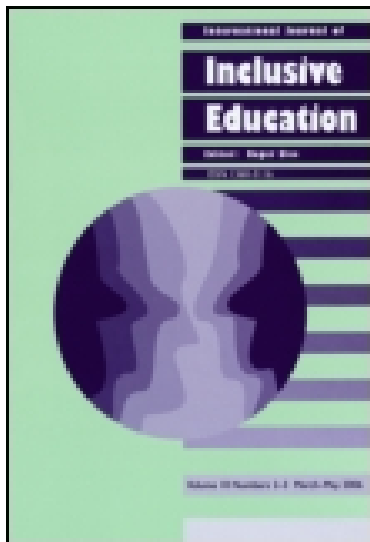


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## International Journal of Inclusive Education

Publication details, including instructions for authors and subscription information:

<http://www.tandfonline.com/loi/tied20>

### Inclusion of pupils with intellectual disabilities: primary school teachers' attitudes and willingness in a rural area in Uganda

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Published online: 04 Oct 2012.

**To cite this article:** Patrick Ojok & Siri Wormnæs (2013) Inclusion of pupils with intellectual disabilities: primary school teachers' attitudes and willingness in a rural area in Uganda, *International Journal of Inclusive Education*, 17:9, 1003-1021, DOI: [10.1080/13603116.2012.728251](https://doi.org/10.1080/13603116.2012.728251)

**To link to this article:** <http://dx.doi.org/10.1080/13603116.2012.728251>

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## **Inclusion of pupils with intellectual disabilities: primary school teachers' attitudes and willingness in a rural area in Uganda**

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*(Received 25 August 2011; final version received 3 September 2012)*

Teachers in regular schools have a responsibility to accommodate the needs and interests of all learners. The attitudes and willingness of teachers to include learners with intellectual disabilities in their classes in regular schools in a district with a semi-nomadic pastoral population in north-eastern Uganda was investigated. A survey of 125 school teachers was conducted, using an attitude scale and a willingness sub-scale. The results showed slightly more positive than negative attitudes, and more willingness than unwillingness to teach learners with intellectual disabilities. Attendance of workshops and seminars had a positive impact on teacher attitudes and willingness towards inclusive education. The findings are discussed with reference to historical–cultural characteristics of the district, as well as pupil and teacher characteristics.

**Keywords:** inclusive education; teachers; attitudes; willingness; intellectual disabilities; Uganda

### **Introduction**

Every child is entitled to quality basic education (UNESCO 1994). Inclusive education is a process in which schools, communities and governments strive to reduce barriers to participation in learning for all citizens (Booth and Ainscow 1998; UNESCO 2009). Teachers in ordinary schools have a responsibility to accommodate the needs and interests of all learners, including children with disabilities.

The attitudes and willingness of primary school teachers to teach pupils with intellectual disabilities in regular schools is one of the factors that is critical to successful implementation of inclusive education (Avramidis and Kalyva 2007; Forlin, Douglas, and Hattie 1996; Hegarty 1996).

Studies from several countries have shown that the attitudes of teachers towards inclusion of children with intellectual disabilities are less positive than their attitudes towards inclusion of children with other disabilities (de Boer, Pijl, and Minnaert 2011; Forlin 1995; Mushoriwa 1998; Scruggs and Mastropieri 1996; Soodak, Podell, and Lehman 1998). How children with disabilities are treated in inclusive schools is assumed to be affected by the extent to which teachers are willing to support them.

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This study, which was conducted in a rural district in the Karamoja region in north-eastern Uganda, investigated the attitudes of primary school teachers towards the inclusion of children with intellectual disabilities, as well as their willingness to teach pupils with intellectual disabilities in the same class as pupils without disabilities or with other disabilities. Owing to socio-cultural factors, the literacy level in the region has been very low, non-attendance in schools high, and school retention and completion rates low (Ministry of Education & Sports, Kamplala 1992). The population is primarily semi-nomadic pastoralists. The district has a short history of formal education. The results will be discussed by considering historical-cultural aspects.

### **Historical-cultural characteristics**

The Karimojong are a semi-nomadic tribe in the Karamoja region in north-eastern Uganda. Their primary source of income is cattle rearing. The entire tribal population is estimated to be 1 million, while the tribal population in the district where the study was carried out is estimated to be approximately 100,000. The Karimojong occupy a semi-arid region with low, unreliable rainfall, hot temperatures, poor vegetation and a generally harsh environment. They migrate seasonally from place to place in search of water and grass for their cattle.

The Karimojong have historically viewed formal education as being incompatible with their semi-nomadic lifestyle. Since 1997, Uganda has taken important steps to ensure the right of all Ugandan children to education through a free and compulsory universal primary education programme. However, these efforts are in direct opposition to the Karimojong tradition of parents putting their children to work (the girls doing domestic chores and the boys herding cattle) instead of sending them to school.

In addition, education efforts in Karamoja have been impeded by an historical event that took place in the 1930s, during the resistance to colonial authorities. The colonial authorities attempted to forcefully recruit children of a Karimojong clan into the army. There were forceful, and sometimes bloody, attempts to cut off traditional headdresses. There were also attempts to forcefully register their cattle for taxation and vaccination, which the tribal members interpreted as attempts to exterminate their cattle. The tribe noticed that the pen was used by the colonial authorities in all of these activities, so they came to view the pen as an instrument of oppression. So a ceremony was performed, during which a pen was buried and cursed. This symbolised the 'death' of formal education: subsequently, the elders instructed parents never to send children to school as the children would learn to use a pen. It was believed that those few children, whose parents defied this order by sending them to school, would face death in the course of their education, as a result of the ceremonial curse that had been put on the buried pen (Munaabi and Mutabaazi 2006).

It was not until 1995, partly through the efforts of the Norwegian organisation Save the Children, that a lobby group was formed to plead with the elders to 'unearth' or 'resurrect' the pen in order to open the way to education for their children. The elders relented and a 'resurrection' ceremony took place in what was then known as Jie County, now the present Kotido district (Lane, Kisadha, and Napeyok 1995). Following this break-through, there was a mindset change in the historically negative attitudes towards formal education among the Karimojong. So, many children started to go to school.

In the mid-1990s, a non-formal educational programme called Alternative Basic Education for Karamoja (ABEK) was introduced, which was thought to be flexible, relevant and compatible with the Karimojong lifestyle. The ABEK curriculum is based on cattle rearing. The school day

starts very early in the morning before the boys go to herd cattle and the girls start the domestic chores. Learning also takes place in the evening, once the boys have returned the cattle to the kraals and girls have finished their domestic work. (Omagor-Loican et al. 2002, 12)

Despite the symbolic shift of attitudes towards the pen, it is not yet certain that the attitude of the local people towards formal education has been positively transformed. The literacy levels in Karamoja remain the lowest in the country, that is, 12% (UNICEF 2007).

### **Previous studies**

No studies have been found concerning teacher attitudes and willingness towards inclusive education in contexts similar to Karamoja. In particular, there is barely any research concerning stakeholders' attitudes towards education of children with disabilities, in general, in this region, and even less on children with intellectual disabilities.

Nevertheless, studies from other contexts were found of interest for this study.

### ***The importance of teacher attitudes and willingness***

Teachers are role models for fellow teachers and for their pupils. If teachers appear apprehensive and fearful, it is likely that their pupils will follow their lead (Dunn and Fait 1989). Teachers who feel that their pre-service training has not prepared them for inclusive education appear to be pessimistic towards inclusion (Schumm and Vaughn 1995). Teachers have also supported the idea of inclusion, while at the same time expressing a more limited willingness to teach students with disabilities in their classrooms (Scruggs and Mastropieri 1996). The willingness of teachers to teach children with special needs is influenced by the teachers' feelings of social support from others, and by their feelings of being capable to teach children with special needs (Ajzen 2005).

### ***Variation of attitudes and willingness***

Variation in attitudes and willingness towards inclusion of learners with disabilities may be child-related, teacher-related or environment-related, or related to combinations of these factors.

### ***Child-related factors***

In spite of the fact that child-related factors do not make sense when discussing inclusive education, since the philosophy of inclusive education 'does not differentiate by category' (Avramidis and Norwich 2002, 135), the attitudes of teachers have been found to vary according to characteristics of the learners, and according to the amount of instructional adaptations that teachers assume to be required in order to accommodate

such pupils (Avramidis and Kalyva 2007; Avramidis and Norwich 2002). Studies from the 1990s have indicated that acceptance of the placement of children with disabilities in regular classes declined as the severity of cognitive abilities increased (Avramidis and Norwich 2002). According to the views of teachers at 10 selected schools in South Africa, learners with intellectual disabilities 'were considered to be best placed within a special school setting' (Du Toit and Forlin 2009). A study done in Palestine (Opdal, Wormnæs, and Habayeb 2001), a territory with a difficult socio-political situation and limited educational resources, showed that support for inclusion of children with intellectual disabilities was considerably lower than support for inclusion of children with other disabilities.

The stigmatising views of intellectual disability that were found in a cross-cultural study by Scior et al. (2010) were interpreted as reflecting 'cultural values that privilege community and interdependence over individual needs and autonomy', showing the influence that policies and culture have on attitudes.

#### *Teacher-related factors*

Studies from the late 1980s and early 1990s indicate that younger teachers and those with fewer years of experience are more supportive of inclusion. This change may be due to an increased emphasis on inclusive education in teacher training since the 1990s. However, a study from the late 1990s (Avramidis, Bayliss, and Burden 2000) found no such tendency.

Teacher knowledge and skills, as well as prior contact with people with disabilities, have been reported to influence teacher attitudes and successful implementation in support of inclusion (Forlin, Keen, and Barrett 2008; Marchesi 1998; Opdal, Wormnæs, and Habayeb 2001; Sharma et al. 2006; Soodak, Podell, and Lehman 1998). Length of teaching experience has been reported to have had a negative influence on attitudes, while previous experience with inclusive education has had a positive influence on attitudes (de Boer, Pijl, and Minnaert 2011).

Positive contacts and interactions with persons who have a disability have helped to promote teacher support for inclusion, according to a comparative study of more than 3500 regular primary school teachers in 6 nations across continents (Leyser, Kapperman, and Keller 1994). Other more recent studies have confirmed the same tendency (Avramidis and Norwich 2002; Lancaster and Bain 2007; Sharma et al. 2006). However, studies of whether and how this experience of contact with learners with special needs influences teacher attitudes are inconclusive (Avramidis and Norwich 2002).

Lack of professional preparedness and involvement in planning, combined with a feeling that inclusive education was 'an imposition from outside', is suggested as a reason for teachers' less favourable attitudes towards inclusion in a study from Ghana (Agbenyega 2007). Studies have shown inconsistent results concerning the relation between teacher gender and attitudes towards inclusive education (de Boer, Pijl, and Minnaert 2011).

#### *Environment-related factors*

School factors that impinge on attitudes and willingness need to be explored, according to Avramidis and Norwich (2002).

An emphasis on subject matter, which increases with grade level, is generally believed to negatively influence teacher attitudes towards inclusive education (Avramidis and Norwich 2002).



It has been claimed that the existence of special schools and special teachers have impeded or slowed down the implementation of inclusive education (Ravneberg 1999 in Wormnæs 2001). Inclusive education could, thus, be a vehicle for transforming the negative attitudes that exist towards children with disabilities.

However, the term *inclusion* implies the existence of the phenomenon *exclusion*. The use of the term may, thus, unintentionally contribute to the idea that exclusion is an option.

When we identify categories of children, whether we refer to children at risk or children with a disability (...), we not only make difference *visible* but work to maintain power imbalances and structural inequity by reifying *unnamed* attributes that carry social, political and cultural currency. (Graham and Slee 2008, 287)

### The present study

The purpose of this study was to establish teacher attitudes and willingness to include pupils with intellectual disabilities in regular schools in a rural district in Uganda, and how these vary according to characteristics of the teachers, the pupils and school settings.

As described previously, the area of the study is characterised by a scarcity of material resources, a generally low level of literacy, large classes in the schools, few or no external educational support services, and seasonal migration of the population in search for grass and water for their cattle, and a relatively short history of positive attitudes towards formal education. These factors may impact on teachers' attitudes and willingness to support children with disabilities in inclusive school systems.

### Method

A survey of 125 school teachers was undertaken, using an attitude scale and a willingness sub-scale.

### Instrument

The main instrument was the widely used Opinions Relative to Mainstreaming Scale (ORMS), an attitude scale adapted from Larrive and Cook (1979).

The ORMS is a 30-item questionnaire with two sections. Section 1 includes the participant's background information, while Section 2 contains 30 close-ended statements about teacher opinions. In section 2, 12 of the items are negative statements, while 18 are positive statements. Participants indicate their opinions on the statements on a Likert scale including: (1) strongly agree, (2) agree, (3) disagree and (4) strongly disagree.

Examples of statements are: 'The needs of pupils with intellectual disabilities can best be served through special, separate classes'. 'Regular teachers possess a great deal of expertise required to teach pupils with intellectual disabilities'.

The ORMS had previously been used in studies in other countries. A pilot study in a neighbouring district in Karamoja was conducted. Based on these experiences, minor adjustments in the wordings of the original ORMS were made, in order to ensure relevance to the Ugandan context. Some background variables were removed and new ones added. Those added included teacher training level in special needs education,

teaching experience, whether the teacher had any children with intellectual disability in class, and any previous experience in teaching children with intellectual disabilities.

The terms *mainstreaming* and *integration* were replaced with the term *inclusion*. The word *normal* classroom was changed to *regular* classrooms. The word *students* was changed to *pupils* because in Uganda the term students refers to secondary school learners, while the study was conducted in primary schools. The term *developmental* disability was replaced with the term intellectual disabilities. The term *special needs children* was changed to *children with intellectual disabilities*. The five-point Likert scale was reduced to four points, by removing the response category *Undecided*. This reduced the possibility that some teachers might tick *Undecided* without pausing to reflect critically on the statements before answering.

Inspired by the theory of planned behaviour (Fishbein and Ajzen 1975), a willingness scale with 10 items was constructed to measure teachers' willingness trends to include pupils with intellectual disabilities in regular schools. Three factors were assumed to predict teacher willingness:

Self-determination to teach pupils with intellectual disabilities (4 items).  
Concern for support from significant others (3 items).  
The teacher's own perceived ability to teach pupils with intellectual disabilities in ordinary classes (3 items).

The willingness questionnaire comprised a Likert scale that was identical to the one used for the attitude scale. All items in the willingness scale were stated in the positive form, and were arranged such that high scores meant willingness and low scores unwillingness.

Examples of items are: 'I believe that I possess the basic knowledge and skills necessary to teach pupils in regular schools'. 'I am determined to teach in a class of pupils with intellectual disabilities'.

A reliability analysis of the adapted scale showed a Cronbach's  $\alpha$  reliability coefficient of 0.74 for the attitude scale and 0.73 for the willingness scale, which we found to be acceptable. Seven items with weak  $\alpha$  coefficient were removed from the attitude scale and 2 were removed from the willingness scale for the same reason.

### **Participants**

Participants comprised primary school teachers from 12 schools randomly selected from the 32 primary schools in one district in Karamoja in north-eastern Uganda, using the following criteria: Two schools from each of the six sub-counties in the district (one of them from the country side and one from the town). All the 130 primary school teachers in the sampled schools were invited to participate in the study. In total, 125 teachers returned the questionnaire, representing a response rate of 96%. The sample included approximately 30% of all teachers in the district of study.

Table 1 shows information on the demographic characteristics of the participants. Two-thirds of the teachers were males. There were more teachers who taught upper-primary classes (42.4%), fewer who taught middle-primary (34.4%) and fewest who taught lower-primary (20.8%) classes. The class sizes were large. Only one-fifth (19.2%) of the teachers taught classes with more than 100 pupils, 40% taught classes with 50–100 pupils, while 40.8% taught classes with less than 50 pupils. Seventy-six percent of the teachers in the selected district lacked any form of training in



Table 1. Demographic characteristics of the participants.

Background variable	Groups	Frequency <i>n</i> (%)
Gender	Male	84 (67.2)
	Female	37 (29.6)
	Unanswered	4 (3.2)
Class level	Lower-primary (grades 1–2)	26 (20.8)
	Middle-primary (grades 3–4)	43 (34.4)
	Upper-primary (grades 5–7)	53 (42.4)
	Unanswered	3 (2.4)
Class size	0–50	51 (40.8)
	51–100	50 (40.0)
	>100	24 (19.2)
Training level in special needs education	Untrained	95 (76.0)
	Trained (BA, diploma, workshops and seminars)	28 (22.4)
	Unanswered	2 (1.6)
Teaching experience	0–10 years	89 (71.2)
	11–20 years	19 (15.2)
	>21 years	17 (13.6)
Experience with pupils with intellectual disabilities	Yes	57 (45.6)
	No	64 (51.2)
	Unanswered	4 (3.2)
Presence of a pupil with intellectual disability in class	Yes	50 (40.0)
	No	58 (46.4)
	Not sure	16 (12.8)
	Unanswered	1 (0.8)

special education, while 22.4% had some kind of training. Of that 22.4%, there was 1 teacher (0.8%) who had a bachelor's degree in education, 3 teachers (2.4%) had a diploma and the remaining 24 (19.2%) had attended workshops and seminars. A little more than half of the teachers (51.2%) had no experience at all in teaching pupils with intellectual disability, while a little less than half (45.6%) had taught pupils with intellectual disabilities before. At the time of the data collection, 40% of the teachers had one or more children with intellectual disability in their classes. Among these, approximately 23% had one or two, and 10% had as many as three, while nearly 7% had four or more. In the sample, 46.4% of the teachers stated that they did not have any children with intellectual disabilities in their classes at the time of data collection, while 12.8% of the teachers were not sure.

### ***Procedure for data collection***

At each of the schools, the questionnaire was group administered to all the teachers, after having received the necessary permissions and support from the district authorities and government, and according to appointments made with the teachers. Group

administration was preferred because frequent visits to schools would have been very difficult. Roads leading to schools were nearly impassable due to floods resulting from excessive rain. Furthermore, military escorts were necessary due to security risks.

At the beginning of each group session, teachers were informed that their participation was voluntary, and that they had the right to withdraw from the study at any time. They were given letters of informed consent to sign. The questionnaires were collected on the same day after completion.

### Analysis

Data were analysed using the Statistical Package for Social Sciences (SPSS) version 14.0. Some of the items were coded in the reverse order, so that high scores always meant a positive attitude. Both descriptive and inferential statistics were used to investigate the relation between attitudes and willingness and how these might vary according to teacher and school characteristics. Correlational analyses, analysis of variance (ANOVA) and factor analysis were conducted.

## Results

### Teachers' attitudes and willingness

There was a nearly normal distribution of teacher attitudes towards teaching pupils with intellectual disabilities in ordinary classes, with a slight tendency towards more positive than negative ( $M = 2.28$ ,  $SD = 0.32$  on a scale with values, 1, 2, 3 and 4, with 4 being the most positive attitude or willingness). Teacher willingness to teach pupils with intellectual disabilities in regular classes was slightly more positive ( $M = 2.72$ ,  $SD = 0.50$ ). There was a strong positive correlation between attitudes and willingness ( $r = 0.354$ ,  $p = 0.000$ ) (Figures 1 and 2).

### Variation according to gender

Male teachers had slightly more positive attitudes ( $M = 2.29$ ,  $SD = 0.330$ ) than their female counterparts ( $M = 2.23$ ,  $SD = 0.310$ ), but the difference was not

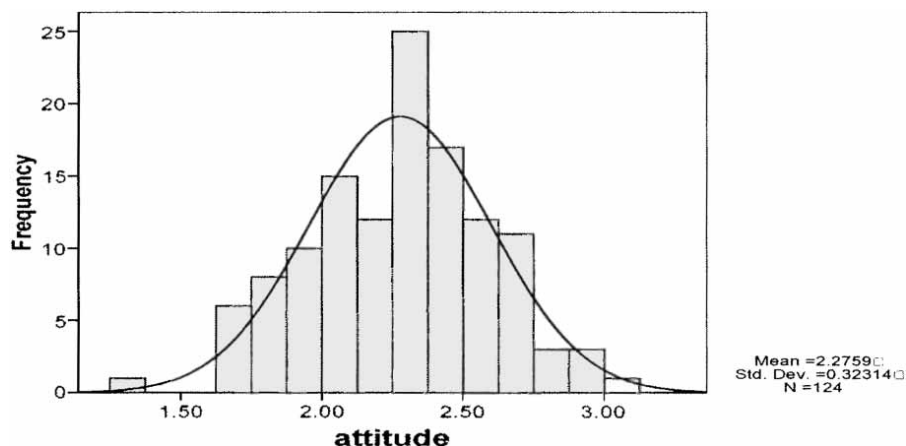


Figure 1. Primary teachers' attitudes to include pupils with intellectual disabilities in ordinary schools.

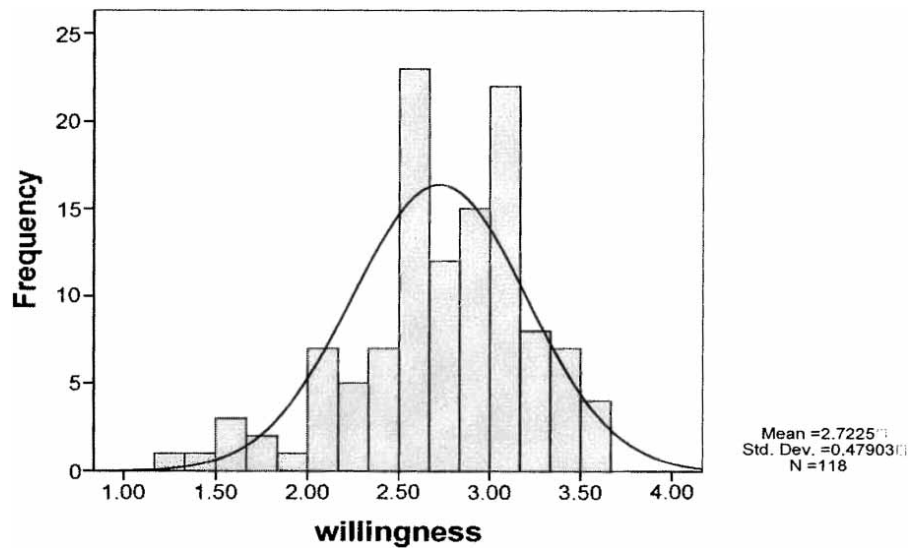


Figure 2. Primary teachers' willingness to teach pupils with intellectual disabilities in ordinary schools.

Table 2. Teacher attitudes and willingness in relation to gender.

Item	Gender	<i>n</i> (%)	Mean	SD	<i>T</i>	df	<i>p</i>
Attitude	Male	84 (69.4)	2.29	0.330	0.967	(118)	0.335
	Female	36 (30.6)	2.23	0.309			
Willingness	Male	81 (71.1)	2.72	0.465	-0.35	(53, 844)	0.972
	Female	33 (28.9)	2.72	0.521			

Table 3. Correlation between attitudes and willingness for males and females.

Gender	Item	<i>n</i> (%)	<i>R</i>	<i>p</i>
Males	Attitude and willingness	84 (71.8)	0.482	0.000
Females	Attitude and willingness	33 (28.2)	0.174	0.333

significant ( $p = 0.335$ ) (Table 2). There was no gender difference concerning willingness to include pupils with intellectual disabilities.

A Pearson's correlation analysis showed a strong positive correlation between attitudes and willingness for males ( $p = 0.000$ ), but there was no such tendency for the females (Table 3).

#### *Variation according to class level*

The one-way ANOVA was used to investigate variation in teacher attitudes according to the class levels in which they taught (Table 4).

Upper-primary teachers had slightly more positive attitudes ( $M = 2.32$ ) than lower-primary ( $M = 2.27$ ) and middle-primary teachers ( $M = 2.22$ ). Middle-primary teachers were slightly more willing ( $M = 2.77$ ) than upper- ( $M = 2.73$ ) and lower-

Table 4. Teacher attitudes and willingness in relation to class level taught.

Item	Class level	<i>n</i> (%)	Mean	SD	<i>F</i>	df	<i>p</i>
Attitude	Lower	26 (21.5)	2.27	0.306	0.317	(22, 118)	0.317
	Middle	42 (34.7)	2.22	0.323			
	Upper	53 (43.8)	2.32	0.334			
	Total	121	2.27	0.325			
Willingness	Lower	35 (28.0)	2.66	0.525	0.361	(2, 112)	0.698
	Middle	39 (31.2)	2.77	0.537			
	Upper	51 (40.8)	2.73	0.424			
	Total	125	2.73	0.484			

primary teachers ( $M = 2.66$ ). The differences were, however, not significant (for attitudes  $p = 0.317$  and for willingness  $p = 0.698$ ).

#### *Variation according to class size*

The one-way ANOVA showed that teachers of larger classes expressed slightly more negative attitudes towards teaching pupils with intellectual disabilities in ordinary classes, and were less willing, compared with those who taught in relatively smaller classes. The differences were, however, not statistically significant ( $p = 0.356$  for attitudes and 0.75 for willingness) (Table 5).

#### *Variation according to teacher training level in special needs education*

Teachers who had attended workshops or seminars, or who had attained formal qualification in areas related to special needs education were in this study regarded as trained teachers.

The independent samples *t*-test showed that trained teachers had slightly more positive attitudes ( $M = 2.35$ ) than untrained teachers ( $M = 2.26$ ), but the difference was not significant ( $p = 0.227$ ). The trained teachers were also more willing to teach learners with intellectual disabilities ( $M = 2.96$ ) than untrained teachers ( $M = 2.66$ ), and this difference was significant ( $p = 0.004$ ) (Table 6).

Table 5. Teacher attitudes and willingness in relation to class size.

Item	Class size	<i>n</i> (%)	Mean	SD	<i>F</i>	df	<i>p</i>
Attitude	0–50	51 (41.1)	2.31	0.337	1.042	(2, 121)	0.356
	51–100	49 (39.5)	2.28	0.343			
	>100	24 (19.4)	2.20	0.237			
	Total	124	2.28	0.323			
Willingness	0–50	48 (40.7)	2.83	0.443	2.656	(2, 115)	0.075
	51–100	46 (39.0)	2.70	0.474			
	>100	24 (20.3)	2.56	0.525			
	Total	118	2.72	0.479			

Table 6. Teacher attitudes and willingness in relation to training level.

Item	Training level	<i>n</i> (%)	Mean	SD	<i>T</i>	df	<i>p</i>
Attitude	Untrained	95 (77.9)	2.26	0.317	-1.215	(120)	0.227
	Trained	27 (22.1)	2.35	0.347			
	Total	122					
Willingness	Untrained	90 (77.6)	2.66	0.499	-2.926	(114)	0.004
	Trained	26 (22.4)	2.96	0.333			
	Total	116					

### *Variation according to teaching experience*

There was no significant relation between the length of teaching and attitudes or willingness towards inclusion of learners with intellectual disabilities.

The independent samples *t*-test showed that teachers who had experience in teaching pupils with intellectual disabilities had more positive attitudes ( $M = 2.34$ ) than those who had never taught pupils with intellectual disabilities ( $M = 2.21$ ) and the difference was significant ( $p = 0.25$ ). Teachers who had experience in teaching pupils with intellectual disabilities also showed more willingness ( $M = 2.82$ ) than those with no such experience ( $M = 2.64$ ), and this difference was slightly significant ( $p = 0.052$ ) (Table 7).

### *Variation according to presence of pupil(s) with intellectual disability in class*

The one-way analysis of variance was conducted to see whether the presence of pupils with intellectual disabilities in the teacher's class at the time of data collection contributed to the variation of teacher attitudes and willingness to include these pupils in regular classes. The teachers who had at least one pupil with an intellectual disability in class tended to have a more positive attitude, but not significantly so ( $p = 0.150$ ). However, they were significantly more willing ( $p = 0.019$ ) than those who did not have any pupils with intellectual disabilities in their classes (Table 8).

### *Attitudes in relation to pupils' degree of intellectual disability*

A Spearman's rho correlations test showed no significant correlation between mild intellectual disability and the attitudes of teachers ( $r = 0.057$ ,  $p = 0.537$ ). There was

Table 7. Teacher attitudes and willingness in relation to experience in teaching pupils with intellectual disabilities.

Item	Experience	<i>n</i> (%)	Mean	SD	<i>T</i>	df	<i>p</i>
Attitude	Yes	57 (47.1)	2.34	0.316	-2.271	(119)	0.025
	No	64 (52.9)	2.21	0.317			
	Total	121					
Willingness	Yes	53 (46.1)	2.82	0.411	-1.967	(113)	0.052
	No	62 (53.9)	2.64	0.526			
	Total	115					

Table 8. Teacher attitudes and willingness in relation to the presence of pupil(s) with intellectual disability in class.

Item	Presence	<i>n</i> (%)	Mean	SD	<i>F</i>	df	<i>p</i>
Attitude	Yes	50 (40.7)	2.33	0.325	1.894	(2, 120)	0.150
	No	57 (46.3)	2.26	0.318			
	Not sure	16 (13.0)	2.16	0.326			
	Total	123	2.28	0.324			
Willingness	Yes	47 (40.1)	2.82	0.451	4.082	(2, 114)	0.019
	No	54 (46.2)	2.73	0.469			
	Not sure	16 (13.7)	2.43	0.518			
	Total	117	2.72	0.481			

Table 9. Degree of intellectual disability.

Item	Degree of Intellectual disability	Spearman's rho	<i>p</i>
Attitude	Mild intellectual disability	0.057	0.537
	Severe intellectual disability	-0.001	0.989

an insignificant, negative correlation between severe intellectual disability and the attitudes of teachers ( $r = -0.001$ ,  $p = 0.989$ ) (Table 9).

### *Clusters of attitude variables*

The 23 Attitude Scale items that had good reliability coefficients were used for factor analysis. First, the factors with eigen values greater than 1 were retained. Out of those, the variables with communality figures lower than 0.6 were removed. A factor analysis, using a Varimax rotation procedure, resulted in four factors that accounted for 35% of the total variance. The factors are as follows:

- Factor 1: Behaviour-related challenges.
- Factor 2: Placement for pupils with intellectual disabilities.
- Factor 3: Assumed benefits to the ordinary children.
- Factor 4: Concerns about classroom management.

Factor 1 accounted for 14.62% of the variance. Factor 2 accounted for 9.32%. Factor 3 accounted for 9.11% of the variance. Factor 4 accounted for 7.93% of the variance.

A Pearson's correlation showed a strong correlation between factor 3 and willingness ( $p = 0.000$ ), and a significant correlation between factor 1 and willingness ( $p = 0.015$ ). There were weak correlations between factor 2 and willingness ( $p = 0.087$ ) and factor 4 and willingness ( $p = 0.061$ ).

### **Discussion**

A quantitative approach was applied to investigate the attitudes and willingness of teachers towards the inclusion of learners with intellectual disabilities in primary schools



in a rural area in Uganda. Uganda has taken legal and practical steps in its attempt to promote and implement the right to education for all Ugandan children, and it has adopted the policy of inclusive education. However, according to the statistics of the last national census of 2002, 42.7% of persons with intellectual disabilities did not attend any educational institution (UBOS 2006). The attitudes of the people involved in the implementation of a programme are considered important for its effectiveness (Avramidis and Kalyva 2007; Forlin, Douglas, and Hattie 1996; Forlin et al. 2009). Teachers with positive attitudes are likely to demonstrate interest in acquiring new knowledge and skills that will help them to reduce instructional challenges (Stančić, Kiš-Glavaš, and Igrić 2000).

The response rate in the study was high (96%). The sample comprised 125 randomly selected teachers from one district in the Karamoja region, which had approximately 400 primary school teachers at the time of study. It is assumed that the results reflect the attitudes and willingness of teachers in the district. The area of the study has a semi-nomadic population with a relatively short history, that is, since 1995, of a general public acceptance of sending children to formal education. Although the findings cannot be generalised to other populations, the context and the data collection process have been described and discussed with the intention to facilitate reader generalisability (Merriam 1995) or future generalisability (Misco 2007).

The results indicate that teachers in the Karamoja district were slightly more likely to support than to oppose the inclusion of pupils with intellectual disabilities in regular schools, and that teachers were significantly more willing than unwilling to teach learners with intellectual disabilities in a class with non-disabled pupils. There were few teachers who expressed very negative or very positive attitudes or willingness. An increase in positive attitudes in teachers corresponded with an increase in their willingness, indicating a likelihood that the majority of teachers in the district are ready to get involved in the practical implementation of inclusive education in their schools.

The Karimojong do not have a history of special schools for children with disabilities (except for one unit for the blind), as opposed to, for example, the situation in Ghana (Gyimah, Sugden, and Pearson 2009). It is tempting to assume that the absence of segregated placement options may have been conducive to teacher acceptance of inclusive schools. Thus, the alternative to inclusive education for the great majority of children with disabilities in the region would be no education at all. In addition, there are no segregated living arrangements for people with disabilities in the region. Regular contact with persons with disabilities in everyday life may have promoted positive attitudes (Sharma, Moore, and Sonawane 2009; Subban and Sharma 2005).

The 'normative assumptions that shape and drive policy' (Graham and Slee 2008, 278) may differ across time and culture. The values attributed to culturally specific performances in Karamoja may not be linked primarily to intellectual functions, as was the case in a study in a district in Northern Pakistan (Wormnæs and Olsen 2009). Practical skills and physical prowess may be more highly valued, and as such, may, therefore, be more important informal criteria for inclusion and exclusion in society. Teachers in Karamoja may not have become used to thinking in terms of normalcy and categories of disabilities relating to notions of intelligence. In addition, the level of academic competitiveness is likely to be low.

In a cross-country study, Sharma et al. (2006) discuss the possibility that previous contact with persons with disabilities 'tend[s] to reduce discomfort level' among individuals when interacting with people with disabilities. This tendency in the view of

teachers concerning Down syndrome was also found in the Gilmore, Campbell, and Cuskelly study (2003). Because there was no special school, children with intellectual disabilities in Karamoja could only go to mainstream schools. This may have facilitated receptive teachers' attitudes and increased their willingness towards learners with disability.

In this study, there was found to be no existing relation between the degree of intellectual disability and attitudes or willingness. Other studies have found that teacher attitudes varied according to the degree and type of disability (Forlin, Douglas, and Hattie 1996), with teachers being less positive towards the inclusion of children with intellectual disability than towards the inclusion of children with other disabilities. Their willingness to include pupils with disabilities is affected by the degree of disability, as well as by the level of implicit obligations on the part of the teacher (Scruggs and Mastropieri (1996). Soodak, Podell, and Lehman (1998) explained unreceptive responses by teachers to inclusion of students with intellectual disabilities to anxiety. These pupils 'represent a threat to qualities that are highly valued' in some societies, and the anxiety may 'reflect a general fear of the unknown' (492). With reference to the explanations of Soodak and others concerning positive attitudes and willingness, it is tempting to suggest that the historically traditional lower emphasis on literacy and other academic skills in the Karimojong society may be conducive to the inclusion of learners with intellectual disabilities. This may also explain why no significant relation was found to exist between the degree of intellectual disability and teacher attitudes or willingness in this study.

This study also investigated variation in teacher attitudes in relation to several teacher characteristics. It was found that male teachers had slightly, but insignificantly, more positive attitudes than female teachers. Previous evidence with regard to gender appears inconsistent, according to Norwich (2002). However, Batsiou et al. (2008) found that Greek and Cypriot male teachers were more positive towards inclusion than their female counterparts. It has been suggested that teaching inclusive classes is a laborious task, requiring more effort and time, and that probably male teachers are more willing to undertake difficult tasks because they have greater confidence in themselves than female teachers have (Jobe, Rust, and Brissie 1996; Villa, Thousand, and Nevin 1996). However, the present study has uncovered no data that can contribute to an understanding of reasons for gender variation.

The one-way ANOVA was used to test for variation in teacher attitudes according to the grade levels the teachers taught. Teachers of lower grade levels were insignificantly less positive and willing. Studies from other countries have found different results. Lower-primary classes in this region are often overcrowded and teachers tend to teach most if not all the ten subjects in such classes. Thus, the magnitude of work expected of a lower-primary class teacher and the size of their classes might have accounted for their less positive attitude and willingness.

Teacher training background was found to be an important factor in shaping the attitudes as well as the willingness of teachers, even when the training consisted solely of workshops and seminars. A large majority of the teachers (77.2%) in the district were untrained in special education. Those teachers who had some form of training in inclusive education (22.7%) had more positive attitudes and were more willing than teachers who had no training at all. For 19.5% of the participants, the training had consisted solely of seminars and short courses. This finding can, therefore, be regarded as a strong support for organising in-service and school-level training since few teachers in this area have had the opportunity to attend full-time formal training in inclusive education.

Academic preparation and more knowledge plays a role in shaping teacher attitudes and willingness towards teaching pupils with special educational needs (Buell et al. 1999; Martinez 2003; Urquhart 1999), due to the teachers' greater confidence in themselves, and greater beliefs that they could manage students during inclusion. In this study, it is likely that some of the teachers who possessed a more negative attitude towards teaching children with intellectual disabilities, did so simply because they did not know how to teach them.

Teachers with some experience in teaching children with special needs in ordinary schools had significantly more positive attitudes and were significantly more willing to teach these children. Other studies have also indicated that direct experience with special needs children in class shape teacher attitudes positively (Batsiou et al. 2008; Sharma, Ee, and Desai 2003; Sharma, Moore, and Sonawane 2009; Vianello and Moalli in Zambelli and Bonni 2004), and contribute to teachers exhibiting greater satisfaction and understanding of their roles (Ivey and Reinke 2002). This tendency has been interpreted as 'confidence' in teaching children with disability (Avramidis, Bayliss, and Burden 2000).

However, in general, length of service among the teachers in this study had no significant relation with their attitudes. Batsiou et al. (2008) also found no relation between the teachers' length of teaching experience and their attitudes towards teaching children with disabilities in regular schools. More experienced teachers have in some studies been found to express more negative attitudes towards inclusion (Center and Ward 1987), while younger teachers (Heflin and Bullock 1999) and teachers with prior acquaintance with a person with a disability (Parasuram 2006) have been found to be more positive towards inclusion and more willing to accept learners with disabilities in their classes. It was suggested by Gilmore, Campbell, and Cuskelly (2003) that such tendencies may reflect age rather than length of experience. Other studies have found no such relation, according to Avramidis and Norwich (2002).

Other aspects investigated were related to how attitudes and willingness varied according to characteristics of the classrooms. Most of the teachers taught in large to very large classes. The larger the class, the less likely the teachers were to be supportive towards inclusion of pupils with intellectual impairments. Studies by Villa, Thousand, and Nevin (1996) also found that teachers of smaller classes (15–20) were more positive to including children with special needs than teachers of larger classes (21–30 or more), while Larrive and Cook (1979) and Cornoldi et al. (1998) found no significant variation in teacher attitudes in relation to class size. However, the differences in class sizes in this study and in the referenced studies may make the comparison of findings irrelevant. For example, Larrive and Cook (1979) reported that the average class size in their study was 26.5–28.5, while Cornoldi et al. (1998) reported the average class size to be 22–30. In this study, 40% of the teachers taught classes with 50–100 pupils, and 19% taught classes of more than 100 pupils. No studies have been found that reported class sizes as large as in this study.

Factor analysis indicated that teacher concern about the behaviour of pupils with intellectual impairments in the regular classes affected both teacher attitudes and willingness. Teacher agreement or disagreement with the inclusion of pupils with intellectual disabilities also corresponded to teacher attitude, although to a lesser degree, but it did not correspond to willingness. Teacher assumptions concerning benefits of inclusion to ordinary children also affected teacher attitudes as well as willingness. Teacher attitudes were slightly influenced by concerns about classroom management,

such as time, extra attention and the need for changes in the curriculum, but these concerns were not correlated with teacher willingness.

There are several limitations to the study. As mentioned previously, there is an inherent dissonance between the basic idea underlying inclusive education and the focus on children with intellectual disabilities in the questionnaire to the teachers. Secondly, since over 70% of the teachers lacked formal training in special needs education, they may have responded to questions on inclusive education without necessarily understanding what inclusion is or what their exact roles are in the implementation of the same. Their understanding of the term intellectual disability might also have varied from one person to another. The use of multiple sources of information, including the respondents' elaboration on their various perspectives, could have added breadth and richness to the results. A note of concern is also that the data for this study were collected from a random sample of 12 schools in 1 of the 5 districts in the region. It is possible that a different sample drawn from additional districts would have broadened our understanding of teacher attitudes and willingness towards inclusive education in the region, and of factors that influence teachers' attitudes and willingness.

The first author who collected the data is a Ugandan citizen and a teacher from the area. This fact is assumed to have contributed to trust and facilitated communication during data collection, analysis, and thus to the validity of the findings.

### Notes on contributors

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