



HAL
open science

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

Eric Meyer, H el ene Sauz eon, Isabeau Saint-Supery, C ecile Mazon

► To cite this version:

Eric Meyer, H el ene Sauz eon, Isabeau Saint-Supery, C ecile Mazon. Systematic review of technologies to collaborate and co-educate students with special educational needs and supporting their schooling. IHIET 2023 - 10th International Conference on Human Interaction and Emerging Technologies, Aug 2023, Nice, France. pp.1-12, 10.54941/ahfe1004060 . hal-04222434

HAL Id: hal-04222434

<https://inria.hal.science/hal-04222434v1>

Submitted on 29 Sep 2023

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destin ee au d ep ot et  a la diffusion de documents scientifiques de niveau recherche, publi es ou non,  emanant des  tablissements d'enseignement et de recherche fran ais ou  trangers, des laboratoires publics ou priv es.



Distributed under a Creative Commons Attribution 4.0 International License

Systematic Review of Technologies to Collaborate and Co-educate Students With Special Educational Needs and Supporting Their Schooling

Meyer Eric¹, Sauzéon Hélène^{1,2}, Saint-Supery Isabeau^{1,2}, and Mazon Cécile^{1,2}

¹Project-Team FLOWERS, Centre de recherche INRIA Université de Bordeaux, 200 avenue de la Vieille Tour, 33405 Talence Cedex, Gironde, Nouvelle-Aquitaine, France

²Team ACTIVE, INSERM BPH, 146 rue Léo Saignat, 33076 Bordeaux, Gironde, Nouvelle-Aquitaine, France

ABSTRACT

Since 1994, the inclusion of students with special educational needs (SEND) has been a vital part of the educational system (UNESCO, 1994). In the early 2000s, educational systems underwent reforms to accommodate this change, leading to increased communication and collaboration efforts between families and educational partners (Wehmeyer and Patton, 2017). These efforts are supported by the growth of digital technologies (Kefallinou et al., 2020; Zallio and Ohashi, 2022). Various models of family-professional collaboration, such as the “Sunshine Model” (Haines et al., 2017), “Whole School Model” (Lewallen et al., 2015), “Smart Holistic Model” (Hafidh et al., 2019) and polycentric approaches (Ebersold and Detraux, 2013), have been developed to involve the broader educational community. Despite the integration of technologies and the recognized importance of collaboration, limited research has been conducted on the potential of collaborative technologies in the educational context for SEND. However, relevant stakeholders endorse their use. To address this gap, a systematic review of international literature was conducted to identify collaborative technologies for the inclusion of SEND, along with their advantages and limitations. Out of 1360 identified articles, 10 were selected for analysis. These 10 articles focused on 8 different digital technologies that facilitate collaboration between families, education, and healthcare actors. The technologies were developed using various methodologies and aimed at different communication and collaboration objectives. Some technologies focused on communication related to student behavior or school activities, while others emphasized collaboration related to the student’s inclusion project. We will present each of these technologies, their development context, as well as their advantages and limitations. We will highlight their relevance to the different theoretical models applied to family-professional collaboration, and their contributions. Finally, we will highlight the contributions of collaborative technologies to promoting SEND inclusion and reducing educational inequalities. 3, 8.

Keywords: Technologies, Student with special education needs or disabilities (send), Collaboration, Coeducation, Stakeholder

40 INTRODUCTION

41 The field of special needs education has witnessed significant advancements
42 in promoting the inclusion of students with special educational needs or
43 disabilities (SEND) since the Salamanca Framework for Action in 1994
44 (UNESCO, 1994). Countries such as the U.K. (Great Britain Department
45 for Education and Skills, 2001a, 2001b), the USA (Boehner, 2002; Castle,
46 2004), and France (French Gouvernement, 2013, 2005) have implemented
47 inclusive education through policy reforms and legal acts, influenced by the
48 Convention on the Rights of Persons with Disabilities (Wehmeyer and Patton,
49 2017).

50 The most common form of “inclusive education” is the placement of stu-
51 dents with disabilities in mainstream classrooms (Nilholm and Göransson,
52 2017) with an “Individualized Educational Plan”, which formalizes, through
53 a multidisciplinary team composed of teachers, administrators, parents and
54 service providers, the needs of the student and the appropriate teaching strate-
55 gies and required classroom accommodations including assistive technologies
56 (Fernández-Batanero et al., 2022; Francisco et al., 2020). Inclusion suc-
57 cess relies on various factors, including a clear vision, shared commitment,
58 teacher responsibility, collaborative team approaches, parent engagement,
59 and principal leadership (Lyons et al., 2016). This disability-related social
60 transformation of school is currently undergoing an unparalleled digital
61 transformation with the growing development of digital educational systems,
62 some of which integrate specific educational needs (Cinquin et al., 2019),
63 or of educational technologies, some of which are for student with special
64 education needs (McNicholl et al., 2021; Pontikas et al., 2022). Several
65 studies have studied the positive impact of technology to foster the inter-
66 professional collaboration in the management of disability-related care (Barr
67 et al., 2017). At the best of our knowledge, there is no systematic review
68 on digital technologies that includes and promote communication and col-
69 laboration between stakeholders of educational community surrounding the
70 children with disability. Our aim is to provide an overview of technologies
71 that focus on collaborative process into the child’s educational community
72 including family, school, and care parties.

73 BACKGROUND

74 Collaboration and communication between school professionals, parents,
75 and service providers have long been recognized as crucial for a child’s
76 educational development. Effective communication between teachers and
77 parents enhances educators’ awareness of a child’s specific needs and facili-
78 tates pedagogical adaptations (Walker et al., 2012). Parental involvement in
79 schooling positively impacts children with SEND or disabilities, empha-
80 sizing the importance of family-school collaboration (Martinez et al., 2012;
81 Parsons et al., 2009). However, several barriers to inclusion, particularly
82 for students with Autism Spectrum Disorder (ASD), exist, including incon-
83 sistencies between services, expectations, and support perceptions (Roberts
84 and Simpson, 2016). To address these challenges, schools need to pro-
85 vide guidelines, resources, and foster proactive involvement between parents

86 and teachers. Digital technology has the potential to facilitate collaboration
87 between parents and teachers, promoting better communication and collabo-
88 ration (Olmstead, 2013). Models of parent-professional collaboration extend
89 beyond family-school collaboration to include family-school-community col-
90 laboration (Larivée et al., 2017). In North America, “Sunshine Model”
91 and “Whole School, Whole Community, Whole Child” Model (ASCD and
92 Centers for Disease Control and Prevention, 2014; Lewallen et al., 2015)
93 emphasize partnerships involving all stakeholders impacting schooling and
94 multidimensional collaboration among education and health actors. In West-
95 ern Europe, researchers propose multi-professional (Emery, 2017) or poly-
96 centric approaches based on the child’s life project (Ebersold and Detraux,
97 2013). These models advocate for a student-centered approach and aim to
98 connect home, school, and community.

99 Despite the importance of technology in schools and collaboration, surveys
100 indicate that caregivers desire technology to facilitate planning and commu-
101 nication with teachers, highlighting the need for technology-based solutions
102 in supporting inclusive education (O’Neill et al., 2020).

103 RESEARCH QUESTIONS

104 Using a systematic literature search procedure, our goal is to explore the the-
105 oretical and applied aspects of collaborative technologies for the educational
106 inclusion of children with educational needs particularly neurodevelopmental
107 disorders such as ASD.

108 The overview of the field will be presented in terms of evidence-based infor-
109 mation through three research questions to document the domain activity, the
110 background scaffolding, and the research outcomes:

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

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

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

121 METHODOLOGY

122 Search Strategy

123 The databases searches were conducted in November 2022 using Scopus,
124 Web of Sciences, EBSCOhost (all databases included PsycInfo, PsyArti-
125 cles, Psychology & Behavioral Sciences Collection, SocINDEX, CINAHL),
126 Pubmed and IEEE Xplore. According to the research question, we use the
127 following key phrase: *Collaboration AND Stakeholder AND Inclusion AND*
128 *(Autism OR special need) AND Pupil AND Technology NOT College.*

129 Table 1 details the keywords used associated with the different search terms
130 of the key phrase.

Table 1. Details of keywords used in key phrase.

Categories	Research Keywords
Collaboration	collab*; coop*; “working together”; communication; relationship; partnership; partner; alliance; connection; networking; “inter-relationship”; “inter-disciplinarity team”; “interagency collab*”; “information sharing”; coordinat*
Stakeholder	stakeholder; caregiver; “profession* caregiver”; “health profession*”; “health care provider”; provider; “inpatient team”; parent; team; “school team*”; “school staff”; teacher; community; educator
Inclusion	inclusion; integration; “inclusive partner”; “transition support”; “iep”; “educator project”; “curriculum”; “individual* education plan”
Autism OR special need	asd; autism*; tnd; ndd; “learning disability”; “neurodevelopmental disability”; “cognitive disability”; “impairment”; “specific need”; “special need”
Pupil	pupil*; child*; adolesc*; schooler*; student*
Technology	tech*; “messaging system”; “health information tech*”; “ict”; “information and communication tech*”; “information tech*”; “communication tech*”; “computer”; “web”; “social media”; “mobile device”; “mobile app”; website; internet
College	College; university

131 Eligibility Criteria

132 In this systematic review, we included all studies about the use of a digital
133 technologies that supporting the collaboration between at least two types
134 of stakeholders to promote the school inclusion of children with SEND. No
135 restrictions were placed on the date of publication, but the included studies
136 had to be in English. In addition, the studies were not to be about academic
137 inclusion of college students and had to involve two different stakeholders.
138 Finally, studies that were not journal or conference papers were excluded.

139 Screening et Study Selection

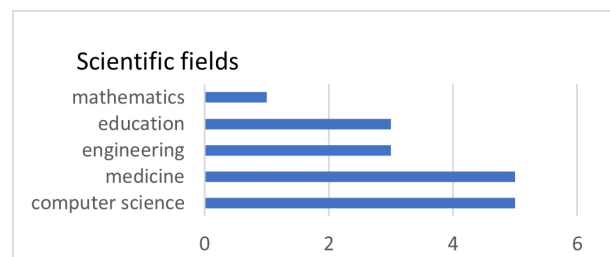
140 The screening process, performed with the Rayyan tool (Ouzzani et al.,
141 2016), started with removing irrelevant papers. Articles were first excluded
142 based on titles and abstracts (n = 1360) resulted in 131 articles to go through
143 to the next stage of full-article review. This title-abstract screening process
144 was carefully evaluated by both authors. The full-text review of the remaining
145 papers results to 129 papers comprising 10 studies included for the systematic
146 review.

147 RESULT

148 RQ1. Domain Characterization

149 The literature review identified a total of six articles and four confer-
150 ence papers discussing seven different digital technologies that support
151 collaboration among stakeholders in inclusive education. These technologies

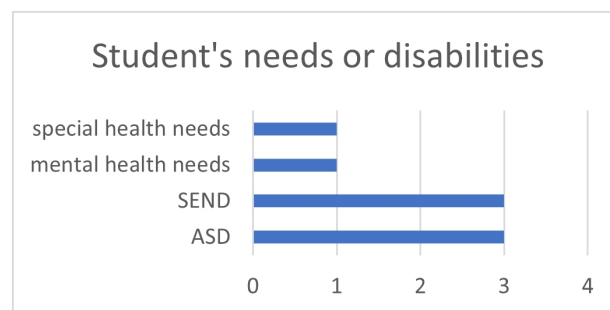
152 include seven projects: AMP (Linstead et al., 2016), CareNexus (Ranade-
 153 Kharkar et al., 2018, 2017), CC-project (do Carmo Alonso et al., 2020), IEP-
 154 Connect (Siyam and Abdallah, 2021), SINSAE project (Bermeo-Zambrano
 155 et al., 2020), Smart-School Care Coordination System (SCCS) (Hafidh et al.,
 156 2020, 2019), ToGather (Mazon et al., 2021), and a strategy based on ICT
 157 (Mendoza-González et al., 2019). These technologies have been developed in
 158 seven countries: the United States, Mexico, Ecuador, Brazil, France, and the
 159 United Kingdom. The studies have been published in ten different journals
 160 or conferences across fields such as computer science, medicine, engineering,
 161 education, and mathematics (see graph 1).



Graph 1: Scientific fields of research.

162 Out of the seven technologies, five were specifically developed for inclusive
 163 education, while the other three focused on care coordination teams. How-
 164 ever, two of the care coordination technologies also incorporated information
 165 integration and involvement of school partners.

166 The target population for these technologies is children ranging from 0
 167 to 25 years old. Three projects targeted K-12 students, one focused on
 168 preschoolers (0-5 years old), and the remaining technologies did not specify
 169 a particular age group. These technologies have been developed to support
 170 children with different disorders, in particular pupils with ASD (see graph 2).



Graph 2: Educational needs or disorders targeted by technologies.

171 The stakeholders involved in these technologies include health profession-
 172 als, teachers, and parents. Health professionals were involved in all studies,
 173 while parents were engaged in all except one. Teachers were directly involved

174 in five of the technologies. Two technologies aimed to integrate a wide
175 range of formal and informal care providers, extending beyond traditional
176 education settings.

177 **RQ2: Design of Technologies**

178 The literature review identified different design approaches used by
179 researchers in developing technologies for collaboration in inclusive edu-
180 cation. Half of the technologies were developed using participatory design,
181 while two followed a generic user-centered design approach. The authors do
182 not specify the design of the last two technologies.

183 CareNexus (Ranade-Kharkar et al., 2018, 2017), IEP-Connect (Siyam and
184 Abdallah, 2021) and ToGather (Mazon et al., 2021) employed participatory
185 design with continuous involvement of end-users in each phase and itera-
186 tion. The CC-project (do Carmo Alonso et al., 2020) utilized a participatory
187 design based on activity ergonomics. These studies emphasized the impor-
188 tance of addressing specific needs, including shared information, accessibility,
189 and organization of technology. The SCCS project initially analyzed litera-
190 ture and conducted interviews with care providers to develop an ontology
191 as a foundation for their technology (Hafidh et al., 2020, 2019). The SIN-
192 SAE project (Bermeo-Zambrano et al., 2020) adopted a generic user-centered
193 design approach, considering the needs of various end-users. The first tech-
194 nology developed in this field (AMP (Linstead et al., 2016)) was focused
195 on technological choices and later adapted to meet user needs. The strategy
196 based on ICT utilized a specific usage of a social network platform to organize
197 discussion groups among stakeholders (Mendoza-González et al., 2019).

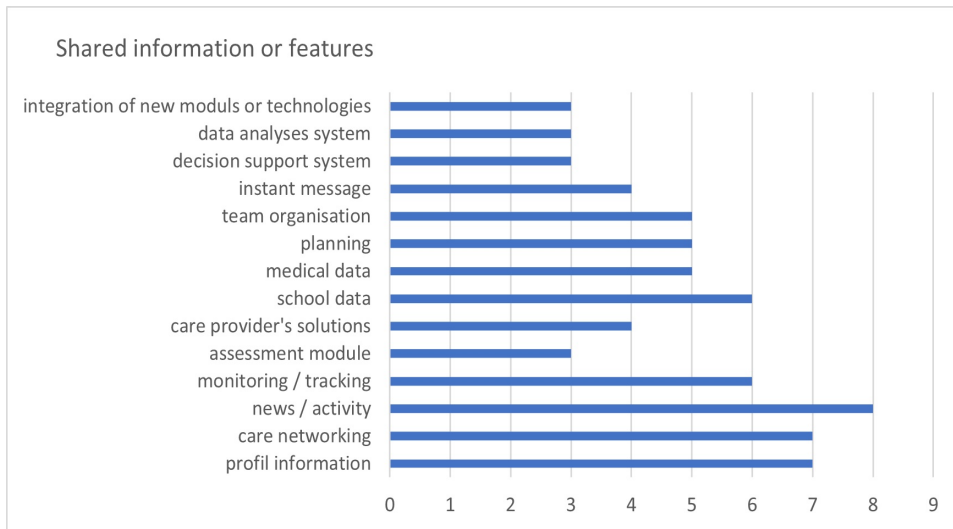
198 The technologies mainly use a single web application or one associ-
199 ated with mobile applications. Only one technology offers only a mobile
200 application (IEP-Connect (Siyam and Abdallah, 2021)).

201 The coordination approaches varied among the technologies. Six technolo-
202 gies facilitated cooperation through information sharing, commenting, and
203 providing feedback, but with unequal rights among stakeholders. ToGather
204 allowed collaboration with equal editing rights, enabling stakeholders to
205 modify information provided by others (Mazon et al., 2021). SCCS did not
206 specify the degree of coordination (Hafidh et al., 2020, 2019).

207 The proposed architectures differed across technologies. AMP (Linstead
208 et al., 2016) utilized an event feed for data management, while IEP-Connect
209 (Siyam and Abdallah, 2021) and ToGather (Mazon et al., 2021) organized
210 information via main pages. SINSAE project (Bermeo-Zambrano et al., 2020)
211 employed a three-layer architecture, and SCCS (Hafidh et al., 2020, 2019)
212 proposed a six-layer architecture. CareNexus (Ranade-Kharkar et al., 2018,
213 2017), grouped all functionalities on one page. the ICT-based strategy is built
214 around the use of a social network (Mendoza-González et al., 2019). CC-
215 Project (do Carmo Alonso et al., 2020) has not yet proposed an architecture.

216 In terms of functionalities (see graph 3), all technologies offered infor-
217 mation sharing on youth-related activities and events. Except for ICT-based
218 strategy (Mendoza-González et al., 2019), they included profiles of young
219 persons and team members. Six technologies facilitated sharing of school

220 information, and five included medical information. The main functionali-
 221 ties included monitoring and tracking, planning, solution sharing among care
 222 providers, evaluation of symptoms or behaviors, and internal organization
 223 of the follow-up team. Three technologies integrated machine learning-based
 224 modules for information analysis and decision-making support.



Graph 3: Shared information or features offered by the different technologies.

225 **RQ3: Main Outcomes**

226 In the reviewed articles, five needs analyses were conducted to identify
 227 requirements and guidelines, while eight studies employed evidence-based
 228 approaches. Different methods were used to identify needs in each project.
 229 For example, observation and document examination were used in the IEP-
 230 connect project (Siyam and Abdallah, 2021), while a needs analysis interview
 231 was conducted for CareNexus (Ranade-Kharkar et al., 2018, 2017). The
 232 CC-project (do Carmo Alonso et al., 2020) utilized non-directed interviews,
 233 and the SCCS project (Hafidh et al., 2020, 2019), involved official docu-
 234 ment analysis and interviews. The ToGather project (Mazon et al., 2021)
 235 conducted a questionnaire and interviews with various participants.

236 Several requirements and guidelines emerged from the needs analyses,
 237 including facilitating communication among stakeholders, easy access to
 238 information, minimizing effort and time required to use the technology,
 239 assessment and planning capabilities, coordination of interventions, integra-
 240 tion with other services, and ensuring data security. Differences in percep-
 241 tion and needs among stakeholders were highlighted in the CC-project (do
 242 Carmo Alonso et al., 2020), while specific categories of desired information
 243 were emphasized in the ToGather project (Mazon et al., 2021). The SCCS
 244 (Hafidh et al., 2020, 2019) project developed an ontology-based framework
 245 highlighting the contributions of different stakeholders.

246 Evidence-based approaches varied among the projects. Hafidh et al. (2020)
247 used case scenarios to test the ontology in SCCS and demonstrated its effec-
248 tiveness as a real-time solution. CareNexus (Ranade-Kharhar et al., 2018)
249 tested different interfaces using case vignettes, and usability and usefulness
250 were assessed. The IEP-connect application underwent a Think Aloud study
251 and usability assessment with the SUS scale (Siyam and Abdallah, 2021).
252 The ToGather project employed iterative prototyping, refining the needs and
253 interface based on feedback from professionals and parents (Mazon et al.,
254 2021).

255 Four articles evaluated the benefits of the digital technologies, with three
256 including field studies. The SINSAE project (Bermeo-Zambrano et al., 2020)
257 tested the collaborative tool with volunteers who responded to a survey, indi-
258 cating its potential for inclusive schooling. The AMP project (Mazon et al.,
259 2021) involved 10 teachers who provided feedback through a questionnaire,
260 highlighting the ease of use and multimedia data collection. The IEP-Connect
261 study demonstrated positive attitudes toward the app's usefulness through
262 think-aloud sessions and surveys (Siyam and Abdallah, 2021). The ICT-
263 based strategy study showed that a communication strategy based on a social
264 network facilitated collaborative work among stakeholders in achieving an
265 inclusive school ecosystem (Mendoza-González et al., 2019). None of these
266 studies used a control group or assessed the impact of the technologies on
267 students or stakeholders. Where collaboration was assessed, this was done
268 using non-standardized measures via a survey.

269 **DISCUSSION**

270 Our review identified a total of seven digital technologies and one ICT-
271 based strategy that support collaboration among stakeholders in inclusive
272 education. These technologies have been developed in various countries and
273 have targeted children with different disorders, primarily ASD. The stake-
274 holders involved in these technologies include care providers, teachers, and
275 parents. Regarding the design of technologies, different design approaches
276 were used in developing these technologies: participatory design then user-
277 centered design were the predominant approaches employed by researchers.
278 These approaches emphasize the involvement of end-users throughout the
279 design process, ensuring that the technologies meet their specific needs. The
280 various functionalities and architectures of the technologies have been devel-
281 oped to facilitate cooperation and information sharing between stakeholders.
282 Only one of the technologies has been developed to enable collaboration. The
283 research reviewed highlights the potential of these technologies for school
284 inclusion, to support care projects, and to facilitate collaboration. The studies
285 identify key requirements and guidelines, including facilitating communica-
286 tion among stakeholders, easy access to information, minimizing effort and
287 time required to use the technology, assessment and planning capabilities,
288 coordination of interventions, integration with other services, and ensuring
289 data security.

290 The technologies, whether they are designed with participative or clas-
291 sic design, can be part of the different models of collaboration between

292 the school, the family, and the care providers. Most of the technologies
293 are part of the multi-professional approach or the whole community model.
294 One technology was centered on the IEP's objectives and corresponds to the
295 multi-focused approach on the pupil's future.

296 The studies reviewed have limitations. Especially, only the ICT-based strat-
297 egy study assessed the impact on collaboration, health, or well-being of
298 students, but the measures were not standardized. Furthermore, none of the
299 field studies included control groups.

300 CONCLUSION

301 In conclusion, this systematic review highlights the potential of digital tech-
302 nologies to support collaboration among stakeholders in inclusive education
303 settings. The findings provide valuable insights into the design considera-
304 tions, requirements, and guidelines for developing effective technologies in
305 this field. Future research should focus on rigorous evaluations of these
306 technologies' impact and effectiveness in promoting inclusive education and
307 improving outcomes for students with special educational needs.

308 REFERENCES

- 309 ASCD, Centers for Disease Control and Prevention, 2014. Whole school, whole com-
310 munity, whole child: A collaborative approach to learning and health. Alex. VA
311 ASCD.
- 312 Barr, N., Vania, D., Randall, G., Mulvale, G., 2017. Impact of information and
313 communication technology on interprofessional collaboration for chronic disease
314 management: a systematic review. *J. Health Serv. Res. Policy* 22, 250–257. <https://doi.org/10.1177/1355819617714292>
- 316 Bermeo-Zambrano, F., González-Arias, K., Gálvez-Quezada, J., Robles-Bykbaev, V.,
317 Leon-Pesantez, A., 2020. A methodological model based on expert systems to sup-
318 port the educational inclusion of children with special educational needs, in: 2020
319 IEEE World Conference on Engineering Education (EDUNINE). Presented at the
320 2020 IEEE World Conference on Engineering Education (EDUNINE), pp. 1–5.
321 <https://doi.org/10.1109/EDUNINE48860.2020.9149469>
- 322 Boehner, J. A., 2002. H. R.1 - 107th Congress (2001-2002): No Child Left Behind Act
323 of 2001 [WWW Document]. URL <https://www.congress.gov/> (accessed 9.16.22).
- 324 Castle, M. N., 2004. H. R.1350 - 108th Congress (2003-2004): Individuals with
325 Disabilities Education Improvement Act of 2004 [WWW Document]. URL <https://www.congress.gov/> (accessed 9.16.22).
- 327 Cinquin, P.-A., Guitton, P., Sauzéon, H., 2019. Online e-learning and cognitive
328 disabilities: A systematic review. *Comput. Educ.* 130, 152–167.
- 329 do Carmo Alonso, C. M., de Lima, A. N., Oggioni, B. de M. P., Teixeira, M. R.,
330 Oliveira, E. P., Couto, M. C. V., Duarte, F. J. C. M., 2020. Contributions of activity
331 ergonomics to the design of an electronic health record to support collaborative
332 mental care of children and youth: Preliminary results. *Work Read. Mass* 65,
333 187–194. <https://doi.org/10.3233/WOR-193048>
- 334 Ebersold, S., Detraux, J.-J., 2013. Scolarisation et besoin éducatif particulier : enjeux
335 conceptuels et méthodologiques d'une approche polycentrée. *Alter* 7, 102–115.
336 <https://doi.org/10.1016/j.alter.2013.02.001>
- 337 Emery, R., 2017. La collaboration multiprofessionnelle dans les contextes
338 d'institution spécialisée. *Nouv. Rev. Adapt. Scolarisation* N° 78, 193–209.

- 339 Fernández-Batanero, J. M., Montenegro-Rueda, M., Fernández-Cerero, J., García-
340 Martínez, I., 2022. Assistive technology for the inclusion of students with dis-
341 abilities: a systematic review. *Educ. Technol. Res. Dev.* [https://doi.org/10.1007/](https://doi.org/10.1007/s11423-022-10127-7)
342 [s11423-022-10127-7](https://doi.org/10.1007/s11423-022-10127-7)
- 343 Francisco, M. P. B., Hartman, M., Wang, Y., 2020. Inclusion and Special Education.
344 *Educ. Sci.* 10, 238. <https://doi.org/10.3390/educsci10090238>
- 345 French Gouvernement, 2013. LOI n° 2013–595 du 8 juillet 2013 d’orientation et
346 de programmation pour la refondation de l’école de la République, Code de
347 l’éducation.
- 348 French Gouvernement, 2005. Loi n° 2005–102 du 11 février 2005 pour l’égalité des
349 droits et des chances, la participation et la citoyenneté des personnes handicapées,
350 Code de l’action sociale et des familles.
- 351 Great Britain Department for Education and Skills, 2001a. Inclusive schooling:
352 children with special educational needs. Dept. for Education and Skills, London.
- 353 Great Britain Department for Education and Skills, 2001b. Special educational needs:
354 code of practice. Dept. for Education and Skills, Annesley, Notts.
- 355 Hafidh, R., Sharif, M. S., Al-Bayatti, A. H., Alfakeeh, A. S., Alassafi, M. O., Alqarni,
356 M. A., 2020. An Effective Knowledge-Based Modeling Approach towards a
357 “Smart-School Care Coordination System” for Children and Young People with
358 Special Educational Needs and Disabilities. *Symmetry* 12, 1495. [https://doi.org/](https://doi.org/10.3390/sym12091495)
359 [10.3390/sym12091495](https://doi.org/10.3390/sym12091495)
- 360 Hafidh, R., Sharif, M. S., Alsallal, M., 2019. Smart Holistic Model for Chil-
361 dren and Youth with Special Educational Needs and Disabilities, in: 2019
362 International Conference on Computing, Electronics & Communications Engi-
363 neering (ICCECE). Presented at the 2019 International Conference on Computing,
364 Electronics & Communications Engineering (iCCECE), IEEE, London, United
365 Kingdom, pp. 130–135. <https://doi.org/10.1109/iCCECE46942.2019.8941685>
- 366 Haines, S. J., Francis, G. L., Mueller, T. G., Chiu, C.-Y., Burke, M. M., Kyzar, K.,
367 Shepherd, K. G., Holdren, N., Aldersey, H. M., Turnbull, A. P., 2017. Reconcep-
368 tualizing Family-Professional Partnership for Inclusive Schools: A Call to Action.
369 *Inclusion* 5, 234–247. <https://doi.org/10.1352/2326-6988-5.4.234>
- 370 Kefallinou, A., Symeonidou, S., Meijer, C. J. W., 2020. Understanding the
371 value of inclusive education and its implementation: A review of the literature.
372 *PROSPECTS* 49, 135–152. <https://doi.org/10.1007/s11125-020-09500-2>
- 373 Larivée, S. J., Bédard, J., Couturier, Y., Kalubi, J., Larose, F., Lude, P., Blain,
374 F., 2017. Les pratiques de collaboration école-famille-communauté efficaces ou
375 prometteuses: synthèse des connaissances et pistes d’intervention (Rapport remis
376 au FRQ-SC dans le cadre du programme Actions concertées).
- 377 Lewallen, T. C., Hunt, H., Potts-Datema, W., Zaza, S., Giles, W., 2015. The Whole
378 School, Whole Community, Whole Child model: a new approach for improving
379 educational attainment and healthy development for students. *J. Sch. Health* 85,
380 729–739. <https://doi.org/10.1111/josh.12310>
- 381 Linstead, E., Burns, R., Nguyen, D., Tyler, D., 2016. AMP: A platform for managing
382 and mining data in the treatment of Autism Spectrum Disorder. *Annu. Int. Conf.*
383 *IEEE Eng. Med. Biol. Soc. IEEE Eng. Med. Biol. Soc. Annu. Int. Conf.* 2016,
384 2545–2549. <https://doi.org/10.1109/EMBC.2016.7591249>
- 385 Lyons, W. E., Thompson, S. A., Timmons, V., 2016. ‘We are inclusive. We are a
386 team. Let’s just do it’: commitment, collective efficacy, and agency in four inclusive
387 schools. *Int. J. Incl. Educ.* 20, 889–907. [https://doi.org/10.1080/13603116.2015.](https://doi.org/10.1080/13603116.2015.1122841)
388 [1122841](https://doi.org/10.1080/13603116.2015.1122841)

- 389 Martinez, D. C., Conroy, J. W., Cerreto, M. C., 2012. Parent Involvement in the Tran-
390 sition Process of Children With Intellectual Disabilities: The Influence of Inclusion
391 on Parent Desires and Expectations for Postsecondary Education. *J. Policy Pract.*
392 *Intellect. Disabil.* 9, 279–288. <https://doi.org/10.1111/jppi.12000>
- 393 Mazon, C., Etchegoyhen, K., Saint-Supery, I., Amestoy, A., Bouvard,
394 M., Consel, C., Sauz on, H., 2021. Fostering parents-professional col-
395 laboration for facilitating the school inclusion of students with ASD:
396 design of the “ToGather” web-based prototype. *Educ. Technol. Res. Dev.*
397 <https://doi.org/10.1007/s11423-021-10073-w>
- 398 McNicholl, A., Casey, H., Desmond, D., Gallagher, P., 2021. The impact of assis-
399 sive technology use for students with disabilities in higher education: a systematic
400 review. *Disabil. Rehabil. Assist. Technol.* 16, 130–143. <https://doi.org/10.1080/17483107.2019.1642395>
- 402 Mendoza-Gonz alez, A., Luna-Garc a, H., Mendoza-Gonz alez, R., Gamboa-Rosales,
403 H., Arceo-Olague, J. G., 2019. A strategy based in ICT for inclusion of a student
404 with multiple disability into regular education: a case of educational rehabil-
405 itation, in: *Proceedings of the 5th Workshop on ICTs for Improving Patients*
406 *Rehabilitation Research Techniques*. Presented at the REHAB 2019: 5th Work-
407 shop on ICTs for improving Patients Rehabilitation Research Techniques, ACM,
408 Popayan Columbia, pp. 101–105. <https://doi.org/10.1145/3364138.3364177>
- 409 Nilholm, C., G ransson, K., 2017. What is meant by inclusion? An analysis of Euro-
410 pean and North American journal articles with high impact. *Eur. J. Spec. Needs*
411 *Educ.* 32, 437–451.
- 412 Olmstead, C., 2013. Using Technology to Increase Parent Involvement in Schools.
413 *TechTrends* 57, 28–37. <https://doi.org/10.1007/s11528-013-0699-0>
- 414 O’Neill, S. J., Smyth, S., Smeaton, A., O’Connor, N. E., 2020. Assistive technol-
415 ogy: Understanding the needs and experiences of individuals with autism spectrum
416 disorder and/or intellectual disability in Ireland and the UK. *Assist. Technol.* 32,
417 251–259. <https://doi.org/10.1080/10400435.2018.1535526>
- 418 Ouzzani, M., Hammady, H., Fedorowicz, Z., Elmagarmid, A., 2016. Rayyan—a web
419 and mobile app for systematic reviews. *Syst. Rev.* 5, 210. <https://doi.org/10.1186/s13643-016-0384-4>
- 421 Parsons, S., Lewis, A., Davison, I., Ellins, J., Robertson, C., 2009. Satisfaction with
422 educational provision for children with SEN or disabilities: a national postal
423 survey of the views of parents in Great Britain. *Educ. Rev.* 61, 19–47. <https://doi.org/10.1080/00131910802684755>
- 425 Pontikas, C.-M., Tsoukalas, E., Serdari, A., 2022. A map of assistive technology
426 educative instruments in neurodevelopmental disorders. *Disabil. Rehabil.-Assist.*
427 *Technol.* 17, 738–746. <https://doi.org/10.1080/17483107.2020.1839580>
- 428 Ranade-Kharkar, P., Norlin, C., Del Fiol, G., 2018. Formative Evaluation of Care
429 Nexus: a Tool for the Visualization and Management of Care Teams of Complex
430 Pediatric Patients. *AMIA. Annu. Symp. Proc.* 2017, 1458–1467.
- 431 Ranade-Kharkar, P., Weir, C., Norlin, C., Collins, S. A., Scarton, L. A., Baker, G. B.,
432 Borbolla, D., Taliercio, V., Del Fiol, G., 2017. Information needs of physicians,
433 care coordinators, and families to support care coordination of children and youth
434 with special health care needs (CYSHCN). *J. Am. Med. Inform. Assoc. JAMIA* 24,
435 933–941. <https://doi.org/10.1093/jamia/ocx023>
- 436 Roberts, J., Simpson, K., 2016. A review of research into stakeholder perspectives
437 on inclusion of students with autism in mainstream schools. *Int. J. Incl. Educ.* 20,
438 1084–1096. <https://doi.org/10.1080/13603116.2016.1145267>

- 439 Siyam, N., Abdallah, S., 2021. A Pilot Study Investigating the Use of Mobile Tech-
440 nology for Coordinating Educational Plans in Inclusive Settings. *J. Spec. Educ.*
441 *Technol.* 37, 1–14. <https://doi.org/10.1177/01626434211033581>
- 442 UNESCO, 1994. *The Salamanca Statement and Framework for Action on Special*
443 *Needs Education*, UNESCO Bibliothèque Numérique.
- 444 Walker, S., Dunbar, S., Meldrum, K., Whiteford, C., Carrington, S., Berthelsen, D.,
445 Hand, K., Nicholson, J., 2012. The Transition to School of Children with Devel-
446 opmental Disabilities: Views of Parents and Teachers. *Australas. J. Early Child.*
447 37, 22–29.
- 448 Wehmeyer, M. L., Patton, J. R. (Eds.), 2017. *The Praeger international handbook*
449 *of special education*. Praeger, An Imprint of ABC-CLIO, LLC, Santa Barbara,
450 California.
- 451 Zallio, M., Ohashi, T., 2022. The Evolution of Assistive Technology: A Literature
452 Review of Technology Developments and Applications. [https://doi.org/10.48550/](https://doi.org/10.48550/ARXIV.2201.07152)
453 [ARXIV.2201.07152](https://doi.org/10.48550/ARXIV.2201.07152)