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Une revue sur les technologies pour collaborer et coéduquer les élèves à besoins éducatifs particuliers et soutenir leur scolarisation

A review of technologies to collaborate and co-educate students with special educational needs and support their schooling

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2. INSERM BPH, équipe ACTIVE

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Postdoctoral fellow - INRIA – FLOWERS Team-project

Colloque Education et inégalités – 15 au 17 mai - Paris

Introduction

International public policy on inclusive education

- Salamanca Framework for Action on Special Needs Education in 1994
 - > UK : good practice in 2001, USA : IDEA in 2004, France : governmental reforms in 2005 & 2013
- Most common form: Inclusive Education (Nilholm & Göransson, 2017)
 - > Inclusion in mainstream classroom
- Individualized Educationnal Plan

First key : collaborative team approach

- > multidisciplinary team composed of teachers, administrators, parents and service providers (Lyons et al., 2016)

Second key : assistive technologies

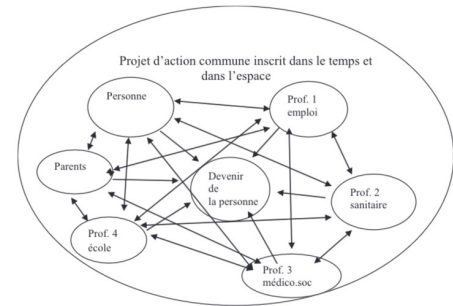
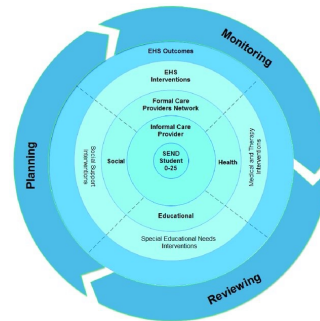
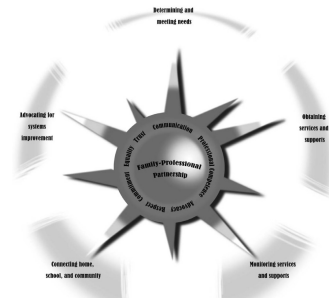
- > Educational technologies (McNicholl et al., 2021; Pontikas et al., 2022)
- > digital education system (Cinquin et al., 2019)

Introduction

Parents-teachers collaboration

- > Well-being of children (Martinez et al, 2012)
- > Better academic performance and social adjustment (Jolilowski & Morris, 2019)
- ❖ Several barriers : lack of continuities, ≠ in the use of strategies and expectations, ≠ in perception (Roberts & Simpson, 2016)

Whole collaboration : family-school-community collaboration



Problematic

Our aim is to provide an overview of technologies that focus on collaborative process into the child's educational community including family, school, and care parties

RQ1. Domain characterization: Is there existing literature that deals with digital technologies for supporting stakeholders' collaboration to foster the school inclusion of children with special education need and disabilities? Who are the targeted children? Which journals and conferences have published them? How has the field evolved? What are the studies purposes ?

RQ2. Design of technologies: How are these technologies designed? What are the technologies purposes? What functionalities do they offer to support collaboration? What are the obstacles to their development?

RQ3. Main outcomes: What research methods were used? What are the findings in terms of evaluation?

Method

Search strategy

- **Databases:** Scopus, Web of Sciences, EBSCOhost, Pubmed and IEEE Xplore
- **Research question:** Collaboration AND Stakeholder AND Inclusion AND (Autism OR special need) AND Pupil AND Technology NOT College
 - > & associated terms
- **Inclusion criteria:**
 - > Uses of a technology for collaboration
 - > Goal = inclusion
 - > Student with SEN & in K12
 - > Collaboration between at least two stakeholders

Study selection

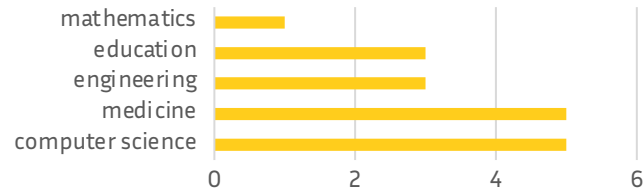
- **Records indentified : 1673**
 - > Duplicate = 313
- **Records screening : 1360**
 - > Selection on title - abstract
- **Reports assessed for eligibility : 129**
- **Studies included : 10**

Result

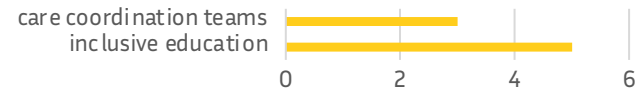
RQ1: Domain characterization

- 7 technologies & 1 digital strategy
- Since 2016
- 7 different countries

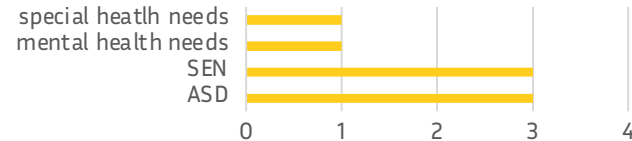
Scientific fields



Aim of technology

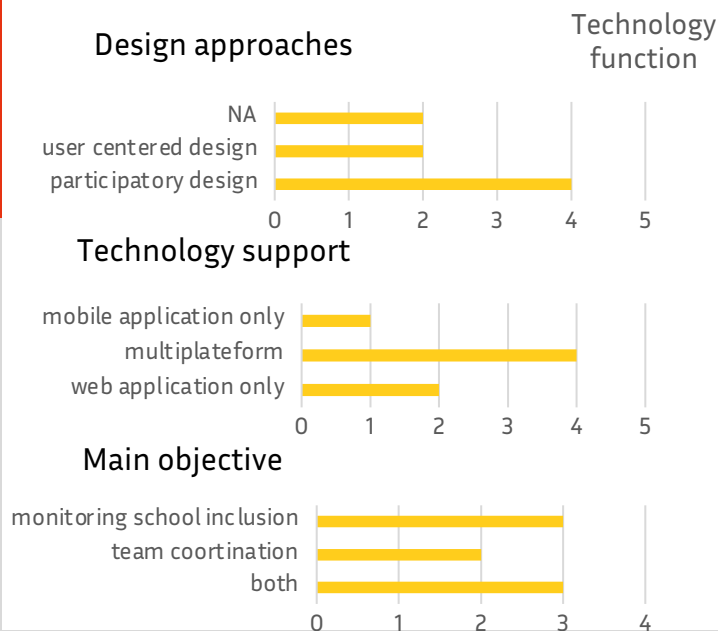


Student's needs or disabilities

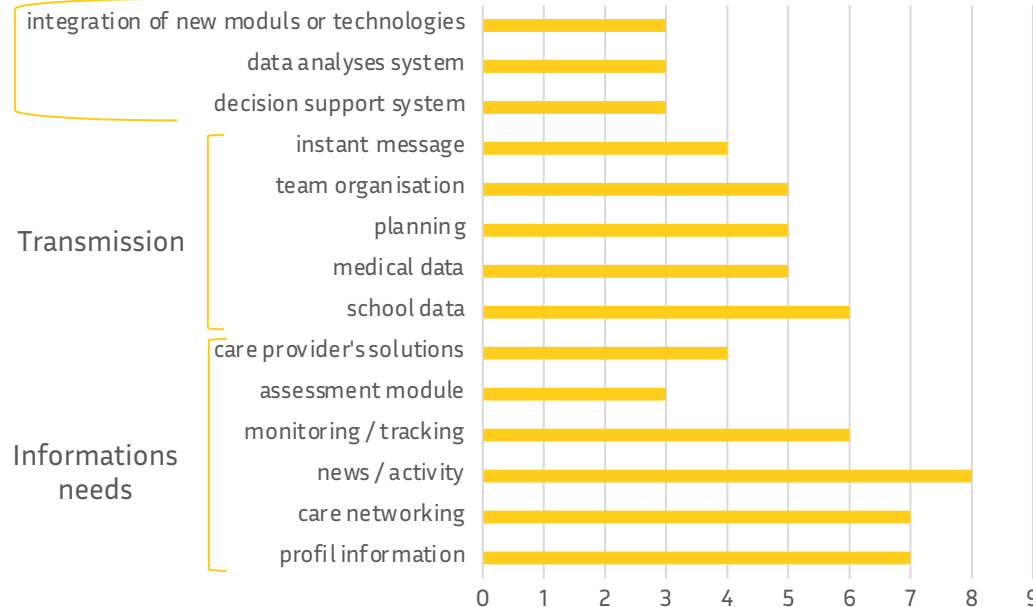


Result

RQ2: Design of technologies



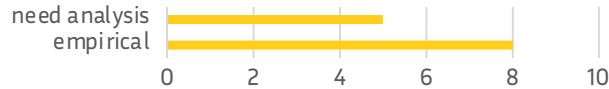
Shared information or features



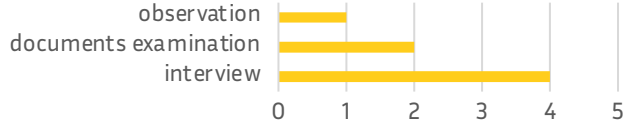
Result

RQ3: Main outcomes

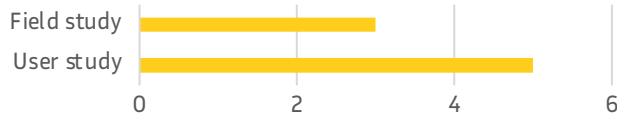
type of result



method for need analysis



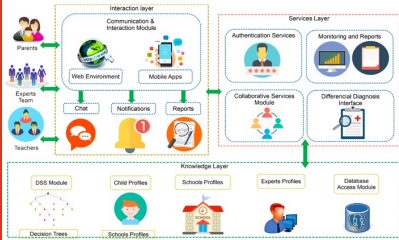
method for empirical study



- facilitating communication among stakeholders,
- all information in one place,
- minimizing effort and time required,
- possibility to assess the child,
- plan a project & coordinate interventions,
- integrate other technologies,
- ensure data security

- good usability,
- interface by categories & tables,
- positive attitude to use technologies,
- interesting to share ≠ types of information
- can facilitate collaboration

Discussion



My profile My skills My Meetings My Comparisons of Use My News

DOE John
I am 16 years old and I am in 8th grade. [Edit profile](#)

My strengths

- Math
- Spells
- Geography

My weaknesses

- Grammar
- English

My school experience

- Repeated 7th and 8th grades
- Hard-working

What I like

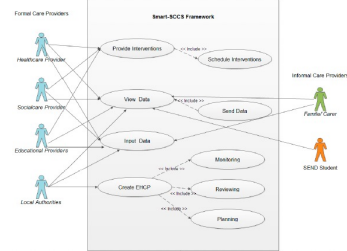
- Football
- Video games
- Reading

My health

- Neurotic anxiety
- Gastrointestinal problems

My particularities

- Neurotic anxiety
- Frequent headaches
- Learning difficulties



Rashed Saleh
Special Care, ASD
Specialist

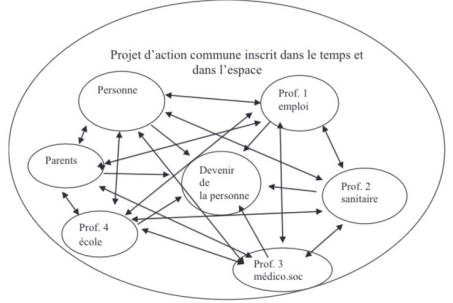
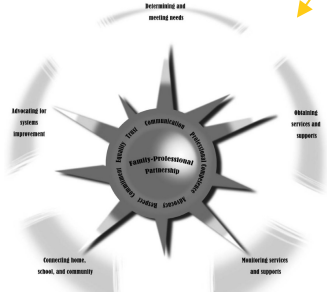
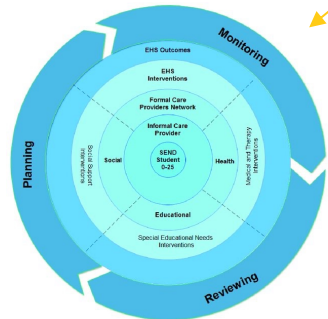
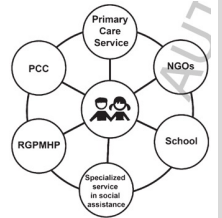
Academic Objectives

- Health: To get out and write Addition Problems by at least 80%.
- Science: To identify objects in the field (The Forest)
- English: To Type the letters A, B, C, D, E
- Computer: To Type the Numbers
- Health: To get out and write Addition Problems by at least 80%

Behavioral Objectives

Speech Objectives

Functional Objectives



Discussion

Collaboration, coordination or communication ?

Challenges of collaborative and coeducational technologies

Methodological limitations of the studies

And next?

Merci !

Suivez-nous sur / follow us on:

<https://flowers.inria.fr/projet-tous-ensemble/>