**Scoping Review Protocol – Targeting the School Environment to enable Participation**

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# **1. Background**

Children’s education is a fundamental human right (Unesco 2009); it contributes to social, emotional development (Aviles, Anderson and Davila, 2006), participation (Koster et al. 2010) and belonging (Allen et al. 2017). Research emphasizes the importance of participation at school on child's development and well-being (Griebler et al. 2017; Jose et al. 2012). Participation is defined as the attendance (‘how often’ does the child conduct e.g. a writing activity) and involvement (‘how involved’ is a child in this writing activity) in a life situation (Imms et al. 2017; WHO 2001). In the Netherlands for instance, more than 1.5 million children (4 to 12 years) attend school during weekdays; of these about 25% need extra support to be able to participate in daily education (Ledoux et al. 2020).

Numerous studies indicate that participation at school of children with special educational needs is limited in comparison to peers without disabilities (Piskur 2015; Law et al. 2007). Schools are obligated to give children with special needs opportunity to participate in mainstream education (Unesco 2009). In international publications (e.g. Unicef 2017) the term ‘inclusive education’ is used to describe the process of adapting schools, classrooms and activities so that all children learn and participate together. Research has proven the relationship between environmental factors and the level of school participation of children with special educational needs (e.g. Egilson, Jakobsdóttir, Ólafsson & Leósdóttir, 2017; Anaby et al. 2013). Children benefit from modifications of the physical and social school environment (Izadi-Najafabadi et al. 2019). Despite scientific insights about the importance of the environment, a lot of special support programs focus on the training of children skills solely; e.g. social skills training (Camargo et al 2014) or hand-motor skills training (Farhat et al. 2016) without the consideration of environmental factors. Evidence has proven that activity-based interventions imbedded in the context deliver better gains (Novak and Honan 2019). Furthermore, interventions that aim to enhance participation of children need to involve individual factors, environmental factors, the nature of the participation activity and the environment in which the activity is being performed (Imms et al. 2017). So far, little is known about intervention features that enable participation at school with a focus on the school environment. For this reason, a scoping review will be conducted to explore the literature and main features of interventions. The research question for this scoping review is: ‘What is known in the literature about main features of interventions targeting the school environment to enable the participation of children with special educational needs in mainstream education?’

# **2. Methods**

*Objectives*

The objective of this scoping review is to examine what is known in the literature about main features of interventions targeting the school environment to enable the participation of children with special educational needs in mainstream education.

Preliminary searches resulted in no findings of existing scoping studies that answer the research question.

*Inclusion and Exclusion criteria*

The method of a scoping review is chosen in order to get an overview of existing interventions not limited only to interventions (already) proven to be effective.

Studies will be included if they:

(a) provided information about a school-based intervention

(b) focused on adapting, changing or using the school environment

(c) target primary school children (between the age of 4 and 12)

(d) target children with a special (educational) need not necessarily referring to a diagnosis

(e) aimed to enhance school participation or any related concept of school participation.

Studies will be excluded if:

(a) services were offered exclusively outside of school

(b) interventions were provided only in special school setting

(c) exclusively focus on the level of functions, like improving tactile function.

No restrictions will be imposed on study design or effectiveness of interventions.

*Study selection*

One reviewer will conduct the literature search and will discuss the search strategy and selection criteria with a second reviewer to make iterative refinements to the search strategy. At each stage (title, abstract, full-text), two reviewers will evaluate independently and will score the results using the described inclusion criteria. In case of disagreement or doubts at least a third reviewer will contribute to discussions.

Database search: Electronic databases will be searched using the formula ‘participation’ AND ‘children’ AND ‘environment’ AND ‘special educational needs’ AND ‘mainstream education’ AND ‘intervention’. Every search term will be linked to several MeSH terms (see Table 1)

*Table 1. Search Terms*

|  |  |
| --- | --- |
| **Search Formula** | **Mesh term**  |
| Participation  | ‘engagement’, ‘inclusion’ or ‘involvement’. |
| AND |
| Children  | ‘kids’, ‘youth’, ‘child’ or ‘pupil’. |
| AND |
| Environment | ‘contextual’, ‘context’, ‘environmental’, ‘context-based’ or ‘school-based’. |
| AND |
| Special educational needs’ | ‘special needs’, ‘impairment’, ‘limited’, ‘disability’, ‘disabled’ or ‘disabilities’. |
| AND |
| Mainstream education  | ‘elementary school’, ‘primary education’, ‘elementary education’ or ‘primary school’. |
| AND |
| Intervention | ‘approach’ or ‘program’  |

Electronic databases will include:

* DiZ
* Cinahl
* ERIC
* Medline
* PsycINFO
* SocINDEX
* PubMed

This scoping study will include literature published in English, Dutch and German and the publication date will be restricted from January, 2009 to May, 2021.

*Extraction Method*

Preliminary full-text analysis will take place by one researcher, discussing the findings with the co-authors of the article on a regular base. A data charting form will be developed to include standard information (1st author, year and place of publication, aim of the study, target group and the study methodology). Further detailed information about intervention features, main findings as well as the methods for outcome evaluation in order to answer the research question will extracted and charted using an Excel spreadsheet. The initial data charting form will be validated by at least two reviewers to corroborate consistency.

*Quality Assessment*

Quality assessment does not form part of the scoping study (Arksey and O’Malley 2005). Therefore all studies will be included in the analysis as they may contribute to the knowledge base even if they are of questionable quality.

*Presentation of results*

A flowchart of the study selection will be provided. A table of a descriptive summary of the relevant studies will delivered. A qualitative, thematic analysis (Thomas and Harden 2008) will be performed to identify the key themes and topics, which will then be presented in a written text. All authors of this article will be involved in the process of how to describe the data best.

# **3. Conclusion**

This document has outlined the protocol for a scoping review study which intends to map main features of interventions targeting the school environment to enable the participation of children with special educational needs in mainstream education. The output of this scoping study will inform future research in this area, and provide a broad review of known intervention strategies to enable participation at school.

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*Competing Interests*

None

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