



**Review of research about the effects of inclusive education: the longer summary**

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**Summary of review:**

1. The evidence indicates that a typology of effects (academic and socio-emotional effects on SEN/ disabled students and on non-disabled children) needs to take account of different kinds of disability and phases of schooling. There are many other relevant factors too, e.g. quality of support for learning, teacher knowledge, skills, attitude/ efficacy, structural class and school factors that moderate/interact to result in the effects. This implies the need for more nuanced studies and policy conclusions which is a counter to the commonly found ideological preferences that often tend to look for generalised empirical relationship to confirm positions.
2. Another conclusion is to adopt an ‘on balance’ position. Here the balance of evidence is to neutral or small positive effects as opposed to negative effects. But, both positive and negative effects need to be understood in terms of a complex interaction of individual, class and school factors. Here the research points to factors in those interactions that are more alterable, with this having policy implications. In terms of the dominant policy for English schools of the last decade, the research evidence does go counter to the Government’s one of avoiding a ‘bias to inclusion’.
3. The final point is about the usefulness of mapping the kinds of interacting factors relevant to questions about inclusion effects, which is relevant both to the design of further studies and to drawing conclusions for policy.

Effects of inclusion			
	What effects?	Subject learning (literacy, maths, other)	
		Affective and social participation	
	For whom?	Student with SEN – non-SEN	
	What areas of SEN?	Specific LD, ID, SEBD/SEMH other	
	SEN intersection with other areas	Gender, age, ethnicity, in care etc.	
	What counts as inclusion?	FT; FT with support {varied types}; PT with withdrawal (different degrees)	
	Compared to what is not inclusion: special school, special class		

	Context	School factors	e.g. experience of accommodating / capability with SEN
		Class factors	e.g. size, grouping and teaching strategies
		Pupil factors	e.g. gender of other pupils

## Review aims and methods

This review aimed i. to identify contemporary international research (since 2010) on the academic and social emotional effects of school inclusion for students with SEN/disabilities and those with no disabilities, and ii. to draw implications for policy, practice and future research.

Details of the search strategy and the list of reviewed papers are in the appendix. Three papers involved reviews of international studies (Ruijs and Peetsma, 2009; Szumski et al., 2017; Dyssegaard and Larsen, 2013; Hehir et al., 2016; Kefallinou et al., 2020; Oh-Young and Filler). Three involved a quasi-experimental designs, two with collected data and one with national admin. data. Four involved multi-variate statistical analyses of longitudinal data; with 2 using cohort studies and another 2 admin. data.

### *Country of study*

3 USA, 2 Denmark, 1 Switzerland, 1 Germany

5 Reviews of international studies (Denmark, Netherlands, Euro Agency, US, Polish based)

### *Kinds of inclusion*

Reviews mostly referred to mainstream class setting compared to a special class/school setting.

Only 2 studies gave more detail about settings. Cole et al. (2019) compared :

High inclusion: placement in general education 80% more of the school day, for all grades 3 to 8

Mixed inclusion: placement in general education for less than 80% of the school day, for at least one year between grades 3 to 8

Low inclusion: never placed in general education for more than 80% or more of their school day, for all grades 3 to 8.

Sermier Dessemonter et al. (2012) describe inclusive setting as being in 'general education classrooms ...received 4.30 to 6.30 h of support from a special education teacher per week and most also provided with therapies, mostly speech therapy'. Children in special school were described as 'in classrooms with 5 to 8 pupils with ID... conducted by a special education teacher, often seconded by an assistant... and provided with therapies, mostly speech and psychomotor therapies'.

### *Research limitations*

Several papers identified a range of limitations to the studies reported and the papers reviewed.

- Comparison in terms of placement, not school-level factors such as exposure to and the quality of teacher instruction
- Studies may have differing definitions of compared settings
- Findings related to specific age group of students only
- SEN was not defined other than as dichotomy – SEN v non-SEN, not by area of SEN.
- Sample sizes not sufficient to make valid use of statistical: analysis (under-powered).
- Reliability / validity of measures e.g. social participation, could be improved
- Comparability of groups (use of quasi-experimental designs)
- Students in inclusive settings can be assumed to have higher levels of functioning; ‘participant bias’
- Other areas of SEN/impairment may not be controlled for in comparisons
- Subject curriculum variations moderate effects

## **Results**

The results are organised in terms of i. academic effects and ii. social emotional effects for SEN/disabled students, iii. academic effects and iv. social emotional effects for non-disabled students.

### **i. Academic effects for SEN / disabled students**

#### *Summary:*

Overall from 8 sources below, the balance of findings are for more academic gains of pupils with a range of SEN (broadly characterised as mild to moderate) in ordinary settings rather than separate ones. Gains were in literacy and maths but more found for literacy. One significant review concludes that this evidence does not indicate that ‘complete inclusion’ is superior to special education for children with mild disabilities.

Cole:

Pupils with SEN who spent most of their time in a general education inclusive classroom did significantly better in both reading, writing and maths assessments

Dyssegaard, C. B. and Larsen, M.S. (2013)

Results from more of the studies indicate no negative effect on the mainstream pupils’ scholastic development when special needs pupils are included in the mainstream class.

Hehir et al:

Pupils spending more time with non-disabled peers performed significantly better in language and maths (n=68000; regression analysis, with control of other variables)  
Reference to other studies with similar results.

Similar results specifically for students with Down Syndrome.

Kefallinou et al., 2020

European Agency led overview which refers to the reviews used in this review. It also summarises studies of inclusive education effects in the longer term (US and Norwegian studies).

Oh-Young and Filler:

Peer-reviewed journals from 1980 to 2013 (only 2 post 2010). Meta-analysis shows significant differences between placement settings: the majority of students with disabilities in more integrated settings outperforming those in less integrated settings on both academic outcome.

Ruijs and Peetsma:

Majority of studies found positive or neutral results of the effects of inclusive education on the academic outcomes of children with mild to moderate special educational needs. Evidence does not indicate that complete inclusion is superior to special education for children with mild disabilities

Szumski et al.

Overall academic effect for children with SEN was positive and statistically significant, though weak.

Positive effects at both primary and secondary phases, but only statistically significant across the primary school studies

Moderating factors found, at worst, neutral effects, but in the main, positive associations were found.

*Other results:*

Scharenberg:

Pupils with SEN achieved with about a third of a standard deviation lower in reading than their peers without SEN by the end of primary school.

Pupils with SEN attending socio-economically more advantaged classes showed higher achievement levels in reading. Other moderating variables were not found to impact outcomes: 'we found no indication of unequal learning opportunities for students with SEN'.

Sermier Dessemontet:

Key finding of this study is that the children with ID made important progress in their literacy skills, mathematic skills and adaptive behaviour displayed at school and at home during the two years of follow-up, independently of their type of placement. Included children with mild intellectual difficulties /disabilities made slightly more progress in literacy skills but not maths than children in special schools.

## **ii. Social-emotional effects for SEN / disabled students**

*Summary:*

The three sources show mixed results for social-emotional outcomes. While one review refers to most positive outcomes, the other significant review concludes that no conclusions can be drawn. One specific recent study found no adaptive behaviour differences across settings.

Dyssegaard, C. B. and Larsen, M.S. (2013)

Results from more of the studies indicate no negative effect on the mainstream pupils' social development when special needs pupils are included in the mainstream class.

Hehir et al:

More positive outcomes reported for social and emotional development with inclusion in mainstream classes, e.g. higher social engagement, greater peer acceptance and fewer behaviour issues, more participation in school and community groups and greater independence and social skills

Oh-Young and Filler:

Peer-reviewed journals from 1980 to 2013 (only 2 post 2010). Meta-analysis shows significant differences between placement settings: the majority of students with disabilities in more integrated settings outperforming those in less integrated settings on social outcome.

Ruijs and Peetsma:

Not possible to draw conclusions about the effect of inclusive education on the social development of children with SEN.

Studies using control groups found mixed results.

No studies have directly investigated the effect of inclusive education on contacts in the neighbourhood.

Sermier Dessemontet:

No difference was found for adaptive behaviour between the progress of children with ID in inclusive and special school settings.

Other results:

Scharenberg:

pupils with SEN felt less integrated in their classes compared with their classmates without SEN.

Classroom composition characteristics had no effect on the perception of social participation of those with SEN.

Regardless of pupil composition, classes did not seem to offer unequal opportunities for social participation of those with SEN.

### **iii. Academic effects for non-disabled**

Summary:

More recent individual rather than review studies indicate specific weak/moderate negative effects of classmates with emotional/behaviour difficulties or special school returners on academic gains. The effects are moderated by presence of girls and sometimes found for boys rather than girls. Reviews of older studies present overall a mixed picture from studies that predate 2010. On balance most studies show more neutral or positive than negative effects on non-disabled students. Some reviews indicate where there are small positive effects, this is associated with positive teacher attitudes, their training, strategies geared to diverse needs and problem-solving oriented schools. The reviews were also mixed about the negative effects of students with emotional/behaviour difficulties, one indicating negative

effects and another neutral effects not just for these difficulties but also students with more severe SEN.

Fletcher:

Having a classmate with an emotional problem decreases math and reading scores (less robust) at the end of kindergarten and first grade by over 10 percent of a standard deviation moderate racial and gender differences in the effects.

Gottfried:

Exposure to a classmate with EBD resulted in lower reading and mathematics scores for classmates.

Higher percentage of girls in classes protected other students' academic achievement when in the presence of a classmate with EBD .

Kristofferson:

Having peers with divorced parents does not seem to affect the pupils' performance gain. But, gender interaction for having a disruptive child in the school cohort: negative moderate effect on the reading score gains for boy not girl disruptive child  
Also, including a child with an early psychiatric diagnosis had stronger negative effect on reading scores.

Rangvid:

During a reform period (when more SEN pupils returned to ordinary from special schools), being exposed to returning SEN students had a moderate negative effect on test score gains Suggested mechanisms were that there were stronger negative effects in schools with little or no recent experience with accommodating returners. if these schools accommodate several new returners at the same time. effect in reform years is not significantly stronger than in nonreform years, so no additional harm is caused by the larger return flows in reform years.

Hehir et al:

University of Manchester study by Kalambouka et al (2007) which looked at 26 studies conducted across 4 different countries. 58% of the studies showed no effect; 23% showed a positive effect and 19% negative.

No overall negative impact was also found in large scale longitudinal studies carried out by in the UK, in Canada and in Texas. However, in another US study positive impact on outcomes in Maths.

Other research reported indicated that support/resources had a positive impact, but the key factors associated with positive outcomes were the attitudes of the classroom teacher, their access to training and the extent to which their school provided a 'collaborative problem-solving approach'.

Ruijs and Peetsma:

Both positive and negative effects, which were related mainly to differences between schools and quality of instruction.

Positive outcomes associated most strongly with teachers who used strategies and teaching techniques that met the needs of diverse learners.

Some types of disability differences: small negative impact where two or more pupils with severe SEMH was included in one classroom.

Difficult to make clear conclusions: some studies, extensive additional support was available, in others, not the case; some students included all day, others, children were only for some lessons.

Szumski et al.

Overall effect was positive but weak and statistically significant: in some circumstances, it may be beneficial for pupils without SEN.

On average, the presence of pupils with EBD and severe SEN in the classroom did not negatively influence the achievement of their peers without SEN.

#### **iv. Social emotional effects for non-disabled**

*Summary:*

There was relatively little research on this aspect. Where there was (in reviews), it indicated positive effects, such as, on discriminating attitudes, increased acceptance and understanding.

Hehir et al:

stronger evidence of positive impact on the social and emotional development of non-disabled peers, e.g. reduction in discriminating attitudes and higher responsiveness to the needs of others, in relation to Down syndrome specifically: for pupils in primary school with broader intellectual disabilities:

Ruijs and Peetsma:

Very little research been done on social effects of inclusive education on children without special educational needs.

Effects on other children of children with more severe SEN, positive: increased acceptance, understanding and tolerance of individual differences

#### **Implications**

Some results call for more nuanced policy when negative effects on non-disabled students are specific to some kinds of disability (e.g. EBD and not others (speech and language difficulties)). Also, there may be a need to recognise potential gender effects both in class composition and in the student with an EBD. Research also points to the importance of recognising the school's experience of accommodating for students with disabilities and structural class factors such as class size, student grouping and teaching strategies. One study, for example, showed that a supported ordinary class setting was an alternative to a well-staffed and supported small class special school setting. Some review authors more cautious about implications for promoting inclusion. While one set of authors was confident about overall positive impact of inclusion on disabled and non-disabled pupils, others were more cautious. For another the questions about the effects of inclusion was over-simplistic; it needed to be refined and qualified, though a tentative conclusion could be made that 'there seems to be sufficient support for inclusive education for children with mild to moderate special educational needs'. For a third, the evidence did not support the concern that inclusion 'infringe[s] on the rights of the majority of pupils', but this did not suggest that inclusive education alone 'can bring radical improvement in the quality of education'.

Fletcher:

Reduction in classmate achievement for some SEN areas calls for more nuanced policy. Resources may need to be differentially allocated based on the disability to mitigate any potential consequences on the achievement of classmates policy of full inclusion of students with all types of disabilities may need to be re-evaluated: focus should be on effects by specific disability, while some disabilities (e.g., speech and language difficulties) may not pose problems.

Gottfried:

Characteristics exhibited by girls may reduce the severity of classroom disruptions caused by students with EBD; challenge educators and policy makers to develop support classroom environments for all students

Kristofferson:

Significance of gender interaction moderating negative of boys of divorced parents while not for girls.

Rangvid:

Significance of small reading reductions being greater when no prior experience of returners with SEN; greater impact when more rather than fewer returners, but no more reading reduction when inclusive reforms operate than when not.

Scharenberg:

Further research could examine: effects on achievement and social participation for those with and without SEN in terms of class size, year group and within-class grouping strategies

Sermier Dessemontet:

Inclusion in general education classrooms with 4.30 to 6.30 h of support per week is an appropriate alternative to separate settings for primary pupils with ID who require extensive support in school.

Reviews:

Hehir et al:

Authors confident about conclusions about overall positive impact of inclusion on disabled and non-disabled pupils; which can be enhanced by more positive teacher attitudes and appropriate training/resources.

For Down syndrome, their visual and social learning strengths may make mainstream peer grouping beneficial. In other areas, the use of more practical/visual materials may be relevant as opposed to textbooks and excessive verbal instruction.

There is also a need for some level of 'social engineering' to support the creation of viable friendship groups.

Szumski et al.

Cautious interpretation; not suggest that inclusive education alone 'can bring radical improvement in the quality of education'.

Highlighted the interaction with and influence of structural factors, e.g. expenditure on education and charter schools; school-level factors, such as class size, relative proportions of pupils with and without SEN in the classroom, and ‘ability’ grouping, on the quality of education in schools – but these factors were not tested in the analyses.

Concluded that ‘the main effect of this meta-analysis supplements and supports argumentation in favour of promoting inclusion’, but the role of parents as pivotal to policy change.

The idea that inclusion ‘infringe[s] on the rights of the majority of pupils’ is not held up by the evidence.

The country of study relevant: did have some impact on the achievement of pupils without SEN in inclusive classrooms. Effects in studies in the US and Canada effects stronger than in Europe. Therefore, caution is necessary when extrapolating from the results

### Concluding points

Three points can be made in conclusion:

4. The evidence indicates that the basic Ruijs typology of effects (academic and socio-emotional effects on SEN/ disabled students and on non-disabled children) needs to take account of different kinds of disability and phases of schooling. Of course there are many other relevant factors too, e.g. quality of support for learning, teacher knowledge, skills, attitude/ efficacy, structural class and school factors that moderate/interact to result in the effects. This implies the need for more nuanced studies and policy conclusions which is a counter to the commonly found ideological preferences that often tend to look for generalised empirical relationship to confirm positions (the pervasive confirmation bias) .This applies to different starting positions: pro general ‘inclusion’, pro selective ‘inclusion’ and pro selective ‘separation’ preferences.
5. The other line of conclusion is to adopt an ‘on balance’ position. Here the balance of evidence is to neutral or small positive effects as opposed to negative effects. But, both positive and negative effects need to be understood in terms of a complex interaction of individual, class and school factors. Here the research points to factors in those interactions that are more alterable, with this having policy implications. In terms of the dominant policy for English schools of the last decade, the research evidence does go counter to the Government’s one of avoiding a ‘bias to inclusion’.
6. The final point, linked to the first one above, is about the usefulness of mapping the kinds of interacting factors relevant to questions about inclusion effects. This is relevant both to the design of further studies and to drawing conclusions for policy.

Effects of inclusion			
	What effects?	Subject learning (literacy, maths, other)	
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	What counts as inclusion?	FT, FT with support {varied types} PT with withdrawal (different degrees)	

		Compared to what is not inclusion: special school, special class
Context	School factors	e.g. experience of accommodating / capability with SEN
	Class factors	e.g. size, grouping and teaching strategies
	Pupil factors	e.g. gender of other pupils

## Appendix:

### Inclusion research list of reviewed papers

Cole, Murphy, Frisby, Grossi & Bolte (2019) A longitudinal study to determine the impact of inclusion on student academic outcomes

<https://iidc.indiana.edu/cell/what-we-do/pdf/Inclusion-study-handout.pdf>

Dyssegaard, C. B. and Larsen, M.S. (2013) Evidence on inclusion. Danish Clearinghouse for Educational Research. Department of Education. Aarhus University.

Fletcher, J. (2010) Spillover Effects of Inclusion of Classmates with Emotional Problems on Test Scores in Early Elementary School *Journal of Policy Analysis and Management* DOI: 10.1002/pam Vol. 29, No. 1, 69–83

Gottfried, M.A. & Harven, A. (2015) The Effect of Having Classmates with Emotional and Behavioral Disorders and the Protective Nature of Peer Gender, *The Journal of Educational Research*, 108:1, 45-61, DOI: 10.1080/00220671.2013.836468

Hehir, T., Grindal, T., Freeman, B., Lamoreau, R., Borquaye, Y. & Burke, S. (2016) A Summary of The Evidence on Inclusive Education. Instituto Alana. Harvard Graduate School of Education

Kefallinou, A., Symeonidou, S. and Meijer, C.J.W. (2020) Understanding the value of inclusive education and its implementation: A review of the literature. *UNESCO Prospect* September. <https://doi.org/10.1007/s11125-020-09500-2>.

Kristoffersen, J.H.G., Krægpøth, M.V. Nielsen, H.S. and Simonsen, M. (2015) Disruptive school peers and student outcomes. *Economics of Education Review*, 45, 1-13

Oh-Young, C. and Filler, J. (2015) A meta-analysis of the effects of placement on academic and social skill outcome measures of students with disabilities. *Research in Developmental Disabilities*, 47, 80-92.

Rangvid, B. S. (2019). Returning special education students to regular classrooms: Externalities on peers' reading scores. *Economics of Education Review*, 68,13-22

Ruijs, N.M. and Peetsma, T.T.D. (2009) Effects of inclusion on students with and without special educational needs reviewed. *Educational Research Review* 4, 67–79.

Scharenberg, Rollett & Bos (2019) Do differences in classroom composition provide unequal opportunities for academic learning and social participation of SEN students in inclusive classes in primary school? <https://doi.org/10.1080/09243453.2019.1590423>

Sermier Dessemontet, R., Bless, G. and Morin, D. (2012) Effects of inclusion on the academic achievement and adaptive behaviour of children with intellectual disabilities. *Journal of Intellectual Disability Research*, 56, 6, 579–587.

Szumski, Smogorzewska & Karwowski (2017) Academic achievement of students without special educational needs in inclusive classrooms: A meta-analysis <http://dx.doi.org/10.1016/j.edurev.2017.02.004>

### Search strategy

The above 10 sources came from a 2 stage process. Firstly, the authors identified relevant papers already known to them. This was then supplemented, secondly, by a A data base search as shown in the table below.

<b>ERIC database</b>	<b>retrieved</b>	<b>relevant</b>
<b>Search terms for period 2010-20</b>		
Inclusion, inclusive education, mainstreaming X achievement x effects etc.	510	5
Special educational needs X achievement x effects etc.	39	0
Inclusion, inclusive education, mainstreaming X social emotional x effects etc	80	0
special educational needs X social emotional x effects etc	1	0
<b>ERC database</b>	<b>retrieved</b>	<b>relevant</b>
<b>Search terms for period 2010-20</b>		
Inclusion, inclusive education, mainstreaming X achievement x effects etc.	457	1 new
Special educational needs X achievement x effects etc.	3	0
Inclusion, inclusive education, mainstreaming X social emotional x effects etc	55	0
special educational needs X social emotional x effects etc	1	0