An Chomhairle Náisiúnta
um Oideachas Speisialta
National Council
for Special Education

Literature Review

relating to policy advice on educational provision
for students in special schools and special classes

2024

An Chomhairle Náisiúnta
um Oideachas Speisialta
National Council
for Special Education

Literature Review

relating to policy advice on educational provision
for students in special schools and special classes

2024

A report produced by the NCSE.

2024

National Council for Special Education
1-2 Mill Street
Trim
Co Meath
C15 P2KC

T: 01 603 3200

www.ncse.ie

Contents

Index of Tables

1. Introduction

This report is a review of the literature relating to the impact and experiences of students educated in specialist settings and inclusive settings, and related issues. Following this brief introduction, the research questions guiding the literature search and the search process for this report are detailed, before an overview of the literature selected and examined is outlined. This will detail the total number of articles covered in this report and the categorisation process involved to order the material. A number discrete sections then follow, each relating to one of this research questions which provided the focus for the review. Within each section, the relevant literature is presented in a template alongside a brief review of it. A summary and discussion concludes each section.

1.1 Research Questions

The following table presents the ten research questions that were formulated as a framework for this study's literature review.

Table 1: Research questions

RESEARCH QUESTIONS	
Q1.	Is there evidence (and if so, what is it) that students in specialist settings[1] receive a good quality education?
Q2.	Is there evidence (and if so, what is it) that students with special educational needs achieve better or worse outcomes[2] in specialist settings than if they were in mainstream settings?
Q2A.	Based on the evidence found in Q2, what factors impact on bringing about these outcomes[3] (e.g. quality of teaching, length of placement, other supports)?
Q2B.	Are the outcomes[4] achieved comparable across students with different types of disability/type of need?
Q3.	Is there evidence that some students cannot be educated in mainstream schools? If so: • Who are these students? • Why can't they be educated in mainstream settings? • Where should they be educated?
Q4.	Is there evidence (and if so, what is it) that providing specially equipped sensory rooms in educational settings meets students' underlying sensory needs or conditions?
Q5.	Is there evidence (and if so, what is it) about where special settings should be located to facilitate best educational outcomes[5]? Does this evidence differ by type of disability?

1 In this document, where the term specialist settings is used, it is taken to mean special classes in mainstream schools and special schools, and special schools.

2 Outcomes: achievement; attendance; independence; quality of life; transition/end-of-school.

3 Outcomes: achievement; attendance; independence; quality of life; transition/end-of-school.

4 Outcomes: achievement; attendance; independence; quality of life; transition/end-of-school.

5 Outcomes: achievement; attendance; independence; quality of life; transition/end-of-school.

RESEARCH QUESTIONS	
Q6.	Is there evidence (and if so, what is it) on the impact of travel time to an educational setting on the ability of a student with special educational needs to learn?
Q7.	Is there evidence (and if so, what is it) for the impact of specialist provision on outcomes[6] for students with SSLD or SLD? If so, does this evidence suggest anything about the impact of the length of specialist provision on student outcomes[7]?
Q8.	What is the evidence for the impact of placement in specialist settings on the school experiences[8] of students with and without special educational needs?
Q9.	Is there evidence (and if so, what is it) for the impact of inclusion on outcomes for students without special educational needs?
Q10.	Is there evidence (and if so, what is is) for the impact of inclusion on the experiences of students without special educational needs?

These questions were developed with a view to identifying the most relevant literature to inform the development of the policy advice for the Irish context. In addition, the specific focus of question seven – the education of students with SLD and SSLD – was developed given the context and time bound nature of special class provision for these students in Ireland.

6 Outcomes: achievement; attendance; independence; quality of life; transition/end-of-school.

7 Outcomes: achievement; attendance; independence; quality of life; transition/end-of-school.

8 Evidence for its impact on the following areas of experience; inclusion; participation; transition to/from mainstream class; curriculum access.

2. Search Strategies and Methods

This section will provide details of each of the steps that were taken both in preparation for the searches and in the conduct of the literature searches in regard to the ten research questions. These steps included the identification of robust inclusion and exclusion criteria for the review; the process of developing thematic categories, search terms and search strings; and the search strategies employed in the available databases.

2.1 Inclusion and Exclusion Criteria

The NCSE is committed to basing its work and recommendations on the very highest quality of research evidence. The "Gold Standard" of research is widely held to be the randomised control trial (Slavin, 2002; The Coalition for Evidence Based Policy, 2003; Togerson & Togerson, 2008). Eisenhart and Towne (2003) in their review of national policy on scientifically based research in education, state that for establishing the criteria for federal funding, the No Child Left Behind Act (2001) defines scientifically based research as "testing hypotheses and using experimental and quasi-experimental design only, and preferring random assignment" (p. 34).

Drawing on the criteria used by the NCSE Research Unit in the Literature Review relating to the Role of the Special Needs Assistant (May 2018), this review adopted the inclusion and exclusion criteria for that review, and altered it as required dependent on whether students with or without special educational needs were a focus on the particular research question. The tables below present the inclusion and exclusion criteria for particular questions.

Table 2: Criteria for questions 1-7, 9

Parameter	Included	Excluded
Scope	Students with special educational needs; Research relevant to an educational context/for an educational purpose (including early years settings for children aged 3+ where education is the primary focus) – i.e. for early intervention classes.	Those other than students with special educational needs (e.g. adults with disabilities; students with no special educational needs (except for Q9)); Research not relevant to an educational context/for an educational purpose (including early years settings where children are <3 years of age).
Study type	Robust research design (e.g. (quasi) experimental design, single case design with some combination of pre-test and post-test comparison and/or follow-up) reporting impact, and with a sample size of more than five.	Methodological considerations (e.g. instrument/measure validity and reliability testing); Commentary or opinion (in academic or trade publication); Work not based on empirical studies; Work reporting perspective, views or other forms of social validity data; Sample size of less than five; No impact (measure(s)) reported.

Parameter	Included	Excluded
Study descriptors	Elements of the study are clearly set out (e.g. actual intervention, setting, characteristics of participants).	Elements of the study are not adequately described.
Time	Published between January 2000 and December 2021.	Published prior to January 2000.
Language	Written in English.	Not written in English.

The experiential element of Questions 8 and 10 required a separate set of criteria to allow for the inclusion of high quality studies predominantly, or wholly, employing qualitative methods. The following were the inclusion and exclusion criteria applied in searching for literature to address Questions 8 and 10.

Table 3: Criteria for questions 8 & 10

Parameter	Included	Excluded
Scope	Students with special educational needs (Q8 only); Students without special educational needs; Research relevant to an educational context/for an educational purpose (including early years settings for children aged 3+ where education is the primary focus) – i.e. for early intervention classes.	Studies relating to adults with disabilities; Research not relevant to an educational context/ for an educational purpose (including early years settings where children are less than 3 years of age).
Study type	Research studies with a sample size of more than five which contain perspectives/ views of students (a) with special educational needs and (b) students without special educational needs regarding the impact of their placement in specialist settings on their experiences of: inclusion; participation; transition to/ from mainstream class; curriculum access.	Methodological considerations (e.g. instrument/measure validity and reliability testing); Commentary or opinion (in academic or trade publication); Work not based on empirical studies; Sample size of less than five.
Study descriptors	Elements of the study are clearly set out (e.g. actual intervention, setting, characteristics of participants).	Elements of the study are not adequately described.
Time	Published between January 2000 and December 2021.	Published prior to January 2000.
Language	Written in English.	Not written in English.

2.2 Thematic Categories, Search Terms and Search Strings

Each of the ten questions were initially analysed to establish broad thematic categories that would:

a. Guide the development of appropriate search terms and search strings within each category

b. Be instrumental in determining the strategy to be used in running the specific search for each of the research questions

c. Assist in the analysis of the research that emerged during the searches.

Twelve thematic categories were identified as being relevant and associated with one or more of the research questions. These were labelled as:

a. Educational Setting/Provision/Placement

b. Special Educational Need

c. Outcomes

d. Impact

e. Educational Quality

f. Sensory Rooms

g. Location

h. Accessibility/Travel/Time

i. Cannot be educated

j. Experiences

k. Students without special educational needs

l. Inclusive Education.

Following the establishment of the review categories, work was undertaken to comprehensively identify and record within each, the range of search terms which might capture evidence to address the research questions. Once the identification of the search terms was completed, search strings within each thematic category were created, separating terms with the Boolean operator "OR".

2.3 Search Strategies

During the process of developing the search terms, a grid was used to identify the number of categories (separated in the searches with "AND") that could be combined for each question in the search. In all but one case, it was determined that five of the search categories should be combined to best capture what literature was available.

The literature searches were carried out in two phases, with the first phase covering January 2000 to June 2019 and the second phase covering July 2019 to December 2021. The searches were conducted via subscription to EBSCOhost. In the first search, the NCSE's subscription to four databases were used in each of the searches, while the second search was conducted using three aligned and thematically comparable databases. The databases provided by EBSCOhost were:[9]

First search	Second search
Education Source	British Education Index
SocINDEX with Full Text	Social Sciences Full Text
Psychology and Behavioural Sciences Collection	PsycArticles
Social Work Reference Centre	

2.4 Searches

The searches for phases one and two were carried out using the following methods. In the case of Questions 1, 2 and 7, the initial analysis of search categories revealed that they all shared the same five categories of search terms. For that reason, literature searches to address these three questions were conducted simultaneously. In all other cases, searches were undertaken individually. The following table provides an overview of the search results for this review.

9 The subscription to EBSCOhost was updated during the period of the second literature search, with aligned research databases of comparable journal content from EBSCOhost selected to run the second phase of searches.

Table 4: Overview of search results

Database Search	Research Question	Search Phase	Citations Returned[10]	Studies Screened	Studies Selected
1	Research Questions 1, 2 and 7	1	2,247	199	17 Q1-6 Q2-11 Q7-0
		2	2,853	14	2 Q1-1 Q2-1 Q7-0
2	Research Question 3	1 2	1,492 3,652	39 15	0 0
3	Research Question 4	1 2	572 25	29 3	0 0
4	Research Question 5	1 2	1,174 8	21 2	0 0
5	Research Question 6	1 2	1,564 2	22 0	0 0
6	Research Question 8	1 2	4,605 4,231	56 18	11 1
7	Research Question 9	1 2	228 21	26 2	8 0
8	Research Question 10	1 2	259 16	42 4	7 0
	Phase 1 Searches		**12,141**	**434**	**43**
	Phase 2 Searches		**10,808**	**58**	**3**
	Total Search		**22,949**	**492**	**46**

From the initial searching, citations presented by EBSCOHost were scanned primarily according to title to firstly identify studies that might be related to the research question(s). This weeding process entailed discounting titles that clearly did not pertain to the group to be considered (i.e. studies of undergraduates, studies of parents, etc.), titles unrelated to the topic (for example, studies of medical trials, studies of teachers' needs, etc.) and additionally (in the case of the first five searches and the seventh search), titles that suggested that studies were of a predominantly qualitative nature. At the end of this intial clearing, across the eight searches, a total of 434 studies were accessed in phase 1 searches and 58 studies in phase 2 searches in order to conduct a more in-depth review.

10 Final number once duplicates removed by EBSCOHost.

In each case, at the screening stage, abstracts were initially read to remove those that clearly did not meet the inclusion criteria. Some studies, because their abstracts alone were not conclusive, required a review of methodology sections to determine if they met the criteria. As shown in Table 4, after this next step in the analysis, 391 of the studies were excluded from the review in phase 1 and 55 of the studies in phase 2, either because they failed to meet the inclusion criteria and/or did not directly address or provide evidence to answer the specific research question.

Of the 46 studies that remained (43 studies in phase 1 and 3 studies in phase 2), 18 were quasi-experimental in design, with 11 of these having a longitudinal element. A further three were longitudinal studies. Three studies involved single case pre- and post-testing, while two were a post-test design with a comparison group. Eight studies were quantitative self-reported surveys or scales, seven were qualitative, three were statistical analyses while two were mixed-method studies. In the sections that follow, the results of the two phases of searches are combined.

Overall the 46 studies were based in 19 countries (one study was based in three countries).

Table 5: Overview of location of studies

Country of Origin	Number of Studies
United States	16
Netherlands	6
Norway	5
United Kingdom	5
Switzerland	2
Turkey	1
Austria	1
Greece	1
Italy	1
Portugal	1
Cyprus	1
Israel	1
New Zealand	1
Canada	1
Germany	1
Poland	1
Sweden	1
Finland	1
Belgium	1

There is a great variation across the studies in regard to sample sizes. Analysis show the range was 8-995,459.

3. Findings

The following text is divided into a number of sections, representing the search processes and findings to address the original research questions. Each section will present the search categories that were employed; the number of citations returned; the number that were downloaded after the preliminary scan for further investigation; and the number of downloaded articles that were selected for a more in-depth review. An account in each case will be provided for the number of articles that in the final analysis were not selected for inclusion in the review and the rationale for their exclusion. Each section will then present information about the selected articles including Title; Nature of Study; Category of Setting; Type of Need(s) Met; Overview of the Findings; and Author(s)' conclusion/assessment.

3.1 Questions 1, 2 and 7

The following search categories were used to identify research literature to address Questions 1, 2 and 7: "Educational Setting/Provision/Placement" AND "Special Educational Need" AND "Outcomes" AND "Impact" AND "Educational Quality"[11]. The search for the three questions was done simultaneously as they all shared the same five thematic categories of search terms. The questions are:

Table 6: Questions 1, 2 and 7

Q1.	Is there evidence (and if so, what is it) that students in specialist settings receive a good quality education?
Q2.	Is there evidence (and if so, what is it) that students with special educational needs achieve better or worse outcomes in specialist settings than if they were in mainstream settings?
Q2A.	Based on the evidence found in Q2, what factors impact on bringing about these outcomes e.g. quality of teaching, length of placement, other supports)?
Q2B.	Are the outcomes achieved comparable across students with different types of disability/ type of need?
Q7.	Is there evidence (and if so, what is it) for the impact of specialist provision on outcomes for students with SSLD or SLD? If so, does the evidence suggest anything about the impact of the length of specialist provision on student outcomes?

The searches returned 5,100 citations after duplicates were removed. After an initial screening was conducted, of the 213 peer reviewed academic studies, 194 articles (91.7%) were not selected. The following table provides a specific breakdown of (a) the categorical rationales for exclusion and (b) the number of articles that were excluded because they were deemed to fall into one of the categories.

11 In order to better define the term "Educational Quality", a review of key publications was undertaken including the Inspectorate's *Looking at our School: A Quality Framework for Primary Schools; Looking at our School: A Quality Framework for Post-Primary Schools* (2016); *Learning: The Treasure Within* (Delors *et al*., 1996, UNESCO); the Convention on the Rights of Persons with Disabilities, 2006; The Salamanca Statement and Framework for Action on Special Needs Education, 1994; Article 29 (1), Convention on the Rights of the Child the Aims of Education, 2001; and The Dakar Framework for Action Education for All: Meeting our Collective Commitments (World Education Forum, 2000).

Table 7: Rationale for exclusion of articles for questions 1, 2 and 7

Rationale		Frequency (Percentage)
1.	Study was entirely or predominantly qualitative in nature	39 (21.1%)
2.	Study focused on the use or effectiveness of different educational interventions and/or pedagogic strategies	50 (25.8%)
3.	The nature of the special education placement (e.g. 80%+ attendance) was not clear in either the study overall or as part of the findings and discussion	13 (6.7%)
4.	Studies focused on teacher training needs, teacher experiences, working conditions, teacher practice, etc.	8 (4.1%)
5.	Methodological issues	29 (14.9%)
6.	Studies in which the specialist setting and provision there, were not the focus of the research	21 (10.8%)
7.	Studies focused solely gaining the perspectives of parents (some of these would be also qualitative, but are contained in this category)	11 (5.7%)
8.	Summaries of reports; commentaries/opinion pieces or editorials; reviews of policies, legislation, etc.	10 (5.2%)
9.	Studies that are not pertinent to this cohort (for example studies of adults, students in university) nor address special settings in the research	10 (5.2%)
10.	Studies that considered only one aspect of educational outcomes	3 (1.5%)
Total		**194 (100.0%)**

3.1.1 Overview of the Literature and the Nature of the Evidence Produced

The 19 articles identified as meeting the inclusion criteria are presented below under each question heading. It should be noted that they relate specifically to Questions one and two only.[12] No studies were found in this search which met the inclusion criteria and specifically addressed question seven, the impact of specialist provision on outcomes for students with SLD or SSLD.

12 Articles found in that search that might be relevant to Question 7 (SLD and SSLD) did not meet the inclusion criteria as they were entirely or predominantly qualitative in research methodology.

3.1.1.1 Findings Q1. Is there evidence (and if so, what is it) that students in specialist settings receive a good quality education?

From the screening of the studies identified, based on the inclusion criteria, seven were found to relate to the question of whether the education received in specialist settings was of good quality. However, it should be noted that while the research questions focuses specifically on good quality education[13], only one study specifically addressed the issue, using a validated rating scale[14] across 10 domains to describe quality education. The other six studies examined aspects of curricular programmes for encouraging academic progress, behavioural support and health, and identify findings from which good quality education could be inferred. It should be noted that in all but two studies (Kurth, Born & Love, 2016; Kraemer et al., 2020), the research does not suggest that the work is grounded in a strong framework which sets out to establish what quality education means. Rather the authors extrapolate aspects of what may or may not be elements and evidence of quality education.

Six of the seven studies were conducted in the United States. Three of these pertain to students in the United States who have been provided with specialist provision for what the authors broadly state are Emotional Disturbance; one focuses specifically on the quality of education for students with ASD in special schools. A fourth study considers the quality of educational provision in mainstream special classes for students with severe cognitive disabilities, while the fifth study is concerned longitudinally with the quality of academic provision in special schools for those who are blind or visually impaired. The sixth study focuses on the quality of programs for students with autism in the United States. The seventh study is from the Netherlands and is focused on children with ASD.

Two of the studies are described as longitudinal, the others report on data collection within a 12 month period. Sample sizes varied in the seven studies with a range of 19-947. In relation to research design, two studies are quasi-experiments; two are case studies using pre and post-test instruments; one is a longitudinal comparative study; one is a randomised clinical trial; another is a mixed method, observational study.

13 For search purposes, good quality education was defined using the Department of Education and Skills Inspectorate's documents *Looking at our Schools: A Quality Framework for Primary Schools* and *Looking at our Schools: A Quality Framework for Post Primary Schools*.

14 Autism Program Environment Rating Scale – Middle/High School version (APERS-MHS).

Article no. and full title	1. **Students Educated in Self-Contained Classrooms and Self-Contained Schools: Part II – How Do They Progress Over Time?** (Lane, Wehby, Little & Cooley, 2005)		
Nature of study	Using a range of research validated assessments and methods (including pre and post standardised assessments, school data, curriculum-based assessments and behavioural rating scales)[15], the authors set out to measure the progress of students with EBD attending a special school compared to students with EBD enrolled in self-contained classrooms in a mainstream setting. Variables used for matching groups were age, gender, primary disability category and intellectual ability. Data were collected over the course of one year. This study was conducted in the United States. Mean intellectual ability was 81.08 at pre-test. There were no significant differences in mean intellectual disability between groups pre-test.		
Age group	**Category of disability**	**Research design**	**Sample size**
Special class cohort: 13 primary, 13 secondary (M=11.3 years); Special school cohort: 20 primary, 14 secondary (M=10.5 years)	Majority of students' primary disability is defined by the authors as "Emotional Disturbance, n=42 (others described as having a learning disability, n=8[16] or ADHD, n=6, others n=4).	Quasi-experimental study	60 (26 students with EBD in special classes; 34 students with EBD attending a special school). 41 were male, 19 were female. 34 students were in self-contained schools, 26 students were in self-contained classrooms
Category of setting (e.g. special class, special school)	Special class and Special school		
Type of needs met	Academic, social, emotional and behavioural skills needs.		

15 In their study, Lane *et al*. compared (pre/post) Woodcock Johnson III Test of Achievement; curriculum based measurements; and parts of WISC-III. Teachers completed (pre/post) the Social Skills Rating System (measuring 30 social skills across three domains (cooperation, assertion and self-control) and the Walker-McConnell Scale of Teacher and Peer Preferred Social Behavior and School Adjustment. Data were also collected from students' school records throughout the study.

16 Terms used in the United States for a Learning Difficulty.

Article continued	
Brief overview of findings which specifically address the research question	In terms of academic performance (reading, oral language and maths), the comparison of a range of pre and post-testing, indicated that there generally was no statistically significant difference between the progress made over the course of one year by each group. It is noted that students attending the special school while achieving moderate progress in relation to language and reading comprehension, actually decreased in written language skills as compared to students enrolled in special classes. Similarly, in respect of behavioural progress, there was no real difference in growth between the two groups of students apart from measures of internalising behaviours (special class students' on average scored 7.04 at pre-test, 8.58 at post; special school students scored on average 5.62 at pre-test, 5.47 at post) and the number of retentions (special class students on average at pre-test .23, at post .38; special school students .26 at pre-test, .15 at post). Students in special classes showed increases in social skills (on average from 84.04 to 85.96) development while students in the special school evidenced a decrease in social skills measurements (on average from 87.68 to 86.47) over the course of the year.
Author conclusion/ assessment	The decrease in students' internalising behaviours in the special school is suggested to be due to having greater access to counsellors, regular behavioural evaluations and interventions. Little information is provided about supports provided to students in the special classes apart from receiving social skills and anger management training alongside academic instruction. Overall, the authors highlight not only the lack of progress made by both cohorts across the different academic and behavioural domains, but also decreases or dis-improvement in some areas. However, Lane *et al*. advise that this study's findings should not be taken as definitive particularly as the research design did not include students educated in mainstream inclusive settings and the present study's sample size was comparatively small.

Article no. and full title	**2. Development of children with autism spectrum disorders in special needs education schools in the Netherlands: a three-year follow-up study** (Manti, Scholte & Van Berckelaer-Onnes, 2011).		
Nature of study	Conducted over a three year period, this study was intended to evaluate the effect of attendance at a special school on the academic progress and symptoms of children with ASD. At three intervals, data were collected for academic attainment using CITO[17] (the Dutch national primary school attainment test) and teacher/parent reports on symptomology using the Social Emotional Questionnaire (SE)		
Age group	**Category of disability**	**Research design**	**Sample size**
Point 1: 5.8 years (M) Point 2: 6.6 years (M) Point 3: 7.6 years (M)	ASD	Longitudinal case study with pre and post measurements	89, n=44 with ASD, n=45 without ASD

17 The CITO test is one of a number of school leaver attainment test options which primary schools in the Netherlands can administer in a student's final year at that level. The CITO test is taken by approximately 85% of schools and evaluates the knowledge pupils have acquired during their eight years of primary school in the following areas via multiple choice questions: language; mathematics; and study skills (there is an optional element on 'world orientation'). (Scheerens *et al*., 2012).

Article continued	
Category of setting (e.g. special class, special school)	Special School
Type of needs met	Academic; communication; behaviour; and social and emotional skills needs
Brief overview of findings which specifically address the research question	During the first year of attendance at the special school, no reduction in ASD symptoms was reported. However, during the second year of the study teachers reported a reduction in students' ASD symptoms; however, parents at the interval reported no change. With regard to academic progress, both the group with ASD and the group without ASD attending the special school demonstrated gains in reading, comprehension, spelling and maths during the course of the study.
Author conclusion/ assessment	The authors conclude by highlighting the difference in teachers' and parents' assessment of symptom reduction over the course of the three years. Manti *et al*. propose that this may be related to parties' differing expectations, the variations in contextual environments and perhaps a "*collaboration gap*" between home and school. Manti *et al*. state however that their findings need to be taken with caution because they have not employed an experimental or quasi-experimental research design. They also remark that the absence of any qualitative measures is a limitation in that they were not able to explore, perhaps through observation, the actual quality of the education being provided.

Article no. and full title	**3. First-Year Effectiveness on School Functioning of a Self-Contained ED Middle School** (Mattison & Schneider, 2009)		
Nature of study	This is a case study of 24 students during their first year enrolled in a therapeutic middle school for children with EBD in the United States. The authors aimed to measure the effect of the school's programme on students' psychopathology and school functioning. Measurements were taken prior to enrolment in the school and at the end of the first academic year. School functioning was measured via the collection of pre/post intervention (i.e. placement in special school) school record data including students' GPA, number of subject failures, absences, lateness and disciplinary referrals (including suspensions). To measure psychopathology, the teacher version of the Adolescent Symptom Inventory (ASI-4T) was used as was the Global Family Environment Scale (GFES). Mid way through their first year at the special school, students' reading skills were tested using the Woodcock Reading Mastery Tests – Revised (WRMT-R).		
Age group	**Category of disability**	**Research design**	**Sample size**
12.8 years (M)	The authors use the term ED (emotional disturbance)	A case studying using pre and post measurements over a one year period	24. Mean full scale IQ for students was 100.4 on the Wescheler Intelligence scale.
Category of setting (e.g. special class, special school)	Special School		

Article continued	
Type of needs met	Academic, behaviour, social and emotional skills needs
Brief overview of findings which specifically address the research question	Over the first year, there was a significant increase in students' GPA[18] along with a decrease in their subject failure rate. The authors state that on entry to the school, a third of the students had a failing GPA; this was reduced to only 8.3% of the students by the end of the first year. Reading skills levels remained consistent. During the year both attendance and punctuality improved. There were significant improvements in the reduction of disciplinary referrals and suspensions. For example, while 50% of the students in their previous mainstream placement had been suspended, the figure had decreased to 29.2%. Decreases in psychopathology were evident across the symptom categories but most strongly (ASI-4T) in ADHD (inattentive), Conduct Disorder and social interaction.
Author conclusion/ assessment	Mattison and Schneider state that in this study the average effect size for improvement was .61 and argue that the typical risk factors for early school leaving associated with students with EBD were reduced over the year in the special school. They also found a correlation between increased GPA and decreased disciplinary referrals, thus making the case for an approach that combines simultaneously academic and behavioural interventions. Mattison and Schneider allow that this sample displayed from the start higher levels of psychopathology than has been found previously in students with EBD enrolled in less segregated settings and so may not be comparable. While acknowledging the limitations of their study (including the small sample size), the authors suggest that further research in this area should explore the use of a random control trial design.

Article no. and full title	**4. Eco-behavioral Characteristics of Self-Contained High School Classrooms for Students With Severe Cognitive Disability** (Kurth, Born & Love, 2016)
Nature of study	This study was conducted in five American high schools in which students attended what had been described by local education authorities as "high quality" self-contained special classes. A time sampling data collection system (EBASS eco-behavioral assessment systems software) was used to measure the special classrooms' learning environments as well as students' and teachers' behaviours across a total of 103 variables. Data were collected (by two researchers) for each of the 19 students for a total of 1,365 minutes of observations. Observers recorded data for both staff and students at 60 second intervals. Field notes were compiled by both researchers following each time sampling observation. Eleven of the dyads were observed on additional occasions at different times of the day, engaging in different teaching and learning activities.

18 Academic Grade Point Average.

Article continued		Article continued	
Age group	**Category of disability**	**Research design**	**Sample size**
15-18 years	Intellectual disability (n=9), ASD (n=4), multiple disabilities (n=5) and physical disability (n-1). Nine students had complex communication needs, meaning in this study that they used or appeared to need augmentative and alternative communication systems.	Mixed methods observational case study	19 (male n=14, female n=5).
Category of setting (e.g. special class, special school)	Special classes within mainstream schools		
Type of needs met	Multiple needs		
Brief overview of findings which specifically address the research question	From their quantitative analysis, the authors found that teachers spent a small percentage of their time in actual academic instruction (the majority of their time involved completing paperwork and/or managing classroom behaviour). Paraprofessionals provided most of the academic instruction to the students. Students seemed to have limited access to the general education curriculum and tended not to engage actively in instructional activities, more often being passive observers. There was a lack of differentiation and/or individualisation in teaching and learning materials and activities. The classrooms were unconducive to on-task work as the noise levels and behaviours were distracting for both students and staff. Few examples were observed of teachers employing effective pedagogic strategies or interventions. Students received limited instructional feedback from staff and there was little evidence of the provision of consistent, well-planned communication support. The authors noted that what may appear to be a positive element of these classrooms (i.e. the high provision of staff), served negatively as students were frequently distracted with adults conversing amongst themselves during lessons and support staff coming in to or exiting the space continuously.		
Author conclusion/ assessment	Kurth *et al*. acknowledge that the small sample size and narrow geographical spread of the schools participating, are limitations of their study and so reduce the possible generalisability of the findings. Also, because most of the 19 students spent their entire school day within the classroom, it was not possible to observe and document their behaviours in different school settings. The authors conclude that they did not find through their data collection and analysis anything that was singularly effective or special about these high school special classrooms.		

Article no. and full title	**5. The Role of Specialized Schools for Students with Visual Impairments in the Continuum of Placement Options: The Right Help, at the Right Time, in the Right Place** (McMahon, 2014)		
Nature of study	This is a two part American study that replicates an earlier investigation by the author in 1994. Through the use of two separate surveys, McMahon sets out to (a) determine the nature and extent of services special schools are providing to mainstream schools (i.e. outreach), (b) the levels of full time enrolment in the special schools and (c) over the period of 2007 to 2012, to track post-secondary outcomes of those students who had graduated from special schools for the B/VI. In the survey for schools 39 special schools participated. For the second survey (outcomes) 947 students across the 39 school participated. McMahon compares the findings of the current study with those from 1994.		
Age group	**Category of disability**	**Research design**	**Sample size**
High School graduates	Blind/Visual Impairment	Longitudinal, comparative case study	947 (375 with visual impairments only, 268 with visual impairments and additional disabilities not including intellectual disabilities, and 304 had additional disabilities including intellectual disabilities).
Category of setting (e.g. special class, special school)	Special Schools		
Type of needs met	Not specified		
Brief overview of findings which specifically address the research question	The author found that across the 20 years, the number of students enrolled full time in the special schools remained fairly even with 3,907 attending in 1994 and 4,264 in 2014. A greater number of students in the 2014 study had an additional disability compared to those in 1994. Over half of the 947 students in the second wave study reported that they had studied an academic programme at their school with 64% of these stating that after graduation they had progressed to college (this figure was 40% in the 1994 study). As well, in the second study, 30% of the respondents who indicated that they had an additional disability, went on to college. The author deduces from these findings that the special schools for the B/VI have and continue to focus on equipping their students with academic qualifications. Only 10% of B/VI (no other disability) students did not after graduation proceed to enrol in either a programme of vocational training or college (this was the same in 1994). Of those B/VI (with an additional disability) students, only 17% did not have a post school further education placement.		
Author conclusion/ assessment	The author recognises that his research has not explored in depth the "quality" of the education as it is delivered in the special schools. However, his conclusion based on broadly consistent findings across the 1994 and 2014 studies, is that these special schools for the B/VI are providing solid academic programmes that enable students to progress to further academic or vocational placements.		

Article no. and full title	**6. Comparison of Students Classified ED[19] in Self-Contained Classrooms and a Self-Contained School** (Mattison, 2011)		
Nature of study	A study in the United States of the educational and behavioural outcomes of students enrolled during one academic year in a special ED school compared to students partially enrolled in special education classes in a mainstream school (attendance in the special classes was typically for half or more of the school day). The author conducted baseline data collection (IQ; academic achievement test; standard measures of school functioning, such as GPA, absences, lateness, disciplinary office referrals and suspensions) and a teachers' checklist for DSM-IV psychopathology (Child Symptom Inventory)[20] at the start and again at the end of the academic year.		
Age group	**Category of disability**	**Research design**	**Sample size**
12-13	Defined by the author as "Emotional Disturbance". Students experienced a range of conditions such as AHD; CD; ODD; General Anxiety Disorder; Bipolar Disorder; Major Depressive Disorder; Dysthmic Disorder.	Quasi-experimental study	76 middle school students (59 in special ED school; 17 partially enrolled in mainstream ED special classes.
Category of setting (e.g. special class, special school)	Special Classes and Special School		
Type of needs met	Academic; Social Skills; School Functioning; Behavioural Needs; Mental Health needs		
Brief overview of findings which specifically address the research question	The author found that the academic characteristics (reading and mathematics) for both groups stayed fairly consistent (with students in the mainstream special classes performing academically stronger than the students in the special school at both pre and post-test). In terms of school functioning, the students in mainstream special classes in most categories (apart from tardiness) improved and were significantly better than that of the students in the special school. For example, excessive absenteeism for the special class cohort was 5.9% compared to 33.9% for those in the special school. Similarly, Disciplinary Referrals were 29.4% in comparison to 67.8% in the special school. However, there was more improvement over time in psychopathology for students in the special school, in contrast to those in the special classes who presented increased symptoms of anxiety and oppositional defiant behaviours.		

19 Throughout the study, the author refer to "Emotional Disturbance" or ED.

20 Mattison use of the term psychopathology encompasses externalising behavioural conditions (ADHD, Conduct Disorder and Oppositional Defiant Disorder) and internalising conditions (General Anxiety Disorder, Major Depressive Disorder, Dysthmic Disorder and Bipolar Disorder).

Article continued	
Author conclusion/ assessment	Mattison makes the point that each of the settings seemed appropriate for the specific needs of each of the cohorts. The universal improvement in psychopathology for the students in the special school are attributed to the nature of the intensive individual classroom support received in that setting, school-wide behaviour support programmes as well as the extensive range of therapeutic interventions and mental health programmes that are offered. Students in the mainstream ED special classes were provided with weekly small group support on social skills and individual counselling. Some also received community mental health support. Mattison writes that the unequal balance in his sample (i.e. 59 attending the special school; only 17 attending special classes in a mainstream school) is a limitation to the study. Equally, he acknowledges the absence of students with ED attending inclusive classrooms.

Article no. and full title	**7. Quality of high school programs for students with autism spectrum disorder** (Kraemer, Odom, Tomaszewski, Hall, Dewalt, Hume, Steinbrenner, Szidon, Brum, 2020)		
Nature of study	This study was used to rate the quality of programs for students with autism in 60 high schools in three locations in the United States, Wisconsin, California and North Carolina. The study was conducted in the first semester, with a single point of data collection. The authors attempted to secure a representative sample of public schools using a convenience sample, with students in two groups: students in inclusive programs (diploma-awarding programs typically in general education), and students in modified programs (primarily self-contained special classes) for most or all of the school day.		
Age group	**Category of disability**	**Research design**	**Sample size**
14 to 18 years	ASD	Randomised clinical trial (RCT) – multi-component intervention	547
Category of setting (e.g. special class, special school)	Mainstream school, general and special classes		
Type of needs met	Academic; Social Skills; Behaviour; Communication		
Brief overview of findings which specifically address the research question	The authors found that, on average, public high schools in the study provide programs for students with Autism of a minimally adequate quality. They provide a safe environment that has a positive social climate, teaming[21] and connections to families. However, some areas fall below the level expected for students with Autism, including areas of most need (e.g., communication, social competence, independence transition, and challenging behaviour). Of note, is the concern related to preparation for transition. In the evaluation this fell consistently below the level of adequate quality, with quality ratings higher for modified programs (primarily self-contained special classes) than for inclusive programs (diploma-awarding programs typically in general education).		

21 Odom et al. 2017, the APERS scale includes a teaming domain which includes team membership, team meetings, decision making.

Article continued	
Author conclusion/ assessment	Kraemer et al. concluded that future program development should focus on building instructional quality of programs for students with autism. The findings on transition highlight the need for more emphasis on transition programming across inclusive and modified programs. The authors propose that the disparity between the quality of transition programming for modified and inclusive programs for students with autism may be related to the age of students leaving the school system; 18 for the diploma program while students in the modified program may stay until 22 years.

3.1.1.2 Section review

The question in focus in this section asked: *is there good quality evidence (and if so, what is it) that students in specialist settings receive a good quality education?* From the studies which met the inclusion criteria and summarised here, there was insufficient evidence to answer this question.

The search process imposed a framework of good quality education factors which returned these articles. But as noted at the start of this section, six of the seven studies which met the inclusion criteria and are summarised above did not specifically refer or seek to examine good quality education. One study used a validated rating scale on ten domains to describe quality education. The six other studies addressed specific factors or elements of education in specialist provision, from which good quality education could be inferred. As such, this limits what can be conclusively drawn from them to answer the question. Moreover, the evidence that is produced here from the studies is weakened by limitations of study design or insufficient information on elements of it, such as on comparison groups, whether groups were matched to begin with, or the broader nature of the settings in which the studies occurred (e.g. what other supports are available). The general concerns outlined in the limitations section regarding generalisability of findings from one context to another are also worth considering here.

3.1.1.3 Findings Q2. Is there evidence (and if so, what is it) that students with special educational needs achieve better or worse outcomes[22] in specialist settings than if they were in mainstream settings?

Of the 19 articles identified in the search and analysis process for questions one, two and seven, 12 were classified as specifically addressing outcomes for students who had attended specialist settings relative to mainstream settings. These studies focused on a range of outcomes both longitudinally and in the short-term, including academic achievement, social integration, behaviour, quality of life and employment at the end of school.

Four of the studies were conducted in Norway and two in the United Kingdom. The remaining studies were undertaken in Switzerland, the United States, Canada, Germany, Finland and Poland. Eleven studies are quasi-experimental in design, with eight of these having a longitudinal aspect. Across the 12 studies, sample sizes ranged from 49-13,272.

22 Defined in this review as outcomes; attendance; independence; quality of life; transition/end of school.

Article no. and full title	1. **Developmental outcomes of children in classes for special educational needs: results from a longitudinal study in Switzerland** (Törmänen & Roebers, 2018)		
Nature of study	This study set out to explore over a period of two years whether there were any significant differences in the academic achievement, executive function and social emotional development of children who had been educated in special education classes during that period compared to children in mainstream classes. Variables used to match groups were gender, age distribution and non-verbal intelligence. The authors aimed to establish whether this group of students benefitted from placement in a special setting and were able to progress in their development.		
Age group	**Category of disability**	**Research design**	**Sample size**
5-6 (at baseline)	At transition to school, students rated by teachers as needing support with self-regulatory, social integration, language and fine motor skills[23].	Longitudinal, quasi-experimental study	Experimental Group (N=37) Control Group (N=37)
Category of setting (e.g. special class, special school)	Special class and mainstream class		
Type of needs met	Language; self-regulation (social/emotional and cognitive); fine motor skills; school readiness		
Brief overview of findings which specifically address the research question	Using a range of tests prior to starting school, the authors found that the 37 students who were eventually assigned to special education classes scored lower in the areas of fine motor skills; language development; social integration (ability to engage in age-appropriate interactions/relations with peers); self-regulation; and had poorer pre-academic self-concept (beliefs about their skills and abilities). There was however no difference in Executive Functions, tested as working memory, inhibition and cognitive flexibility ($F(1, 73) = 0.80$, n.s.) between special class and mainstream groups whilst they were attending Kindergarten.		

23 The authors state that in Switzerland, children at the age of 5 enrol in a two year, play-oriented Kindergarten programme from which they transition at the age of 7 to formal education i.e. First Grade. It is during this transition, based on teachers' assessments during the 2 years of Kindergarten that some children are placed in special education classes as opposed to mainstream.

Article continued	
	Students were tested again two years after their placement in school. The authors found that Executive Functions were no longer on the same level between groups. Children who were assigned to special classes, when assessed for EF development at post-test, were found to have experienced substantially less development in this area than the control group in the regular classes ($F (1, 72) = 4.12, P < .001$). Additionally, academic achievement (maths and reading) measured on the completion of two years in school indicated a difference in progress between the groups despite having comparable non-verbal intelligence scores at baseline. The authors reported that in both literacy and maths there were significant group differences. In relation to three math subsets tests they found that children in the special education classes performed substantially poorer on all three subtests of mathematics compared to children in the matched groups in regular classes (*"substantial group differences were found in terms of Equations ($F (1,73) =12.23, P < .001$), Sequences ($F (1,73) =13.42, P < .001$) and Additions/subtractions ($F (1,73) =17.41, P < .001$)"* (p.88)). Within reading the authors state that there were significant group differences favouring children in regular classes compared to those in special classes " reading speed – ($F (1,72) =7.04, P < .001$), *reading comprehension* – ($F (1,72) =6.06, P < .001$) *and spelling* – ($F (1,73) =11.00, P < .001$)" (p.88)). The post-test did find improvements in the academic self-concept and social integration of students in special classes.
Author conclusion/ assessment	The authors conclude that the pedagogic approach, pace and the curriculum used in special education classes in Switzerland result in children learning at a slower pace than their mainstream peers. They state that children in special classes do not progress developmentally in a similar way to their peers in mainstream and that the significant difference in Executive Functions after two years, suggests that the special setting may not be as beneficial for students' cognitive and academic development as inclusion in a mainstream setting. The authors highlight limitations of their study these being that their measurement of EF was drawn solely from professionals in a school environment, whereas a more rigorous approach would have entailed collaborative measurements with multi-disciplinary professionals external to the school. Similarly, the absence of a longitudinal social integration measurement was also acknowledged as a limitation.

Article no. and full title	**2. Special education: does it help? A study of special education in Norwegian upper secondary schools** (Markussen, 2004).
Nature of study	This 5 year quasi-experiment tracked the progress of students with SENs in special class and mainstream placements. The author measures progress across year groups by comparing the percentage of students who left school with a formal certification of academic competence, vocational competence or competence at a lower level.[24]

24 At the time of this study, the majority of students with SENs in Norway were, on enrolment in Upper Secondary Education, placed in either Vocational classes in mainstream or in Special Classes also with focus on providing students with vocational skills. Formal competency is the qualification that all students receive when they leave Upper Secondary School. Formal competency at lower level was introduced to provide students who (a) did not complete their secondary education; or (b) who were unable to achieve an academic or vocational qualification, with a qualification and a record of the skills they had developed in school.

Article continued			
Age group	**Category of disability**	**Research design**	**Sample size**
Upper Secondary School Students	Author does not specify, but refers to *"general and complex learning difficulties" and "psychosocial and emotional problems"*	Longitudinal Quasi- Experiment	285 students with SEN in special classes; 492 students with SENs in mainstream classes; 463 students without SEN **Total:1,240**
Category of setting (e.g. special class, special school)	Special Class		
Type of needs met	Not specified		
Brief overview of findings which specifically address the research question	Markussen found that 48% of students with SENs educated in mainstream classes achieved formal academic or vocational competence on completion of their studies, with the rest (52%) receiving a certificate of competence at a lower level. Of the cohort in special classes, only 20% achieved a formal qualification of academic or vocational competence, the majority (80%) leaving school with a certificate of competence at a lower level. Markussen conducted a logistic regression analysis to identify and measure the independent variables that have an effect on the attainment of formal competence by students with SEN in both settings. These variables included: Psychosocial and emotional problems; General and complex learning difficulties; Family circumstances; and Lower secondary school grades. From this analysis Markussen found that "*students with special education in ordinary classes had a better chance of achieving study and/or vocational competence than students with special education in special classes, other factors being equal"* (p. 38). In the second part of his study, Markussen focused specifically on the types of supports students with SEN received in their ordinary classroom placement (i.e. segregated in small groups outside the classroom periodically for support or supported within the classroom). He found that there was no significant difference between the types of support and achievement of formal competence. However, his analysis suggested that an increase in special support in ordinary class placements has a negative effect on competence achievement. Markussen notes selection for special and ordinary classes in Norway can take place based on a number of selection processes, one of which can be level of difficulty. He notes, however, that in relation to this selection process all probable groups are represented in both special and ordinary classes. While some forms of difficulties may be more represented in one form of the class than the other, the study has controlled for these observable differences.		

Article continued	
Author conclusion/ assessment	Markusson concludes that based on his study, special education in Upper Secondary Schools in Norway does not contribute to it stated purpose – equalisation of educational outcomes. This is a high quality longitudinal study. However, it is set within a system of educational placement and attainment that is unique to Norway and so findings may not be generalisable to other jurisdictions.

Article no. and full title	**3. Class placement and competence attainment[25] among students with special educational needs** (Myklebust, 2006)		
Nature of study	This is a 6 year longitudinal quasi-experiment in Norway of the academic and vocational attainments of 494 students with special educational needs. It sets out to ascertain if there is a difference in attainment between students (at equal functional levels) placed in special classes and those who receive support in mainstream during their Upper Secondary education. This is a follow-up to an earlier longitudinal study (1996-2002) of 760 students with special educational needs.		
Age group	**Category of disability**	**Research design**	**Sample size**
17 years at start of the study	SENs (*author indicates that these include a) "General Learning Difficulties (slightly below the average intellectual level; (b) difficulties with reading, writing and maths; (c) Psychosocial problems; and (d) care and drug problems*	Quasi -experimental, longitudinal study	494 (n=280 in special class, n=214 in mainstream class)
Category of setting (e.g. special class, special school)	Special class and mainstream class		
Type of needs met	Not specifically outlined in the study		
Brief overview of findings which specifically address the research question	The author found that competence attainment was better for students who had received their upper secondary education completely in ordinary mainstream classrooms than peers educated in special classes (60% of the former attained competence compared to 35% of the latter). The study also indicated that students' competence attainment decreases in proportion to their functional levels, but within each level students fared better in attainment if they had been educated in mainstream. Findings from a logistic regression analysis of the dependent variable (mainstream or special class) with a range of independent variables (such as functional ability, gender, family financial status, home stability, etc.) indicated that a student's obtainment of academic or vocational competencies are greatly improved by being educated in a mainstream classroom, having a higher functional level and not having experienced parental divorce.		

25 See note 21 for definition of "competence attainment" in Norway.

Article continued	
Author conclusion/ assessment	Myklebust contends that the chances of obtaining academic and vocational competencies are nearly double for students who receive support in mainstream classes compared to students in special classes. If provided with sufficient resources, the author concludes that schools can and should include students with special educational needs in ordinary, mainstream classes. This study shares many of the strengths of Markussen's (2004) work i.e. longitudinal, large scale but also like the latter because of the specificity of the study's setting, the findings may not be generalisable in other countries.

Article no. and full title	**4. Earning a living for former students with special educational needs. Does class placement matter?** (Myklebust &. Båtevik, 2009)		
Nature of study	This is a continuation of the previous study (Myklebust, 2006) which set out to investigate (surveying members of the original cohort), adulthood transitions (particularly focusing on employment and economic independence) and the long term effects of educational variables (class placement) on these outcomes. Data were gathered to measure the number of young adults (those with SENs educated in mainstream; those in special classes) who held full time employment and whether, ten years after starting upper secondary school, they were economically independent.		
Age group	**Category of disability**	**Research design**	**Sample size**
	SENs (reiterating Myklebust (2006), the *authors indicate that these include a)"General Learning Difficulties (slightly below the average intellectual level; (b) difficulties with reading, writing and maths; (c) Psychosocial problems; and (d) care and drug problems*	Longitudinal, quasi-experiment	373
Category of setting (e.g. special class, special school)	Special class		
Type of needs met	Not specifically outlined in this study		

Article continued	
Brief overview of findings which specifically address the research question	The authors introduce their study by stating that while one would assume that placement in special classes is determined by the severity of a student's SENs, this is frequently not the case in Norway. They state that in Norway, "*the correspondence between class placement and functional level is far from perfect…individuals with similar functional levels receive special support in different types of classes"* (p. 204). From their survey, Myklebust and Båtevik found that over half (55.2%) of the respondents had full time, permanent employment with 45.3% stating that their jobs provided them with a level of income to be economically independent. Of these participants, 44.5% had received teaching support entirely in a mainstream classroom, 31% in either 8 student or 4 student special class groups with the remainder receiving a mixture of mainstream and special class instruction. In addition to class placement and functional levels, the authors also found that formal academic and/or vocational qualifications, having a driver's licence and whether an individual had dependents (i.e. their own children) were additional determinants of an individual's degree of economic independence. Through a logistic regression analysis of these variables, the authors found that across their sample, individuals have a better chance of finding employment that will provide sufficient income to be economically independent if (a) they are on the higher end of functionality; (b) they were educated in mainstream classrooms; (c) they have a qualification of some kind (academic or vocational); (d) have a driver's licence; (e) are male; (f) have dependents (unless they are female).
Author conclusion/ assessment	The authors found that more students educated in mainstream classes had achieved academic or vocational qualifications and held driver's licences than those who had been educated in special classes (regardless of functional levels). Qualifications and being able to drive improves the likelihood of obtaining employment that provides a salary allowing economic independence. Therefore, they conclude that class placement has an indirect effect on the chances of earning a living in adulthood. The authors also conclude that there is a positive direct effect of mainstream placement on the long term transition outcomes for students with low functional levels. They acknowledge that while the response rate in the final wave of their data collection was positive, the study did suffer from its attrition rate over time. Additionally, the authors state that the initial assessment of students with special needs were made by a range of different experts and so criteria may have varied across the sample.

Article no. and full title	**5. Students with Special Educational Needs – Social Inclusion or Marginalisation? Factors of Risk and Resilience in the Transition Between School and Early Adult Life** (Kvalsund & Velsvik Bele, 2010).		
Nature of study	This is a longitudinal investigation using data from two national research studies of 494 students with SENs in Norway. The cohort had been in receipt of support in their upper secondary schooling either via special class provision (groups of four) or in mainstream education. The authors set out to determine whether enrolment in small special classes contributed to the quality of young people's social networks and impacted their transition from adolescence to early adulthood		
Age group	**Category of disability**	**Research design**	**Sample size**
Upper Secondary School Students	The author describes the range as: *"Psychosocial Disabilities";* *"Intellectual Disabilities"; "General Learning Difficulties"; and "Language and Communication Difficulties"*	Longitudinal quasi-experiment	494
Category of setting (e.g. special class, special school)	Special classes (4 students per class)		
Type of needs met	Varied, but not directly specified due to the nature of the study. Social, emotional, communication and cognitive needs		
Brief overview of findings which specifically address the research question	Using social network theory, the authors measured the density and size of participants' social networks (outside of work related ties) to evaluate the quality of their transition to early adulthood. They set out to determine whether education in special classes (four students per class) versus mainstream classes has a longitudinal effect on students' risk/resilience in forming spare time social networks after completing school. A logistic regression analysis of the variable "Having experienced special pedagogical adaptation in groups of four or not" demonstrates a significant effect. Student who had been educated in mainstream were found to be 3.4 time more likely to have stronger and more varied social networks as they began their adult lives.		
Author conclusion/ assessment	The authors conclude that across their sample, placement in special classes during upper secondary education did have a longitudinal impact on students' ability post school to form strong social ties in their leisure time. Viewed from the perspective of theories of risk and resilience, the authors maintain that the socially restrictive nature of special class provision in Norway, has a long term effect on students' social capital. While Kvalsund and Velsvik Bele caution that their findings are not generalisable and that further longitudinal work with this cohort as they experience their adult lives would give further weight to their findings, they conclude that placement in the Norwegian model of specialist settings is strongly associated with isolation and social marginalisation.		

Article no. and full title	**6. Behavior-Focused Alternative Schools: Impact on Student Outcomes** (Wilkerson, Afacan, Perzigian, Justin & Lequia, 2017)		
Nature of study	This quasi-experiment was conducted over the course of one academic year in the United States. It set out to compare a range of outcomes for students with EBD attending special schools with a sample of students with EBD receiving their education in mainstream schools (the authors used a propensity score matching technique; covariates included gender, special education status, ethnicity, EBD, suspensions and expulsions). Outcome variables measured included attendance; academic credits earned; disciplinary office referrals received; and suspensions.		
Age group	**Category of disability**	**Research design**	**Sample size**
High School	EBD	Quasi- Experiment	140 students in special schools 140 students in mainstream education
Category of setting (e.g. special class, special school)	Special school		
Type of needs met	Academic; School Functioning; Emotional and Behavioural Needs		
Brief overview of findings which specifically address the research question	Wilkerson *et al*. found that there was no meaningful difference in the number of suspensions between the groups but there were significantly fewer disciplinary office referrals for students in special schools than for the matched control group in the mainstream setting (M=2.25 vs M=6.56). They allow that this finding may be affected by differing staff reactions to problems/incidents being tempered by the nature and purpose of the educational setting. So it is not clear whether this difference in DORs is a result of students behaving better in the special schools or attributed to differing staff attitudes and responses to challenging behaviours. Equally, this finding may also be a consequence of attendance rates. The authors found that student attendance was lower in the special schools than the mainstream. In relation to academic outcomes, the authors state that in the United States, in order to graduate from high school, students need to earn at a minimum 3 academic credits (i.e. passing subjects) in each semester over a four year period. In their study, Wilkerson *et al*. found that the students in special schools earned on average 1.59 academic credits per semester compared to the average of 2.50 academic credits earned by students with EBD in mainstream settings. This difference was statistically significant.		
Author conclusion/ assessment	Wilkerson *et al*. make the point that regardless of educational placement, students with EBD continue to have less than successful academic outcomes. The authors conclude that across their sample, it was clear that special schools do not consistently or uniformly enable students with EBD to achieve better behavioural and academic outcomes than mainstream schools.		

Article no. and full title	**7. A comparative study of the impact of mainstream and special school placement on the behaviour of children with Autism Spectrum Disorders in England** (Reed, Osborne & Waddington, 2012)		
Nature of study	Reed *et al*. explore whether school placement has an effect on the social behavioural development of students with ASD. Initial measurements (SDQ and the Vineland Adaptive Behaviour (VAB) Scale) were taken at the start of the school year in England to establish a baseline in both settings with a post measurement taken after one school year. In the final sample, the GAR Autism Quotient for ASD severity was 82 for students in mainstream and 81.1 for students in the special schools.		
Age group	**Category of disability**	**Research design**	**Sample size**
M=8.2 (special school) M=8.8 (mainstream)	ASD	Quasi -Experimental, Pre and Post Design	140 (86 children in special schools; 54 in mainstream schools)
Category of setting (e.g. special class, special school)	Special Schools and mainstream schools		
Type of needs met	Needs related to behaviour, social skills		
Brief overview of findings which specifically address the research question	At the start of the study, the baseline measurements found no significant differences in the severity of ASD nor in emotional and behavioural difficulties between the cohorts. A broad range of schools (both mainstream and special) were initially selected in order to ensure that the findings were about type of school placement as opposed to resulting from particular individual practices or interventions in a school. A between group and within group analysis was conducted once post measurements were collected. The authors found that the SDQ pre/post measures showed that there were greater reductions in hyperactivity (mean change score for the special school cohort was 0.40 compared to -0.22 for the mainstream group) and conduct problems (mean change score 0.73 for special school group compared to -0.02 for mainstream) reported for children in the special schools. Analysing the VAB data, Reed *et al*. found that from baseline, there were statistically significant adaptive behaviour improvements reported for each of the groups. The authors suggest that while students with ASD in both settings can make progress in their behavioural development, students in mainstream do not actually improve in their socialisation skills (domain measured in VAB) more so than children with ASD in a special school setting. They found in their mean change analysis of VAB pre/post scores that children in mainstream had an average change in socialisation skills of 8.8 compared to those in special schools whose mean change in this area was 13.2. In the communication domain children attending the mainstream had an average change of 40.0 compared to an average pre/post change in the special setting of 30.8. At post-test, children had an average change in daily living skills of 8.4 in mainstream. In the special school the average change in this domain was 5.9.		

Article continued	
Author conclusion/ assessment	Reed *et al*. argue that placement in mainstream for children with ASD may not benefit them either socially or academically more so than placement in special schools. They are clear about the differences between the mainstream and special schools (for example, the special schools having smaller student teacher ratios; the use of ASD based methods, such as TEACCH, etc.) and admit that these and other various independent variables may have played a role. They have not controlled for these factors and state that the focus of their study is on placement as opposed to provision. The authors are not categorically dismissing the possible advantages of inclusion for students in mainstream, but are arguing that more research needs to be done and recognise the limitation of their own study.

Article no. and full title	**8. Predictors of success and quality of life in people with borderline intelligence: The special school label, personal and social resource** (Szumski, Firkowska-Mankiewicz, Lebuda,| Karwowski, 2018)		
Nature of study	The authors investigate the effects of different childhood variables on the adult outcomes of individuals with borderline intellectual disability living in Poland. These included health, family SES and special school enrolment. Participants all had borderline intellectual functioning (assessed at age 13, the WISC IQ for the group ranged from 69 to 85). However, 21, of the 49 were for different reasons sent to special schools while 28 remained in a mainstream setting. During the first two waves, assessments were made of IQs and data were collected from parents about their child's heath and the family SES. Twenty-three years later, the participants completed questionnaires about their adult outcomes (employment/quality of life).		
Age group	**Category of disability**	**Research design**	**Sample size**
1st wave of research: 11 years 2nd wave of research: 13 years 3rd wave of research: 36 years	Borderline intellectual disability	A longitudinal quasi-experiment	49
Category of setting (e.g. special class, special school)	Special Schools and mainstream schools		
Type of needs met	Not specified		

Article continued	
Brief overview of findings which specifically address the research question	In presenting their study, the authors state that research suggests that long term outcomes for people with borderline or mild learning difficulties can be varied according to environmental factors including personal resources, family characteristics, school placement and educational experiences. They suggest that attending a special school can assist in supporting these individuals to better develop their skills and abilities, but the process of labelling the individual as having special needs in the long term can have a negative effect both in terms of external parties have lower expectations of them and internally may result in a diminishing of the individual's self-confidence and motivation. Szumski *et al*. found that children with borderline intellectual disabilities from families with higher SES are less likely to attend special schools. As well, parental SES had a positive effect on subsequent self-reported Quality of Life (QoL) but this was not the case for those who had attended special schools (labelling had a greater effect on QoL than parental SES). However, the authors did not find that attendance at special schools was directly related to lower adult outcomes (both objective and subjective measurements); this was more related to parental SES, health status throughout childhood and having been labelled as having an intellectual disability.
Author conclusion/ assessment	While in the sample, individuals who had attended mainstream schools had better levels of subjective Quality of Life and objective success as adults, this was more a result of not being labelled as a person with a disability. Additionally, the authors argue that equally parental SES and the nature of the support available to a child, be it in mainstream or special schools, is more critical than placement in determining long term outcomes. Amongst the limitations of their study, the authors state that relatively small sample size as well as its location in one country that inevitably contains particular practices and pedagogy, reduces the generalisability of the findings. Additionally, Szumski *et al*. concede that they did not factor in additional variables that may impact on adult outcomes such as the presence of comorbid conditions, access to different types of support and experience of various parenting styles.

Article no. and full title	**9. Comparison of the effects of mainstream and special school on National Curriculum outcomes in children with autism spectrum disorder: an archive based analysis** (Waddington & Reed, 2017)		
Nature of study	The authors compare academic outcomes of students with ASD attending mainstream schools versus special schools. Drawn from four local authorities in England, the study included 46 mainstream schools, 4 special units and 17 special schools. Primary and secondary data were collected and analysed. Archival materials analysed provided information about each student's educational placement, their national curriculum results and the support interventions they had received. Parents were surveyed using the Autism Behaviour Checklist (to measure severity of ASD) and The Parents' Questionnaire on Your Child's History (data on the child's educational and medical history).		
Age group	**Category of disability**	**Research design**	**Sample size**
5-17 (M=13)	ASD	Comparative Case Study	108

Article continued	
Category of setting (e.g. special class, special school)	Special classes and special schools
Type of needs met	Academic needs
Brief overview of findings which specifically address the research question	The findings would suggest that children with ASD attending mainstream schools do not have better academic results than those attending a special school. The authors make the case that other variables (besides placement) may be of equal or more impact on the academic outcomes of students with ASD. In this study, the cohort attending special schools had more severe ASD, but there was no significant difference in family SES or the support, interventions and provision in each of the settings (for example, learning support assistants, social skills training and speech and language therapy).
Author conclusion/ assessment	Waddington and Reed conclude that the presence of supports and interventions (such as access to SLT) may be more important variables to consider in ensuring better academic outcomes. They concede that their findings are not generalisable and that methodological questions concerned with the differences in archiving information across the four local authorities limit the findings of this study.

Article no. and full title	**10. Changing Lanes: The Relationship Between Special Education Placement and Students' Academic Futures** (Gillian Parekh and Robert S. Brown, 2019)		
Nature of study	The Home School Programme (HSP) model of special education delivery in Toronto involves students spending up to 50% of their day within a special education class and the remainder of the day with their homeroom peers. This study explores the role HSP in relation to student achievement, secondary programming, postsecondary access, and student demographics and how special education programming may lead to both inequitable distributions of power within the education system. It used both demographic and program data from the Toronto District School Board. Data sets included: (a) Administrative and demographic data (b) Results from the Ontario provincial test for mathematics, (c) Program of study of courses taken by these students in their first year of secondary school. Three-way cross-tabulations and chi-square analyses were performed.		
Age group	**Category of disability**	**Research design**	**Sample size**
Grade 6 Ages 11-12, and again at ages 14-15	Special Educational needs (Disabilities not specified)	Longitudinal research	13,272 (not broken down further, but students were categorised into one of (a) students without SEN (b) students with IEP and taught in mainstream (c) students who had exceptionalities and taught in mainstream and (d) students placed in the HSP

Article continued	
Category of setting (e.g. special class, special school)	Special class and mainstream
Type of needs met	Academic
Brief overview of findings which specifically address the research question	There were two key findings: 1. The researchers found that the practice of segregating students into low ability groups appears to be directly correlated with exclusion from academic programming in high school. Placement in an HSP appears to affect students' future academic opportunities and ensures almost direct placement into non-academic programming at the secondary level, regardless of student achievement. 2. When compared with students who are similarly identified and taught in the regular class, students placed in HSPs are more likely to come from lower income families, and more likely to have parents who have not had access to postsecondary education.
Author conclusion/ assessment	Overall the researchers found that students in HSP were at a significant disadvantage, regardless of their achievement.

Article no. and full title	**11. Reciprocal effects between self-concept of ability and performance: A longitudinal study of children with learning disabilities in inclusive versus exclusive elementary education** (Gorges, Neumann, Wild, Stranghoner & Lutje-Klose, 2018)		
Nature of study	Georges *et al*. tested the Reciprocal Effect Model (self-concept affects performance and vice versa within achievement domains over time), in reading performance in a group of elementary school pupils with SEN-L in Germany. The data collection was conducted at three points over a two year period. Participating students completed a self-report questionnaire and a standardised reading test once during 3rd grade and then again twice in 4th grade. Students' cognitive ability was within the average range.		
Age group	**Category of disability**	**Research design**	**Sample size**
3rd to 4th grades	*"special educational needs in learning (SEN-L)"*	Longitudinal Quasi experiment	446 **Special Schools:** 199 students **Mainstream Schools:** 247 students
Category of setting (e.g. special class, special school)	Special schools and inclusive schools		
Type of needs met	Literacy		

Article continued	
Brief overview of findings which specifically address the research question	Gorges *et al*. found that in their sample overall there were cross-lagged effects in 3rd grade performance and students' subsequent self-concept of academic ability some months later in 4th grade. The same was found for their reading self-concept early in the 4th grade to their actual reading performance at the end of that year. While the authors did not find that educational setting had a significant differential effect, they do state that these results were predominantly based on the findings from the special settings. In terms of settings and the use of individual learning goals (and no standardised grading), Gorges *et al*. state that while there is empirical research for the REM in TD students from as early as 1st grade, this may not be true of children with SEN-L particularly those who are educated in inclusive settings. The authors found more of an effect in the special school settings which they argue might be more a result of the nature of teacher feedback and peer characteristics. The authors suggest that their findings indicate that the presence of similarly performing students in the classroom will determine the extent to which students use social-comparisons in arriving at their self-concept of their abilities.
Author conclusion/ assessment	Gorges *et al*. conclude that performance on individual learning goals plays an important role in the development of self-concept in students with SEN-L. This has implications for the ways in which teaching and learning models are organised in the mainstream classroom. Allowing for differentiation, recognising effort as opposed to test performance, facilitating social groupings irrespective of abilities, will have a more positive effect on students' self-concept development, than models that are strictly standardised. Equally, the importance and nature of teacher feedback is emphasised as critical in the development of self-concept among students with special educational needs. Gorges *et al*. contend that mainstream teachers may not have sufficient understanding of special educational needs or frames of reference from which to provide adequate feedback. The authors cite a number of limitations within their study. They state that their sample, while broad, was not representative of all children with SENs in Germany. Additionally, in contrast to previous studies of REM, the sample size of this study was relatively small.

Article no. and full title	**12. Outcomes of Regular and Special Class Placement for Students with Special Educational Needs – A Quasi-experimental Study** (Hienonen, Hotulainen & Jahnukinen 2021)
Nature of study	The data was drawn from a larger longitudinal study, assessing learning and well-being in the Helsinki area of Finland. Data was collected at two intervals at the start of 7th grade in September 2011 and at the end of 9th grade in April 2014. The data were collected by teachers with students completing cognitive tasks (curricular Finnish and Mathematics) and questionnaires. Students' academic achievement was based on their GPA in Finnish, mathematics, foreign language, and science at 9th grade, and were derived from the National Joint Application Register.

Article continued			
Age group	**Category of disability**	**Research design**	**Sample size**
Point 1: 7th grade, age 13 Point 2: end of 9th grade, age 16.	Tier 3 students attending mainstream schools, either in mainstream or special class. The authors use 'special class placement' extracted from education department provided student lists. Classes in the study included all Tier 3 students (special) and where the total number of students did not exceed the maximum of 10. No distinction was made between different types of special educational needs, as the Finnish Support model describes only the delivery of services, not the prevalence of disabilities.	Quasi-experimental design, with propensity score matching.	268, n=134 pairs across special classes and mainstream classes.
Category of setting (e.g. special class, special school)	Mainstream schools: special classes and mainstream classes.		
Type of needs met	Academic/cognitive		
Brief overview of findings which specifically address the research question	The findings from this paper offer opposing results for students in special classes, arising from two sources of data- matched data in cognitive test scores at Grade 7 and 9; and on GPA achievement data. At grade nine, the matched data did not indicate any significant differences in cognitive test scores in curricular Finnish and mathematical tasks between students in special and regular classes. However, on average, students with SEN in special classes in the study had higher school achievement, as measured by their GPA (including higher individual grades in Finnish and mathematics), than students with SEN in regular classes.		

Article continued	
Author conclusion/ assessment	Hienonen et al. note that while previous research found that students with additional learning needs in inclusive classrooms earned higher grades, the present study found no significant differences between matched students with SEN in special and mainstream classes in cognitive test scores on curricular Finnish and mathematical tasks at grade nine. However, there was a difference in school achievement, as measured by GPA, in some core subjects (Finnish and Mathematics) favouring students in special classes. The authors note that this could be explained by a range of factors such as high performance goal structure in special classes, differences in grading structures, or other variables not measured in the study. The authors also note that no distinction was made between types of SEN, given Finnish policy.

3.1.1.4 Section review

The question in focus in this section asked: *is there evidence (and if so, what is it) that students with special educational needs achieve better or worse outcomes in specialist settings than if they were in mainstream settings?*

Twelve studies met the inclusion criteria for this question. Four of them have strong outcome data for students in specialist settings compared to mainstream settings. Three of the four have some convergence on common findings that provide some evidence to answer this question.

- When compared with students with special educational needs in special classes, students with special educational needs in mainstream classes achieve a greater percentage of school qualifications (both at the higher level of qualifications and the lower level) and have a greater chance of achieving higher levels of school qualifications.
- Access to future academic opportunities in school and post-school is lessened for students with special educational needs placed in specialist settings compared to students with special educational needs in mainstream settings.

A fourth study noted there were no significant differences in test score data on curricular Finnish and mathematics tasks at Grade 9 for students matched in regular and special classes at Grade 7. However there was a significant difference in school achievement, as measured by GPA (in Finnish and mathematics), in favour of students in special classes.

The majority of studies from which these findings are taken are longitudinal in nature and/or have some element of quasi-experimental design underpinning them. In the case of the first set of findings, they also have very large sample sizes, both in general, and in the context of special education research. However, there are limitations which require consideration. Chief amongst these is the location in which these studies are undertaken. A cohort of evidence is derived from Norway and Canada, which have very different educational systems and contexts to Ireland. In addition, the particular type of disability or disabilities are not always specified in the articles, nor in some cases are the needs of students always identified. In this latter case, where they are, the students involved do not appear to have complex needs.

It should be noted again that searches for questions 1,2 and 7 were conducted together. No evidence that met our criteria was found in relation to question seven which looked specifically at the impact of specialist provision on the education of students with SLD or SSLD.

3.2 Question 3

Is there evidence that some students cannot be educated in mainstream schools? If so:

- Who are these students?
- Why can't they be educated in mainstream settings?
- Where should they be educated?

The Search Term categories selected to investigate the issues raised in Question 3 in this second search were "Educational Setting/Provision/Placement" AND "Special Educational Need" AND "Impact" AND "Cannot be educated." EBSCOhost returned 1,492 citations when duplicates were removed.

3.2.1 Overview of the Literature and the Nature of the Evidence Produced

From screening these 5,144 citations, a total of 54 articles were selected to review in more detail (in a few cases it was sufficient to read the abstract and methodology to determine inclusion/exclusion, in other instances authors' literature reviews and discussion sections were read). From this analysis, it was concluded that none of the 54 articles met the inclusion criteria to specifically answer the research question. The following table provides a specific breakdown of the categorical rationale for exclusion and the number of articles that were excluded under each category.

Table 8: Rationale for exclusion of articles for question 3

Rationale		Frequency (Percentage)
1.	Observational/Descriptive Case Study	3 (5.6%)
2.	Study conducted in Special School but not germane to the Research Question	11 (20.4%)
3.	Qualitative study	6 (11.1%)
4.	Study of a particular intervention	12 (22.2%)
5.	Study based in mainstream/inclusive setting	10 (18.5%)
6.	Study of special conditions(ex. relationship between conduct disorder and depression)	4 (7.4%)
7.	Study based on one survey of one group	4 (7.4%)
8.	Literature Review	2 (3.7%)
9.	Methodological paper	1 (1.9%)
10.	Reviews of policies, legislation, etc.	1 (1.9%)
TOTAL		**54 (100.0%)**

No studies identified at any point during this literature search specifically set out to provide evidence that children and young people with particular types of disabilities or special educational needs **could not be educated** in the mainstream. Rather, studies often investigate the prevalence of certain categories of disability in specialist settings.

3.3 Question 4

Is there evidence (and if so, what is it) that providing specially equipped sensory rooms in schools meets students' underlying sensory needs or conditions?

The search term categories identified as applicable in locating literature in relation to the efficacy of school situated sensory rooms in meeting students' sensory conditions or needs were "Educational Setting/Provision/Placement" AND "Special Educational Need" AND "Impact" AND "Outcomes" AND "Sensory Rooms". The search in EBSCOhost returned a total of 597 citations when duplicates were removed.

3.3.1 Overview of the Literature and the Nature of the Evidence Produced

The initial screening process of these 597 citations led to the further investigation of 32 articles. Once the preliminary review of these studies was undertaken, 32 were removed from further consideration based on the inclusion criteria set out. The following table provides a specific breakdown of the categorical rationale for exclusion and the number of articles that were excluded under each category.

Table 9: Rationale for exclusion of articles for question 4

Rationale		Frequency (Percentage)
1.	Qualitative study	5 (15.6%)
2.	Study with a small sample	4 (12.5%)
3.	Studies not directly focused on investigating MSE's	8 (25%)
4.	Study using one survey from one group	2 (6.3%)
5.	Study based in a setting outside schools	7 (21.9%)
6.	Study focused on parental training or needs	1 (3.1%)
7.	Descriptive study without methodological rigour	2 (6.3%)
8.	Literature Review	3 (9.4%)
TOTAL		**32 (100.0%)**

None of the studies found in this search met the inclusion criteria of this review. Much of the research to date about the application and efficacy of providing sensory rooms in schools settings is qualitative. Despite the wide-spread proliferation of this type of intervention in schools internationally, literature initially reviewed during this search indicated that there is limited robust empirical evidence to support their use as an evidence-informed intervention to address the underlying sensory needs and conditions of children with special educational needs. No evidence was found which met the criteria for this review which related to the provision of specially equipped sensory rooms meeting the underlying needs and conditions of students who use them.

3.4 Question 5

Is there evidence (and if so, what is it) about where special settings should be located to facilitate best educational outcomes? Does this evidence differ by type of disability?

The search categories relevant to addressing the elements of Question 5 were agreed to be "Educational Setting/Provision/Placement" AND "Special Educational Need" AND "Impact" AND "Outcomes" AND "Location". The search in EBSCOhost produced at the outset a total of 1,182 citations once duplicates were removed.

3.4.1 Overview of the Literature and the Nature of the Evidence Produced

Of the 1,182 citations, 23 (1.9%) were selected for further investigation. In undertaking this analysis, review of article abstracts was in some cases sufficient to exclude certain studies from further consideration while in other instances, an examination of the methods, findings and/or discussion sections of the articles were required. From this process, all 23 articles were excluded either because they did not meet the inclusion criteria in different ways or because their findings did not directly relate to the concept of "location" of a specialist setting. The following table provides a specific breakdown of the categorical rationale for exclusion and the number of articles that were excluded under each category.

Table 10: Rationale for exclusion of articles for question 5

Rationale		Frequency (Percentage)
1.	Qualitative study	7 (30.4%)
2.	Study with a small sample	1 (4.3%)
3.	Studies not directly focused on investigating "location" of specialist setting or the best location for a specialist setting	12 (52.2%)
5.	Study based in a setting outside schools/adults	1 (4.3%)
6.	Study of parental perspectives	1 (4.3%)
7.	Pilot study of an intervention	1 (4.3%)
TOTAL		**23 (100.0%)**

As a result, no evidence was found which met the criteria and related to the location of specialist settings to facilitate best educational outcomes for students with special educational needs.

3.5 Question 6

Is there evidence (and if so, what is it) on the impact of travel time to an educational setting on the ability of a student with special educational needs to learn?

Search categories used in the literature review for Question 6 were "Educational Setting/ Provision/Placement" AND "Outcomes" AND "Impact" AND "Accessibility/Travel/Time". EBSCOhost returned 1,566 citations once duplicates were removed. From the initial screening of these, 22 articles were selected for further analysis.

3.5.1 Overview of the Literature and the Nature of the Evidence Produced

The search terms used initially produced articles covering a wide range of themes. The preliminary review of 1,566 returns screened out those that most obviously were not on the topic of travel time and school distance. Of the 22 articles that were chosen for additional review, many upon in-depth review were found to be unrelated to the topic. In fact, no studies which met the inclusion criteria and directly related to the terms of the question (students with special educational needs and travelling time to educational settings) were found for this review. The following table provides a specific breakdown of the categorical rationale for exclusion and the number of articles that were excluded under each category.

Table 11: Rationale for exclusion of articles for question 6

Rationale	Frequency (Percentage)
Setting not educational	**1 (4.5%)**
Study's methodology does not meet criteria	**3 (13.6%)**
Parental/adult perspective	**1 (4.5%)**
Study of Gifted Children	**1 (4.5%)**
Studies of Educational Transitions	**3 (13.6%)**
Opinion/Discussion Paper	**2 (9.1%)**
Qualitative Study	**1 (4.5%)**
Central theme not related to distance/travel	**10 (45.5%)**
TOTAL	**22 (100.0%)**

As a result, no evidence was found which met the criteria and related to the impact of travel time to an educational setting on the ability of a student with special educational needs to learn.

3.6 Question 8

What is the evidence for the impact of placement in specialist settings on the school experiences of students with and without special educational needs?

It is important to reiterate at this stage, that a decision was made from the beginning of the project that owing to the nature of Research Question 8, the inclusion and exclusion criteria would need to be adjusted somewhat (pp. 3-4). In essence, the strict research criteria remained apart from allowing the inclusion of studies that used qualitative methods to capture the voice of students. Search categories used in the literature review for Question 8 were "Educational Setting/Provision/Placement" AND "Special Educational Need" AND "Experiences". The EBSCOhost searches resulted in a combined total of 8,836 citations once duplicates were removed.

3.6.1 Overview of the Literature and the Nature of the Evidence Produced

Of the 8,836 citations, 74 were selected for further investigation. During the review process, a number of the articles were excluded based on the information provided in their abstracts. In other instances, a more thorough review of the articles' content was required to determine whether they met the extended criteria for Question 8. As a result, 62 articles of the original 74 studies were excluded. The following table sets out the rationales and the frequencies in each category for the 62 excluded articles.

Table 12: Rationale for exclusion of articles for question 8

Rationale		Frequency (Percentage)
1.	Not in a specialist setting	**21 (33.9%)**
2.	Study of an intervention in a specialist setting	**11 (17.7%)**
3.	Parental/adult perspective	**12 (19.4%)**
4.	Small sample	**5 (8.1%)**
5.	Not related to school experiences	**4 (6.5%)**
6.	Study of special setting for Gifted Children	**1 (1.6%)**
7.	Post-secondary setting	**2 (3.2%)**
8.	Theoretical Paper	**1 (1.6%)**
9.	Methodological Paper	**2 (3.2%)**
10.	Setting unclear	**1 (1.6%)**
11.	Study of Pedagogic Practices in Special Schools	**2 (3.2%)**
TOTAL		**62 (100.0%)**

3.6.2 Findings Question 8

Of the 12 articles, six are studies based in the United States. One study conducted in Sweden. The other studies were undertaken in the United Kingdom, Cyprus, Israel and New Zealand. Five of the studies are small-scale qualitative investigations. Five of the studies are comparative case studies using self-report surveys and/or multi-informant data collection procedures. Two are quasi-experiments. Sample sizes varied in the studies with a range of 5-21,646. Students with ASD feature in four studies, while there are single studies with students described as having SEBD, visual impairment, deaf/hard of hearing, developmental delay, general special educational needs, various disabilities, learning disabilities, and unspecified.

Article no. and full title	**1. Pupil-teacher relationships: perceptions of boys with social, emotional and behavioural difficulties** (Hajdukova, Hornby & Cushman, 2014)		
Nature of study	Situated in a New Zealand residential special school for students with severe SEBD, this study focuses on students' perceptions of their past relationships with teachers in their mainstream school and their experiences at present in the special school. Participants in the study had an intellectual disability within the average range or above.		
Age group	**Category of disability**	**Research design**	**Sample size**
9 to 13 years	SEBD.	A Qualitative research design adopting a semi-structaured individual interviews and focus groups phenomen-ological approach	29
Category of setting (e.g. special class, special school)	Special School		
Type of needs met	Social Skills, emotional and behavioural needs		
Brief overview of findings which specifically address the research question	Differential and unfair treatment of students with SEBD by teachers in mainstream schools was a strong theme that emerged from the data. In mainstream, students said they were often made scapegoats for any problems that arose. They felt that teachers had limited expectations of them and focused only on incidents of negative behaviour, ignoring occasions when they made an effort or tried to do well. The students believed that the way teachers treated them in mainstream, often exacerbated the frequency and severity of their disruptive and challenging behaviour. The participants had a more positive impression of their teachers in the special school. They believed that their teachers treated them fairly and with respect. Most viewed the disciplinary practices of their special school teachers as appropriate. The knowledge, skills and expertise of teachers was also highlighted. Compared to their experiences in mainstream, the students indicated that teachers in the special school were able to give all students equal attention and support.		

Article continued	
Author conclusion/ assessment	The authors in their conclusion state that the findings of their study should be taken with caution alluding to the qualitative nature of the work, the small sample size and the lack of a control group. Hajdukova *et al*. also recognise that students' perceptions (particularly of their relationships with teachers in the mainstream settings) may be affected by the intervening space of time between their experience and the interviews. Nevertheless, the authors conclude that in the mainstream, relationships between teachers and students with SEBD are often perceived by the students as negative. This can have a profound effect on students' experience of education, their social inclusion and ultimately their educational outcomes.

Article no. and full title	**2. Bullying-related behaviour in adolescents with autism: Links with autism severity and emotional and behavioural problems** (Fink, Olthof, Goossens, van der Meijden & Begeer, 2018)		
Nature of study	This study measures the association of peer-reported bullying related behaviours with individual's age, gender, ASD severity and emotional and behavioural difficulties. The cohort were 120 students (described as "cognitively able") with ASD attending a special school in the Netherlands. Students (91% males) completed the BRNP (bullying role nomination procedure); their parents completed the Social Responsiveness Scale (SRS) as a measure of autism severity; and teachers completed the Strengths and Difficulties Questionnaire for each student.		
Age group	**Category of disability**	**Research design**	**Sample size**
Adolescents (average age 15.6 years)	ASD	Self-report case study	120
Category of setting (e.g. special class, special school)	Special School		
Type of needs met	Not specified		
Brief overview of findings which specifically address the research question	Fink *et al*. found that bullying behaviour decreased with age in the cohort with ASD and was associated with behavioural problems (as identified by the SDQs). In relation to social and emotional problems, boys who had conduct difficulties were reported to be more likely to bully while those who were bullied had more peer-related problems (including internalising behaviours). The severity of adolescents' ASD in the specialist setting did not have an association with their bullying-related behaviours. Previous research has shown that the severity of ASD in students enrolled in mainstream settings is associated, whether positively or negatively, with victimisation. The authors report that their findings suggest "*… that in a special education setting, the severity of autism does not set the adolescent apart from peers and is not associated with bullying-related behaviours…autism severity in the context of bullying appears to be a more meaningful predictor in mainstream education only"* (p. 690).		

Article continued	
Author conclusion/ assessment	Fink *et al*. caution about the use of peer-reporting of bullying as a definitive indicator of the frequency and intensity of these behaviours. Additionally, a better gender balance would have provided a stronger evidence base for the role of gender in predicting bullying-related behaviours in students with ASD attending special schools. The authors conclude that despite the identified limitations, the findings do provide insights into the individual level characteristics at play that may predict bullying-related behaviours in students with varying degrees of ASD attending special schools.

Article no. and full title	**3. Cyberbullying Experience and Gender Differences Among Adolescents in Different Educational Settings** (Heiman & Olenik-Shemesh, 2015)		
Nature of study	This is a study of adolescents' experiences of cyberbully in mainstream versus special education classrooms. In Israel, students with LDs are usually enrolled in mainstream classes. Student with comorbid LDs are educated in special classes situated in mainstream schools. The 116 students in special classes, all had IQs within the normal range.		
Age group	**Category of disability**	**Research design**	**Sample size**
12 to 17 years (M= 14.4)	*Authors use the term* "Learning Disabilities"[26] Additional conditions included ADHD; communication &/ or speech difficulties; conduct disorders and social, emotional and behavioural difficulties	A quantitative comparative study using the *Cyberbullying Self-report Survey*	149 students with LD attending mainstream classes; 116 students with comorbid LD enrolled in special classes; and 242 TD students. **TOTAL= 507**
Category of setting (e.g. special class, special school)	Special class and mainstream class		
Type of needs met	Not specified		
Brief overview of findings which specifically address the research question	The authors report that the students in the special education classes were more prone to both cyber-perpetration and cyber victimisation that their LD peers in mainstream classes. For instance, 18.96% of students in special classes reported victimisation compared to 12.08% of students with LD in mainstream. Similarly, 12.08% of students with LD in mainstream reported being a perpetrator compared to 20.68% in special classes. They report that experiences of cyber-victimisation are known to have a negative impact on academic progress and concentration and so the prevalence of this experience in the comorbid LD group is a matter for concern. The higher number of perpetrators in special classes may be more to do with their comorbid conditions in relation to social skills, communication difficulties and aggression, than with their placement. The authors found that girls were more likely to be victims of cyberbullying than boys but this was just over 25% more likely for girls in special classes than girls who attended mainstream classes.		

26 In Israel a diagnosis of "Learning Disabilities" is given when a child has average or above-average intelligence but is academically achieving at least two years below their grade level.

Article continued	
Author conclusion/ assessment	Amongst the limitations of the study, as identified by the authors, is that students in special classes were treated as a whole without distinguishing between the nature of the different comorbid conditions. They state that large scale studies should be undertaken that would allow for a wider range of ages, geographical factors (rural vs urban settings) as well as risk/protective factors such as parental relationships and the students' social environments. The authors conclude that their study is important in drawing attention to the needs of students with comorbid LDs in segregated settings in relation to experiences of cyberbullying. The challenges many of these students encounter in developing and maintaining interpersonal relationships are seen as an explanation for their heightened involvement in cyberbullying but, as well, because they are often socially and emotionally more vulnerable than their peers, they are more at risk of experiencing cyber-victimisation.

Article no. and full title	**4. Bullying and victimisation rates among students in general and special education: a comparative analysis** (Rose, Espelage & Monda-Amaya, 2009)		
Nature of study	The authors conducted this large scale comparative study in 18 high schools and 14 middle schools in the United States. A range of self-report instruments were used including a question on participation in special education; the Illinois Bullying Scale; the University of Illinois Victimisation Scale: and the University of Illinois Fighting Scale.		
Age group	**Category of disability**	**Research design**	**Sample size**
Adolescents	Not specified	Large scale, comparative, quantitative self-report study	**Middle School students (N=7,331)**: 1. 6,316 TD 2. 708 with disabilities in mainstream 3. 307 with disabilities in special classes **High School students (N=14,315)** 1. 12,811 TD 2. 915 with disabilities in mainstream 3. 589 with disabilities in special classes **Total: 21,646**

Article continued	
Category of setting (e.g. special class, special school)	Special classes and mainstream classes
Type of needs met	Not specified
Brief overview of findings which specifically address the research question	Rose *et al*. found that students with disabilities experience higher rates of bullying perpetration, fighting and victimisation than their TD peers. Students in special classes, reported higher rates of victimisation, perpetration and fighting than students with disabilities in mainstream classes. The self-report bullying perpetration scale showed that 10.2% of TD students reported this behaviour compared to 15.6% of students with SEN in inclusive classes and 20.9% of those in special classes. On the victimisation self-report scale 12.0% of TD students reported that they had been a victim of bully compared to 18.5% of students with SEN in mainstream and 21.7% of students in special classes. In relation to the self-report fighting scale, only 6.8% of TD students indicated aggressive behaviour compared to 14.3% of students with SENs in mainstream and 18.3% in special classes. Experiences of both perpetration and victimisation decrease for TD students as their age increases. This was not the case for students with disabilities who experienced higher rates of bullying related behaviours across the age range. Students in special classes reported a higher rate of victimisation from grades 7-10 than students with disabilities in mainstream. TD students reported a certain levelling off of perpetration behaviours over time, this varied more with students with disabilities. In inclusive settings, students with disabilities reported that their bullying behaviour at times of transition decreased, while those in special classes reported an elevation at these times. This was also the case in relation to fighting behaviours.
Author conclusion/ assessment	The authors cite limitations in their study. The first of these is the sole methodological approach of self-report data collection. Secondly, Rose *et al*. did not build into their study a mechanism for differentiating the type, nature and extent of the disabilities in both the cohort in special classes and the group placed in general education classes. The authors suggest that placement in special classes affects the school experiences of students in that they may not have sufficient access to (and opportunities to practice) appropriate social skills and lack contact with peer role models.

Article no. and full title	**5. The experiences of learning, friendship and bullying of boys with autism in mainstream and special settings: a qualitative study** (Cook, Ogden & Winstone, 2016)		
Nature of study	This qualitative study explored the experiences of students with ASD in the realms of learning, friendships and bullying who attended mainstream and special schools in South East England. Students were all male[27].		
Age group	**Category of disability**	**Research design**	**Sample size**
11-17	ASD	Comparative qualitative semi-structured interviews with 11 students with ASD (attending mainstream and special schools); 9 mothers	6 students in special schools 5 students in mainstream schools **Total: 11**
Category of setting (e.g. special class, special school)	Special schools and mainstream schools		
Type of needs met	Academic, social/emotional needs		
Brief overview of findings which specifically address the research question	The main finding was the difference in the amount of bullying experienced in the two settings; it appeared to be less common in the special schools. Mainstream schools were identified as being less attuned to the needs (and required resources) of students with ASD. There was also a view that the mainstream schools did not respond effectively to bullying incidents. The majority of students in special schools had a different experience. They were in small classes, staff provided the educational supports needed and worked to help students develop friendships. Staff in the special schools were described as being effective in dealing with bullying incidents when they occurred. There was a stated and proactively implemented policy of low tolerance for bullying. While internal risk factors were consistent across both groups of students, mainstream settings were identified as having more external risks for students with ASD in experiencing bullying.		
Author conclusion/ assessment	Cook *et al.*'s main finding is that bullying was more prevalent for students with ASD in mainstream settings. They suggest that students with ASD in mainstream are more at risk because of the general lack of understanding of ASD; insufficient available resources to support these students; a tendency on the part of some TD students to exploit the sensory processing difficulties of students with ASD as a focus for bullying; as well as a failure of staff to proactively and effectively address bullying in the mainstream. A limitation of this study is its small sample size and its restriction to a single geographical region.		

27 The authors are conducting a similar investigation interviewing female students with ASD. The researchers invited both fathers and mothers to participate in the research. In this study, only mothers responded to the research invitation.

Article no. and full title	**6. Exploring the role of 'Special Units" in Cyprus Schools: A case study** (Angelides & Michailidou, 2007)		
Nature of study	A case study of a primary school in Cyprus. Observations of a "special unit" were conducted over a three month period to gain information about the school experiences students have during their placement; teaching and learning that takes place; and the extent to which placement marginalises the children's school experiences. The authors interviewed staff and used a mixed method approach (interviews, focus groups and drawing tasks) with children in the special class as well as children in mainstream.		
Age group	**Category of disability**	**Research design**	**Sample size**
7-8 years old	Various (including speech and language; co-ordination; cerebral palsy; ADHD)	A single case study combining observation and semi-structured interviews	N=15 (n=3 solely in special class, n=2 in special class and mainstream for some subjects, n=2 students with special educational needs in mainstream, and n=8 students without special educational needs).
Category of setting (e.g. special class, special school)	Special class and mainstream class		
Type of needs met	Academic, social needs		
Brief overview of findings which specifically address the research question	The authors found that the existence of the special unit and its procedures tended to marginalise the students. The content and delivery of the academic curriculum was inconsistent and left to the discretion of the special unit teacher. The three lessons the students attended in mainstream were run without planning or collaboration between teachers. The students were usually segregated by the mainstream teacher and given different activities than their TD peers. In the authors' view integration was tokenistic and often only further excluded them and in some cases, caused the children emotional distress. Findings indicate that TD students had little or no contact with the five children, had preconceived, negative opinions of them and expressed little interest in associating with them.		
Author conclusion/ assessment	The authors found that the existence, the procedures and the operation of the special unit within this particular mainstream school worked against the concept of inclusive education and actually exacerbated these students' marginalisation so impacting on their school experiences A qualitative, small scale case study, while providing insights into how segregated provision within a mainstream setting can actually compromise inclusion, makes generalisation across other jurisdictions and settings unlikely.		

Article no. and full title	**7. The Views of Students with Visual Impairments on the Support they Received from Teachers** (Chang & Schaller, 2002)		
Nature of study	A small scale qualitative study (in the United States) of the school experiences of students with visual impairments enrolled in a range of educational settings.		
Age group	**Category of disability**	**Research design**	**Sample size**
High School Students (aged 14 to 20)	Blind & Visual Impairment	Qualitative study, semi-structured interviews (supports by documentary evidence and observations)	12 **Special Schools and Special Classes:** 6 students **Mainstream** **Classes:** 6 students
Category of setting (e.g. special class, special school)	Special schools, special classes, mainstream classes		
Type of needs met	Academic and socio-emotional needs		
Brief overview of findings which specifically address the research question	The over-riding theme that emerged from the interview data were students' views on their experiences of teachers supporting them in terms of their learning needs and their emotional needs in mainstream versus special schools. One student, who lost her sight at the age of 15, had before been an academically successful student at a mainstream school. Following her loss of sight, returning to her mainstream school was a negative experience. Her subsequent transfer to a special school helped her re-gain her academic self-confidence. Another student compared his school experiences in both settings. He indicated that he had better curricular access in the special school because of the teachers' approach. Students reported that they had transferred to special schools because they believed their local schools were not providing (or were not able to provide) the support that they needed to have positive school experiences and outcomes.		
Author conclusion/ assessment	The authors briefly provide some evidence that students who have enrolled in special schools for the visually impaired are both from an educational and socio-emotional perspective, having a positive school experience. However, the sample size is quite small. No evidence is presented that the authors set out to triangulate their findings. In trying to gain insights into the reciprocal relationship between the emotional and learning needs of B/VI students, a multi-perspective approach would provide stronger findings from which to draw conclusions about the impact of specialist placement on the school experiences of B/VI students. As it stands, findings from this study only provide a very preliminary picture of the issues of concern.		

Article no. and full title	**8. Perceived Social Support and Self-Esteem in Adolescents with Learning Disabilities at a Private School** (LaBarbera, 2008)		
Nature of study	This is a study, conducted in a private school for students with "learning disabilities" in the United States. The author explored students' self-esteem and their perceptions of the social support(s) they received as well as their global self-worth (Renick & Harter, 1988)[28] and which source of social support was most strongly linked with the students' global self-worth. Secondly, LaBarbera set out to compare the levels of self-esteem in the sample attending a special school with students with LD attending mainstream public schools. This was done by comparing her findings with those of a previous study conducted by Renick and Harter (1988) of 90 students with LD attending mainstream schools.		
Age group	**Category of disability**	**Research design**	**Sample size**
Grades 4 to 8	"Learning Disabilities"[29]	A comparative quantitative study	66 (40 boys and 26 girls)
Category of setting (e.g. special class, special school)	Special School		
Type of needs met	Academic needs		
Brief overview of findings which specifically address the research question	LaBarbera argues that special school attendance enhances participating students' self-esteem and global self-worth. She presents as evidence her analysis of means data for each self-esteem subscale in her study to that of Renick and Harter's earlier mainstream study. She found that there were statistically higher results (self-esteem and global self-worth) in her special school sample. The author attributes this in part to the qualifications and experience of the staff in the special school combined by the perceived high levels of social supports from parents and classmates. She also asserts that having social interactions only with other students diagnosed with a LD may have a positive influence on young adolescents' self-esteem.		
Author conclusion/ assessment	LaBarbera draws attention to research (Bear & Minke, 1996) indicating that for children with LD, having individual instruction and supportive, positive teacher feedback may help build and protect these children's self-worth. She concludes that special schools, or the provision within mainstream of the type of individual instruction by qualified teachers received in special settings, are essential in building the self-esteem of students with LD. This study, while meeting the criteria of this review, is severely limited methodologically. Comparing findings from two different studies across a 20 year timeframe, without precise information about the range and severity of participants' disabilities, limits one's ability to draw meaningful comparisons or reach definitive conclusions.		

28 In this study, global self-worth is defined as a persons' self-concept of their value irrespective of more systemic measures of worth, such as academic achievements.

29 In the United States, "*people with learning disabilities are of average or above average intelligence. There often appears to be a gap between the individual's potential and actual achievement. This is why learning disabilities are referred to as "hidden disabilities": the person looks perfectly "normal" and seems to be a very bright and intelligent person, yet may be unable to demonstrate the skill level expected from someone of a similar age*" (https://ldaamerica.org/types-of-learning-disabilities/)

Article no. and full title	**9. The Impact of an Invitational Environment on Preschoolers with Special Needs** (Taylor & Monez-Tadeo, 2012)		
Nature of study	This study compared the experience (and outcomes) of children diagnosed as Developmentally Delayed in two pre-school settings in the United States. Randomly assigned (what the authors describe as a first come, first served basis by the school district's IEP team), half were enrolled in self-contained settings, while the rest of the sample were enrolled in an inclusive pre-school setting for two years. Using the Brigance Inventory of Early Development (IED-II)[30], children were screened at the start of the 2008 academic year and subsequently at the end of the year in 2010. During the second stage of the study, staff in the pre-schools were asked to anonymously complete the Inviting School Survey-Revised, (ISS-R), (Smith & Purkey, 2012) in order to collect detailed information about the schools' climates and environments		
Age group	**Category of disability**	**Research design**	**Sample size**
3 to 5 years	Developmental Delay (IDEA criteria)	Longitudinal Quasi-experimental	50
Category of setting (e.g. special class, special school)	Early Intervention Preschool		
Type of needs met	Academic/cognitive, adaptive behaviour and social-emotional developmental needs		
Brief overview of findings which specifically address the research question	The authors found that at post-test (IED-II), there was no significant difference in development between the two groups in the academic/cognitive and daily life domains. At pre-test, there was no significant difference in social/emotional domain scores for children in self-contained (M = 22.44) and children in inclusive settings (M =24.56). While all children had improved in this domain by post-test, there was a statistically significant difference in progress favouring those in the inclusive setting (M =50.80 compared to a mean of 41.56 for children in the special class). In testing their hypothesis as to whether the school environmental and climate factors had an association with student progress, the authors were not able to identify any significant differences between settings. They concede that it was difficult to draw any firm conclusions because the return rate of the ISS-R was small (N=8). Nevertheless, teachers and principals' ratings of their school environments were generally positive across both settings.		
Author conclusion/ assessment	As acknowledged by the authors, a substantial limitation of this study is the low return rate of the ISS-R. However, staff in both settings described the pre-school climate as positive and the authors found no correlation between the former and students' progress across the three domains. The authors conclude that both environments were positive and inviting for students. They conclude that a potentially important finding is that children in the inclusive setting made greater progress in their social-emotional development. They propose that no matter how inviting a self-contained pre-school setting might be, children may in an inclusive setting (with a similarly positive climate) have, through their pre-school experiences, better potential to develop their social/emotional skills.		

30 This is a screening tool used to assess children's performance in five broad standardised developmental domains: (a) fine and gross motor skills; (b) academic/cognitive skills; (c) receptive and expressive language skills; (d) daily living skills; and (e) social-emotional skills (play skills, behaviour, interaction with peers, etc.).

<table>
<tr><td>Article no. and full title</td><td colspan="3">10. Comparing cognitive outcomes among children with autism spectrum disorders receiving community-based early intervention in one of three placements (Nahmias, Kase & Mandell, 2014)</td></tr>
<tr><td>Nature of study</td><td colspan="3">To measure and compare the development of children with ASD enrolled in different pre-school settings, the authors used The Developmental Assessment for Young Children (DAYC; Voress & Maddox, 1998) prior to the start of pre-school. The DAYC is a standardised assessment measuring a child's abilities in five developmental areas (cognition, communication, social-emotional development, physical development and adaptive behaviour).

At point two of the data collection (at the completion of pre-school) children were assessed using the Differential Abilities Scales, Second Edition (DAS; Elliot, 2007)

Children's demographic details were collected as well as information about whether they had received any formal early interventions prior to pre-school.

The Autism Diagnostic Observation Schedule (ADOS; Lord et al., 1999), was used at Point 2 of the study to assess the symptoms and severity of the children's ASD.</td></tr>
<tr><td>Age group</td><td>Category of disability</td><td>Research design</td><td>Sample size</td></tr>
<tr><td>3 to 5</td><td>ASD</td><td>A longitudinal quasi-experimental study of the progress of pre-school children with ASD experiencing Early Intervention in three different educational settings in the United States.</td><td>ASD Pre-school
37 children

Mixed Disability Pre-school
25

Inclusive Pre-school
36

Total: 98</td></tr>
<tr><td>Category of setting (e.g. special class, special school)</td><td colspan="3">Pre-school</td></tr>
<tr><td>Type of needs met</td><td colspan="3">Communication, social-emotional, behaviour and cognitive needs</td></tr>
<tr><td>Brief overview of findings which specifically address the research question</td><td colspan="3">The authors found that there was no significant differences between the three groups of children in relation to their demographic characteristics, the number of early interventions they had received prior to pre-school, nor the years they had attended their pre-school settings.

The analysis of Time 1 data showed no statistically significant differences in the average baseline scores in the cognitive, social-emotional or adaptive behaviour domains. The number of children who fell above or below the median on social-emotional, communication and adaptive behaviour was similar across the three settings.

Time 2 data showed that children in the inclusive settings "made on average an 11.3 point greater cognitive gain than children in mixed disability placements. Children in inclusive settings also made on average an 6.5 point greater cognitive gain than children in autism-only placements"(p.8).</td></tr>
</table>

Article continued	
	For those children who had low social-emotional scores at pre-test, those enrolled in inclusive pre-school at post-test scored on average 13.9 points higher than children in ASD-only and 13.4 points higher than those in MD pre-school. Similarly, of those who at Time 1 had low adaptive behaviour scores, at Time 2, children in the inclusive settings scored 10.3 points higher than children in ASD-only and 21.6 points higher than the children in the MD placement. These scores we statistically significant and effect sizes were moderate to large.
Author conclusion/ assessment	The authors conclude that inclusive settings may be of particular benefit for children with ASD who at the start of pre-school have greater social and adaptive behaviour impairments (but have at least a baseline level of language skills which would act as a building block to engaging in and learning from interactions with typically developing peers). They argue that having the opportunity to experience regularly interactions with children without disabilities could be of particular value to these children both in the short and the long term. Nahmias *et al*. made a specific decision to use two different instruments at the start and end of the study (DAYC and DAS), but acknowledge that this could be seen as a limitation of their study. Additionally, because their sample of students were attending pre-school for at least two years, the sample may not be representative as it did not include those children with ASD who were high achievers and most likely had made the transition to mainstream elementary education. Limitations were also identified in the access to and use of records. For example, the authors were not able to record or measure the delivery of the curriculum in the three settings nor the teaching methods typically used.

Article no. and full title	**11. Deaf and hard-of-hearing adolescents' experiences of inclusion and exclusion in mainstream and special schools in Sweden** (Olsson, Dag and Kullberg, 2018)		
Nature of study	Conducted in one county in Sweden, the authors set out to explore the perceptions D/HH and D/HH (with additional disabilities) students have of their wellbeing (enrolled in both mainstream [MS] and special schools [SS}). Their data were derived from a regional survey distributed every three years to students attended secondary school in the Swedish county Orebro. Olsson *et al*.'s second objective was to gain these cohorts' experiences of both academic and social inclusion in both settings and to identify possible gender differences. The students were not matched across mainstream and special settings.		
Age group	**Category of disability**	**Research design**	**Sample size**
13-18 years	Deaf/hard of hearing (D/HH)	Cross-sectional quantitative self-report survey	TD Students MS – 6,268 D/HH Students MS – 339 D/HH SS – 45 **Total: 6,652**

Article continued	
Category of setting (e.g. special class, special school)	Mainstream and Special Schools
Type of needs met	Well-being, academic and social inclusion
Brief overview of findings which specifically address the research question	**Well-being:** Olsson, Dag and Kulberg found in the sample of D/HH students and D/HH students with an additional disability that the levels of reporting general wellbeing were similar and on the low side (30% and 29%).There was also a correlation with type of school and disability category. In the SS sample, more D/HH and D/HH and additional disability students stated they felt very good (42% and 54% respectively) compared to their peers in MS (29% and 33%). Reports of "life satisfaction" were similar in that a greater proportion of both SS groups indicated higher levels (52% and 62%) than those in MS (37% and 38%). **Social Inclusion:** in relation to feeling happy in school. D/HH and D/HH students with additional disabilities in SS reported proportionately higher levels (62% and 44%) than their peers in MS (33% and 40%). Finding friends and spending time with friends was associated with disability. In SS, 65% D/HH students reported higher levels than did D/HH students with additional disabilities (31%). This difference was also apparent across the two groups in MS (64% and 47% respectively).
	Academic Inclusion: In the mainstream group, 23% of D/HH students and 23% of those with additional disabilities reported that they contributed to class discussions. This compared to 38% D/HH and 31% D/HH students with additional disabilities in SS. In relation to whether they felt comfortable asking questions in class, in MS, 27% of D/HH students reported they felt comfortable (with 19% of students with additional disabilities). In the SS, the proportions were inverted with only 19% of D/HH students stating they were comfortable and nearly half (46%) of D/HH students with additional disabilities reporting they were. Participants were asked to report how well teachers explained lesson content and instruction. In MS, 30% and 31% reported high levels in this area compared to 53% and 54% in SS.
Author conclusion/ assessment	Olsson, Dag and Kulberg conclude that while the differences between MS and SS groups in many cases were not dramatically different, that overall general wellbeing as well as social and academic inclusion were higher for D/HH and D/HH with additional disabilities in SS. The authors acknowledge the limitations of their study including the exclusive reliance on self-report. Also they suggest that the fact that many students in special schools as well as all of the teachers are bilingual, may be an important factor in higher reports of well-being and feelings of inclusion in SS.

Article no. and full title	**12. "Camouflaging" by adolescent autistic girls who attend both mainstream and specialist resource classes: Perspectives of girls, their mothers and their educators** (Halsall, Clarke & Crane, 2021)		
Nature of study	This study was conducted in South-East England, with a small group of girls attending autism resource bases attached to a mainstream secondary school and joined at least one mainstream class each week. All girls had a clinical diagnosis of autism (some co-occurring). The researchers used a social constructionist perspective for the semi-structured interviews with the girls, parents and educators. Additional data were collected on the background of the girls, on their cognitive ability[31] and social communication needs[32], and friendship quality[33]. This data was not linked to qualitative data, but used to characterise the behavioural traits of the participants in the study.		
Age group	**Category of disability**	**Research design**	**Sample size**
12-15 years	Autism	Qualitative semi-structured interviews	8 (student, parent, educator)
Category of setting (e.g. special class, special school)	Mainstream and special classes		
Type of needs met	Social-emotional; communication; learning needs		
Brief overview of findings which specifically address the research question	The results of the study highlighted the challenges the girls experienced attempting to hide their autism and fit in, especially in mainstream classes (they attended one class a week). Their camouflaging was often unsuccessful, which affected their relationships and sense of belonging, as well as their learning. The research highlights implications for full school participation for autistic students.		
Author conclusion/ assessment	Halsall et al. conclude that autistic women and girls are particularly vulnerable to camouflaging their autistic characteristics, with findings in this study demonstrating girls attempting to camouflage their learning challenges and their autistic characteristics in both mainstream and special classes. The authors note that these attempts were ineffective and had a range consequences impacting on their sense of belonging in both contexts. The authors also note that most of the girls described using camouflaging in all school contexts, yet the educators reported that the girls had little requirement to camouflage in their special classes. The difference in perception from educators and the experience of the students highlights the importance of professional awareness to identify and support autistic girls' needs, given the impact on learning, social interaction and mental health outlined.		

31 Two-sub-test version of the Wechsler Abbreviated Scale of Intelligence, Second Edition, WASI-II; Wechsler, 2011.

32 Social Communication Questionnaire, SCQ, Rutter et al., 2003.

33 Friendship Qualities Scale, FQS; Bukowski et al, 1994.

3.6.3 Question 8: Discussion of Literature Reviewed

The question in focus in this section asked: *what is the evidence for the impact of placement in specialist settings on the school experiences of students with and without special educational needs?* In total, 12 studies met the inclusion criteria for this question. While the inclusion criteria for this question were widened to potentially include studies which had a more exploratory qualitative focus to them, the evidence base derived from them was insufficiently strong to draw anything conclusive from them. They are again limited by issues of generalisability across contexts and systems, small sample sizes and, in some cases, the absence of specific information on aspects like the types of special educational needs participants in the studies had.

3.7 Question 9

The following search categories were used to identify research literature to address Research Question 9: "Students without SENs" AND "Inclusive Education" AND "Outcomes" AND "Impact". The question is:

> Is there evidence (and if so, what is it) for the impact of inclusion on outcomes for students without special educational needs?

3.7.1 Overview of the Literature and the Nature of the Evidence Produced

The search yielded a total of 249 articles once duplicates were removed. After initial screening, 28 were selected for further investigation. From these, 20 articles were found not to meet the inclusion criteria. The following table provides a specific breakdown of (a) the categorical rationales for exclusion and (b) the number of articles that were excluded because they were deemed to fall into one of the categories.

Table 13: Rationale for exclusion of articles for question 9

Rationale		Frequency (Percentage)
1.	Study with a small sample	1 (5%)
2.	Studies not directly focused on outcomes	5 (25%)
3.	Literature reviews of studies not meeting criteria	4 (20%)
4.	Teachers' perspectives	1 (5%)
5.	Study not focused on students without special educational needs	4 (20%)
6.	Intervention studies	4 (20%)
7.	Non-school setting	1 (5%)
TOTAL		**20 (100.0%)**

3.7.2 Findings Question 9

Of the eight studies included, three were conducted in the United States, with the remaining consisting of two from the Netherlands, and one study each from Switzerland, Austria and Turkey. Three of the studies are Quasi-Experimental with a pre/post design, three are post-test only control group design. Two of the studies use sophisticated statistical analysis using very large datasets. Across studies, one involves students who have "developmental disability". One study does not reference the type of disabilities of students in the inclusive classroom. The study undertaken in Switzerland is specific in that students with mild to moderate "Intellectual Disability" were receiving along with their typically developing peers, education in inclusive settings. The remaining studies indicate a range of different disabilities within the inclusive classrooms sampled in their studies, or just 'special educational needs'. These included children with Down syndrome; Speech and Language Disabilities; Physical Disabilities; Intellectual Disabilities; ASD; and EBD. The sample range across the eight studies at a minimum was 86 to a maximum of 995,459 students without special educational needs.

Article no. and full title	**1. The impact of including children with intellectual disability in general education classrooms on the academic achievement of their low-, average-, and high-achieving peers** (Dessemontet & Bless, 2013)		
Nature of study	Conducted in Switzerland, this study set out to determine whether the inclusion in a primary mainstream class of one pupil with ID (with support) would have an effect on the academic progress of low, average and high achieving typically developing peers. At pre-test TD pupils in inclusive education and a control group of TD children in classes without pupils with Special Educational Needs were given a standard literacy and mathematics test used in Switzerland as well as the Culture Fair Intelligence Test (CFT-I).[34] Pairs were matched between groups according to gender, socioeconomic status, mother-tongue language, IQ and pre-test academic achievement (low, average and high). A total of 202 matched pairs participated in the study. There was no statistically significant difference in the IQ scores of the experimental and control groups at the outset of the study.		
Age group	**Category of disability**	**Research design**	**Sample size**
Average age 7.9 years (2nd year in primary school).	Mild/Moderate Intellectual Disability	Quasi-Experiment, Pre/ Post test	Experimental Group = 202 Control Group = 202 **Total = 404.** The class size in the experimental group ranged from 18-23 (mean=19), and each class including one pupil with intellectual disability. The class size in the control group ranged from 18-25 pupils (mean=20), with no student with special educational needs included.

34 The CFT-1 constructed by Raymond Cattell in an attempt to produce a measure of cognitive abilities that accurately estimated intelligence devoid of sociocultural and environmental influences.

Article continued	
Category of setting (e.g. special class, special school)	General education classrooms (Primary)
Type of needs met	Academic (Literacy and Mathematics)
Brief overview of findings which specifically address the research question	At pre-test, the authors found no statistically significant difference between groups in relation to IQ, age and academic achievement. By gender the pairs were half girls, half boys. In the inclusive classes, the children with ID on average received five hours of support per week from SE teachers either in the main classroom or in a special class. Overall they spent 70% or more of their time in the mainstream classrooms. Across the sample of children with ID the majority had no comorbid disabilities and their IQ ranged from 43 to 75. The authors are specific that one child with ID had an undiagnosed behavioural disorder and two had what they described as mild cerebral palsy. At post-test, the authors found that children in both the experimental and control groups (low, average and high achieving) had made strong progress in both literacy and mathematics. Dessemontet and Bless found that there was no statistically significant difference in academic progress between TD pupils (in the three achievement bands) in the inclusive classrooms and the children in the non-inclusive setting.
Author conclusion/ assessment	Dessemontet and Bless conclude that the presence of a pupil with mild/ moderate ID (with support) in a mainstream classroom does not negatively impact on the academic outcomes of low, average and high achieving TD pupils. They do concede limitations to their study. They did not study or address the quality or nature of teaching practices used in both the inclusive and non-inclusive settings. As well, they recognise that their findings may not be replicable in settings where pupils with ID have additional disabilities (such as ASD, EBD, etc.). Equally, they acknowledge that their findings may not be generalisable to secondary school settings.

Article no. and full title	**2. The Achievement of Students with Developmental Disabilities and Their Peers Without Disabilities in Inclusive Settings: An Exploratory Study** (McDonnell, Thorson, Disher, Mathot-Buckner & Mendel, 2003)
Nature of study	The authors conducted their study in five primary schools in the state of Utah. The authors undertook two separate strands of exploration (a) a quasi-experiment with pre/post-testing to measure the effect of inclusive education on the adaptive behaviours of 14 children with developmental disabilities, and (b) measuring the impact of inclusive education on academic outcomes using a post-test control group design (Utah Core Assessments in reading/language arts and maths). The experimental groups were comprised of students who were in the same general education classrooms with one of the 14 children with DD. Students without special educational needs participating in the study (whether in the experimental or control group) were randomly selected and no information was provided about steps the researchers took to match groups.

Article continued			
Age group	**Category of disability**	**Research design**	**Sample size**
6-12 years	Developmental Disabilities (comorbid disabilities)	Post-test only control group design	14 pupils with developmental disabilities. 324 pupils without special educational needs in inclusive classes. 221 pupils without special educational needs in non-inclusive settings. One student with developmental disabilities was placed in an inclusive classroom. **Total=559**
Category of setting (e.g. special class, special school)	General Education Classrooms (Primary)		
Type of needs met	Adaptive Behaviour and Academics		
Brief overview of findings which specifically address the research question	In presenting their findings, McDonnell *et al*. state that across their sample of children with DD, IQs of the 14 pupils ranged from Not Testable to 78. They participated in mainstream activities for on average 94.9% of the school day. Five of the children were also categorised as having Intellectual Disability, one had ASD and three were described as multiply disabled. Three of the children used wheelchairs and two had no oral language. Class levels ranged from 1st to 5th grade. The participating schools randomly assigned TD pupils to inclusive and non-inclusive classrooms (i.e. placement was not according to academic achievement or ability). In the inclusive settings, special education teachers worked with classroom teachers to develop instructional adaptations and help to implement strategies such as peer tutoring. Twelve of the fourteen pupils with DD received paraprofessional support in their classrooms. The authors found at post-test there were no statistically significant differences in the academic scores of the TD experimental group and control group. For instance, the average reading/language arts score for those in the inclusive class was 87.9% compared to 87.5% for those in the control group. In maths, the average score was 84.4% (EG) compared to 83.4% (CG).		
Author conclusion/ assessment	McDonnell *et al*. conclude that the inclusion of pupils with DD (and comorbid conditions) in mainstream primary classes did not negatively impact on the academic achievement of TD pupils across the age group. The authors do concede that the small sample size of pupils with DD (and one in each classroom) makes generalising the impact of inclusive education on TD children, problematic. Similar to Dessemontet and Bless, they recognise that no conclusions can be drawn from their study on the impact of inclusive education in post primary schools. Additionally, the schools involved in this study were highly motivated to explore inclusive education and received external training and support. The same finding might not result where staff are not supportive of inclusion and/or lack adequate training and support.		

Article no. and full title	**3. The Effect of Inclusive Education Practice During Preschool on the Peer Relations and Social Skills of 5-6 year old with Typical Development** (Ogelman & Seçer, 2012)		
Nature of study	The authors conducted their study in ten kindergarten classes in one region in Turkey. The intention was to determine, through pre and post-testing (using teacher reports of the Child Behaviour Scale, Peer Victimisation Scale and Social Skills Assessment Scale) whether experiencing inclusive educational practices over one academic year, resulted in differences in the development of social skills compared to children attending non-inclusive pre-schools.		
Age group	**Category of disability**	**Research design**	**Sample size**
5-6 years	Various (Down Syndrome; Speech & Language; Physical Disabilities	Quasi-Experiment, Pre and Post tests	101 TD children in inclusive kindergarten classes (Experimental Group) 124 TD children in non-inclusive classes (Control Group) **Total= 225**
Category of setting (e.g. special class, special school)	Mainstream Pre-schools		
Type of needs met	Social Skills		
Brief overview of findings which specifically address the research question	Teachers in both groups collaboratively planned in advance of the study, the daily exercises and instructional procedures that would be used with children in the experimental and the control group. In the inclusive preschools, teacher would use as well inclusive educational practices ("*activities, special day and week celebrations*" p.171). At pre-test, there were no significant differences between the groups' social skills and peer relation skills levels in the measures of aggression, prosocial behaviour, asocial behaviour, interpersonal, anger management, victimisation, adaptation to change, self-control and task completion. The authors concluded that at pre-test, both groups' social skill and peer relations were at a similar level. In terms of gender balance, the experimental group was comprised of 51% girls and 49% boys, with 54% of the control group being girls and 46% boys. In the four inclusive kindergartens each class had one child with a special educational need. One child had Down Syndrome and attended pre-school 6 hours a week. In another class, there was one child with a Speech and Language disorder who attended 10 hours a week. Additionally there were two children who were physically disabled (mobility) who both attended full time in their respective kindergartens. At post-test, the authors found that there were significant differences between two groups in social skill and peer relation levels. For the experimental group, scores were higher in anger management skills, self-control skills, interpersonal skills, adaptation to change skills, prosocial behaviour skills and task completion skills than found in the control group. Additionally, at post-test the levels of victimisation and aggression were lower for the children in the experimental group than the control group. All these scores were statistically significant.		

Article continued	
Author conclusion/ assessment	Ogelman and Seçer state that while children in the control group at post-test had shown a development in social skill and peer relation levels, it was slight and not as significant compared with children's development in the inclusive kindergartens. They conclude that experiencing inclusive educational practices in pre-school settings can impact positively on young children's social and peer relation skills development. The authors cite as limitations to their study that it was solely based on teacher reports (children's views and observations would have triangulated the data) and that their study only considered the effects of inclusive educational practices over one year as opposed to longitudinally.

Article no. and full title	**4. Academic Performance of Students without Disabilities in the Inclusive Environment** (Fruth & Woods, 2015)		
Nature of study	Fruth and Woods set their study in one high school that for three years before the study had been rated "Excellent" by the Ohio Department of Education. The authors explain that "*This designation indicated that the school achieved a satisfactory number of indicators that the school made progress towards 'Adequate Yearly Progress'*" (p. 355). No specific information is provided about the number of students with SENs in the school nor the nature of disabilities but within the overall school district the percentage of students with SENs is 15.4% of the total student enrolment of 3,513. The authors, using scores on the Ohio Graduation Test for 10th graders, looked at whether there were significant differences in achievement outcomes in Science, Maths, Reading and Social Studies between TD students educated in inclusive settings (experimental group) in the school compared to their TD peers educated in "segregated" classes (control group). Furth and Woods state that their null hypothesis is that there will be no significant difference in the academic achievement in these four subject areas between TD students in both settings.		
Age group	**Category of disability**	**Research design**	**Sample size**
15-16 years old	Not described	Post-test only control group design	**Reading:** 51 experimental group; 136 control group **Maths:** 35 experimental group; 126 control group **Science:** 53 EG experimental group 102 control group **Social Studies:** 61 experimental group; 114 control group
Category of setting (e.g. special class, special school)	Mainstream Upper Secondary Classrooms (Reading, Science, Mathematics and Social Studies)		
Type of needs met	Academic		

Article continued	
Brief overview of findings which specifically address the research question	In the "ABC High School", TD students were randomly assigned (via a computer programme) to inclusive or non-inclusive classrooms for the subjects of Reading, Maths, Science and Social Studies. Therefore, placement was not related to variables such as students' socio-economic status, past academic performance or attendance. Similarly teacher certification, curriculum, student assessments and class sizes were common across the sample. Furth and Woods found that there was no significant differences in the educational performance (as measured by the Ohio Graduation Test) in Reading, Science and Social Studies between the two groups. They did find that there was a slight but significant difference in the test scores in Maths, with students in the non-inclusive settings achieving on average 10.14 points higher than their TD peers in inclusive settings.
Author conclusion/ assessment	Furth and Woods conclude that their results are mixed. However, they contend from their findings that the presence of students with disabilities in mainstream high school classrooms and the instructional adaptations that may be required, with the exception of Maths, had little direct impact on the academic outcomes of TD students. However, equally they acknowledge the limited evidence in this area stating that "*In general, there is still very little known about the true nature of the impact of the inclusive environment on the learning of students for whom participation in that environment is incidental rather than intended*" (pp. 360-361).

Article no. and full title	**5. Inclusive education and students without special educational needs** (Ruijs, Van der Veen & Peetsma, 2010).		
Nature of study	This large scale, cross-sectional study sought to determine whether inclusive education had an impact on the academic achievement and socio-emotional functioning of TD children; whether there were differences in its impact depending on TD children's ability levels; and did the impact of inclusive education on TD children vary according to the nature of the special educational needs of their classmates. Data were drawn in relation to academic achievement from a Dutch standardised assessment conducted every two years throughout primary schools in the Netherlands (measuring literacy, language development and maths). Pupil background variables taken into account included gender; ethnicity; socio-economic status; parental educational levels; urban/rural; school enrolment numbers. In addition to the standardised academic assessment, two non-verbal IQ tests were administered and both teachers and TD pupils completed questionnaires in relation to socio-emotional functioning. The TD cohort was further categorised as being in (a) classes with no children with a diagnosed Special Educational Need; (b) classes with a few pupils with a diagnosed SEN (less than 10%); and (c) classes with more pupils with a diagnosed SEN (more than 10%).		
Age group	**Category of disability**	**Research design**	**Sample size**
5-12 years	Various (Cognitive – dyslexia; developmental delays; speech & language; dyscalculia. Behavioural – ASD; externalising behaviours. "Other" – physical disabilities; internalising behaviours)	Post-test only control group design	TD pupils in inclusive classes: 15,480 TD pupils in non-inclusive classes: 12,265 **Total: 27,745**

Article continued	
Category of setting (e.g. special class, special school)	Mainstream primary schools
Type of needs met	Academic and Social/Emotional needs
Brief overview of findings which specifically address the research question	Ruijs, Van der Veen and Peetsma found that there were no differences in the academic progress of TD children in primary classes with fewer or more than 10% pupils with diagnosed SENs compared to TD pupils in non-inclusive classes. In their review of previous literature in this area, they state that many studies have found that inclusive education tends to have a neutral impact (i.e. neither positive nor negative) on TD students' academic progress. These authors questioned whether this might be related to varying ability levels of TD students (i.e. do children with higher ability achieve more positively in inclusive education and/or do TD children with weaker ability make more negative progress in inclusive settings?). In their sample, Ruijs, Van der Veen and Peetsma state that *"there were no indications of a different relation between inclusive education and academic achievement for more and less intelligent typical students"* (p. 385). Additionally, through their analysis, the authors discovered no significant differences between the three groups in relation to socio-emotional functioning (based on teacher questionnaires and student self-reports). Equally, they found that there was no significant relationship between the category of disability in inclusive settings on TD children's academic achievement and socio-emotional functioning.
Author conclusion/ assessment	From their large sample, spanning a range of grade levels in primary schools, the authors conclude that their findings support previous work indicating that inclusive education has a neutral impact on the academic achievement and socio-emotional functioning of TD children. The authors however are clear that they are not suggesting causal inferences from their cross-sectional study and state that there is a need for further experimental and longitudinal research in this area. Ruijs, Van der Veen and Peetsma list a number of limitations to their study. The large scale design of the study did not allow them to assess the severity of the SENs of the children in the inclusive settings. The authors were not able to capture the different inclusive educational approaches and practices used in the participating schools.

Article no. and full title	6. **Context Matters: Exploring relations between inclusion and reading achievement of students without disabilities** (Gandhi, 2007)
Nature of study	Drawing upon a nationally representative data set (the Early Childhood Longitudinal Study Kindergarten Class of 1998-99) collected throughout primary level in the United States, Gandhi set out to compare the reading progress of 8,000 TD children (first tested in Kindergarten) educated in inclusive and non-inclusive public schools by comparing the samples' reading scores during 3rd Grade. The ECLS-K provides cognitive assessments and teacher, SE teacher, parent and school administrator surveys all in relation to individual children being assessed. It does not offer information about different teachers' approaches to reading, instruction; the nature or amount of training the teachers have in inclusive education and/or SE; or the amount of time each child with a SEN spends in the mainstream classroom on a typical day.

Article continued			
	The author introduced into her regression model additional context variables that may be associated with TD children's progress in reading. These included establishing in each class whether the majority of SEN children had one of eight disability categories (High Incidence, ASD, speech-language impairments, Specific Learning Difficulties, intellectual disabilities; emotional disturbance; severe disabilities, and Other – classes which included students with hearing impairment, or health impairment, or orthopaedic impairment, or developmental delay, or deaf-blindness, or traumatic brain injury) and the nature of the SENs (i.e. Mild to Severe). Additional classroom characteristics factored into her analysis were total number of pupils in classes; teaching experience of teachers; the number (if any) of courses in SE teachers had taken; the presence of a paraprofessional; how often teachers consulted with SE teachers, to determine whether these had a moderating effect on the impact of inclusive education on TD's reading progress.		
Age group	**Category of disability**	**Research design**	**Sample size**
8-9 years old	Various (High Incidence; Speech; Specific Learning Difficulties; Intellectual Disability; Autism; Emotional Disturbance; Severe Disabilities; Physical Disabilities)	Longitudinal Quasi-Experiment Pre/Post	8,000
Category of setting (e.g. special class, special school)	Mainstream Primary Schools		
Type of needs met	Reading achievement		
Brief overview of findings which specifically address the research question	Gandhi found that on average in each of the classes there were 2.7 children with special educational needs. Having controlled for the range of student and classroom background variables, and the experience of the classroom teacher, Gandhi reports that being educated in an inclusive primary school setting does not contribute to students without special educational needs having higher or lower reading scores than their peers in non-inclusive classes. Addressing her second question (does the impact of inclusive education depend on the type of disability in the classroom), Gandhi found that, generally speaking, the type of disability made no significant difference to students without special educational needs performing better or worse than those in non-inclusive settings. Her third research question examined whether teachers' roles and expertise played a moderating role on the impact of inclusion on reading achievement. She found that the extent to which teachers had taken special education courses had a significant association with the impact of inclusion on reading. However, one anomaly was in relation to students without special educational needs who were educated in inclusive classrooms where the majority of students with special educational needs have ASD. Where there teachers have taken a greater number of special education courses, those students perform worse in reading scores than their peers in similar classes where their teacher has taken less special education courses. She noted that the reasons for this are not clear.		

Article continued	
	Gandhi also found strong associations between (a) the presence of an aide (positive impact) and (b) for the degree to which teachers consulted with SE teachers (positive impact in all disability categories, apart from classroom where majority were EBD/ASD). Gandhi also found that in classrooms where the majority of pupils were in the EBD or ASD categories, the presence of an aide was associated with better reading progress for TD pupils compared to (EBD/ASD) inclusive settings without aides and non-inclusive settings. TD children in EBD/ASD classroom without an aide performed less well than their peers in non-inclusive classes.
Author conclusion/ assessment	Gandhi states that this study is correlational and so one cannot draw causal conclusions. She concludes that there is no evidence in her data that inclusive education has a negative impact on TD children's academic achievement. She states that there is a strong association between the inclusive classrooms' contextual characteristics (such as what is the instructional practice; what is the nature of the work that aides do; how does the teacher actually work with the SE teacher) and yet because of the quantitative nature of her data set, she is unable to adequately address these variables.

Article no. and full title	**7. Inclusion and standards achievement: the presence of pupils identified as having special needs as a moderating effect on the national mathematics standards achievements of their classmates** (Krammer, Gasteiger-Klicpera, Holzinger & Wohlhart, 2019)		
Nature of study	This article investigates the relationship between the achievement level of students in classes and the presence of students with SENs in inclusive settings. In particular, it examines whether the presence of students with SENs in inclusive classrooms has an effect on the national mathematics standards achievement of their fellow students. The Austrian educational standards examination in Mathematics for the year 2013 acted as the underlying data for this paper's calculations. National standard scores was the dependent variable. Independent variables at class level were the number of students with special needs and at the individual level socio-economic, cultural and ethnic background variables were used together with gender and age.		
Age group	**Category of disability**	**Research design**	**Sample size**
Average age 10.34 years (SD: 0.45).	Special Educational needs	Multi-level regression modelling	73,655 students The students attended 4,904 classes at 3,048 primary schools in all 9 federal states of Austria;
Category of setting (e.g. special class, special school)	Inclusive mainstream settings		
Type of needs met	Academic		

Article continued	
Brief overview of findings which specifically address the research question	The outcomes reveal mainly small negative effects of the presence of students identified as having SEN on the standard achievement of their fellow students in class, even when controlled for socio-economic and cultural composition effects. For example, increasing the number of students identified as having SEN by one leads to a decrease in the average math achievement of 0.73 points. Another important finding was that no linear relationship exists for the degree of presence of students with SEN and the standards achievement of their classmates in mathematics.
Author conclusion/ assessment	It is very likely that the presence of students identified as having SEN has no practical implications for the math performance of the other students in class.

Article no. and full title	**8. The impact of special needs students on classmate performance** (Ruijs, 2017)		
Nature of study	This study set out to investigate if the presence of special needs students in regular schools affect the academic achievement of their classmates in the Netherlands, For primary education, the data used in this study were data from Dutch students leaving primary education in 2009, 2010 and 2011 who took CITO[35] tests. For secondary education, administrative data on all Dutch students taking secondary school exams in 2009, 2010 and 2011 were used. The study data is gathered during a period where backpack funding was in place. In short, back funding is provided for students with complex special educational needs who are eligible for special education schools, but are educated in mainstream with financial support to the school. Three independent identification approaches were used for different groups of students: student fixed effects models for secondary school students; school fixed effects models (using primary school data and examining the impact of inclusion), and neighbourhood variation (to control for the possibility of school and/or class grouping effects).		
Age group	**Category of disability**	**Research design**	**Sample size**
Not specified	Visual problems Hearing problems Physical and intellectual disabilities Behavioural problems	Statistical analysis	Total N=995,459 students Students without SEN in primary school=462,227; Students with SEN in primary school = 8,775; Students without SEN in secondary school= 518,985; Students with SEN in secondary school = 5,472.

35 The CITO test is one of a number of school leaver attainment test options which primary schools in the Netherlands can administer in a student's final year at that level. The CITO test is taken by approximately 85% of schools and evaluates the knowledge pupils have acquired during their eight years of primary school in the following areas via multiple choice questions: language; mathematics; and study skills (there is an optional element on 'world orientation'). (Scheerens *et al*., 2012).

Article continued	
Category of setting (e.g. special class, special school)	Primary and secondary schools
Type of needs met	Academic
Brief overview of findings which specifically address the research question	After running a number of statistical tests in relation to the three approaches outlined above, the author noted the following findings: *In relation to the secondary school model:* the results generally indicate that the percentage of students with special educational needs in the class is unrelated to a student's standardised exam grade. When the impact of students with particular types of special educational needs are examined, there is no differential effect (effects for students with visual problems, hearing problems, physical and intellectual disabilities, and behaviour problems were examined). Overall, the presence of students with special educational needs does not help or harm the achievement of students without special educational needs. *In relation to the primary school model:* the results again show that there are no differential effects in the inclusion of students with special educational needs, or students with particular types of special educational needs, on the exam grades of students without special educational needs. The test score data here measured language, mathematics and study skills at the end of primary school. This finding was irrespective of what secondary school track the students ended up choosing (e.g. vocational-focussed secondary education, general secondary education, university-focused secondary education). There is also no evidence for differential effects on high-achieving or low achieving students without special educational needs. Overall, there is no evidence that the presence of students with special educational needs helps or harms the achievement of students without special educational needs. *In relation to the neighbourhood model:* the results generally indicate that the percentage of students with special educational needs in a neighbourhood does not affect student achievement of students without special educational needs educated alongside students with special educational needs.
Author conclusion/ assessment	The results in this study show that the presence of students with special educational needs has no impact on the academic achievement of students without special educational needs educated alongside them. The results further indicate that there are no heterogeneous effects of inclusion on high and low achieving students, nor are there differential effects for the inclusion of students with particular types of disabilities. The pattern that emerges is that additional funding can offset negative peer effects associated to the presence of SEN. While the author notes that the study's findings are based on inclusive education under the Dutch backpack policy, this allows it to be shown that in a situation with substantial additional funding, inclusive education does not harm the achievement of regular students.

3.7.3 Question 9: Discussion of Literature Reviewed

The question in focus in this section asked: *is there evidence (and if so, what is it) for the impact of inclusion on outcomes for students without special educational needs?* A number of high quality studies provided strong evidence that the inclusion of students with special educational needs in inclusive classrooms at primary level has, in the main, no effect on outcomes for students without special educational needs.

Six of them have strong outcome data with some convergence on common findings that provide some evidence to answer this question. The inclusion of students with special educational needs in inclusive classrooms at primary level has, in the main, no effect on outcomes for students without special educational needs. There is some evidence to suggest that inclusion can have a slightly negative impact on the maths scores of students without special educational needs. However, in one case the effect was so small as to make no real difference to the students' scores.

The quality of the research, including the methodology and sample sizes in many of the studies, is strong. However, generalisability and context are recurring limitations. For instance, few of these studies included information about the inclusive arrangements, such as teaching approaches, time students spent in the classroom daily, the nature and quality of extra support the students received, and so on.

A further limitation in the case of some studies is in relation to the number of students with SENs in the experimental group classrooms. In some studies, this information is not provided, while in others the numbers reported are low (e.g. one student with special educational needs in each inclusive classroom).

3.8 Question 10

Is there evidence (and if so, what is it) for the impact of inclusion on the experiences of students without special educational needs?

The following search categories were used to identify research literature to address research question 10: Impact (alternate terms) AND inclusion (alternate terms) AND experiences (alternate terms) AND students without special educational needs (alternate terms).

3.8.1 Overview of the Literature and the Nature of the Evidence Produced

The search yielded a total of 275 articles once duplicates were removed. Of these, 46 were subsequently downloaded following the initial screening process. From these, 39 articles were found not to meet the inclusion criteria. The following table provides a specific breakdown of (a) the categorical rationales for exclusion and (b) the number of articles that were excluded because they were deemed to fall into one of the categories.

Table 14: Rationale for exclusion of articles for question 10

Rationale		Frequency (Percentage)
1.	Study with a small sample	3 (7.7%)
2.	Studies not directly focused on experiences	7 (17.9%)
3.	Age of participants	1 (2.6%)
4.	Study not focused on students without special educational needs	12 (30.8%)
5.	Intervention studies	9 (23.1%)
6.	Non-inclusive school/preschool setting	5 (12.8%)
7.	Practice-orientated article	2 (5.1%)
TOTAL		**39 (100.0%)**

3.8.2 Findings Question 10

Of the seven studies included, there was one study from each of the following countries- Portugal, Italy, Greece, the Netherlands, the UK and the US. The seventh study compared data from three countries (Norway, the Netherlands and Belgium).

Six of the seven studies used questionnaires and one used focus groups. The sample size across the studies ranged from 28 to 1,226. The special educational needs that were the focus of the studies varied. Three specifically looked at the experiences of those without special educational needs of including students with ASD, and in one case, those with ADHD and ASD. A fourth study looked at intellectual disabilities specifically, one was not specified and the remaining two included a variety of needs.

Article no. and full title	**1. School participation of students with Autism Spectrum Disorders** (De Matos & Morgado, 2016)		
Nature of study	This study examines the perceptions of students without special educational needs of the participation of students with ASD in two mainstream schools in Portugal. The questionnaire was adapted from Martins (2012) and Mota (2013), applied to 165 mainstream students, 10 teachers and 4 educational assistants. Questionnaire had three parts: personal data; mainstream students' social interactions and perceptions/representations of the ASD colleague; and acceptance of ASD students in the peer group.		
Age group	**Category of disability**	**Research design**	**Sample size**
3rd – 9th grade (8-16 years), with mean age = 10.96	ASD	Questionnaire	165 students without special educational needs
Category of setting (e.g. special class, special school)	Inclusive mainstream		
Type of needs met	Behaviour/social acceptance		
Brief overview of findings which specifically address the research question	Results showed a good perception of typically developing students towards students with ASD and their behaviour, positive feelings about their presence at the school/class, and an overall acceptance of them in the peer groups of typical development students. The findings noted feelings of contentment towards the presence of the ASD student in the classroom, suggesting the students are well received and that colleagues are happy with his presence. Students without special educational needs show a partial perception of the ASD colleagues' personality, which means that if they have an accessible and good perception of the ASD student, there is likely a greater willingness towards the interaction/relationship.		
Author conclusion/ assessment	There is a good perception and acceptance as well as good feelings towards the presence of these students in school. However, this presence appears to be more physical than an effective involvement in all moments of the school day, although there is some level of participation.		

Article no. and full title	**2. Social acceptance and the choosing of favourite classmates: a comparison between students with special educational needs and typically developing students in a context of full inclusion** (Nepi, Fioravanti, Nannini & Peru, 2015)
Nature of study	This study sets out to investigate the social position of students with and without special educational needs studying in primary and secondary school in a context of full and complete inclusion in Italian schools. As well as examining rates of acceptance and non-acceptance, the authors considered the choices made by students regarding their favourite classmates. To assess peer group inclusion in work (that is, study) and social (that is, play) activities, the 'Like to Work' and 'Like to Play' questionnaires from the *Social Inclusion Survey* (Frederickson *et al*., 2007) were used.

Article continued			
Age group	**Category of disability**	**Research design**	**Sample size**
7-14	Three types of SEN were identified: 1.Students who had a statement reporting a disability (either cognitive and/or sensory-motor) 2. Pupils who displayed difficulties arising from a disadvantaged or atypical background 3. Pupils whose difficulties did not appear to have physical or cognitive origins, or to be directly linked to socioeconomic, cultural or linguistic factors	Survey	N=486 n=107 with special educational needs n=379 students without special educational needs. 272 children were from 12 classes (that is, three classes for each grade from second to fifth) of primary school and 214 were from nine classes (that is, three classes for each grade from first to third) of secondary school
Category of setting (e.g. special class, special school)	Primary and secondary inclusive schools		
Type of needs met	Social		
Brief overview of findings which specifically address the research question	The results demonstrated that in both primary and secondary school, and in both study and social conditions, typically developing students were more accepted than students with special educational needs. In particular, the subgroup of SEN students with cognitive and sensory motor disability received the lowest number of friend choices, especially in the study condition, where many did not receive any choice at all. Concerning the typically developing group, the higher the proficiency of the student, the higher the acceptance rate and the lower the non-acceptance rate. Contrarily, there was a tendency for students who experienced most non-acceptance to be those who had lower levels of academic achievement. The general level of acceptance of students with special educational needs in the secondary school was lower than in the primary school. Overall, these results seem to demonstrate that the more challenging the condition (that is, the study condition in secondary school), the higher the risk for students with special educational needs of not being accepted.		
Author conclusion/ assessment	Overall, students with special educational needs are significantly less accepted and are very rarely chosen as favoured classmates by their typically developing counterparts.		

<table>
<tr><td>Article no. and full title</td><td colspan="3">3. Social participation of students with SEN in different educational systems (Bossaert, de Boer, Frostad, Pijlb & Petry, 2015)</td></tr>
<tr><td>Nature of study</td><td colspan="3">This study focused on one key aspect of social participation, i.e. the acceptance of students with SEN by their classmates without special educational needs. The researchers compared the social participation of students with SEN to the social participation of typically developing students in three countries; Norway, the Netherlands and the Flemish region of Belgium.

All participating students were asked to nominate their best friends in their class.

Description of Educational Systems in each country:

Although cooperation between special and regular education in relation to the inclusion of students with SEN in mainstream schools has been established since 1983 today only a small proportion of students with SEN are fully included in mainstream schools in Flanders.

The education system in the Netherlands also comprises regular and special schools, but work has been under way since 1990 on implementing a continuum between special and inclusive schools. It could therefore be described as a ‘multi-track’ approach.

Norway is known for its one-track approach. As early as 1975, separate legislation for special education was abandoned and in 1991 all policies and practices regarding special needs education were directed towards inclusion in education. Currently, the vast majority of students with SEN attend a mainstream school in Norway.</td></tr>
<tr><td>Age group</td><td>Category of disability</td><td>Research design</td><td>Sample size</td></tr>
<tr><td>12-13</td><td>Behavioural problems, Severe learning difficulties

Mild learning difficulties,

Communication problems,

Sensorial/Motor problems</td><td>Comparative study using socio-metric assessment</td><td>In Norway, 37 seventh-grade students with SEN and 461 classmates;

In the Netherlands, 29 seventh-grade students with SEN and 187 classmates;

In Flanders, 43 seventh-grade students with SEN and 469 classmates participated in this study.</td></tr>
<tr><td>Category of setting (e.g. special class, special school)</td><td colspan="3">Inclusive schools</td></tr>
<tr><td>Type of needs met</td><td colspan="3">Social skills</td></tr>
<tr><td>Brief overview of findings which specifically address the research question</td><td colspan="3">These results show that, regardless of the educational system, students with SEN are significantly less accepted than students without special educational needs.</td></tr>
</table>

Article continued	
Author conclusion/ assessment	Contrary to the authors' initial expectations, the social participation of students with SEN in the more inclusive Norwegian education system did not outperform the social participation of the Dutch and Belgian students. Only students with relatively mild SEN are included in regular Dutch and Belgian mainstream schools whereas the option of attending exclusive special education settings in Norway is very limited. The Norwegian sample is therefore the only sample including students with more severe disabilities and students with intellectual disabilities. According to the authors this could be termed the inclusion paradox: the more progress in implementing inclusive education, the lower the countries' relative performances in social participation. The findings here are limited by comparability issues across the systems, in how students with special educational needs are identified, and those with particular types of needs being in either mainstream or special settings. Some categories of special educational needs are included in one country sample but excluded from another.

Article no. and full title	**4. The acceptance and rejection of peers with ASD and ADHD in general secondary education** (de Boer & Pijl, 2016)		
Nature of study	The authors focused on analysing (a) peer acceptance and peer non-acceptance of typically developing students, students with attention deficit hyperactivity disorder (ADHD), and students with autism spectrum disorder (ASD) in general secondary education in the Netherlands; (b) attitudes of general secondary-aged students toward peers with ADHD and ASD; and (c) the relationship between peer acceptance/non-acceptance and students' attitudes. Students were asked to indicate with whom they prefer to hang out or preferably not want to hang out (peer acceptance and peer non-acceptance). Attitudes were assessed using the Attitude Survey Toward Inclusive Education.		
Age group	**Category of disability**	**Research design**	**Sample size**
12-14	ASD ADHD Pervasive Development disorder not otherwise specified	Cross sectional design	437 TD 28 students with ASD or ADHD. 7 schools 18 classes
Category of setting (e.g. special class, special school)	Inclusive		
Type of needs met	Social needs		
Brief overview of findings which specifically address the research question	Multilevel analysis showed (a) significant differences between students with ADHD and ASD and typically developing peers on peer acceptance and peer non-acceptance. In particular students with ADHD were least accepted by their peers in class. The findings showed that students with ADHD were least accepted by their peers in class. No significant difference was found in acceptance between students with ASD and typically developing students, although the difference in peer non-acceptance between the two groups was statistically significant.		

Article continued	
Author conclusion/ assessment	Being socially included is not obvious for students with ADHD and ASD in secondary general education. The study showed that students held least positive attitudes toward students with ADHD, when compared to peers with ASD. Including students with ADHD and ASD in general secondary classrooms does not automatically lead to acceptance by peers.

Article no. and full title	**5. Autism and UK secondary school experience** (Dillon, Underwood, & Freemantle, 2016)		
Nature of study	Social skills, perceived relationships with teaching staff, general school functioning, and interpersonal strengths of the young person were explored in a mainstream U.K. secondary school with 14 students with autism and 14 age and gender matched students without autism, using self-report questionnaires and semi-structured interviews.		
Age group	**Category of disability**	**Research design**	**Sample size**
13	ASD	Quantitative and qualitative analysis	14 students with autism Male = 11 Female = 3 14 TD students Male = 9 Female = 5
Category of setting (e.g. special class, special school)	Inclusive secondary school		
Type of needs met	Social and interpersonal schools, school functioning		
Brief overview of findings which specifically address the research question	Quantitative analyses showed consistent school experiences for both groups. Content analysis of interview data showed further similarities in overall functioning, while also highlighting some differences in the ways in which the groups perceive group work, peers, and teaching staff within school. Both groups of students declared overall positive experiences with staff members.		
Author conclusion/ assessment	The findings clearly indicate that with the types of practice and support adopted by this school, young people with autism report sharing similar and enjoyable school experiences to their typically developing peers. It is important for teaching staff and schools to recognise how an inclusive ethos in schooling can significantly improve the experience of all students. The fact that both groups of students here declared overall positive experiences with staff members is encouraging, as positive relationships have been shown to suppress poor behavioural tendencies and increase overall school experience		

Article no. and full title	**6. Young children's attitudes towards peers with intellectual disability – effect of the type of school** (Georgiadi, Kalyva, Kourkoutas and Tsakiris, 2012)		
Nature of study	This study explored typically developing children's attitudes towards peers with intellectual disabilities with special reference to the type of school they attended. The children completed a questionnaire and an adjective list by Gash (European Journal of Special Needs Education 1993; 8, 106) and drew a child with intellectual disabilities, commenting also on their drawings. This study took place in Greece.		
Age Group	**Category of disability**	**Research design**	**Sample size**
9-10	Intellectual disability (no further definition)	Survey and drawing	256 TD students 135 in inclusive settings, 121 in non-inclusive settings.
Category of setting (e.g. special class, special school)	Inclusive and non-inclusive settings		
Type of needs met	Social, emotional, educational		
Brief overview of findings which specifically address the research question	Typically developing children expressed overall neutral attitudes towards peers with intellectual disabilities. Type of school differentiated their attitudes, with children from inclusive settings being more positive towards peers with intellectual disabilities and choosing less negative adjectives to describe them than children from non-inclusive settings. Girls and students who expressed more positive social, emotional and overall attitudes towards students with intellectual disabilities chose more positive adjectives to describe a child with intellectual disabilities. It was also found that children from inclusive settings drew children with intellectual disabilities as more similar to a child with Down syndrome in comparison with children from non-inclusive settings. Typically developing children attending inclusive settings expressed more positive social attitudes towards their peers with intellectual disabilities in comparison with children from non-inclusive settings, while no differences were observed in educational or emotional attitudes.		
Author conclusion/ assessment	It is important to remember that it is positive and not neutral attitudes that foster peer inclusion and acceptance, but positive attitudes are taught through planned social contact between the students and appropriate teacher training and are not achieved by random placement		

Article no. and full title	**7. The Perspectives of Students With and Without Disabilities in Inclusive Schools** (Shogren, Gross, Forber-Pratt, Francis, Satter, Blue-Banning & Hill, 2015)		
Nature of study	The purpose of this study was to draw on the existing body of work suggesting the importance of including students' voices in examining the impact of Schoolwide Integrated Framework for Transformation (SWIFT). The study examined the experiences of students with and without disabilities being educated in inclusive schools, documenting their perceptions of the culture of their school, inclusion, and the practices that were implemented to support all students. Focus groups were conducted with students with and without disabilities from six schools that were recognised as exemplars of inclusive schoolwide practices. Data was analysed from 11 focus groups (6 with students without disabilities and 5 with students with disabilities) and two individual interviews with students with severe disabilities. This study took place in the United States.		
Age group	**Category of disability**	**Research design**	**Sample size**
Age not specified Elementary grade	Not specified	Focus groups	86 students, 53 without special educational needs 33 without special educational needs. Six schools Involved
Category of setting (e.g. special class, special school)	Inclusive settings		
Type of needs met	General support		
Brief overview of findings which specifically address the research question	Three major themes emerged: (1) Students' sense of belonging in their school culture; Students described feeling a sense of belonging in their schools and a highly positive school culture. (2) Inclusion and its impact on students; Students without disabilities across focus groups identified students with varying levels of support needs in their classes, and generally described how their schools had strong emphasis on educating everyone together. Students with disabilities described enjoying being in inclusive classrooms, and repeatedly stated how they preferred being with their peers without disabilities over being pulled out either for related services (e.g., speech) or being in segregated classrooms. (3) School and classroom practices. Overall, students described benefiting from the implementation of evidence-based practices at the classroom level, including classroom monitoring systems, strategies to promote self-determination, frequent re-teaching and assessment, and multiple means of representation, expression, and engagement. Students with disabilities described the role of technology in their learning.		
Author conclusion/ assessment	Students with and without disabilities clearly identified unique features of their schools and, by and large, enjoyed these features and derived benefit, including a sense of community among all students. Authors suggest that further research on the role of technology as technology was not a frequent topic of discussion among students without disabilities.		

3.8.3 Question 10 Summary

The question in focus in this section asked: *is there evidence (and is so, what is it) for the impact of inclusion on the experiences of students without special educational needs?*

The evidence from the studies cited here showed that while students without special educational needs reported acceptance and positive attitudes towards their peers with special educational needs in class, there were also challenges for some of the latter group of students in being accepted. Multilevel analysis showed (a) significant differences between students with ADHD and ASD and typically developing peers on peer acceptance and peer non-acceptance. This was the case for students with ADHD in particular in one study, and was noted as a greater challenge for students with needs in secondary school in another study. The evidence here is therefore mixed overall and limited by the relatively weak methodological approaches used in many of the studies. The general concerns outlined previously regarding generalisability of findings from one context to another are also worth considering here.

4. Overall Summary

This paper reviews published literature broadly focused on the area of education and experiences of students with and without special educational needs in specialist settings and inclusive settings. Specifically, the review examined literature relating to ten research questions that focused on different elements of this theme including the quality of education available in these settings; the educational outcomes of students who are enrolled in them; the nature and impact of their experiences in these settings; related issues to do with the physical location of these settings and the possible effects of travelling time on students' ability to learn in specialist settings; as well as the impact of inclusive education on the outcomes and experiences of students without special educational needs. The review was conducted taking into account how the findings from the research literature could be considered in the Irish educational context.

The review involved a thorough search of available databases using a series of keywords and search strings. Almost 23,000 citations were examined, with ultimately 46 articles reported on. This relatively low return on the number of database hits is further underlined by the absence of any evidence sufficiently robust to meet the inclusion criteria for five of the ten questions in this report. While evidence was reported in relation to the remaining five questions, it is not completely without its challenges, and points to a number of issues with the nature of the literature. Despite the evidence presented here, there is an overall lack of high-quality studies which focus on comparing educational outcomes for students in specialist and mainstream settings. Where this evidence does exist, it is limited by the issue of the research being context specific – to one country or indeed a region of one country, with different education systems and curricula offerings in this systems. Related to this, the ill-defined nature of the type of special educational needs of students in these studies, and/or the severity of their needs was also another issue.

Notwithstanding these issues, key findings can be drawn from two of the questions where the strongest evidence was found and where there was some convergence on common findings.

Q2. Is there evidence (and if so, what is it) that students with special educational needs achieve better or worse outcomes in specialist settings than if they were in mainstream settings?

Of the twelve studies that met the inclusion criteria for this question, four of them had robust evidence on outcomes for students in specialist settings compared to mainstream settings. Three of the four had similar findings that provide some evidence to answer this question.

- When compared with students with special educational needs in special classes, students with special educational needs in mainstream classes achieve a greater percentage of school qualifications (both at the higher level of qualifications and the lower level) and have a greater chance of achieving higher levels of school qualifications.
- Access to future academic opportunities in school and post-school is lessened for students with special educational needs placed in specialist settings comapred to students with special educational needs in mainstream settings.

A fourth study noted there were no significant differences in test school data on curricular Finnish and mathematics tasks at Grade 9 for students matched in regular and special classes at Grade 7. However, there was a significant difference in school achievement, as measured by GPA (in Finnish and mathematics), in favour of students in special classes.

Q9. Is there evidence (and if so, what is it) for the impact of inclusion on outcomes for students without special educational needs?

Of the eight studies that met the inclusion criteria for this question, six of them with strong outcome data had similar findings that provide some evidence to answer this question.

- The inclusion of students with special educational needs in inclusive classrooms at primary level has, in the main, no effect on outcomes for students without special educational needs.
- There is some evidence to suggest that inclusion can have a slightly negative impact on the maths scores of students without special educational needs. However, in one case the effect was so small as to make no real difference to the students' scores.

Conclusions arising from this review suggest that some students with special educational needs may achieve better outcomes in certain areas in mainstream settings and inclusive settings than in specialist settings. It also suggests that students without special educational needs can, in the main, do just as well in inclusive settings than in settings with no students with special educational needs present. However, the most significant finding from the review is the absence of any good quality evidence relating to so many aspects of the education of students with special educational needs relevant to the Irish context, and the resulting need for new areas of research to be initiated to generate a fuller understanding of special and inclusive education.

References

Angelides, P. & Michailidou, A, (2007). Exploring the role of 'Special Units" in Cyprus Schools: A case study. *International Journal of Special Education, 22(2),* 86-106.

Bukowski, W., Hoza, B., & Boivin, M. (1994). Measuring friendship quality during pre- and early adolescence: The development and psychometric properties of the Friendship Qualities Scale. Journal of Social and Personal Relationships, 11(3), 471-484.

Chang, S.C. & Schaller, J. (2002). The Views of Students with Visual Impairments on the Support they Received from Teachers. *Journal of Visual Impairment and Blindness (August),* 558-575.

Cook, A., Ogden, J. & Winstone, N. (2016). The experiences of learning, friendship and bullying of boys with autism in mainstream and special settings: a qualitative study. *British Journal of Special Education, 43(3),* 250-271.

De Boer, A. & Pljl, S.J. (2016). The acceptance and rejection of peers with ADHD and ASD in general secondary education. *The Journal of Educational Research, 109(3),* 325-332

De Matos, I.T. & Morgado, J. (2017) School participation of students with Autism Spectrum Disorders. *Journal of Research in Special Educational Needs. 16 (1),* 972-977.

Dessemontet, R.S. & Bless, G. (2013). The impact of including children with intellectual disability in general education classrooms on the academic achievement of theirlow-, average-, and high-achieving peers. *Journal of Intellectual & Developmental Disability*, *38(1*), 23-30

Dillon, G.V., Underwood, J.D.M. & Freemantle, L.J. (2014). Autism and the U.K. secondary school experience. *Focus on Autism and Other Disabilities, 31(3)*, 221-230.

Fink, E., Olthof, T., Goossens, F., van der Meijden, S. & Begeer, S (2018). Bullying-related behaviour in adolescents with autism: Links with autism severity and emotional and behavioural problems. *Autism, 22(6)*, 684-692.

Fruth, J.D. & Woods, M.N. (2015). Academic Performance of Students without Disabilities in the Inclusive Environment. Education, 135(3), 351-361.

Gandhi, A.G. (2007). Context Matters: Exploring relations between inclusion and reading achievement of students without disabilities. International Journal of Disability, Development and Education, 54 (1), 91-112.

Georgiadi, M., Kalyva, E., Kourkoutas, E., & Tsakiris, V. (2012). Young children's attitudes toward peers with intellectual disabilities: effect of the type of school. *Journal of Applied Research in Intellectual Disabilities, 25(6),* 531-41.

Gorges, J., Neumann, P., Wild, E., Stranghoner, D. & Lutje-Klose, B. (2018). Reciprocal effects between self-concept of ability and performance: A longitudinal study of children with learning disabilities in inclusive versus exclusive elementary education. *Learning and Individual Differences, 61,* 11-20.

Hajdukova, E.B., Hornby, G. & Cushman, P. (2014). Pupil-teacher relationships: perceptions of boys with social, emotional and behavioural difficulties. *Pastoral Care in Education, 32(2),* 145-156.

Halsall, J., Clarke, C & Crane, L. (2021). "Camouflaging" by adolescent autistic girls who attend both mainstream and specialist resource classes: Perspectives of girls, their mothers and their educators. *Autism*, 25(7):2074-2086.

Heiman, T. & Olenik-Shemesh, D. (2015). Cyberbullying Experience and Gender Differences Among Adolescents in Different Educational Settings**.** *Journal of Learning Disabilities, 48(2)*, 146-155.

Hienonen, H., Hotulainen, R., & Jahnukainen, M. (2021). Outcomes of Regular and Special Class Placement for Students with Special Educational Needs – A Quasi-experimental Study, Scandinavian Journal of Educational Research, 65:4, 646-660.

Kraemer, B., Odom, S., Tomaszewski, B., Hall, L., Dawalt, L., Hume, K., Steinbrenner, J., Szidon, K., Brum, C. (2020). Quality of high school programs for students with autism spectrum disorder. *Autism*, 24(3):707-717.

Krammer, M., Gasteiger-Klicpera, B., Holzinger, A. & Wohlhart, D. (2019) Inclusion and standards achievement: the presence of pupils identified as having special needs as a moderating effect on the national mathematics standards achievements of their classmates. *International Journal of Inclusive Education, 23*, 1-17.

Kurth, J.A., Born, K. & Love, H. (2016)**.** Eco-behavioral Characteristics of Self-Contained High School Classrooms for Students with Severe Cognitive Disability. *Research and Practice for Persons with Severe Disabilities, 41(4),* 227-243.

Kvalsund, R. & Velsvik Bele, I. (2010). Students with Special Educational Needs – Social Inclusion or Marginalisation? Factors of Risk and Resilience in the Transition Between School and Early Adult Life. *Scandinavian Journal of Educational Research 54 (1),* 15-35.

LaBarbera, R. (2008). Perceived Social Support and Self-Esteem in Adolescents with Learning Disabilities at a Private School. *Learning Disabilities: A Contemporary Journal 6(1),* 33-44.

Lane, K.L., Wehby, J.H., Little, M.A. & Cooley, C. (2005), Students Educated in Self-Contained Classrooms and Self-Contained Schools: Part II – How Do They Progress Over Time? *Behavioral Disorders*, *30 (4),* 363-374

Manti, E., Scholte, E.M. & Van Berckelaer-Onnes, I.A. (2011). Development of children with autism spectrum disorders in special needs education schools in the Netherlands: a three-year follow-up study. *European Journal of Special Needs Education, 26 (4),* 411-427.

Markussen, E. (2004). Special education: does it help? A study of special education in Norwegian upper secondary schools. *European Journal of Special Needs Education, 19(1),* 33-48

Mattison, R.E. (2011). Comparison of Students Classified ED in Self-Contained Classrooms and a Self-Contained School. *Education and Treatment of Children, 34(1),* 15-33.

Mattison, R.E. & Schneider, J. (2009). First-Year Effectiveness on School Functioning of a Self-Contained ED Middle School. *Behavioral Disorders, 34 (2),* 60-71.

McDonnell, J. *et al*. (2003). The Achievement of Students with Developmental Disabilities and their Peers without Disabilities in Inclusive Settings: An Exploratory Study. *Education and Treatment of Children, 26(3),* 224-236.

McMahon, B. (2014). The Role of Specialized Schools for Students with Visual Impairments in the Continuum of Placement Options: The Right Help, at the Right Time, in the Right Place. *Journal of Visual Impairment & Blindness, November-December,* 449-459.

Myklebust, J.O. (2006). Class placement and competence attainment among students with special educational needs. *British Journal of Special Education, 33(2),* 76-81.

Myklebust, J.O. & Båtevik, F.O. (2009). Earning a living for former students with special educational needs. Does class placement matter? *European Journal of Special Needs Education, 24(2)*, 203-212.

Nahmias, A.S., Kase, C. & Mandell, D.S. (2014). Comparing cognitive outcomes among children with autism spectrum disorders receiving community-based early intervention in one of three placements. *Autism, 18(3),* 311-320.

National Council for Special Education (NCSE) (2018*). Literature Review relating to the Role of the Special Needs Assistant.* Trim, Co. Meath: NCSE.

Nepi, L. D., Fioravanti, J., Nanninni,. P. and Peru, A. (2015). Social acceptance and the choosing of favourite classmates: a comparison between students with special educational needs and typically developing students in a context of full inclusion. *British Journal of Special Education, 42(3),* 319-37.

Odom, S., Cox, A., Sideris, J., Hume, K., Hedges, S., Kucharczyk, S., Neitzel, J. (2018). Assessing quality of program environments for children and youth with autism: Autism Program Environment Rating Scale (APERS). *Journal of Autism and Developmental Disorders, 48*, 913-924.

Ogelman, H.G. & Seçer, Z. (2012) The Effect Inclusive Education Practice During Preschool has on the Peer Relations and Social Skills of 5-6 Year Olds with Typical Development. International Journal of Special Education, 27(3), 169-175.

Olsson, S., Dag, M. & Kullberg, C. (2018). Deaf and hard-of-hearing adolescents' experiences of inclusion and exclusion in mainstream and special schools in Sweden. *European Journal of Special Needs Education, 33(4)*, 395-509.

Parekh, G & Brown, R.S. (2019) Changing Lanes: The Relationship Between Special Education Placement and Students' Academic Futures. *Educational Policy, 33 (1),* 111-135.

Reed, P., Osborne, L.A. & Waddington, E.M. (2012). A comparative study of the impact of mainstream and special school placement on the behaviour of children with Autism Spectrum Disorders. *British Educational Research Journal, 38(5),* 749-763.

Rose, C.A., Espelage, D.L. & Monda-Amaya, L.E. (2009). Bullying and victimisation rates among students in general and special education: a comparative analysis. *Educational Psychology, 29 (7),* 761-776.

Ruijs, N.M., Van der Veen, I. & Peetsma, T.T.D. (2010). Inclusive education and students without special educational needs. Educational Research, 52(4), 351-390.

Ruijs, N. (2017). The impact of special needs students on classmate performance. *Economics of Education Review, 58*, 15-31.

Rutter, M., Le Couteur, A., & Lord, C. (2003). *Autism diagnostic interview*–Revised. Western Psychological Services.

Scheerens, J., Ehren, M., Sleegers, P. & de Leeuw, R. (2012). *Country Background Report for the Netherlands*. OECD Review on Evaluation and Assessment Frameworks for Improving School Outcomes. Available at http://www.oecd.org/education/school/NLD_CBR_Evaluation_and_Assessment.pdf

Shogren, K.A., Gross, J.M.S., Forber-Pratt, A.J., Francis, G.L., Satter, A.L., Blue-Banning, M. & Hill, C. (2015). The Perspectives of Students With and Without Disabilities on Inclusive Schools. *Research and Practice for Persons with Severe Disabilities. 40(4),* 243-260.

Slavin, R. (2002). Evidence-based educational policies: Transforming educational practice and research. *Educational Researcher, 31(7),* 15-21.

Szumski, G., Firkowska-Mankiewicz, A., Lebuda, I. & Karwowski, M. (2018). Predictors of success and quality of life in people with borderline intelligence: The special school label, personal and social resource. *J Appl Res Intellect Disabil., 31*, 1021-1031.

Taylor, A.G. & Monez-Tadeo, B. (2012). The Impact of an Invitational Environment on Preschoolers with Special Needs. *Journal of Invitational Theory, 18,* 19-25.

Torgerson, C. J. & Torgerson, D.J. (2008). *Designing Randomised Controlled Trials in Health, Education, and the Social Sciences: An Introduction*. New York: Palgrave Macmillan.

Törmänen, M.R.K. & Roebers, C.M. (2018). Developmental outcomes of children in classes for special educational needs: results from a longitudinal study. *Journal of Research in Special Educational Needs, 18(2),* 83-93.

UNESCO (1994) The Salamanca Statement and Framework for Action on Special Needs Education. Paris: UNESCO/Ministry of Education, Spain. (ED-34/WS/18.)

Waddington, E.M & Reed, P. (2017). Comparison of the effects of mainstream and special school on National Curriculum outcomes in children with autism spectrum disorder: an archive based analysis. *Journal of Research in Special Educational Needs, 17(2),* 132-142.

Wechsler, D. (2011). Wechsler Abbreviated Scale of Intelligence, Second Edition (WASI-II). Pearson.

Wilkerson, K., Afacan, K., Perzigian, A., Justin, W. & Lequia, J. (2017). Behavior-Focused Alternative Schools: Impact on Student Outcomes. *Behavioral Disorders, 41 (2),* 81-94.

Searches

A) Educational Setting/Provision/Placement

"Special school*" OR "Special education school*" OR "Residential school*" OR "Day school*" OR "Remedial school*" OR "segregated setting*" OR "Special education setting*" OR "specialist setting*" OR "specialist education setting*" OR "Special unit" OR "Special education setting*" OR "Special education provision*" OR "Special education program*" OR "Special education service*" OR "Special unit*" OR "Special class*" OR "special class unit" OR "Remedial education" OR "Remedial class*" OR "Learning support*" OR "Learning Support Class" OR "Specialist setting*" OR "Specialist education setting*" OR "Special education class*" OR "Small group support" OR "Small group education" OR "Resource class" OR "Resource unit" OR "Resource Provision" OR "Withdrawal from Mainstream" OR " Educational segregation" OR "Educational Integration" OR "Educational Inclusion" OR "One-to-one support" OR "Pull-out support" OR "Push-in support" OR "Primary school*" OR ("Elementary school*" OR "Post primary school*" OR "Secondary school*" OR "Second level school*" OR "Middle school*" OR "High school*" OR "Junior High school*" OR "Senior High school*" OR "Public school*" OR "Private school*" OR "Comprehensive school*" OR "Community school*" OR "Fee Paying school*" AND "special") OR "Pupil Referral Unit*" OR "Behavio?r Support Unit" OR "Behavio?r Support Classroom" OR "Early Intervention" OR "Early Intervention Class" OR "Early Intervention Classroom" "School*" OR "Class*" OR "Support* for" AND "students" OR "pupil" OR "children" OR "young people" AND "Speech, Language and Communication Needs" OR "Specified Speech and Language Disorder" OR "Specified Speech and Language Disability" OR "SSLD" OR "Formal education" OR "Pre-primary education" OR "primary education" OR "Lower secondary education" OR "Upper secondary education" OR "pre-school class"

B) Type of Special Educational Need

"additional needs" OR "additional learning needs" OR "Special Educational Needs" OR "Special Needs" OR "Special Education Needs" OR "Learning Disorder" OR "Learning Disabili*" OR "Learning Difficult*" OR "Developmental Disorder" OR "Developmental Disabili*" OR "Developmental Diffiult*" OR "Cognitive Disabilit*" OR "Cognitive Disorder" OR "Cognitive Difficult*" OR "Physical Disabilit*" OR "Physical Disorder" OR "Physical Difficult*" OR "Physical handicap" OR "Physical impairment*" OR "deaf" OR "hard of hearing" OR "hearing impairment" OR "hearing impaired" OR "blind" OR "visually impaired" OR "visual impairment" OR "deaf/blind" OR "emotional disturbance" OR "emotional difficulties" OR "emotional disorders" OR "emotional disabilities" OR "emotional difficulty" OR "emotional disorder" OR "emotional disability" OR "severe emotional disturbance" OR "severe emotional difficulties" OR "severe emotional disorders" OR "severe emotional disabilities" OR "severe emotional difficulty" OR "severe emotional disorder" OR "severe emotional disability" OR "behavio?ral disabilities" OR "behavio?ral disorders" OR "behavio?ral difficulties" OR "behavio?ral disability" OR "behavio?ral disorder" OR "behavio?ral difficulty" OR "SEBD*" OR "social difficulties" OR "social disorders" OR "social disabilities" OR "social difficulty" OR "social disorder" OR "social disability" OR "autism" OR "ASD" OR "autistic spectrum disorder" OR "autism spectrum disorder" OR "asperger syndrome" OR "aspergers syndrome" OR "asperger's syndrome" or "AS" OR "attention deficit hyperactivity disorder" OR "ADHD" OR "attention deficit disorder" OR "ADD" OR "specific

speech and language difficul*" OR "specific speech and language disorder*" OR "SSLD" OR "specific speech and language disability*" OR "speech, language and communication needs" OR "speech, language and communication disorders OR difficulties" OR "general learning difficult*" OR "general learning disorder*" OR "general learning disability*" OR "general learning special educational need" OR "mild general learning difficult*" OR "mild general learning disabilit*" OR "mild general learning disorder" OR "mild general learning special education needs" OR "moderate general learning difficult*" OR "moderate general learning disorder*" OR "moderate general learning disability*" OR "moderate general learning special educational needs" OR "severe general learning disability*" OR "severe general learning disorder*" OR "severe general learning difficult*" OR "severe general learning special educational needs" OR "profound general learning disability*" OR "profound general learning disorder*" or "profound general learning difficult*" OR "profoundmultiple learning difficult*" OR "profound and multiple learning disorder*" OR "profound and multiple learning disability*" OR "profound learning difficult*" OR "profound learning disorder*" OR "profound learning difficult* OR "multiple learning difficult*" OR "multiple learning disorder* OR "multiple learning disorder*" OR "specific learning disability*" OR "specific learning disorder*" OR "specific learning difficult*" or "SLD" OR "dyslexia" OR "dyscalculia" OR "dyspraxia" OR "Sensory processing disorder" OR "SPD" OR "Sensory integration dysfunction" OR "SI Dysfunction" OR "Dysfunction in Sensory Integration" OR "DSI" OR "Sensory Modulation Disorder" OR "SMD" OR "Sensory Over-Responsivity" OR "SOR" OR "Sensory Under-Responsivity" OR "SUR" OR "Sensory Craving " OR "SC" OR "Sensory Based Motor Disorder" OR "SBBD" OR "Motor Planning Problems" OR "Dyspraxia" OR "Postural Disorder" OR "Sensory Discrimination Disorder" OR "SDD" OR "Visual Discrimination Disorder" OR "Auditory Discrimination Disorder" OR "Interoception" OR "Oral Sensory" OR "Oral Discrimination Disorder" OR "Vestibular Discrimination Disorder" OR "Proprioception" OR "Proprioceptive Discrimination Disorder" OR "Gustatory Discrimination Disorder" OR "Olfactory Discrimination Disorder" OR "Sensory Integration Dysfunction" OR "Sensory Integration Disorder" OR "Response Regulation" OR "Response Regulation" OR "Self-regulation" AND "Autism" OR "ASD" OR "Asperger's Syndrome" OR "Sensory Processing Disorder" AND "Stress" OR "Anxiety" OR "depression" OR "wellbeing" OR ("Sensory Processing Disorder" AND "Comorbidity") OR ("Sensory Processing Disorder" AND "emotional need*" OR "behavio?ral need*") OR "borderline general learning disability*" or "borderline general learning difficult*" or "borderline general learning disorder*" OR "additional needs" or "complex needs" OR "mobility" or "independence" or "independent living" or "daily living" or "orientation" or "movement" OR ("Severe physical disabilit*" OR "Severe behavio?ral disorder" OR "Profound general learning disabilit* OR "Severe general learning disabilit* OR "Severe cognitive impairment" OR "Complex special educational need*" OR "Severe Autism" OR "Severe ASD" OR "Complex learning difficult*" OR "Health and Safety" OR "Truan*" OR "Violen*" OR "Severe SEBD OR EBD" OR "Suspen*") AND ("incapacity" OR "Exclude" OR "Exclusion" OR "Segrega*" AND "mainstream" OR "general education") OR "Students OR Pupils with no Special Educational Need*" OR "Students OR Pupils with no SEN* OR "typically achieving" OR "typical development" OR "typically developing"

C) Cannot be educated

"Segregation OR segregated" OR "Incapacity" OR "Health and Safety" OR "Excluded OR Exclusion" OR "Suspended or Suspension" OR "In*educable" OR "alternative education" OR "Expelled OR Expulsion" OR "Not in formal education" OR "Home Education" OR "Home school*" OR "school refusal" OR "not in formal education"

D) Outcomes

"academic" AND "achievement" OR "progress" OR "attainment" OR "performance" OR "progress" OR "educational outcomes" OR "academic outcomes" OR "qualification*" OR "result*" OR "improvement gains" OR "literacy" OR "literacy skills" OR "reading literacy" OR "reading achievement" OR "Comprehension" OR "Vocabulary" OR "Spelling" OR "Writing" OR "standardised test*" OR "Mathematics achievement" OR "numeracy" OR "numeracy skills" OR "Numeric ability" OR "standardised test*" OR "Problem solving" OR "critical thinking" OR "metacognition" OR "verbal reasoning" OR "Communication" AND Skill*" OR "functional skills" OR "life skills" or "independence" OR "independent living" OR "self-care" OR "self organi?ation" OR "self-nuturance" OR "work" OR "work skill*" OR "employment" OR "training" OR "career" OR "social and emotional skills" OR "wellbeing" OR "wellbeing in special school provision" OR "wellbeing in special class provision" OR "wellbeing in mainstream education" OR "wellbeing in general education" OR "quality of life" OR "self-esteem" OR "self-efficacy" OR "Wellbeing in Formal education" OR "Wellbeing in Pre-primary education" OR "Wellbeing in Primary education" OR "Wellbeing in Lower secondary education" OR "Wellbeing in Upper secondary education" OR "Wellbeing in Pre-school class" OR " Friend*" OR "friendship*" OR "relationship*" OR "sociali?ing" OR "bullying" OR "victimi?ation" OR "transition from Primary" OR "transition from Elementary School*" OR "Transition from Post Primary School*" OR "Transition from Secondary School* OR "Transition from High School* OR "transition to further education" OR "transition to college" OR "transition to university" OR "transition to vocational training" OR "transition to employment" OR "career" OR "work" OR "end of school" OR "Anxiety" OR "Stress" OR "Depression" OR "Happy" OR "Sad" OR "belonging" "OR "identify" OR "development" OR "Fatigue" OR "Exhaustion" OR "Isolation" OR "Exclusion" OR "Marginali?ation" OR "Stigma*" OR "Curriculum access" OR "qualifications" OR "attainment" OR "knowledge" OR "proficienc*" OR "skill*" OR "performance" OR "capability" OR "capacity" OR "learning" OR "result*" OR "Self-organisation" OR "self-care" OR "motivation" OR "resilience" OR "recovery" OR "Engagement" OR "attitude* to school" OR "liking school" OR "early school leaving" OR "school completion" OR "drop out"

E) Impact (note variations on term impact rather than types of impact)

"impact" OR "positive impact" OR "negative impact" OR "outcome" OR "outcome assessment" OR "attainment" OR "improvement" OR "dis-improvement" OR "progress" OR "regress" OR "effect" OR "effective" OR "effectiveness" OR "benefit" OR "advantage" OR "disadvantage" OR "success" OR "failure" OR "increase" OR "decrease" OR "achievement" OR "gains" OR "loss" OR "losses" OR "output" OR "efficacy" Or "effectiveness" AND "impact" OR "Limit" OR "Poor" OR "Weak" AND "Impact" OR "ability to learn" OR "ability to participate" OR "capability*" OR "capability* to learn" OR "motivation" Or "motivation to learn" OR "attention" OR "attention span" OR "capacity" OR "capacity to learn" OR "ability to perform" OR "ability to process

information" OR "Memori?ation" OR "memory" OR "Learning process" OR "Concentration" OR "Concentration skills" OR "ability to concentrate" OR " Academic achievement OR "achievement" OR "achieve" OR "achieve educationally" OR "Academic progress" OR "progress" OR "educational progress" OR "Academic success" OR "success" OR "educational success" OR "attainment" OR "Educational attainment" or "school performance" OR "Ability to study" OR "Interest in learning OR work OR study" OR "Rate* of learning" OR "Response to learning" OR Experience of learning" OR "Ability to engage" OR "engagement" OR "engagement in learning" OR "Readiness to learn" OR "school readiness"

F) Educational Quality

"Teaching" OR "Pedagogy" OR "Teaching methods" OR "Teaching support*" OR "Teaching strateg*" AND "effective" OR "positive" OR "holistic" AND "education" OR "approach" OR "IEP" OR "Individual Education Plan" OR "Education Plan" OR "Student Plan" OR "Behavio?r Plan" OR "target*" OR "Learning strategy*" OR "Educational intervention*" OR "Program?*" OR "curriculum" AND effective OR positive OR "Academic skills" OR "attainment" OR "capability*" AND "literacy" OR "reading" OR "writing" OR "comprehension" OR "numeracy" OR "ICT" OR "values" OR "mastery" OR "learning mastery" OR "Vocational skills" OR "life skills" OR "self-management" OR "organi?ational" OR "self-regulation" OR "independence" OR "independent living" OR "self-sufficiency" OR "employment" OR "career*" "learning outcome*" OR "Learning intention" OR "Lesson plan*" OR ("Learning Activit*" AND"Meaningful") OR "learning objective*" OR "Differentiat*" AND "need*" OR "ability*" OR "timely support" OR "support" OR "Teacher* skill*" OR "Teacher* knowledge" OR "Teaching approach" OR "classroom management" OR "child friendly" OR "child cent?ed" OR "Tailor* approach" OR "Tailor* lesson plan*" OR "Tailor* curricul*" OR "relevant curricul*" OR "balanced curricul*" OR "ownership" OR "empowerment" OR "active" OR "participatory" OR "Curricul*" OR "Curricula* Management" OR "Learning Tools" OR "Learning Content" OR "Assessment" OR "Formative Assessment" OR "Summative Assessment" OR "Assessment for Learning" OR "measurable learning outcome*" OR "evaluation" OR "Formative evaluation" OR "assessment practice" OR "Lifelong learning" OR "Foundation for future" OR "continuous learning" OR "continued learning" OR "Personal development" OR "personal reali?ation" OR "personal goal*" OR "Personal aim*" OR "nurture" OR "emotion*" OR "emotional growth" OR "emotional literacy" OR "sociali?ation" OR "social skill*" OR "social interaction*" Or "social participation" OR " social engagement" OR "social development skill*" OR "member* of the community" Or "citizenship" OR "active citizenship" OR "responsible citizen*" OR "improve society" Or "contribute to society" OR "Transition to Mainstream" OR "Transition to Post Primary" OR "Secondary" OR "Middle School" OR "High Schoo"l OR "College" OR "University" OR "Further Education" OR "Equality" OR "equity" OR "Participation" OR "Voice" OR "perspective" OR "access*" OR "social" OR "inclusion" OR "Cognitive development" OR "Critical thinking" OR "critical thinking skills" or "metacognition" OR "decision-making" OR "Future" OR "goals" OR "pathway*" OR "life long learning" OR "opportunit*" OR "value*" OR "Identity" OR "developmental goal*" OR "developmental task*" OR "creativity" OR "creative skills" OR "expression" OR "affirmation" OR "self-worth" OR "self-esteem" OR "Basic skill*" OR "Basic Learning Need*" OR "Survival need*" OR "survival skill" OR ("Adequate Facilities" OR "appropriate facilities") OR ("Adequate Material*" OR "appropriate material*") OR ("Adequate resource*" or "appropriate resource*") OR "School climate" OR "school environment" OR

"learning climate" OR "learning environment" OR "welcoming environment" OR "supportive environment" OR "teaching and learning environment" OR "teaching environment" OR "enjoyment of learning" OR "Expectation*" OR "high expectation*" OR "high standard*" OR "success" OR "expectation* of success" OR "culture of success" OR "environment" OR "secure environment" OR "safe "

G) Sensory Rooms

"Sensory room*" OR "Snoezelen" OR "Controlled multisensory environment" OR "MSE" OR "Multisensory room*" OR "Sensory space*" or "therapeutic space*" OR " Multisensory interactive learning environment" AND "School*" OR "Special School*" OR "Special class*" OR "controlled multisensory space" OR "multisensory interactive space" OR "Timeout room*" OR "Desensory room*" OR "Desensitising room" OR "Sensory integration OR processing intervention*" OR "Sensory integration OR processing therap*" OR "Sensory integration OR processing equipment" AND "School*" OR "Special School*" OR "Special class*"

H) Location

"Separate setting" OR "separate location" OR "separate building" OR "Separate site" OR "special*setting" OR "special* location" OR "special* building" OR "special* unit" OR "separate campus" OR "Inclusive setting*" OR "inclusive location" OR "inclusive building" OR "in-house special education" OR "Co-location" OR "Shared campus" OR "Mainstream campus" OR "shared site" OR "next to mainstream school" OR "next to general education school" OR "joint location" OR "Integrated setting" OR "integrated site" OR "integrated location" OR "Mainstream site" OR "shared facilit*" OR "Residential setting" OR "Residential building" OR "Residential facility" OR "In cent? of mainstream building" OR "In cent? of mainstream school" OR In cent? of general education school" OR "in cent? of general education building" OR "Isolated" OR "removed" OR "special unit" OR "special wing" OR "separated" OR "distinct room" OR "distinct setting" OR "segregated"

I) Accessibility/Travel/Time

"Distance to Special School" OR "Distance to special education* school" OR "distance to special education* class" OR "distance to special education* setting" OR "Distance from Special School" OR Distance from special education* school" OR "distance from special education* class" OR "Travel Or journey time from special education*" OR "Travel Or journey time to special education* setting" OR "special education* school" OR "special education* building" OR "special education* class" OR "special education" OR "distance from school*" OR "travel time to school" OR "commut* to school" OR "journey time to school" OR "journey time from school" OR "travel time from school" OR "commut* from school" OR ("Commut* OR Transport cost*" OR "expense*) AND ("special school*" OR "Special education class*" OR "special education") OR "distance from school*" OR "travel time to school" OR "commut* to school" OR "journey time to school" OR ("Commut* OR Transport cost*" OR "expense*) AND ("school*) OR OR "distance to school" OR "travel time from school" OR "commut* from school" OR "journey time from school"

J) Experiences

Experience* OR "Inclusion" OR "participation" OR "transition to mainstream class" OR "transition to mainstream school" OR "transition from mainstream class" OR "transition from mainstream school" OR "curricul* access" OR "transition to special class" OR "transition to special school" OR "transition from special class" OR "transition from special school" OR "involvement" OR "co-curricular activit*" OR "school club*" OR "sport*" OR "extracurricular activit*" OR "friend*" OR "friendship*" OR "relationship*" OR "art" OR "music" OR "respect*" OR "safe*" OR "trust" OR "club*" OR "school activit*" OR "student council" OR "student government" OR "post school" OR "post school transition*" OR "group work" OR (teacher* AND fair*) OR "encourage*" OR "challeng*" OR "participat*" OR "support*" OR "accept*" OR "confiden*" OR "belong*" OR "efficacy" OR "self-esteem" OR "agency" OR "trust*" OR ("teacher* AND support*) OR ("teacher* AND help*) OR "happy" OR "happiness" OR ("happ* in school") OR "part of school" OR "part of community" OR "bully*" OR ("third level" OR "university" OR "Post Leaving Certificate" OR "Further Education" OR "FETAC" OR "College" OR "employment" OR "vocation*" OR "college" OR "apprentice*") OR "SNA support" OR "technolog*) OR "reward*" OR ("sanction*" OR "detention*") OR "teacher relationship*" OR "care" OR "teacher* AND care" OR "social isolation" OR "social inclusion" OR "social exclusion" OR "social" OR ("accreditation" OR "exam*" OR "qualification*") OR "social skill*"

K) Inclusion

"Inclusion" OR "inclusive education" OR "inclusive school*" OR "inclusive classroom*" OR "inclusive class*" OR "inclusivity" OR "inclusive practice*" OR "inclusive placement*" OR "inclusive educational polic*" OR "inclusive approach*" OR "inclusive curricul*" OR "inclusive teaching" OR "inclusive method*" OR "inclusive pedagogy" OR "mainstream*" OR "mainstream class*" OR "mainstream setting*" OR "mainstream placement" OR "non-segregated" OR "mixed classroom*" OR "mixed abilit*" OR "non-segregation" OR "non-segregated school*" OR "non-segregated classroom* OR "general education school*" OR "general education class*" OR "general education classroom*" OR "general education setting*" OR "general education" OR "general education teaching" OR "general education pedagogy" OR "integration" OR "integrated school*" OR "integrated class*" OR "integrated classroom*" OR "integrated practice*" OR "integrated method*" OR "integrated polic*" OR "integrated approach*" "non-exclusionary" OR "non-exclusionary practice*" OR "non-exclusionary school*" OR "non-exclusionary class*" OR "non-exclusionary classroom*" OR "equal opportunit*" OR "equal access" OR "differentiat*" OR "differentiated teaching" OR "differentiated learning" OR "differentiated curricul*"

L) Students without SENs

"Children without special education need*" OR "children without special educational need*" OR "children without disabilit*" OR "typically achieving" OR "typical development" OR "typically developing" OR "students without special education need*" OR "students without special educational need*" OR "students without disabilit*" OR "pupils without special education need*" OR "pupils without special educational need*" OR "pupils without disabilit*" OR "young people without special education need*" OR "young people without special educational needs" OR "young people without disability* OR "non-disabled children" OR "non-disabled pupils" OR "non-disabled young people" OR "non-disabled student*"

An Chomhairle Náisiúnta
um Oideachas Speisialta
National Council
for Special Education