

## Policy Brief

### Non Pharmacological Interventions for Autism Inclusion in the Classroom.

**Objective:** To assess the effectiveness of non-pharmacological interventions for autism spectrum disorder (ASD) in inclusion in classrooms.

**Design:** Overview of policy mapping and systematic reviews (SRs) of the EDUCAUS project.

<https://www.educaus.eu/>

**Participants:** School age children aged with ASD across 28 EU member states.

**Search methods and synthesis process:** Between 2017 and 2021, we searched for non-pharmacological interventions and policy documents related to inclusion in educational services. The aim of EDUCAUS was to systematically compare policy across all EU Member States against the vision of an education system that supports children with autism to fulfill their potential. Each policy analysis focused on a specific theme, including parental involvement, teacher education, and teacher responsibilities.

This work aims to synthesize the policy data of EDUCAUS and contribute to modeling pathways that are associated with the development of Inclusive Education (IE) in EU Member States from the perspective of children with autism and identifying benchmarks that can be used to track the development of IE on a policy level. Subsequently, key drivers that can aid the development of a policy of inclusion for children with autism in EU Member States in different contexts can be pinpointed as well. This is necessary to direct future policy and research endeavors for education policy pertaining to inclusive education for children with autism. One challenge of comparative studies on inclusion is to capture the complexity of the terminology, show different possible pathways and interpretations, and discuss their respective consequences for practice.

We used a Qualitative Comparative Analysis (QCA), which is a suitable option to map these possible pathways and interpret their meanings in light of existing literature for several reasons. Firstly, IE is defined as an outcome that is contingent on the combinations of different factors, which is a requirement for the usage of QCA. Secondly, QCA formalizes and systematizes case comparison. This addresses the common concern of scientificity (i.e. based on principles of science) surrounding case studies that the case study material is compared in a loose and unformalized way. QCA refers to a case-based methodology in which (1) conditions and outcomes are previously identified, (2) an examination on which of these conditions are considered necessary and/or sufficient for an outcome to occur is performed, and (3) a systematic comparison is made to determine which combinations of conditions are associated with an outcome.

**Interventions:** 28 non pharmacological education based interventions were compared across 28 EU member states.

**Data collection and analysis:** This work has been published extensively. We rated the methodological quality of the included studies using the Quality Assessment Tool for Quantitative Studies which is a tool developed in Canada by the EPHPP with the financial

support of the Ontario Ministry of Health and Long-Term Care (MOHLTC). We also include our main synthesis which is a fuzzy set analyses of the classroom interventions. We reported the Grading of Recommendations, Assessment, Development and Evaluation (GRADE) certainty of the evidence (CoE) according to the analysis conducted by the authors of the included studies. The GRADE method (Grading of Recommendations, Assessment, Development and Evaluation) aims to provide a tool for rating the quality of evidence (particularly for effectiveness) and grading the strength of recommendations.

**Main outcome measures:** A multidisciplinary group of experts agreed on analysing nine critical outcomes evolving around non pharmacological intervention and inclusion of ASD in educational services across 28 EU member states.

**Public and patient involvement statement:** Organisations of parents of children with ASD participated in external revision of the final version of the report.

**Results:** We identified 46129 articles and policy documents that were within our scope. After excluding less reliable publications, we included, 605 for our final brief. We have published 8 papers in indexed journals that are available in the EDUCAUS website.

Each review found IE to be present in national policies of most Member States, though many of the investigated countries also retain segregation-based frameworks. It therefore remains unclear what factors are truly influential and effective in developing educational non-pharmacological interventions and more specifically, inclusive education for children with autism on a policy level. Our analysis involved investigating factors that benefit the development of inclusion.

Seven conditions (support for teaching staff, general support services for children with SEN, individualized learning outcomes, parental involvement, an established definition of inclusion, and mixed mainstream classes) were found to have a relationship with the development of IE. The only condition that was removed from the model was the right to education for children with SEN because this was unanimously implemented. The presence of general support services for children with SEN and mixed mainstream classes were labeled as necessary conditions.

Based on available data and on our GRADE outcomes, five causal pathways were identified as sufficient for the development of IE in the complex solution analysis that was discussed with experts.

The following policy recommendations should be therefore considered.

1. Parents involvement in SEN policy that focuses on IE. This was found to have a high GRADE score and the highest coverage of the possible complex solutions.
2. An established definition of SEN, with a moderate GRADE score.
3. Individualized learning outcomes, was found to have high consistency with the outcome, though had little coverage and had a moderate GRADE score
4. Support for teaching staff, with a moderate GRADE score
5. Local IE implementation policies, with a moderate GRADE score

**Conclusions:** Synthesised evidence regarding non-pharmacological interventions for children with ASD is scarce. Each review found IE to be present in national policies of most Member States, though many of the investigated countries also retain segregation-based frameworks. It therefore remains unclear what factors are truly influential and effective in developing inclusive education for children with autism on a policy level.