

# Functional impact of neurodevelopmental disorders: a conceptualisation applied to the school setting

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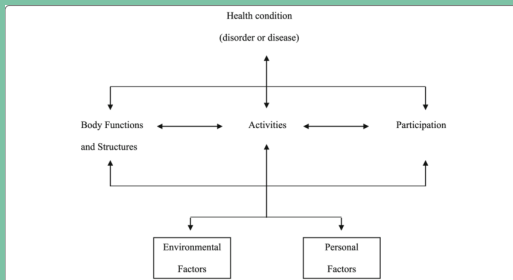
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## INTRODUCTION

### THE CONCEPT OF FUNCTIONAL IMPACT



The ICF model (WHO, 2001)

According to the WHO (2001), **the impact** of a disorder is considered not only as difficulties in carrying out activities, but also as a restriction in the individual's **participation** in everyday life situations.

### PARTICIPATION IN SCHOOL FIELD

« School participation includes active and meaningful (from a personal or socio-economic perspective) activities which are required or desired to fulfil the role of the school pupil within or around the school context. Participation in school is not only classroom activity, school work or achievement. Participation includes school events, trips, teams, clubs, relationships with adults and friendships with peers. School participation can be understood in terms of how much, how often and what activities the child does (attendance), as well as their subjective experience (involvement). » (Maciver et al., 2019)

Disorders that can affect school participation in primary school include...

### NEURODEVELOPMENTAL DISORDERS (APA, 2022)

- > Emerge during the developmental period
- > Characterised by deficits or developmental differences in brain processes, leading to **impairments in personal, social, educational, or occupational functioning** → **Functional impact**
- > Range from highly specific limitations in learning or executive function control to more global impairments in social skills or intellectual abilities
- > Frequent co-occurrence of different neurodevelopmental disorders (NDDs)

### CONCEPTUAL EMERGENCE OF FUNCTIONAL IMPACT IN DIVERSE POPULATIONS

#### The concept among patients in the medical field

→ Concept used to describe the impacts on patients' bodily functioning

#### The concept among people with intellectual disabilities

→ One of the diagnostic criteria for intellectual disabilities is the presence of limitations in adaptive functioning (AAIDD, 2021)

#### The concept among people with developmental language disorder

- The presence of functional impacts in the child's daily life is the primary diagnostic criterion for DLD (Bishop et al., 2016; Bishop et al., 2017)
- Development of two tools: QLIF 3-6 and QLIF 6-12 (Ross-Lévesque et al., 2024)
- Study of parents' and teachers' perceptions of children with DLD regarding the disorder's impact across various domains and the use of compensatory strategies (Maillart et al., 2024)
- Reflection focused on the impact on social participation (Ross-Lévesque et al., 2024; Maillart et al., 2024)

#### The concept among people with mathematical difficulties

- Reflection also grounded in the concept of participation, particularly through the lens of the ICF model
- Existence of four tools to assess the functional impacts of mathematical difficulties (Gentelet & Lafay, 2024)

## ISSUES

Frequent co-occurrence of neurodevelopmental disorders → A transdiagnostic approach could potentially allow for a better identification of the processes that should be supported either transversally or specifically in learning

Studies focusing on this concept generally address a specific type of diagnosis (e.g., language, mathematics), without accounting for the transversal dimension of school difficulties.

This notion appears to have considerable potential in the development of an approach that more accurately reflects the dynamics of school participation. Furthermore, it has the capacity to identify both the barriers to such participation and the necessary support. However, a significant operational ambiguity persists, alongside definitions that remain predominantly diagnosis-specific and tailored to particular groups

### AIM OF THE STUDY

Provide an overview of the concept of functional impact in children with NDDs attending mainstream primary education

### METHODOLOGY : A SCOPING REVIEW

#### RESEARCH QUESTION

How the concept of the functional impact of NDDs in ordinary primary school children is defined and described in the literature?

#### ELIGIBILITY CRITERIA

INCLUSION CRITERIA	EXCLUSION CRITERIA
<ul style="list-style-type: none"> <li>◦ Population:                             <ul style="list-style-type: none"> <li>- Elementary school children with NDDs</li> </ul> </li> <li>◦ Context:                             <ul style="list-style-type: none"> <li>- Ordinary primary education</li> </ul> </li> <li>◦ Language of articles                             <ul style="list-style-type: none"> <li>- French/English</li> </ul> </li> <li>◦ Publication dates :                             <ul style="list-style-type: none"> <li>- No restrictions</li> </ul> </li> <li>◦ Type of documents                             <ul style="list-style-type: none"> <li>- Qualitative, quantitative and mixed studies</li> <li>- Grey literature</li> <li>- Theses</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>◦ Population :                             <ul style="list-style-type: none"> <li>- People with intellectual disabilities</li> </ul> </li> <li>◦ Context:                             <ul style="list-style-type: none"> <li>- Special education</li> <li>- Activities outside the school context (home, daily life)</li> </ul> </li> <li>◦ Type of research:                             <ul style="list-style-type: none"> <li>- Systematic reviews and meta-analyses</li> </ul> </li> </ul>

### EXPECTED RESULTS

A robust, operational and transdiagnostic definition of functional impact from the literature and its constitutive dimensions

A cross-disciplinary view of the functional impact of NDDs

Improve our understanding of the difficulties experienced by children with NDDs and their effect on school participation

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