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Regular primary schoolteachers' attitudes towards inclusive education: a review of the literature

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Teachers are seen as key persons to implement inclusive education. Positive attitudes are therefore argued as playing a considerable role in implementing this educational change successfully. The aim of this study is to examine what attitudes teachers hold towards inclusive education, which variables are related to their attitudes and if these affect the social participation of pupils with special needs in regular schools. A review of 26 studies revealed that the majority of teachers hold neutral or negative attitudes towards the inclusion of pupils with special needs in regular primary education. No studies reported clear positive results. Several variables are found which relate to teachers' attitudes, such as training, experience with inclusive education and pupils' type of disability. No conclusion could be drawn regarding the effects of teachers' attitudes on the social participation of pupils with special needs.

Keywords: teachers; attitudes; inclusive education; special educational needs; disabilities; regular education

Introduction

Education systems have changed drastically in the last few decades as educating children with disabilities in regular schools has become an important goal in many countries. This development to keep pupils with disabilities in regular education settings instead of referring them to special schools is best described with the term 'inclusion'. According to Rafferty, Boettcher, and Griffin (2001), inclusion refers to 'the process of educating children with disabilities in the regular education classrooms of their neighbourhood schools – the schools they would attend if they did not have a disability – and providing them with the necessary services and support' (266).

Parallel to the development towards including pupils with disabilities into regular schools the terminology to denote those pupils changed. The Warnock Report (Warnock 1979) suggested moving the focus away from handicaps and disabilities and replacing these with the term 'special educational needs'. Thus, the focus shifted away from the pupil's disability to the special needs the pupil has in education. In the late 1990s, the term 'special educational needs' was also used for ethnic minorities or socially disadvantaged pupils. In this study, the term refers to the needs of the 'classic' population of pupils with communication disorders, motor skills disorders, sensory disorders, learning disorders, mental retardation, behaviour disorders and pupils with

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a chronic disease (terminology according to the American Psychiatric Association 2000).

Due to this change in education policy many countries have largely abandoned the special school system (Meijer, Soriano, and Watkins 2006) while in others parents of pupils with special needs may choose a regular or special school for their child. Although these parents have different motives for opting for a regular education setting for their child, they mainly choose a regular school because of the possibilities for their child to participate socially in the peer group. Parents hope and expect that physical integration, 'being there', will lead to the social participation of their child (Scheepstra, Nakken, and Pijl 1999). According to Koster et al. (2009), the term 'social participation' can be described as follows:

The social participation of pupils with special needs in regular education is the presence of positive contact/interaction between these children and their classmates; acceptance of them by their classmates; social relationships/friendships between them and their classmates and the pupils' perception they are accepted by their classmates (135).

Although social participation of their child is one of parents' main motives, research has established that attending a regular school does not automatically lead to an increase in the number of contacts and friendships with peers (Pijl 2005). Pupils with different types of disabilities have difficulties in obtaining a good social position in regular education. Several studies showed that children with special needs in regular schools are less accepted by their peers, have fewer friendships and are less often part of a network in class (Bramston, Bruggerman, and Pretty 2002; Kuhne and Wiener 2000; Le Mare and de la Ronde 2000; Pijl, Frostad, and Flem 2008; Soresi and Nota 2000; Yu, Zhang, and Yan 2005). Moreover, research has shown that the social position of pupils with special needs in segregated settings is far from positive. Research is limited yet, but there is evidence that pupils with disabilities are not popular in both regular and special schools (Mand 2007). On account of these results, it seems obvious that social participation deserves more attention when implementing inclusive education.

In the discussion on implementing inclusive education, several authors suggest aspects which are seen to be important in this process, such as training, resources, legislation and teachers. The latter are regarded as key persons in the development and implementation of inclusive education (Hegarty 1994; Meijer 2003; Norwich 1994). Because teachers are defined as such (Ainscow 2007), several studies have tried to establish what attitude teachers hold towards inclusive education. Some of these stated that teachers are positive towards the general philosophy of inclusive education (Abbott 2006; Avramidis, Bayliss, and Burden 2000; Avramidis and Norwich 2002; Marshall, Ralph, and Palmer 2002), whereas other research has established that teachers have serious reservations about inclusive education in practice (Florian 1998; Pearman, Huang, and Mellblom 1997; Ring 2005).

Regarding teachers' attitudes towards the inclusion of pupils with specific disabilities, research has shown that teachers' attitudes differ according to the type of disability. Avramidis, Bayliss and Burden (2000) showed that pupils with emotional and behavioural difficulties are seen as causing significantly more concern to teachers than pupils with other types of disability. Similar results were found by Soodak, Podell and Lehman (1998), who reported that teachers hold the most negative attitudes towards the inclusion of pupils with mild or moderate learning disabilities and

emotional disturbances. Besides the type of disability, teachers' attitudes also seem to be related to other variables, such as experience with inclusive education (Moberg 2003), and class size (Anderson, Klassen, and Georgiou 2007; Rose 2001; Scruggs and Mastropieri 1996; Smith and Smith 2000). Teachers with experience in inclusive education hold more positive attitudes than those with less experience and the smaller the class size, the more positive attitudes teachers have.

Next to elucidating teachers' attitudes and the variables related to these, it is also interesting to address the effects of certain attitudes on pupils' academic and social outcomes. Because parents' main motive in choosing a regular school is the possibility for their child to interact socially, the social dimension is seen as an important aspect in implementing inclusive education successfully. To investigate if inclusive education has success, we therefore argue to measure this in terms of pupils' social outcomes.

As stated above, findings of studies regarding teachers' attitudes present a confusing picture. Teachers seem to endorse inclusive education in general, but do not like to be involved when it concerns their own teaching practice and vary their opinion according to the type of disability. Hence, the question remains how positive regular primary schoolteachers actually are towards the inclusion of pupils with special needs. Therefore, a review study was set up to investigate: (1) attitudes of teachers towards inclusive education, (2) variables which relate to these attitudes, and (3) the effects of teachers' attitudes on the social participation of pupils with special needs.

Definition of the term 'attitude' in the context of inclusive education

To be able to examine what attitudes teachers hold towards inclusive education, we should first define the term 'attitude'. Although social psychology describes the concept in various ways, we decided to use the broad definition of Gall, Borg and Gall (1996): 'an attitude is an individual's viewpoint or disposition towards a particular 'object' (a person, a thing, an idea, etc.)' (273). As Figure 1 shows, attitudes are considered to have three components: cognitive, affective and behavioural (Eagly and Chaiken 1993; Triandis 1971).

The cognitive component consists of the individual's beliefs or knowledge about the attitude object. Teachers' beliefs or knowledge about educating children with special needs in inclusive settings can represent this component, e.g. 'I believe that pupils with special needs belong in regular schools.' Feelings about the attitude object refer to the affective component. Regarding inclusive education this may reflect teachers' feelings about educating pupils with special needs, such as 'I'm afraid pupils with behaviour problems disturb the order in class.' The behavioural component reflects someone's predisposition to act towards the attitude object in a particular way. This might include teachers' views on how to act with a child with special needs in his/her classroom, e.g. 'I would refuse to give extra support to a pupil with special needs' (Figure 1).

Method

A review study was set up in order to present a complete and recent overview of empirical studies published in the last 10 years. The procedure used to search for references, to select studies and to analyse these are described below.

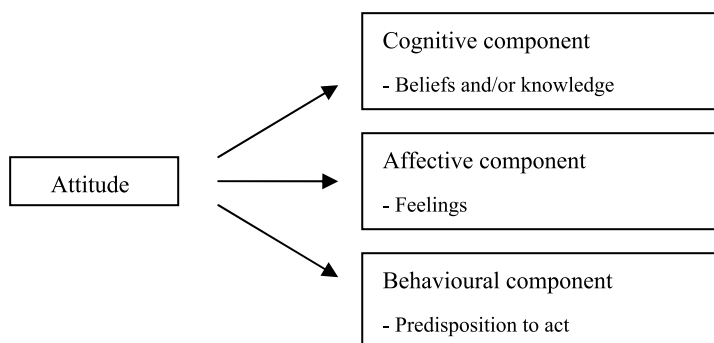


Figure 1. The concept 'attitude' and its three components.

Procedure

To search for relevant studies, a comprehensive search was performed using 'EBSCO-host Complete' in February 2009. This browser includes many databases such as ERIC, MEDLINE, PsycARTICLES, PsychINFO and SocINDEX. To search for potential references, the term 'teacher attitudes' was combined each time with the following terms: 'inclusive education', 'mainstreaming', 'inclusion', 'special needs pupils', 'special educational needs', 'impairment', 'impaired', 'disorders', 'handicapped', 'disabled' and 'disabilities'. Seven journals in the field (*International Journal of Inclusive Education*, *European Journal of Special Needs Education*, *British Journal of Special Education*, *Exceptional Children*, *British Journal of Educational Psychology*, *International Journal of Disability, Development and Education*, and *International Journal of Special Education*) were also hand searched for relevant articles. Articles with abstracts and/or titles with the following terms were included: teacher attitudes, inclusive education, mainstreaming, inclusion, special needs pupils, special educational needs, impairment, impaired, disorders, handicapped, disabled and disabilities.

Selection of studies

The combination of the term 'teacher attitudes' with the additional search terms resulted in 396 references. To select relevant studies for this review, a study had to conform to the following criteria:

- Published between 1998 and 2008.
- Contained empirical data.
- Published in an international scientific journal.
- Focused on attitudes of regular primary schoolteachers towards aspects of inclusive education.
- Included a standardised measurement of teachers' attitudes.
- Aimed at the inclusion of children with special educational needs in regular primary education and more specifically towards the social participation of those pupils.
- Focused on children with one of the following types of disorders: communication disorders, motor skills disorders, sensory disorders, learning disorders, mental retardation, behaviour disorders and chronic diseases.

- Provided convincing empirical evidence was provided regarding factors related to teachers' attitudes.

From only reading the abstract 333 articles were rejected, either because studies were aimed at student teachers or teachers of secondary or special education (97). In some cases, studies included two groups of participants, such as student teachers and regular primary teachers, so that we could not split up the results through which we excluded the studies from further analysis. Other studies were rejected because they did not focus on attitudes towards inclusive education (91); were aimed at evaluating inclusive education programmes (11); addressed attitudes towards other educational changes (22); had not been published in an international journal (often unpublished dissertations) (85) or did not include empirical data (27).

After this first filtering, 63 articles remained for further analysis. However, 14 proved untraceable, which led to a database of 49 studies while a search of the seven journals added 1 new study: a final total of 50 articles.

After reading the articles carefully, 24 of the studies were rejected because they did not satisfy selection criteria, i.e. they included participants of other school types such as special or secondary education (12); did not include empirical data (4); did not focus in particular on teachers' attitudes towards the inclusion of pupils with special needs in regular classrooms (5); included pre-service teachers as participants (2) and did not report scores on the attitude questionnaire (1). This led to a final database of 26 studies.

Analysis of studies

The three-component theory (Eagly and Chaiken 1993) provided a useful framework to present the results of the studies. This framework was used to describe the selected studies regarding teachers' attitudes towards inclusive education, according to the cognitive, affective and behavioural components. None of the selected studies, however, used the Eagly and Chaiken framework and defined their questionnaires in terms of cognitive, affective or behavioural aspects of attitude. In a number of cases it was possible to categorise (sub)scales as belonging to one of the three components. In other cases only careful analysis of the type of questions or statements used in the questionnaires revealed on which component(s) of attitude the questionnaire was focused. Questionnaires which included items such as 'I believe that pupils with special needs have the right to be educated in regular schools' were then classified under the cognitive component. Items such as 'I feel I am competent in teaching pupils with special needs' were ranged under the affective component, while items such as 'Which pupil would you like to see removed from your class?' were classified under the behavioural component. Thus, this analysis made it possible to classify the studies under the corresponding component. However, in some studies this distinction was difficult to make. For example, the questionnaire 'My Thinking About Inclusion' included three subscales. The subscale 'core perspectives' reflected general beliefs about inclusive education. The other two subscales of the questionnaires did not correspond with one of the components and were therefore excluded from further analysis. In cases where the majority of a questionnaire's items were focused on beliefs/knowledge, feelings or behavioural intentions, it was decided to range the results under the 'belonging' component.

Regarding the first research question, we analysed if the results of the studies showed positive, neutral or negative attitudes. The majority of the studies used a five-point Likert scale and reported the findings either in terms of percentages or in terms of mean scores and standard deviations. Percentages were used in various ways: to indicate which percentage of the teachers scored above/below scale midpoint (for example: 40% negative and 60% positive) or to indicate the percentage of teachers giving positive/negative outcomes (for example: 60% showed positive outcomes). Means scores and percentages on five-point Likert scales cannot be linearly transformed to one another. It is of course likely that a higher positive percentage goes along with a mean score clearly above scale midpoint. However, different descriptive statistics are reported in the studies.

Since most studies reported limited statistical data, it was not possible to calculate a common criteria applicable to all studies. We therefore had to develop a rule of thumb in order to evaluate the outcomes of the studies. Study outcomes counted as positive when the percentage of positive scores was above 70% or when the mean score was above 3.5 (on a five-point Likert scale). The reverse held for negative scores. Scores were counted as neutral if the percentage was between 30 and 70 or if the mean score was between 2.5 and 3.5. For questionnaires not using a five-point Likert scale, these boundaries were adjusted.

Results

After applying the selection criteria, 26 studies were selected for this review. Table 1 presents an overview of the studies selected which investigated (1) teachers' attitudes towards inclusive education according to the three components of attitude, (2) related variables, and (3) the effects of teachers' attitudes on the social participation of pupils with special needs. The crosses in the columns indicate the main focus of the study.

After drawing up the overview in Table 1, the results of the studies were described in more detail. First, the results of the studies which examined teachers' attitudes towards inclusive education were described according to the three components of attitude. Secondly, the results of the studies which established relating factors were presented. Finally, the studies focusing on the effects of teachers' attitudes on the social outcomes of pupils with special needs were detailed.

Results 1: Teachers' attitudes towards inclusive education

The results regarding teachers' attitudes are presented below according to the three components of attitude. Teachers' beliefs and knowledge about inclusive education are described first, followed by the results of the studies which assessed teachers' feelings and then the studies regarding the behavioural component of attitude.

Teachers' beliefs and knowledge about inclusive education

Alghazo and Naggat Gaad (2004) examined attitudes of regular education teachers towards inclusion ($n = 160$). The questionnaire included statements to indicate whether teachers 'agreed' or 'disagreed' with the philosophy of inclusion. The questionnaire used a five-point Likert scale that ranged from 1 to 5 (1 = strong agreement and 5 = strong disagreement). The overall mean of 3.2 (standard deviation

Table 1. Summarising overview of the selected studies ($n = 26$).

Reference	Country	Attitudes towards inclusive education ^a			Relating factors	Effects of attitudes on social participation
		C	A	B		
Alghazo and Naggar Gaad (2004)	United Arab Emirates	×			×	
Avramidis and Kalyva (2007)	Greece	×			×	
Batsiou et al. (2008)	Greece and Cyprus	×		×	×	
Bussing et al. (2002)	USA		×			
Cook (2001)	USA			×	×	
Cook et al. (2000)	USA			×		
Cook, Cameron, and Tankersley (2007)	USA			×		
deBettencourt (1999)	USA	×				
Everington, Steven, and Winters (1999)	USA	×	×		×	
Freire and César (2003)	Portugal	×				
Ghanizadeh, Bahredar, and Moeini (2006)	Iran	×			×	
Glaubman and Lifshitz (2001)	Israel		×		×	
Hammond and Lawrence (2003)	USA	×				
Kalyva, Gojkovic and Tsakiris (2007)	Serbia	×			×	
Kim, Park and Snell (2005)	Korea	×			×	
Lifshitz, Glaubman, and Issawi (2004)	Israel and Palestine		×		×	
Monsen and Frederickson (2004)	New Zealand	×				
Mushoriwa (2001)	Zimbabwe	×				
Opdal, Wormæs, and Habayeb (2001)	Palestine	×			×	
Parasuram (2006)	India	×			×	
Pearson et al. (2003)	China	×				
Rheams and Bain (2005)	USA	×				
Sadler (2005)	United Kingdom	×	×			
Sari (2007)	Turkey	×			×	
Snyder (1999)	USA		×			
Wilkins and Nietfeld (2004)	USA	×			×	

Notes: ^aC, cognitive; A, affective; B, behavioural.

(SD) = 0.34) indicated that teachers held a neutral attitude towards the inclusion of pupils with special needs in general education.

Avramidis and Kalyva (2007) assessed teacher beliefs ($n = 155$) using the 'My Thinking About Inclusion' questionnaire (developed by Stoiber, Gettinger, and Goetz 1998). This consisted of three subscales, namely: core perspectives, expected outcomes and classroom practices. Teachers were asked to indicate the extent of their agreement on items of the three subscales according to the response choices 1 = strongly agree to 5 = strongly disagree (low scores indicated positive attitudes). The subscale 'core perspectives' reflects the cognitive component as it illustrates teachers' beliefs about inclusive education. The subscale includes items such as 'Children with special educational needs have the right to be educated in the same classroom as typically developing students'. The other two subscales did not reflect one of the components and were therefore exempt from further analysis. The mean item score of 2.86 (SD = 0.37) on the subscale 'core perspectives' indicated that teachers held an undecided/neutral attitude towards inclusive education. However, the authors of the study concluded that teachers held positive attitudes regarding the philosophy of inclusive education. Kalyva, Gojkovic, and Tsakiris' (2007) attitudes of Serbian primary schoolteachers were also examined by the MTAI (Stoiber, Gettinger, and Goetz 1998) ($n = 72$). According to our rule of thumb the mean score of 34.06 (SD = 7.61) on the subscale 'core perspectives' indicated that teachers held neutral attitudes towards inclusive education. The authors, however, reported that teachers held slightly negative attitudes towards core perspectives.

Batsiou et al. (2008) investigated the attitudes and intentions of Greek and Cypriot teachers towards the education of pupils with special needs in regular classrooms ($n = 179$) by means of a questionnaire. This included seven variables (intention, attitudes, subjective norms, self-identity, attitude strength, knowledge, information and experience) and consisted of items such as 'For me teaching in a class with regular and special educational needs students next year is' Responses were rated on a seven-point scale using five opposing adjectives (such as: good–bad, useful–not useful or strongly agree to strongly disagree), in which a lower score indicated more positive attitudes. The mean score on the variables 'attitudes' (mean = 4.7, SD = 1.2), 'self-identity' (mean = 3.8, SD = 1.5), 'attitude strength' (mean = 3.7, SD = 1.3) indicated neutral attitudes of teachers.

Parasuram (2006) reported a mean item score of 3.3 on the 'Attitude Towards Inclusive Education Scale' (developed by Wilczenski 1992). By means of a six-point Likert scale, teachers ($n = 300$) indicated their extent of agreement (ranging from 6 ('strongly agree') to 1 ('strongly disagree'), in which a high score indicated more favourable attitudes towards inclusive education. The mean item score of 3.3 indicated that teachers' attitudes leaned towards Response number 3, namely 'disagree somewhat'.

Using 'Mainstream Attitude Survey' (MAS, developed by Bender, Vail, and Scott 1995) deBettencourt (1999) surveyed teachers' beliefs about inclusion ($n = 71$). The five-point Likert scale included items such as 'I support mainstreaming ...', in which a higher score indicates a more positive belief. The results of the study showed that 29.9% held negative beliefs towards inclusion (Response numbers 1 and 2), whereas 40.8% held positive beliefs (Response numbers 4 and 5). The other 29.5% of the teachers showed neutral attitudes. According to the rule of thumb this means that teachers held neutral attitudes towards inclusive education.

Everington, Steven, and Winters (1999) used certain statements from the 'Opinions Relative to Mainstreaming' (ORM) scale (developed by Larrivee and Cook 1979)

to investigate teachers' support for inclusion ($n = 108$). Response scores ranged from 0 ('strongly agree') to 4 ('strongly disagree'), in which lower scores indicate a positive attitude. The scale included statements such as 'Inclusion fosters understanding and acceptance'. The mean item score on the statements 'Supportive to Inclusion' was 1.7 ($SD = 0.95$). According to the rule of thumb, the mean item score showed that teachers held neutral attitudes. However, the high standard deviation needs to be considered because it indicates that participants hold very different opinions. According to the response choices, the mean item score indicated no strong positive attitudes. Surprisingly, the authors of the study concluded that teachers have positive attitudes towards inclusion of all children. The ORM scale was also used by Monsen and Frederickson (2004) to examine teachers' attitudes towards inclusion ($n = 63$). In this study, the possible score range was from 30 to 150, in which a higher score reflects more positive attitudes. The mean score was 97.69 ($SD = 6.74$), which indicated neutral attitudes of teachers. Sari (2007) used an adapted version of the ORM (Antonak and Larrivee 1995) to assess teachers' attitudes towards deaf pupils ($n = 61$). The possible range of the scores was from 20 to 100, whereby higher scores reflect negative attitudes. The mean score of 56.05 ($SD = 12.43$) indicates that teachers held neutral attitudes.

Hammond and Lawrence (2003) investigated teachers' attitudes towards inclusion using the 'Prevailing Attitudes about Inclusion' questionnaire ($n = 343$). This five-point Likert scale included statements such as 'Inclusion benefits all special education students'. The scores on the items showed that 49.7% of the teachers agreed with the statements and 30.2% disagreed. According to the rule of thumb the results of the study indicated that teachers held neutral attitudes.

In a study of Kim, Park, and Snell (2005), teachers' attitudes ($n = 30$) towards inclusion were examined by the 'Teachers' Attitudes Scale on Inclusion' (TASI) (developed by Green and Stoneman 1989). This questionnaire consisted of 32 items, in which teachers indicated their level of agreement using a five-point Likert scale. The possible score range was between 32 and 160, with higher scores reflecting more positive attitudes. The mean score of 107.50 ($SD = 11.37$) showed that teachers held neutral attitudes.

Opdal, Wormæs, and Habayeb (2001) found supportive attitudes among teachers. By means of a questionnaire teachers were invited to share their opinions about inclusion ($n = 90$). The study showed that 60% of the participating teachers were of the opinion that pupils with special educational needs should have the chance to attend regular schools. According to the rule of thumb, this percentage indicates that teachers held neutral attitudes.

Pearson et al. (2003) used interviews to examine teachers' attitudes towards inclusive education ($n = 224$). Many teachers agreed with the two positive values of inclusion, namely 'realisation of equal opportunity' (75.9%) and 'a good chance for students to interact' (75.5%), whereas 61.8% responded positively to the item that 'inclusion is an educational value to other students'. But almost half of the teachers (48.1%) responded that integrated education was 'a painful struggle for special needs students', and 60% indicated that integrated education was 'a burden to the school and teachers'. According to the rule of thumb we interpreted the results as neutral outcomes.

Results of Mushoriwa (2001), however, showed that the majority of teachers were against inclusive education for visually impaired children. The study evaluated teachers' attitude towards the inclusion of blind children in regular classes based on

their responses to several statements on inclusive education. Of the total sample ($n = 400$), 86% of the teachers reported they were not in favour of inclusive education. With regard to the inclusion of pupils with a hearing disability, Freire and César (2003) reported that two of the five teachers interviewed agreed with the inclusion of deaf pupils. Ghanizadeh, Bahredar, and Moeini (2006) examined teachers' attitudes towards the inclusion of children with AD/HD ($n = 169$) and reported hardly any positive attitudes. The study showed that 152 out of 196 teachers' (77.5%) agreed that AD/HD pupils should attend special education settings, instead of regular education.

Rheams and Bain (2005) used the 'Attitude Toward Inclusion Scale' (ATIS) (developed by Larrivee and Cook 1979), which measured teachers' attitudes towards the inclusion of pupils with special needs in regular classrooms ($n = 79$). The ATIS consisted of 30 items in which teachers indicated their degree of agreement using a five-point Likert scale (1 = strongly disagree, 5 = strongly agree). The mean score of 84.65 (SD = 15.75) on the whole scale indicated neutral attitudes of teachers.

Teachers' attitudes towards inclusive education were further examined by Wilkins and Nietfeld (2004), using a questionnaire which consisted of items such as 'There are disabilities that are inappropriate for the regular classroom' ($n = 89$). The four-point response scale ranged from 'strongly agree' to 'strongly disagree', in which lower scores indicated positive attitudes. The mean score of 2.49 (SD = 0.69) on the questionnaire revealed that teachers hold neutral attitudes towards inclusive education.

The previous results were regarded to beliefs of teachers towards inclusive education. One of the studies investigated the other aspect of the cognitive component, namely knowledge. Sadler (2005) examined teachers' knowledge level about educating children with speech and language difficulties ($n = 89$). Teachers were asked to rate their knowledge level with by means of a questionnaire, which included questions such as 'How would you rate your present knowledge of speech and language impairments in children?' The results of the study showed that 87.6% of the teachers reported to have 'limited' or 'very limited' knowledge. None of the teachers rated themselves as having sufficient knowledge about teaching pupils with speech and language difficulties.

Teachers' feelings towards inclusive education

Several studies focused on teachers' feelings towards aspects of inclusive education. Bussing et al. (2002) assessed teachers' confidence to educate pupils with AD/HD ($n = 365$). Teachers rated their confidence on their ability to perform a task on a five-point Likert scale, ranging from 1 ('no confidence') to 5 ('strongly confident'). Teachers had to indicate their degree of confidence based on 10 statements such as 'I'm able to manage the stress caused by students with AD/HD in my classroom'. The mean score of 3.87 (SD = 0.95) indicates that teachers were fairly confident about their ability to educate pupils with AD/HD. However, the high standard deviation needs to be considered in interpreting the outcomes of the study. Feelings of confidence by teachers were also investigated by Sadler (2005). This study showed that none of the participating teachers ($n = 89$) reported to be very confident in teaching children with speech and language difficulties. A majority of the teachers (63%) indicated that they felt 'not confident at all' or 'not very confident'. Moreover, negative findings were found by Snyder (1999), who reported that none of the general primary education teachers felt confident in working with students with special needs.

Table 2. Overview of studies that examined teachers' attitudes towards inclusive education ($n = 26$).

Reference	n	Name measurement instrument	Attitude component ^a	Type of disability	Outcomes ^b
Alghazo and Naggar Gaad (2004)	160	Unknown	C	Several	±
Avramidis and Kalyva (2007)	155	MTAI: core perspectives	C	Several	±
Batsiou et al. (2008)	179	Planned Behaviour Theory	C, B	Several	±
Bussing et al. (2002)	365	Unknown	A	ADHD	±
Cook et al. (2000)	70	Nomination procedure	B	Several	-
Cook, Cameron, and Tankersley (2007)	70	Nomination procedure	B	Several	-
Cook (2001)	70	Nomination procedure	B	Several	-
deBettercourt (1999)	71	MAS	C	Several	±
Everington, Steven, and Winters (1999)	108	ORM and unknown	C, A	Several	±
Freire and César (2003)	5	Interview	C	Deaf pupils	±
Ghanizadeh, Bahredar, and Moeimi (2006)	169	Unknown	C	ADHD	-
Glaubman and Lifshitz (2001)	136	Regular Education Initiative	A	Several	±
Hammond and Lawrence (2003)	343	Prevailing Attitudes about Inclusion	C	Several	±
Kalyva, Gojkovic, and Tsakiris (2007)	72	MTAI	C	Several	±
Kim, Park and Snell (2005)	30	TASI	C	Several	±
Lifshitz, Glaubman, and Issawi (2004)	125	Regular Education Initiative	A	Several	±
Monsen and Frederickson (2004)	63	ORM	C	Several	±
Mushoriwa (2001)	400	Unknown	C	Blind pupils	-
Opdal, Wormæs, and Habayeb (2001)	90	Unknown	C	Several	±
Parasuram (2006)	300	ATIS	C	Several	±
Pearson et al. (2003)	224	Unknown	C	Several	±
Rheams and Bain (2005)	79	ATIS	C	Several	±
Sadler (2005)	89	Unknown	C, A	Speech/language	-
Sari (2007)	61	ORM	C	Deaf pupils	±
Snyder (1999)	n.a.	Unknown	A	Several	-
Wilkins and Niefeld (2004)	89	Unknown	C	Several	±

Notes : ^aC, cognitive; A, affective; B, behavioural.

^bStudy outcomes are counted as positive when the percentage of positive scores is above 70% or when the mean score is above 3.5 (the reverse holds for negative scores). Scores are counted as neutral if the percentage is between 30% and 70% or if the mean score is between 2.5 and 3.5.

Everington, Steven, and Winters (1999) assessed feelings of competence among teachers by asking them to respond to 13 statements, such as 'I feel I am competent in managing behaviour', using a five-point Likert scale (ranging from 0 = strongly agree to 4 = strongly disagree). A lower score indicated a higher agreement with the statement. The results of the study showed a mean score of 1.35, which means teachers ranked their feelings of competence between Response number 1 (agree) and 2 (neutral). According to our rule of thumb, the results of the study are positive.

The 'Regular Education Initiative Questionnaire' (Gemmel-Crosby and Hanszlik 1994) was used by Glaubman and Lifshitz (2001) to examine teachers' willingness to include pupils with special needs in their classroom ($n = 136$). Teachers' attitudes were assessed using a five-point Likert scale. However, the response choices were compressed in the analysis of the results (1 and 2 = 1, 3 = 2 and 4 and 5 = 3), in which a higher score indicated positive attitudes. The mean score of 1.96 (SD = 0.58) showed that teachers are neutral about the inclusion of pupils with special needs in regular classrooms.

The 'Regular Education Initiative Questionnaire' (Gemmel-Crosby and Hanszlik 1994) was also used by Lifshitz, Glaubman, and Issawi (2004) to examine Israeli and Palestinian teachers' attitudes towards inclusive education ($n = 125$). The five response choices (1, 'strongly disagree' to 5, 'strongly agree') were condensed to a three-point scale, with a higher score representing more positive attitudes towards inclusion. Regular education teachers showed a mean score of 2.02 (SD = 0.61), which indicated neutral attitudes.

Teachers' predisposition to act with regard to inclusive education

Cook et al. (2000) investigated teachers' attitudes towards the inclusion of children with disabilities using a nomination procedure ($n = 70$). Teachers were asked to nominate three of their pupils who represented the best responses to four attitudinal categories (attachment, concern, indifference and rejection). The nomination prompts regarding the four categories were as follows:

- (1) 'If you could keep one student for another year for the sheer joy of it, whom would you pick?' (Attachment).
- (2) 'If you could devote all your attention to a child who concerns you a great deal, whom would you pick?' (Concern).
- (3) 'If parents were to drop by for a chat, whose child would you be least prepared to talk about?' (Indifference).
- (4) 'If your class had to have one child less, whom would you be relieved to see removed?' (Rejection).

The results of the study revealed that teachers nominated significantly more pupils with disabilities in the category 'concern' or 'rejection', whereas typically developing pupils are significantly nominated more in the attachment category. No significant differences were found between the two groups with regard to the 'indifference' category. These findings are supported by another study performed by Cook (2001) and Cook, Cameron, and Tankersley (2007).

The study of Batsiou et al. (2008) investigated the behaviour of teachers towards educating pupils with special needs in regular classrooms ($n = 179$). Teachers'

attitudes were examined using a questionnaire based on the 'Planned Behaviour Theory'. The variable 'intention' consisted of three different statements: 'I intend/I will try/I am determined to teach a class with regular and special educational needs students next year'. A seven-point scale was used to determine teachers' intentions, in which a lower score indicated a positive attitude. The mean score of 3.2 (SD = 1.7) showed that teachers were neutral in their behavioural intentions.

Summary of results 1: Teachers' attitudes towards inclusive education

Twenty-six studies investigated one (or more) attitude component(s) with regard to inclusive education. As illustrated in Table 2, most studies focused on teachers' attitudes regarding beliefs and/or knowledge. To sum up, the results of the studies showed that the majority of teachers were undecided or negative in their beliefs about inclusive education and do not rate themselves as very knowledgeable about educating pupils with special needs. The six studies which examined teachers' feelings towards inclusive education showed that teachers did not feel competent and confident in teaching pupils with various types of special needs. Furthermore, studies regarding the behavioural component showed that teachers hold negative or neutral behavioural intentions towards pupils with special needs.

Results 2: Variables related to teachers' attitudes

As mentioned previously, it is argued that teachers' attitudes are related to several variables. Table 3 presents an overview of the studies which have established variables related to teachers' attitudes. The results of these studies are illustrated below.

Gender

Alghazo and Nagggar Gaad (2004) found a significant difference between male and female teachers, whereby males held less positive attitudes towards inclusive education ($t = 4.42, p = 0.05$).

Opdal, Wormæs, and Habayeb (2001) reported that female teachers were more supportive towards inclusion, compared to male teachers. Of the male teachers, 59% answered that they supported the inclusion of pupils with special needs, whereas 69% of the female teachers were supportive in their answer. However, those results are not replicated in a study of Parasuram (2006), who reported that there were no significant gender differences.

Years of teaching experience

The study of Alghazo and Nagggar Gaad (2004) showed that teachers with one to five years of teaching experience held significant more positive attitudes towards the inclusion of pupils with special needs compared with teachers with 6–11 years' experience and those with 12 or more years of experience, $F(2, 149) = 10.3, p = 0.05$. Glaubman and Lifshitz (2001), also found that teachers with less years of teaching experience (1–10 years) were significantly more positive than their counterparts with more experience (greater than 11 years), $F(1, 108) = 4.73, p < 0.05$.

Table 3. Overview of studies reporting variables related to teachers' attitudes ($n = 14$).

Reference	n	Type of disability	Variable(s)
Alghazo and Naggag Gaad (2004)	140	Several types of disabilities	Gender/years of teaching experience/type of disability
Avramidis and Kalyva (2007)	155	Several types of disabilities	Experience/training
Batsiou et al. (2008)	179	Several types of disabilities	Experience with inclusive education/training
Cook (2001)	70	Several types of disabilities	Type of disability
Everington, Steven, and Winters (1999)	108	Several types of disabilities	Experience
Ghanizadeh, Bahredar, and Moeini (2006)	196	Children with ADHD	Training
Glaubman and Lifshitz (2001)	136	Several types of disabilities	Years of teaching experience/type of disability
Kalyva, Gojkovic, and Tsakiris (2007)	72	Several types of disabilities	Experience with inclusive education
Kim, Park and Snell (2005)	30	Several types of disabilities	Training
Lifshitz, Glaubman, and Issawi (2004)	125	Several types of disabilities	Training/type of disability
Opdal, Wormæs, and Habayeb (2001)	300	Several types of disabilities	Gender/experience
Parasuram (2006)	300	Several types of disabilities	Experience/gender
Sari (2007)	122	Deaf children	Training
Wilkins and Nietfeld (2004)	89	Several types of disabilities	Training

Experience with inclusive education

Experience with inclusive education is described by several authors as a factor which influences teachers' attitudes. Avramidis and Kalyva (2007) found a significant difference between schools who had much experience and those with little or no experience with inclusive education, $F(1, 153) = 12.33, p < 0.001$. Teachers with experience held significantly more positive attitudes towards inclusive education than teachers with little or no experience. Kalyva, Gojkovic, and Tsakiris (2007) found similar results among Serbian teachers. The results of the study also showed that teachers with experience in teaching pupils with special educational needs were more positive compared to those without experience, $F(1, 69) = 55.41, p < 0.001$.

Everington, Steven, and Winters (1999) also reported that teachers who had previous experience with inclusive education were significantly more positive towards it than those without any experience. Moreover, Opdal, Wormæs, and Habayeb (2001) concluded that teachers who had experience in teaching pupils with special needs (29%) were more positive towards inclusion than teachers without experience (9%). Batsiou et al. (2008) found a significant positive correlation between experience and teachers' attitudes ($r = 0.88, p < 0.001$), indicating that teachers' positive attitude is influenced by their previous experience.

In addition to experience with inclusive education, prior contact with disabled people also seems related to teachers' attitudes. Teachers who were acquainted with a disabled person held more positive attitudes towards inclusion than teachers who were not acquainted with someone with a disability (Parasuram 2006).

Training

Many authors point at the importance of specialised training. Of the selected studies, Avramidis and Kalyva (2007) found that teachers with long-term training were significantly more positive towards statements about the general philosophy of inclusion, compared with those who had no training at all, $F(2, 152) = 4.85, p < 0.01$. Hence, a significant positive relationship of 0.24 was found between knowledge and attitude by Ghanizadeh, Bahredar, and Moeini (2006). This study showed that the more knowledge teachers had about AD/HD, the more positive their attitude was towards the inclusion of pupils with this type of disability.

Batsiou et al. (2008) found a significant relationship between information and attitudes ($r = 0.36, p < 0.001$) and knowledge and attitudes ($r = 0.26, p < 0.001$). These results showed that teachers' attitudes are influenced by information and knowledge they have about the inclusion of pupils with special needs in regular classrooms.

Lifshitz, Glaubman, and Issawi (2004) investigated the influence of in-service training on teachers' attitudes comprising a course of 28 hours for regular teachers. Results of the study showed that after the intervention the scores of the regular teachers on the attitude questionnaire increased significantly. In contrast, the study of Wilkins and Nietfeld (2004) revealed no differences between the group who participated in an experimental group and the control group. The results indicated that the intervention did not influence teachers' attitudes towards inclusive education.

The influence of an In-Service Teacher Training (INSET) programme on teachers' attitudes towards inclusion was also evaluated by Sari (2007). The results of the study revealed that an increasing knowledge level leads to positive attitude changes among teachers towards the inclusion of deaf children. The experimental group in the study,

who attended an INSET programme, showed significant higher scores ($t = 15.6, p = 0.0001$) on the post-test than on the pre-test for the 'Opinions Relative to Mainstreaming Scale' (developed by Larrivee and Cook 1979). Comparable findings were reported by Kim, Park, and Snell (2005), who examined if written information had influenced teachers' attitudes towards inclusive education. They offered a weekly newsletter for regular schoolteachers written by special needs educators. This was divided in four parts and contained information about pupils with disabilities, news from special needs classes, information on special education and inclusion and feedback from teachers of integrated classes. Besides this, regular schoolteachers had weekly contact with the special needs educators. The results of the study indicated that regular teachers who received written information and had weekly contact held significantly more positive attitudes by the end of the study towards the inclusion of pupils with special needs than the control group, $F(1, 27) = 13.37, p < 0.001$.

Type of disability

Several studies related teachers' attitudes to pupils' type of disability. Using a nomination procedure, Cook (2001) compared teachers' attitudes towards pupils with mild and severe disabilities ($n = 70$). The results of the study pointed out that children with specific learning disabilities, AD/HD or behavioural disorders were nominated significantly more often by teachers in the attitudinal category 'rejection' than those with easy-to-notice disabilities (e.g. cognitive, orthopaedic, hearing, visual or multiple disabilities and autism), $\chi^2(1, n = 63) = 3.00, p < 0.05$. According to the findings of this study, if teachers could reduce their class by one child they would be relieved if it were a pupil with learning disabilities, AD/HD or behaviour problems.

The results of the study of Alghazo and Naggag Gaad (2004) revealed that teachers were most positive towards pupils with physical disabilities, pupils with specific learning difficulties and visual impaired pupils. Additionally, teachers were the most negative about the inclusion of pupils with mental disabilities, behavioural difficulties and hearing impairment.

Glaubman and Lifshitz (2001) found that teachers differentiated their attitudes according to type of disability. Teachers showed greatest willingness for the inclusion of pupils with physical disabilities or sensory impairments. Teachers' attitudes were most negative towards the inclusion of pupils with learning disabilities, mild emotional problems, mild mental retardation and pupils with medium and severe emotional problems and mental retardation.

Finally, Lifshitz, Glaubman, and Issawi (2004) also showed that teachers' attitudes differed per type of disability. Teachers were the most positive about the inclusion of pupils with learning disabilities, mild emotional disorders (mean = 2.41, SD = 0.46), and pupils with visual and hearing impairments (mean = 2.36, SD = 0.72). The lowest score (which indicated a more negative attitude) was found among pupils with mental retardation, moderate/severe behavioural and emotional disorders (mean = 1.66, SD = 0.48) and blind and deaf pupils (mean = 1.60, SD = 0.68).

Summary of results 2: Variables related to teachers' attitudes

Three studies related gender to teachers' attitudes, in which two studies showed that female teachers were more supportive towards inclusive education than male teachers. However, one study did not revealed any gender differences.

Several studies revealed that attitudes towards inclusive education were influenced by years of teaching experience. Teachers with less teaching experience held significantly more positive attitudes towards the inclusion of pupils with special needs than those with more years of teaching experience. Additionally, several studies showed that teachers who had previous experience with inclusive education held significantly more positive attitudes than teachers who have no or less experience with inclusive education.

Several studies established that training in special needs education positively influences the attitudes of teachers. The results of these studies indicate that teachers who received training hold more positive attitudes towards inclusive education compared with teachers who received less training. Furthermore, several studies revealed that teachers are most negative about the inclusion of pupils with learning disabilities, behaviour problems and cognitive disabilities. In contrast, teachers are the most positive about the inclusion of pupils with physical disabilities and pupils with sensory impairments.

Results 3: The effects of teachers' attitudes on pupils' social participation

The third research question of this study was aimed to investigate if teachers' attitudes have effects on the social participation of pupils with special needs. However, no studies were found in which this aspect was investigated. Consequently, no results can be reported in this section.

Conclusion

The general aim of this study was to examine how positive regular primary school-teachers actually are towards the inclusion of pupils with special needs in regular education. By means of a review study, we investigated what attitudes teachers hold towards inclusive education, which variables are related to their attitude and what the effects of teachers' attitudes are on the social participation of pupils with special needs.

Regarding the first research question of this study it can be concluded that teachers are negative or undecided in their beliefs about inclusive education and do not rate themselves as knowledgeable about educating pupils with special needs. Additionally, they do not feel competent and very confident in teaching pupils with special needs. Furthermore, it can be concluded that teachers would more often reject pupils with special needs compared to their typically developing peers.

With regard to the second research question, this study revealed that years of teaching experience, experience with inclusive education and training in special needs education are related to teachers' attitudes. Hence, it can be stated that teachers with less years of teaching experience hold more positive attitudes towards inclusive education than teachers who have many years of teaching experience. Furthermore, it can be concluded that teachers who have experience with inclusive education and training hold more positive attitudes towards inclusive education than teachers who have less experience and received less training. Additionally teachers' attitudes seem to be related to the type of disability. Teachers hold the most negative attitudes to the inclusion of pupils with learning disabilities, AD/HD and other behaviour problems. In contrast, they are more positive about the inclusion of pupils with physical disabilities and sensory impairments.

Regarding the last research question it can be concluded that none of the selected studies examined if teachers' attitudes have effects on the social participation of pupils with special needs in regular classrooms. On behalf of this, no conclusions can be drawn regarding this aspect.

Discussion

Several authors regard the attitude of teachers towards inclusive education as a significant factor in the implementation of successful inclusive education (Meijer 2003; Norwich 1994). It is therefore not surprising that many studies have assessed teachers' attitudes towards inclusive education. In this current study we presented an overview of studies that examined teachers' attitudes towards inclusive education, variables relating to their attitude, and the influence of teachers' attitudes on the social participation of pupils with special needs in regular classrooms.

This review showed that teachers hold predominantly negative or undecided beliefs and feelings towards inclusive education. Some of the authors of the studies under review here present a more positive interpretation, but careful analysis of the data does not support their conclusions. As presented in Table 2, the majority of studies focused on the cognitive or affective component of attitudes. Regarding those components, it was expected to find more positive attitudes than the results revealed. It seemed reasonable to expect that teachers would generally react positive on items such as 'I agree that all children have the right to be educated in a regular school.' However, the results showed teachers to hold neutral/negative attitudes. These results seem to deviate from the more positive conclusion of older reviews (Avramidis and Norwich 2002; Scruggs and Mastropieri 1996) regarding the attitudes towards inclusive education, but concurs with the sombre views of recent state-of-the-art studies of Vislie (2006) and Ferguson (2008). They concluded that progress in implementing inclusive education is slow or even lacking. It is still an open-ended question how Vislie and Ferguson's conclusions are related to seemingly more negative teachers' attitudes.

Years of teaching experience is found to be a variable related to teachers' attitudes. Teachers with fewer years of teaching experience hold more positive attitudes towards the inclusion of pupils with special needs than teachers who have many years of experience. However, a contradictory result is found regarding experience with inclusive education. Clear differences in attitudes between teachers with and without experience with inclusive education are found, in which teachers with experience hold more positive attitudes than teachers without experience. The latter is supported by other studies (Avramidis and Norwich 2002; Balboni and Pedrabissi 2000; Leyser et al. 1994). Those authors also concluded that teachers with inclusive education experience show significantly more positive attitudes than teachers with less or no experience in inclusive education. The findings of teaching experience and experience with inclusive education seem to be contradictory. A possible explanation for these conflicting findings might be that teachers with many years of teaching experience grow 'stale' in their profession. These teachers might find it difficult to educate pupils with various types of special needs, instead of typically developing pupils. Hence, it seems reasonable that such teachers are less supportive towards the implementation of inclusive education.

It is not surprising that experience is related to attitudes, as the theory about the formation of attitudes also states that attitudes are formed by direct and indirect

experience (Eagly and Chaiken 1993). Besides the variable experience, teachers who received (long-term) training in special needs education held more positive attitudes towards inclusive education compared with teachers who did not receive training. Results of other studies also showed that teachers' attitudes are influenced by specialised training in special needs education (Avramidis and Norwich 2002; Leyser et al. 1994). These data suggest that additional teacher training in educating pupils with special needs in regular education leads to more positive attitudes and willingness to implement inclusive education. However, some cautionary comments need to be made regarding this relation. Although it seems likely that training in special needs education facilitates a more positive attitude among teachers, other mediating variables might influence this relationship.

The results of this study further indicate that teachers' attitudes are related to disability categories. Various studies showed clearly that teachers are most negative about the inclusion of children with learning disabilities, AD/HD and other behaviour problems. Avramidis and Norwich (2002) concluded in their study that teachers are more willing to include pupils with mild disabilities, or physical/sensory disabilities than pupils with more complex needs. Although there is evidence that teachers' attitudes vary according to type of disability, it is not clear to what extent this affects their behaviour, support and willingness to make inclusive education possible for pupils with special educational needs.

Limitations of the study

In this study, the term 'attitude' was defined using the three-component theory of Eagly and Chaiken (1993), who consider attitudes to have three components, namely a cognitive, an affective, and a behavioural component. Although only high quality studies were selected for this review, hardly any of the authors defined the concept 'attitude'. In many studies, the conceptualisation of the term 'attitude' could only be deduced from the descriptions in the articles or the content and types of items in the questionnaires used. In a number of cases, this seriously impeded drawing conclusions based on the studies' results and (parts of) the data collected in these studies had to put aside. It was therefore sometimes difficult to classify the results of the studies under one of the three components. However, it became clear that none of our selected studies dealt with all three components of attitudes (see Table 1). This limitation needs to be considered in interpreting the results of this current study.

Another limitation of this study is that the selected studies used self-reported questionnaires rather than observations of teachers' classroom behaviour. Hence, socially desirable answers could easily be given. Teachers may endorse the general philosophy of inclusive education, but this does not obviously mean they are willing to make specific adaptations for pupils with special needs. It seems reasonable that observations are necessary to establish if teachers' beliefs, feelings and behavioural intentions correspond with their actual behaviour to pupils with special needs. We therefore emphasise the importance of extensive research focusing on all three components of attitude and the consistency of teachers' actual behaviour towards pupils with special needs.

Recommendations for future research

One of the core ideas behind the striving for inclusion is the increased possibilities for social contacts and relationships between pupils with special needs and their peers in

regular education. One of the aims of this review study was therefore to examine if teachers' attitudes affect the social participation of pupils with special needs. However, none of the studies selected linked teachers' attitudes to this type of pupils' outcome. Consequently, it was impossible to conclude if attitudes are a significant factor in implementing inclusive education. The question therefore still remains unanswered as to the extent teachers' attitudes are important in implementing inclusive education. Hence, we emphasise the importance of research focussing on the influence of attitudes on pupils' social outcomes.

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