: Limited financial resources**

#### **Mitigation:**

- integration of inclusive practices into existing educational structures;
- development of sustainable funding mechanisms;
- use of European funding opportunities.

### **Risk: Insufficient teacher engagement**

#### **Mitigation:**

- practical and relevant training;
- professional recognition;
- involvement of teachers in development processes.

### **Risk: Unequal implementation between regions**

#### **Mitigation:**

- targeted support for disadvantaged areas;
- monitoring of regional differences;
- decentralised professional networks.

### **Risk: Technology-related barriers**

#### **Mitigation:**

- technical support;
- teacher preparation;
- gradual implementation.

## 9.9 Conclusion

The Implementation Roadmap provides a structured pathway for transforming the achievements of the EmpowerAble project into sustainable educational practices and policies.

The roadmap recognises that inclusive education is a long-term process requiring coordinated action among policymakers, schools, teachers, families, specialists, researchers, and international partners.

The project demonstrated that meaningful inclusion of children with Autism Spectrum Disorder can be strengthened through evidence-based teacher training, accessible educational resources, adapted physical education, multidisciplinary cooperation, and responsible innovation.

By following a phased implementation approach, partner countries and European stakeholders can ensure that project outcomes continue to generate benefits beyond the formal project period and contribute to the development of more inclusive, equitable, and supportive educational systems.

## Chapter 10. Expected Impact

### 10.1 Introduction

The Erasmus+ project “**Supporting Children with Autism through Physical Education**” (**EmpowerAble**) was designed to generate sustainable improvements in inclusive education by strengthening teacher competencies, developing innovative educational resources, promoting inclusive physical education practices, and increasing participation opportunities for children with Autism Spectrum Disorder (ASD).

The expected impact of the project extends beyond the immediate implementation period and includes educational, institutional, social, and policy-level outcomes. Through cooperation among Lithuania, Latvia, Türkiye, and Macedonia, the project established a European framework for addressing common challenges related to ASD inclusion and demonstrated how international collaboration can contribute to improving educational quality and equity.

The anticipated long-term impact is based on the assumption that sustainable inclusion requires systemic transformation. Therefore, project outcomes are expected to influence not only individual teachers and students but also schools, educational systems, professional networks, and policy development processes.

### 10.2 Impact on Children with Autism Spectrum Disorder

The primary beneficiaries of the project are children with ASD who experience barriers to participation in physical education and school activities.

The expected impact includes:

#### Increased Participation in Physical Education

Through adapted physical education approaches, structured activities, and supportive learning environments, children with ASD are expected to experience greater opportunities for active participation.

Improved participation may contribute to:

- increased physical activity levels;
- improved motor development;
- enhanced confidence in movement;
- greater involvement in school activities.

#### Improved Social Inclusion and Peer Interaction

Inclusive PE provides valuable opportunities for children with ASD to interact with peers in meaningful contexts.

Expected outcomes include:

- improved communication during group activities;
- increased cooperation with classmates;
- stronger sense of belonging;
- reduced social isolation.

By promoting shared experiences, physical education can contribute to creating more inclusive school communities.

### **Enhanced Emotional Well-being and Self-Confidence**

Participation in appropriately adapted physical activities can positively influence emotional regulation, motivation, and self-esteem.

Children with ASD are expected to benefit from:

- increased confidence in their abilities;
- reduced anxiety related to participation;
- greater independence;
- positive attitudes towards physical activity.

## **10.3 Impact on Teachers and Educational Professionals**

Teachers represent a key factor in achieving sustainable inclusion. The project is expected to generate significant professional impact by improving educators' knowledge, skills, and confidence.

Expected outcomes include:

- increased understanding of ASD characteristics and educational needs;
- improved ability to adapt physical activities;
- stronger competence in inclusive teaching strategies;
- greater confidence in supporting diverse learners;
- increased use of evidence-based approaches.

The Teacher's Guide, Curriculum, and professional training activities provide practical tools that can continue supporting educators beyond the project period.

The project also contributes to developing a culture of continuous professional learning, where teachers exchange experiences and collaborate in addressing educational challenges.

## 10.4 Impact on Schools and Educational Institutions

At the institutional level, the project is expected to strengthen schools' capacity to implement inclusive education.

Expected impacts include:

### **Improved Inclusive School Practices**

Schools are expected to develop stronger approaches to:

- individualised educational planning;
- adaptation of learning activities;
- multidisciplinary cooperation;
- family engagement.

### **Strengthened Professional Collaboration**

The project promotes cooperation among:

- physical education teachers;
- classroom teachers;
- special educators;
- psychologists;
- educational assistants;
- families.

Such collaboration contributes to more coordinated and effective support for students with ASD.

### **Increased Use of Innovative Educational Approaches**

The integration of Virtual Reality applications and digital resources is expected to encourage schools to explore new approaches to inclusive teaching. The project demonstrates that innovation can enhance inclusion when combined with appropriate pedagogy and professional expertise.

## 10.5 Impact on Educational Systems and Policy Development

The project has the potential to contribute to broader educational reforms by providing evidence and practical recommendations for policymakers.

Expected policy-level impacts include:

- stronger recognition of inclusive physical education as an important component of educational inclusion;
- increased attention to teacher preparation regarding ASD;
- improved integration of digital innovation within inclusive education;
- development of national and regional strategies supporting participation of children with disabilities.

The Policy Recommendation Report provides decision-makers with evidence-based guidance for strengthening inclusive education systems.

## 10.6 Impact on Families and Communities

Families of children with ASD are important partners in achieving successful inclusion.

The project is expected to contribute to:

- increased parental awareness regarding the benefits of physical activity;
- improved cooperation between families and schools;
- greater involvement of parents in educational planning;
- improved understanding of inclusive education principles.

At community level, the project contributes to reducing misconceptions about ASD and promoting acceptance of diversity.

Greater awareness can support the development of communities where children with ASD are recognised as active participants rather than recipients of support only.

## 10.7 Impact of Virtual Reality and Digital Innovation

One of the distinctive contributions of the project is the introduction of Virtual Reality-based approaches within inclusive physical education.

The expected impact of VR implementation includes:

### **Educational Impact**

- increased student motivation;
- improved engagement during activities;
- opportunities for individualised practice;
- development of confidence before real-world participation.

### **Institutional Impact**

- increased digital competence among teachers;

- greater openness towards innovative teaching methods;
- development of technology-supported inclusive practices.

### **Future Innovation Potential**

The project provides a foundation for further exploration of digital tools in supporting children with ASD, including:

- personalised learning environments;
- interactive movement training;
- remote educational support;
- data-informed educational planning.

## **10.8 European Added Value and International Impact**

The project demonstrates the added value of European cooperation by addressing common challenges through shared expertise and joint development.

The expected European-level impact includes:

- strengthened cooperation among educational institutions across countries;
- transferability of developed resources;
- exchange of successful practices;
- contribution to European priorities on inclusion and accessibility.

The partnership between Lithuania, Latvia, Türkiye, and Macedonia provides a model for how countries with different educational contexts can collaborate to develop common solutions.

## **10.9 Long-Term Sustainability and Continuation of Impact**

The sustainability of project impact depends on continued use, adaptation, and institutionalisation of project outcomes. Long-term impact will be supported through:

- integration of project materials into professional training;
- continued use of the Teacher's Guide and Curriculum;
- expansion of VR-based educational approaches;
- future research and evaluation activities;
- continuation of international cooperation networks.

The project outcomes are designed to remain relevant beyond the project period by providing adaptable resources that can be used in different educational settings.

## 10.10 Expected Impact Indicators

The impact of the project can be monitored through measurable indicators.

| Impact Area          | Expected Indicators                                                        |
|----------------------|----------------------------------------------------------------------------|
| Children with ASD    | Increased participation, engagement, motor development, social interaction |
| Teachers             | Number of trained professionals, increased competence and confidence       |
| Schools              | Adoption of inclusive PE practices and project resources                   |
| Families             | Increased involvement and satisfaction with educational support            |
| Policy               | Integration of recommendations into educational strategies                 |
| Innovation           | Use of VR and digital resources in inclusive education                     |
| European cooperation | Continued partnerships and knowledge exchange                              |

## 10.11 Overall Expected Impact

The EmpowerAble project is expected to contribute to a long-term transformation of inclusive physical education by creating stronger links between policy, research, and educational practice.

The project demonstrates that children with ASD can achieve meaningful participation when educational environments are adapted, teachers are supported, and innovative approaches are responsibly implemented.

The expected impact extends beyond improving individual educational experiences. It contributes to building more inclusive schools, stronger professional communities, and more equitable education systems across Europe.

## 10.12 Conclusion

The expected impact of the EmpowerAble project reflects its central objective: enabling children with Autism Spectrum Disorder to participate fully and meaningfully in physical education and school life.

Through improved teacher competencies, innovative educational resources, strengthened cooperation, and evidence-based policy recommendations, the project provides a foundation for sustainable improvement in inclusive education.

The experiences of Lithuania, Latvia, Türkiye, and Macedonia demonstrate that meaningful inclusion is achievable when educational systems combine commitment, knowledge, collaboration, and innovation.

The long-term success of the project will be measured not only by the resources developed or activities completed but by the lasting improvements in participation, opportunities, and quality of life experienced by children with ASD.

## Chapter 11. Sustainability

### 11.1 Introduction

Sustainability represents a fundamental element in ensuring that the achievements of the Erasmus+ project **“Supporting Children with Autism through Physical Education” (EmpowerAble)** continue to generate benefits beyond the formal project implementation period.

The project has developed a comprehensive set of outcomes, including the Teacher’s Guide, Teacher’s Guide, Virtual Reality applications, professional development activities, international cooperation networks, and policy recommendations. Ensuring the continued use, adaptation, and further development of these outcomes is essential for achieving long-term improvements in inclusive education.

The sustainability approach of the project is based on the principle that successful inclusion requires continuous institutional commitment, professional capacity building, integration into existing educational systems, and cooperation among stakeholders.

The experiences of Lithuania, Latvia, Türkiye, and Macedonia demonstrate that sustainability is not achieved through isolated activities but through embedding successful practices within educational structures, policies, and professional communities.

### 11.2 Institutional Sustainability

Institutional sustainability refers to the capacity of participating organisations and educational institutions to continue applying and developing project results after project completion.

The partner institutions are committed to maintaining the use of:

- the Teacher’s Guide;
- VR-based educational applications.

Schools involved in the project are expected to integrate developed approaches into their regular educational activities, particularly within physical education programmes and inclusive education planning.

Institutional sustainability will be supported through:

- inclusion of project outcomes in school development plans;
- continued use of developed educational materials;
- internal teacher training activities;
- sharing of experiences among educational staff;
- cooperation with local and national educational stakeholders.

The project demonstrated that sustainability is strengthened when innovative practices become part of institutional culture rather than remaining dependent on individual teachers or temporary initiatives.

### 11.3 Sustainability Through Teacher Professional Development

Teachers represent the most important factor in maintaining and expanding inclusive educational practices.

The sustainability of project outcomes depends strongly on continued professional development opportunities that enable educators to maintain and improve their competencies.

Future actions should include:

- integration of ASD-related content into teacher education programmes;
- regular professional development workshops;
- peer-learning activities;
- mentoring and consultation mechanisms;
- communities of practice among educators.

The Teacher's Guide and Curriculum developed within the project provide a foundation for continuous professional learning. Their practical orientation enables teachers to adapt activities according to different educational contexts and student needs.

Long-term sustainability requires a transition from project-based training towards permanent professional development structures embedded within national education systems.

### 11.4 Sustainability Through Integration into Educational Policies

For long-term impact, project results should be connected with existing national and regional education strategies.

Policy integration should focus on:

- recognition of inclusive physical education as an important component of educational inclusion;
- incorporation of ASD competencies into teacher qualification frameworks;
- support for multidisciplinary educational services;
- promotion of evidence-based innovation.

The policy recommendations developed through the project provide guidance for decision-makers seeking to strengthen inclusive education systems.

Embedding project outcomes into national frameworks will increase the likelihood that successful approaches are maintained and expanded.

### 11.5 Sustainability of Educational Resources and Open Access Materials

A key sustainability mechanism is ensuring continued accessibility and usability of project-developed resources.

The Teacher's Guide represent practical tools that can support educators beyond the lifetime of the project.

Their continued value will be ensured through:

- open dissemination among educational professionals;
- adaptation to different national contexts;
- translation and localisation where necessary;
- incorporation into training programmes;
- regular updating based on new evidence and user feedback.

Open access to educational resources increases the potential for wider adoption and contributes to European knowledge exchange.

## 11.6 Sustainability of Virtual Reality and Digital Innovation

The project introduced Virtual Reality as an innovative approach for supporting inclusive physical education.

Maintaining and expanding the use of VR applications requires:

- continued technical support;
- teacher competence in digital pedagogy;
- institutional commitment to innovation;
- evaluation of educational effectiveness;
- adaptation to emerging technologies.

The project demonstrated that technology can contribute significantly to inclusion when integrated within evidence-based educational approaches.

Future sustainability should focus not only on maintaining existing VR applications but also on exploring new possibilities for personalised and accessible digital learning environments.

## 11.7 Sustainability Through Multidisciplinary Cooperation

Effective inclusion requires cooperation among multiple stakeholders.

The project strengthened cooperation among:

- schools;
- universities;
- autism organisations;
- families;
- policymakers;

- educational professionals.

Maintaining these partnerships will support continued development of inclusive practices.

Future cooperation should include:

- joint professional activities;
- research collaborations;
- knowledge-sharing events;
- development of new educational initiatives.

Multidisciplinary networks provide a foundation for addressing complex challenges related to ASD inclusion.

## 11.8 Sustainability Through European Cooperation

The international partnership created through Erasmus+ represents an important long-term asset.

Continued European cooperation can support:

- exchange of innovative practices;
- comparative research;
- professional mobility;
- future Erasmus+ projects;
- development of European standards for inclusive education.

The diversity of partner experiences from Lithuania, Latvia, Türkiye, and Macedonia demonstrated that different educational systems can learn from each other and develop common solutions.

Maintaining these networks will contribute to continuous improvement and innovation in inclusive education.

## 11.9 Sustainability Monitoring Framework

To ensure long-term effectiveness, sustainability should be monitored through measurable indicators.

| Sustainability Area       | Monitoring Indicators                                   |
|---------------------------|---------------------------------------------------------|
| Institutional integration | Continued use of project materials in schools           |
| Teacher development       | Number of trained educators and professional activities |
| Educational practice      | Implementation of inclusive PE approaches               |
| Digital innovation        | Continued use and development of VR applications        |
| Policy impact             | Inclusion of recommendations in educational strategies  |

| Sustainability Area  | Monitoring Indicators                               |
|----------------------|-----------------------------------------------------|
| Cooperation networks | Continued partnerships and joint activities         |
| Student outcomes     | Participation, engagement, and inclusion indicators |

Regular evaluation will help identify successful practices, emerging challenges, and areas requiring additional support.

## 11.10 Sustainability Risks and Mitigation Strategies

Although the project has strong sustainability potential, several risks should be considered.

**Risk: Dependence on individual motivated professionals**

**Mitigation:**

- institutionalise practices;
- integrate resources into formal systems;
- establish shared responsibility among staff.

**Risk: Limited financial resources**

**Mitigation:**

- seek national and European funding opportunities;
- integrate activities into existing structures;
- promote cost-effective approaches.

**Risk: Loss of expertise due to staff changes**

**Mitigation:**

- maintain training programmes;
- develop internal knowledge-transfer mechanisms;
- create professional communities.

**Risk: Unequal access between regions**

**Mitigation:**

- provide targeted support to disadvantaged areas;
- promote online learning resources;
- strengthen regional cooperation.

## 11.11 Future Sustainability Directions

Based on project experiences, several future directions are recommended:

## **1. Expansion of inclusive PE programmes**

The developed approaches should be adapted and implemented in additional schools and educational settings.

## **2. Integration into higher education**

Universities preparing future teachers should incorporate project knowledge and resources into relevant study programmes.

## **3. Continued research and evaluation**

Further studies should examine long-term outcomes of inclusive PE and digital interventions.

## **4. Development of new partnerships**

Future cooperation among European institutions should continue through Erasmus+ and other international programmes.

## **5. Strengthening participation of individuals with ASD**

Future initiatives should increasingly include the perspectives and experiences of individuals with ASD and their families.

## **11.12 Conclusion**

The sustainability of the EmpowerAble project depends on transforming successful project outcomes into permanent educational practices and policies.

The project has created valuable foundations through the development of educational resources, teacher competencies, innovative technologies, and international cooperation mechanisms. However, lasting impact requires continued commitment from educational institutions, policymakers, professionals, and communities.

Sustainable inclusive education is achieved when inclusive practices become a natural part of educational systems rather than temporary activities supported by external projects.

The experiences of Lithuania, Latvia, Türkiye, and Macedonia demonstrate that long-term progress is possible through collaboration, evidence-based approaches, professional development, and continuous innovation.

By maintaining and expanding the outcomes of the EmpowerAble project, European educational systems can continue moving towards environments where children with Autism Spectrum Disorder are fully included, supported, and empowered to achieve their potential.

## Chapter 12. Conclusions

### 12.1 Introduction

The Erasmus+ project “**Supporting Children with Autism through Physical Education**” (**EmpowerAble**) represents an important contribution to the ongoing development of inclusive education practices for children with Autism Spectrum Disorder (ASD). Through cooperation among partner organisations from Lithuania, Latvia, Türkiye, and Macedonia, the project addressed common challenges related to participation, accessibility, teacher competence, educational resources, and innovative approaches within physical education.

The project was based on the recognition that inclusive education requires more than placing children with disabilities within mainstream educational environments. Genuine inclusion involves creating conditions in which children with ASD can actively participate, develop their abilities, establish meaningful relationships, and experience acceptance and belonging.

The outcomes of the project demonstrate that inclusive physical education can serve as a powerful educational context for promoting physical development, social interaction, emotional well-being, and overall participation of children with ASD.

### 12.2 Main Achievements of the Project

The EmpowerAble project achieved several important outcomes that contribute to strengthening inclusive education at institutional, national, and European levels.

The main achievements include:

#### **Development of Evidence-Based Educational Resources**

The project successfully developed:

- a comprehensive **Teacher’s Guide**;
- Virtual Reality-based educational applications.

These resources provide educators with practical tools for adapting physical education activities and supporting diverse learning needs.

#### **Strengthening Teacher Competence**

A central achievement of the project was improving the knowledge, skills, and confidence of teachers and educational professionals.

Through training activities and international cooperation, participants developed stronger competencies related to:

- understanding ASD characteristics;
- adapting physical activities;
- supporting communication and sensory needs;

- implementing inclusive teaching strategies;
- using innovative technologies.

The project confirmed that well-prepared teachers are the foundation of successful inclusion.

### **Promoting Inclusive Physical Education**

The project demonstrated that physical education represents an important opportunity for supporting inclusion.

When appropriately adapted, PE activities can contribute to:

- motor development;
- physical health;
- social interaction;
- emotional regulation;
- self-confidence;
- participation in school life.

The findings emphasise that inclusive PE should focus on individual progress, participation, and enjoyment rather than comparison of performance.

### **Introducing Innovative Digital Approaches**

The development and implementation of Virtual Reality applications represented a significant innovation within the project.

The experience gained through pilot activities demonstrated that VR can:

- increase student motivation;
- create safe and predictable learning environments;
- support repeated practice;
- reduce anxiety related to unfamiliar activities;
- encourage participation.

However, the project also confirmed that technology achieves the greatest impact when combined with evidence-based pedagogy and qualified teacher support.

## **12.3 Key Lessons Learned**

The project generated several important lessons that are relevant for future inclusive education development.

### **Inclusion Requires Systemic Change**

The experiences of all partner countries demonstrate that inclusion cannot depend only on individual teachers or isolated projects.

Sustainable inclusion requires:

- supportive legislation;
- adequate resources;
- professional preparation;
- multidisciplinary cooperation;
- continuous evaluation.

### **Teacher Support is Essential**

Teachers are the main actors who transform inclusive education principles into everyday practice.

Therefore, education systems must ensure:

- high-quality initial teacher education;
- continuous professional development;
- access to specialist consultation;
- opportunities for professional collaboration.

### **Collaboration Creates Stronger Solutions**

The project confirmed the importance of cooperation among:

- schools;
- universities;
- autism organisations;
- families;
- policymakers;
- international partners.

A multidisciplinary and collaborative approach provides more comprehensive support for children with ASD.

### **Innovation Must Be Purpose-Driven**

The use of Virtual Reality demonstrated the potential of technology to support inclusion. However, innovation should always serve educational goals and individual student needs.

Technology should complement—not replace—human interaction, professional expertise, and inclusive educational practices.

## 12.4 Contribution to European Inclusive Education Priorities

The EmpowerAble project contributes directly to European priorities related to:

- equal access to education;
- social inclusion;
- accessibility;
- digital transformation;
- lifelong learning;
- support for learners with disabilities.

The project demonstrates the added value of European cooperation by enabling partner countries to share knowledge, compare approaches, and jointly develop solutions to common educational challenges.

The resources and recommendations developed through the project have potential for transferability beyond participating organisations and countries.

## 12.5 Implications for Future Policy and Practice

The project findings highlight several priorities for future development.

Educational systems should continue to:

- strengthen inclusive education implementation;
- improve teacher preparation regarding ASD;
- develop inclusive physical education frameworks;
- expand multidisciplinary support services;
- promote family involvement;
- support evidence-based educational innovation.

Policy decisions should focus not only on access to education but also on participation, achievement, well-being, and belonging.

The ultimate measure of inclusion is whether children with ASD are able to participate meaningfully and achieve their potential within educational communities.

## 12.6 Sustainability and Future Perspectives

The long-term impact of the EmpowerAble project depends on continued implementation and expansion of its outcomes.

Future sustainability should focus on:

- integration of project resources into teacher education;

- continued professional development;
- adoption of inclusive PE practices in schools;
- further development of digital learning approaches;
- continuation of European cooperation networks;
- research evaluating long-term outcomes.

The project provides a strong foundation for future initiatives aimed at improving educational opportunities for children with ASD.

## 12.7 Final Conclusion

The Erasmus+ project “**Supporting Children with Autism through Physical Education**” (**EmpowerAble**) demonstrates that meaningful inclusion of children with Autism Spectrum Disorder is achievable when educational systems combine knowledge, commitment, collaboration, and innovation.

The project confirmed that inclusive physical education is not only a means of improving physical abilities but also an important pathway for developing confidence, communication, social participation, and a sense of belonging.

Through the development of practical resources, professional training, innovative technologies, and international cooperation, the project has contributed to building stronger capacities among educators and institutions.

The experiences of Lithuania, Latvia, Türkiye, and Macedonia show that effective inclusion requires continuous effort and shared responsibility. Policies must be supported by practice, teachers must be supported by systems, and children must be recognised as active participants in their education.

The EmpowerAble project provides evidence that inclusive education can be strengthened when schools, professionals, families, communities, and policymakers work together towards a common goal: ensuring that every child with Autism Spectrum Disorder has equal opportunities to participate, learn, develop, and succeed.

The legacy of the project extends beyond its formal duration. It represents a continuing commitment to creating more inclusive, accessible, and supportive educational environments across Europe.

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## **We invite you to learn more about the project progress and pilot activities:**

Project Blog: <https://empowerable.wixsite.com/supporting-children>

Project Facebook: <https://www.facebook.com/profile.php?id=61567070396897>

VR application page: <https://yuemco.github.io/VRAApp2/>



Project website



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