Whole Schooling Consortium

International Journal of Whole Schooling

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(3) providing authentic, multi-level instruction;

(4) building community;

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The journal seeks to discuss issues relevant to Whole Schooling, with contributions from a variety of stakeholders including students, parents, academics, educators, and administrators.

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Attitude of students towards peers with disabilities: Relocating students from an Education Support Centre to an inclusive middle school setting

Steven J.R. McGregor and Chris Forlin

Abstract

When establishing inclusive or whole schooling practices, the attitudes of students towards their peers with differing abilities to themselves is potentially a critical determinant in the success of schools to manage diverse student populations. This research investigates any potential changes in peer attitudes following the inclusion of previously segregated students into a regular school setting. The target group for this study is all Year 8 (N=199) students at a middle school in regional Western Australia. The attitude of the Year 8 students towards students with disabilities is measured using the *Peer Attitudes Toward the Handicapped Scale (PATHS)*. The PATHS questionnaire was administered at the beginning and end of Semester 1 in 2003. Teacher perspectives of student attitude are also assessed via a focus group discussion after the second PATHS administration. Analysis of variance of the pre-test data shows the frequency of participant's prior classroom contact with students with a disability to have a significant impact on acceptance. Gender differences at the pre-test stage also prove to be significantly different in several measures. After six months of the inclusion program, data trends and the focus group discussion indicate an increased acceptance of students with disabilities by their mainstream peers. The implications of these results and recommendations for future research are discussed.

"This research aims to assess the impact on student attitudes resulting from the bringing together of students, who in a non-whole school or non-inclusive environment would normally spend very little time together."

Introduction

The objective of whole schooling is to provide a school community that includes and involves all students in every aspect of school life. It also seeks to empower students, their families and educators within and beyond an education system that does not segregate or discriminate against students of differing ability, ethnicity, gender or socio-economic status (Whole School Consortium, 2004). The international move toward whole schooling is underpinned by the determination, enthusiasm and the positive attitude of all stakeholders involved (Peterson, 2004). Arguably, the key stakeholders in such a move are the students themselves. Without a positive student attitude many initiatives and objectives of whole schooling may be difficult to implement.

This research aims to assess the impact on student attitudes resulting from the bringing together of students, who in a non-whole school or non-inclusive environment would normally spend very little time together. Only by assessing the impact of additional contact that inclusive and whole schooling practices will bring can it be hoped to gauge the effects on student attitude. Any improvement in student attitude towards their peers can only benefit and support the argument for inclusive and whole schooling whilst any negative change in attitude can be highlighted and appropriate intervention strategies for improvement adopted. This paper focuses on the attitudes of students towards peers with disabilities in a trial inclusion program implemented in regional Western Australia (WA).

Families of children with an intellectual disability in WA are increasingly being given opportunities to see their son or daughter placed in a regular classroom setting (Forlin, 2001), although in 2004 such opportunities are still not available to *all* children with an intellectual disability. Of further significance in an Australian context is the transition from the primary school system to a middle school or high school setting where the inclusivity or wholeness of a supported education program becomes a harder proposition to maintain. Research has shown that families of children with disabilities have numerous concerns about the inclusiveness of high schools and the school's ability to cater for the specific needs of students with disabilities (Thomas & Graham, 2002). Indeed, most of the supported education program options within WA are located in the primary school system. The need to expand the inclusive options for students with an intellectual disability has been strongly expressed by WA families and advocates of students with an intellectual disability (Review of Educational Services for Students with Disabilities in Government Schools, Discussion Paper 2001). This explicit need has been recognised and acknowledged by the WA Department of Education and Training (DET) (Review of Educational Services for Students with Disabilities in Government Schools: Consultation Paper, 2002).

Previous research examining the impact of including children with disabilities in mainstream education on the attitudes of students towards their peers with disabilities is quite substantial although results vary. Some studies conclude that inclusive education has had a positive impact on the attitudes of students towards their peers with disabilities (Chadbourne,1997; Clunies-Ross & O'Meara, 1989; Roberts & Lindsell, 1997) whilst others have shown that it may have a negative impact. Others still, have found that participating in inclusive education has had no significant impact on student attitudes towards peers with disabilities (Hasting & Graham 1995; Howell, 1996). Where the inclusive education setting, nevertheless, includes systematic intervention strategies aimed at raising awareness, dispelling myths and facilitating social interaction between students with and without disabilities, the acceptance of students with disabilities and the enhancement of positive attitudes towards them are found to be more likely (Clunies-Ross & O'Meara, 1989).

The aim of this study is two fold. Firstly, the existing attitudes of students at the start of semester are reviewed to determine any differences in gender attitude and also the impact of prior contact in the classroom with students with a disability. Secondly and primarily, it is intended to determine the impact of a fully inclusive setting on the attitudes of students in a middle school in WA towards peers with disabilities. Student attitudes are examined prior to and following participation in a trial full inclusion program. By comparing the pre-test and post-test results following participation in an inclusive setting, an assessment of inclusion as an agent for changing attitudes is made.

Although results of previous research vary, the majority of the literature reviewed indicates a positive attitude change after student experiences of inclusive education. On the basis of positive attitude change it is hypothesised Year 8 adolescents will have a more positive attitude toward peers with a disability after their experiences in an inclusive middle school setting.

Methodology

Setting

The research was undertaken in a middle school setting (Years 8 – 10) in regional WA. The middle school, in conjunction with the on campus Education Support Centre (ESC) catering to students requiring mild to moderate support, established a trial full inclusion program to support six Year 8 students with intellectual disabilities to attend all regular school classes. Sufficient resources were allocated to this program to support all stakeholders involved. This included the redeployment of a full-time teacher and a 0.5 education assistant from the ESC.

Participants

The target population for this study was all Year 8 students attending the middle school in 2003 (N=199). Of the students with intellectual disabilities participating in the program five were female and one was male. This population was split into two samples. The first sample consisted of Year 8 students who had a student with a disability attend their class as part of the inclusion program (Two classes, n=51) and the second sample consisted of those Year 8 students who did not have a student with an intellectual disability attend their class (Six classes, n=148).

Instrument and Materials

The primary method of assessment was a quantitative approach using a pre-designed attitude measurement scale, namely the *Peer Attitude Toward the Handicapped Scale (PATHS)* constructed by Bagley and Greene (1981). PATHS is designed to gauge the attitude of respondents towards students with disabilities. The closer the respondent wanted to work with a student with a disability the more positive their attitude is deemed to be. The measurement tool employs descriptions of fictional students with physical, intellectual and behavioural disabilities to facilitate assessment of attitudes toward each disability and combines responses to assess attitude toward disability in general.

The PATHS booklet contains a manual to convert the total mean raw scores and subscale raw scores to a Normal Curve Equivalent (NCE). The NCE equivalents are used by PATHS to determine the level of attitude (i.e. positive or negative) and to compare attitude levels across three subscales. It should be noted that while it is possible to compare mean responses within the Physical, Learning and Behavioural subscales, cross comparison between subscales using the mean response is not valid due to the different number of items in each scale. After conversion to an NCE, however, the subscales are comparable. The NCE scores are deviation standard scores from the cumulative frequency distribution of raw scores and provide a frame of reference or 'benchmark' based upon the standardisation sample provided by Bagley and Greene (1981).

The NCEs are used to determine if an attitude is very positive, above average, average, below average or very negative. The raw scores and the equivalent percentile and NCE ranges adopted by PATHS to classify attitudes and validated for the Australian context, are detailed in Table 1. The PATHS adopted a five-point Likert-Scale requiring participants to indicate their proposed placement for a hypothetical student with a disability. Responses varied from proposed placement *In My Group* (5), *In Another Group* (4), *In No Group* (3), *Outside of Class* (2), to *At Home* (1). Of the 30 statements requiring a response, 12 related to a student with a physical disability, 10 to a student with an intellectual disability and eight to a student with a behavioural disability.

Table 1
PATHS Classification of Attitude Scores

Total raw score	Physical subscale raw score	Intellectual subscale raw score	Behavioural subscale raw score	Percentile rank	NCE range	Attitude measure
122 - 150	56.5 - 60	43 - 50	30.5 - 40	93-99	81-99	Very positive
109 - <122	50.3 - <56.5	38..3 - <43	24.6 - <30.5	76-92	65-80	Above average
84 - <109	35.3 - <50.5	35.7 - <38.3	17 - <24.6	26-75	36-64	Average
70 - <84	27.5 - <35.3	27.5 - <35.7	13.5 - <17	8-24	20-35	Below average
30 - <70	12 - <27.5	10 - <27.5	8 - <13.5	1-7	1-19	Very negative

Procedure

The PATHS was administered by the regular Year 8 teachers to students in the mainstream classroom setting. Pre-tests were completed during the first week of Term 1. After an oral introduction by the administrator the majority of students read and completed each of the 30 items by themselves. The teachers of the two classes that had the students who were included chose to read the PATHS questions aloud to the whole class to avoid drawing attention to the students who were included who may have had difficulty in reading the questions. Post-tests were completed in a similar manner during the last week of Term 2, 21 weeks later.

Focus Group

In order to substantiate and supplement the results of the attitude questionnaire a focus group session was held at the school after the final administration of PATHS. Participants were the researcher, four mainstream Learning Team 1 teachers, the inclusion coordinator and the Year 8 Co-ordinator. The Focus Group was completed in one half hour session during which time four open ended questions relating to the level of acceptance of the students who were included were discussed. The session was tape recorded with the researcher extrapolating the conversations retrospectively so that comments made by the participants could be transcribed accurately.

Data Analysis

Independent Variables

Although the main focus of the study was to assess attitudes at the beginning and end of semester, a one-way ANOVA was also employed to assess the impact of six independent variables on the sample population at the first administration. This facilitated: a comparison of attitudes between the two inclusion classes and the six non-inclusion classes to check that there were no significant differences; the identification of gender attitudes; and the impact of prior contact with students with disabilities in the classroom. Consequently the following independent variables for the whole Year 8 cohort (*N*=199) were considered: *Class* (*classes with students who were included* or *classes with no included students*) *Gender* (*male* or *female*); Contact: Inside of School – *Previous Contact* (*yes* or *no*); *Duration of Contact* (*A lot* (1), *Some* (2), *Very Little* (3), *None at All* (4)); *Type of Disability* (*Physical* or *Learning*).

Pre-Test vs Post Test

A total scale score (*N*=30 items) was calculated at both the pre and post administrations of the PATHS to obtain an overall measure of student attitude towards peers with disabilities. Similarly, total subscale scores were determined to identify any differences in attitude towards a student with physical (*n*=12 Items), intellectual (*n*=10 Items) or behavioural (*n*=8 Items) disabilities. A repeated measures ANOVA (2 (Pre & Post) x 2 (Inclusion & Non-Inclusion) was subsequently used to compare the attitudes of the sample population (i.e. Year 8 students) before and at the end of two terms of involvement in the trial inclusion program. In addition, a multivariate analyses of variance MANOVA (2 (Pre & Post) x 2 (Inclusion & Non Inclusion) x 2 (Male & Female) was employed to look at gender differences, pre and post test, between the groups of classes with and without students who were included. Student attitude was the dependent variable for the survey.

Results

The pre-test results were examined to identify the attitudes of the Year 8 Cohort at the start of Term 1. This additionally facilitated comparison with previous surveys to establish validity of the scale and subscales (See Table 2). The pre-test data are presented as an NCE for each independent variable for the total score and each of the three subscales (See Table 3). Examination of the post-test results consisted of a repeated measures analysis of variance between the inclusion and non-inclusion classes and a multivariate analysis of variance to compare gender attitude between the groups at the beginning and end of the two terms. Mean scores, within subscales, which were statistically significant, are discussed.

"Although the main focus of the study was to assess attitudes at the beginning and end of semester, a one-way ANOVA was also employed to assess the impact of six independent variables on the sample population at the first administration."

Table 2

PATHS Subscale and Total Scale Means and SDs Compared with Previous Studies that used PATHS as the Instrument for Measuring Attitudes

Subscale	Trial Full Inclusion Program			Clunies-Ross and Thomas (1986)			Bagley and Greene (1981)		
	Mean	SD	NCE	Mean	SD	NCE	Mean	SD	NCE
Physical	41.5	10.8	48	42.2	10.2	49	42.0	10.0	49
Intellectual	31.5	8.3	44	34.5	6.7	54	33.0	7.0	48
Behavioural	18.8	5.3	44	20.0	5.5	48	20.0	6.0	48
Total	90.5	20.5	44	96.7	18.7	52	95.0	18.0	50

Note. Higher NCE = more positive attitude.

Analyses of Pre-Test Results

The pre-test results showed no significant difference in student attitudes toward peers with a disability between all eight Year 8 classes. This enabled all classes to be combined to form one data set for pre-test analysis. In addition, there was no statistically significant difference in attitudes between the two classes with students who were included with intellectual disabilities and the six mainstream classes with no students who were included. At the start of Term 1 the Year 8 students were assessed by the PATHS as having an 'average attitude' toward students with a disability, in other words neither negative or positive (NCE=44).

Total score and subscale analysis

The means and standard deviations of the PATHS subscale and total scores for the Year 8 cohort (*N*=199) are shown in Table 2. Also shown, for comparison, are the scores from the Year 6 Cohort (*N*=138) in Clunies-Ross and Thomas (1986) and the Year 4-8 Cohort (*N*=756) in Bagley and Greene (1981).

Comparisons with previous studies showed a close match in mean scores that ranged from 41.5 to 42.2 (Physical Subscale), 31.5 to 34.5 (Intellectual Subscale) and 18.8 to 20.0 (Behavioural Subscale). In the trial inclusion program presented in this research and in research reported by Bagley and Greene (1981), students had a slightly more positive attitude towards peers with a physical disability than they did towards students with intellectual or behavioural disabilities. The Clunies Ross and Thomas (1986) survey, was the only one of the three to find that students had the most positive attitude towards peers with an intellectual disability.

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Consideration of independent variables

The NCEs for all independent variables were calculated and are detailed in Table 3.

Table 3
Independent Variables Pre-test Results Reported as Normal Curve Equivalents

Independent variable	n	Normal Curve Equivalent (NCE)			
		Total score	Physical subscale	Intellectual subscale	Behavioural subscale
Year 8 Classes					
Classes with included students	51	41	44	38	39
Classes without included students	148	46	47	44	45
Gender					
Male	98	42	43*	39*	47*
Female	98	45	50*	47*	40*
Within school contact with people with disabilities Previous contact					
Yes	71	46	48	44	45
No	125	43	45	44	42
Time spent with person:					
A Lot	13	40	42	29*	49
Some	23	54	54	53*	45
Very Little	18	48	50	49*	38
None at All	16	40	41	32*	49
Type of Disability:					
Physical	23	41	44	38	45
Learning	20	40	44	38	40

*
Significant Difference $p < 0.05$

Classes

No significant differences were found between the total score for the two classes with the students who were included and the six classes with no students included (F=1.999, p=0.159). There was also no statistically significant difference between the two groups of classes across the physical, intellectual and behavioural subscales.

Gender

Female students were found to have a significantly more positive attitude than male students towards peers with physical (F=6.055, p=0.015) and intellectual (F=6.148, p=0.014) disabilities (See Table 3). When considering behavioural disabilities the male students were found to have significantly more positive attitudes than female students (F=5.748, p=0.017).

Previous contact within school

There was no significant difference in attitude between students who had a classmate with a disability in primary school and those who did not (F=0.542, p=0.462). When considering only students who had a previous classmate with a disability there was a significantly more positive attitude (F=5.255, p=0.03) towards students with an intellectual disability by students who reported *Some (*n=23*) or Very Little (*n*=18) previous contact in a classroom environment than those who had reported *A Lot* of contact (n=13) or *None at All (*n=16*).*

Comparison of pre-test and post test results

A repeated measure ANOVA (2 (pre and post test) x 2 (inclusion and non-inclusion) was carried out to determine the impact of the trial full inclusion program on the attitudes of students in the inclusion classes in comparison with the attitudes of students in the non-inclusion classes. When considered as NCEs results show the two inclusion classes, after participation in the trial inclusion program, to have the most positive attitude toward students with behavioural disabilities (Behavioural NCE=46, Physical NCE=41, Intellectual NCE=40). This contrasted with pre-test NCEs where the two inclusion classes showed the most positive attitude toward students with a physical disability (Physical NCE=44, Behavioural NCE=40, Intellectual NCE=39). The NCEs for the six non-inclusion classes changed little between pre test (Physical NCE=46, Intellectual NCE=44, Behavioural NCE=44) and post test (Physical NCE=46, Intellectual NCE=45 Behavioural NCE=45), with attitudes toward students with physical disabilities slightly more positive at both the start and end of the two terms

Inclusion vs Non-Inclusion Classes by Gender

Similarly, a multivariate analysis of variance (MANOVA (2 (pre and post test) x 2 (inclusion and non-inclusion) x 2 (male and female) was undertaken to determine gender differences between the inclusion and non-inclusion classes. Although no differences in attitude were of statistical significance some trends did emerge. When considering NCEs for the two inclusion classes, male students, at the start of Term 1, held the most positive attitude toward students with behavioural disabilities (Behavioural NCE=45, Physical NCE=42, Intellectual NCE=36). This was maintained after their experiences of inclusion, with attitude toward behavioural disabilities still more positive than toward those with physical and intellectual disability at the end of the Term 2 (Behavioural NCE=48, Physical NCE=44, Intellectual NCE=44). Female students though initially had the most positive attitude towards students with physical disabilities (Physical NCE=45, Behavioural NCE=39, Intellectual NCE=38) but this was not maintained post-test with their most positive attitude then shown to be towards students with behavioural disabilities (Behavioural NCE=43, Physical NCE=40, Intellectual NCE=36).

When considering NCEs in the six non-inclusion classes it could be seen that the most positive attitude by male students, pre-test, was slightly toward behavioural disability (Behavioural NCE=47, Physical NCE=44, Intellectual NCE=41). This order had not changed at the post-test stage (Behavioural NCE=51, Physical NCE=45, Intellectual NCE=45). When considering female attitudes the most positive attitude, pre-test in the six non-inclusion classes was toward students with physical disabilities (Physical NCE=52, Intellectual NCE=50, Behavioural NCE=41). This order did not change at the post-test stage (Physical NCE=54, Intellectual NCE=47, Behavioural NCE=40).

Focus Group

To substantiate and supplement the results of the attitude questionnaire a focus group session was held at the school after the final administration of PATHS. The two main themes discussed during the session were *Attitude and Acceptance* and *Behaviour*.

Attitude and Acceptance

There were several common themes and specific remarks that emerged from the focus group discussion. All participants suggested that the Year 8 students were positive in attitude toward their peers with disabilities at the start of Term 1. According to the group the degree of acceptance varied. Some students were accepting of students who were included without actively seeking their company whilst others were quite active in their effort to involve and support them. It was also posited that this level of acceptance was at least maintained throughout both terms. Some participants had different views on whether attitudes changed over the period. One participant in the group felt they had observed no increase in willingness, on the part of students who were mainstreamed, to be closer to their peers. Most of the group, however, concluded there was an increase. This was summed up by one participant by the following comment:

I think student attitude appeared more positive at the end of semester and there was always general acceptance of included students by their classmates over the whole term. They really mixed well together. After some initial difficulties [these are discussed following] barriers were overcome and some friendships were formed.

Other specific remarks supported the general acceptance of the included students. One participant had observed that the "social mix at recess tended to be along the lines of social maturity rather than academic ability and was not along the lines of included students vs non-included students." Another participant commented that a student with an obvious physical impairment (not an student who was included) did not attract any negative attention. As well as recalling these positive occurrences, further discussion did ensue amongst the group when the issue of student behaviour was raised.

Behaviour

The focus group was in agreement that there was no ongoing disruptive behaviour by the students who were included. Minor issues, however, relating to the behaviour of some students who were included did arise. The group commented that the students who were mainstreamed were not fazed by these issues. If any student was misbehaving other students would simply look up then continue with their work. One student did approach a teacher to say they did not like the fact that one particular student who was included was always getting their own way with other students who were included. Some students had also noticed the inclusion coordinator was spending more time with students who were included than students who were mainstreamed. A more significant instance of misbehaviour saw an student who was included hit two students who were mainstreamed. This matter resulted in the student who was included participating in a four week social skills course because of their out burst and "angry look." The focus group participants were very enthused by the fact that after the social skills intervention the student who was included at the centre of the outburst went on to form a real friendship with a mainstream student and from there became part of the mainstream student's friendship circle.

In conclusion, there was general consensus amongst the focus group that student attitudes were positive at the start of Term 1. Discussion suggested that participation in the trial program had further improved the attitude of students who were mainstreamed by the end of Term 2. Specific observations and outcomes indicated that minor behavioural issues were dealt with in a positive manner by students who were mainstreamed and included.

> *"...there was general consensus amongst the focus group that student attitudes were positive at the start of Term 1."*

Discussion

The use of PATHS at the pre-test stage afforded the opportunity to assess the Year 8 cohort prior to their experiences of inclusion. PATHS scores obtained compared well with previous surveys in terms of mean responses indicating good reliability (r=.75). This finding, that PATHS scores were similar to previous surveys, is important as it suggests student attitudes toward peers with disabilities have changed little in the 22 years since PATHS was first administered in Australia In addition, all attitudes measured by PATHS in an Australian context have nearly always reported only an average attitude towards students with disabilities. This concurs with the findings of the meta analyses by Nowicki and Sandieson (2002) of research into school age children's attitude towards people with physical or intellectual disabilities that concluded that in general children's attitudes were still in need of improvement.

Pre-test data was also designed to investigate whether female and male students were different in their attitude toward peers with a disability. A significantly more positive attitude was identified by female students than male students towards peers with physical and intellectual disabilities. This was in keeping with previous research (Hastings & Graham, 1995; Nowicki & Sandieson 2002; Townsend, Wilton & Vakilirad, 1993). When behavioural disabilities were considered, however, female attitudes towards peers were found to be significantly less positive than their male counterparts. Given the separation of intellectual and behavioural disability by PATHS it could be that females, when given the opportunity to differentiate between the two, are found to be less tolerant than males of misbehaviour in the classroom whilst at the same time still maintaining a more positive attitude than males towards students with an intellectual or physical disability.

Finally, the assessment of pre-test data sought to establish if prior contact with students with a disability had a significant impact on attitude of students who were mainstreamed. The confounding variable of prior contact and its duration was specifically targeted as previous research by Howell (1995) had found no difference in student attitude after involvement in an inclusion program. Howell attributed this to the likelihood that the students may already have had a positive attitude through their previous experiences of inclusive education in earlier school years. Given the presence of the Supported Education Program in WA it was felt necessary to assess this variable. There are perhaps merits in Howell's (1995) observations as the results of this study reveal a significantly more positive attitude toward students with an intellectual disability by mainstream students who had spent some prior time with a classmate with a disability when compared to students who had spent no time at all with a classmate with a disability. This suggests that some contact is better than no contact at encouraging a more positive attitude toward students with an intellectual disability.

The finding that a lot of prior contact with a classmate with a disability may result in a significantly less positive attitude than only some contact, suggests that there may well be negative aspects to frequent contact between students with and without disabilities and that contact improves attitude only up to a point. This raises the question as to what the students' previous contact may have consisted of. If the prior contact was likely to have taken place as part of the Supported Education Program then a reasonable expectation would be that such contact was fairly well structured and supported. Perhaps, then, this is an indication that the interaction between students with and without disabilities during inclusion does not afford enough attention to the socialisation aspects of the relationship between the students. Either way, the findings suggest that where a lot of contact occurs in the classroom it may result in not only a below average attitude (NCE=29) but also attitudes that are less positive than when only some contact is occurring. The below average attitude of students who reported a lot of prior contact with a classmate with an intellectual disability was also slightly less negative than students who spent no time at all with their classmate with an intellectual disability (NCE=32).

Previous research in WA (Roberts, 1995) has shown that structured opportunities for positive interaction and cooperation are essential for increasing the social acceptance of a student with a disability. Chadbourne (1997), in his review of the inclusion program in WA found that although there were positive social outcomes for included students the development of interpersonal relationship and inclusion in friendships groups generally did not occur. It could well be, then, that in 2003 students without disabilities are still emerging from inclusive primary classrooms without the opportunity to fully engage in positive interactions and interpersonal relationships with included students and therefore, are still only accepting of included students up to a point.

Changes in Attitude

We initially set out to determine if the attitudes of mainstream students changed after their experiences of inclusion in a middle school setting. The hypothesis that Year 8 adolescents would have a significantly more positive attitude toward peers with a disability after their experiences in an inclusive middle school setting was not supported. The finding that a positive increase in attitude in the total score, the intellectual subscale score and the behavioural subscale, was, however, encouraging.

A possible reason why the trial inclusion program did not increase these attitudes to a significant extent could be that although contact was improving attitude there may not have been enough opportunities for positive social interaction to make the improvement statistically significant. As previously mentioned some prior research has found that if attitudes are to be improved significantly, opportunities for positive and structured social interaction must take place. Typically, previous researchers have called for attitude change programs, actively teaching communication skills, conducting disability awareness campaigns and peer tutoring and peer buddy systems for the students who were included (Thomas & Graham, 2002, Roberts, 1995; Roberts and Lindsell, 1997; Roberts & Smith, 1999), although the research on the success of these programs is not always positive. Although the model for the trial inclusion program presented here was inclusive and provided generous support and resources to educators, as well as providing social skills intervention when the situation demanded it, there was no indication that pre-emptive or formal structured social interaction was actively implemented. This may explain a lack of significant improvement in the attitudes of students in the two inclusion classes.

Despite this it was noteworthy that the biggest improvement in attitude in the inclusion classes was toward students with a behavioural disability, whilst in the non-inclusion classes this was the attitude that showed the least improvement. The attitude toward those with a behavioural disability improved to such an extent in the two inclusion classes that it actually became more positive than their attitude toward those with a physical or intellectual disability. Anecdotal evidence from the focus group discussion indicated that there were minor instances of misbehaviour during the semester that required social skills intervention in one instance. This incident was turned around to such an extent that the particular student eventually established some friendships with students who were mainstreamed. Perhaps, then, the students' experience in dealing with these minor misbehaviours in a positive way, with the assistance of the class teacher and inclusion coordinator, resulted in their improved attitude.

Gender Differences

A common theme throughout the analyses of all pre and post test data has been the prominence of behavioural disabilities, not only in a statistically significant manner e.g. males having a significantly more positive attitude toward students with behavioural disabilities than females (pre-test analysis), but also in non-statistically significant but noteworthy trends e.g. the most positive increase by the inclusion classes, pre to post test, was toward students with behavioural disabilities. The prominence of behavioural data was reflected in gender difference with the biggest positive increase in attitude shown by female students being toward students with behavioural disabilities. In addition, both female and male students had a more positive attitude toward students with behavioural disabilities than towards students with intellectual or physical disabilities by the end of semester.

The prominence of behavioural issues in the study presented here is also reflected in other research in the fields of inclusive education and psychology. As early as the 1950s it was argued that inadequate socials skills and inappropriate behaviour resulted in the rejection of children with disabilities by peers and teachers (Yuker, 1988). Throughout the following years evidence continued to emerge showing that a lack of social skills undermines the likelihood of students with disabilities being accepted (Cook & Semmel, 1999; Hastings and Graham, 1995; Thomas & Graham, 2002; Siperstein & Bak, 1985). The data from the research presented here have shown that where the attitudes toward students with behavioural disabilities are concerned the attitudes of male and female students are maintained and improved by participation in the trial full inclusion program.

Focus Group Discussion

The focus group discussion supported the findings of the quantitative data that attitudes of students who were mainstreamed had improved over one school semester. Most group participants offered only positive anecdotal evidence indicating a tangible improvement in student attitude. The qualitative aspect to the research provided by the focus group also revealed the positive impact of social skills intervention which allowed an included student (i.e. the student who hit two other students) to develop friendships despite some difficulties at the start of semester. This reflects the importance of formal structured intervention highlighted by other research (Hastings and Graham, 1995, Yuker, 1988) and would appear to support the contention that the presence of students with disabilities alone is not always likely to produce a significant improvement in the attitudes of students who were mainstreamed.

Implications for Practice

If the objectives of whole schooling are to be achieved then the interaction between students of all backgrounds and abilities needs to be monitored and if necessary students provided with opportunities and skills to interact with *all of* their peers. If such opportunities are not provided at school, any inadequacies in social interaction will continue past the schooling years and into adult life. In addition, if the amount of contact between students, who would not normally spend significant time together, such as students with and without disabilities, can have a positive or negative effect on their attitudes, then the impact of this contact needs to be monitored closely. Only then can steps be taken to ensure that student experience of whole schooling is a positive one when it comes to interacting with their peers. With positive interaction between students, the partnerships and caring environment called for by the principles of whole schooling and its proponents can become a reality (Peterson, 2004).

Previous research, in a school setting, has highlighted the importance of not only active and structured social support but has also recommended extensive disability awareness campaigns via peer tutoring or buddy programs (Thomas & Graham, 2002). Although this would mean initially identifying the student with a disability the benefits of then knowing the student and their particular situation from the outset may outweigh any negative effects of labelling. Given that students who were mainstreamed in this middle school did identify the students who were included during classes there is perhaps nothing to be gained by not introducing the students who were included to their mainstream or whole school peers.

The finding that females had a more positive attitude towards students with physical and intellectual disabilities than males reflected the outcomes of other research (Hastings & Graham, 1995; Nowicki & Sandieson 2002; Townsend, Wilton & Vakilirad, 1993). The finding, however, that males had a more positive attitude than females towards students with behavioural disabilities was not at all prominent in other literature. With behaviour in the classroom seen as a significant stressor for teachers (Forlin, 2001; Forlin, 1998), any finding that sheds new light on behavioural issues is significant. Differences in gender attitude, then, warrant further consideration when looking at the placement of students with disabilities in mainstream education or the balance of gender in whole schooling classrooms.

Recommendations for Future Study

It may be that after a longer period of time the trial program studied as part of this research could lead to a further, more significant, improvement in the attitude of students who were mainstreamed towards peers with a disability. Re-examination of student attitude after another semester or year of inclusion at this middle school may answer this question. In addition, a longitudinal study throughout middle and high school would give a useful insight into the long-term impact of inclusive education on student attitude.

The finding that the attitude of students who had previously spent a lot of time in class with peers with a disability was significantly less positive than students who spent only some time in class is an anomaly that needs further investigation. Direct assessment of student attitude is an area of research that appears to have been neglected in a WA context. Such an as-

Conclusion

The movement toward inclusive education or whole schooling is likely to increase in coming years and thus the number of students seeking an inclusive or whole school option for their high school education will continue to rise. The obvious positive attitude of teachers in the trial inclusion program reviewed here suggests that support for such inclusion amongst educators is possible when appropriate resources are allocated. It is imperative that the impact of inclusion in middle school and high school settings be given due consideration. Mainstream students are key stakeholders in this matter and their attitudes and willingness, or not, to accept students with disabilities necessitates not only ongoing evaluation but also the development of strategies to encourage and maintain positive attitudes and acceptance. The findings of this research suggest that attitudes can be changed for the better and that with appropriate supports students and educators will show an increase in acceptance of middle school students with a disability.

Although this study has focused on the inclusion of students requiring support for an intellectual disability there are significant implications for everyone within the whole schooling movement. Any communication or interaction between children with and without disabilities, male and female, ethnic minorities, students from the most prominent culture and students from a range of socio-economic backgrounds, all need the cooperation and positive involvement of the students themselves. By assessing student attitudes towards their peers, the quality of these relationships can be determined and strategies for changing attitudes for the better can be implemented. Students being able to understand their peers and recognising them as equals is integral to the objectives of whole schooling. Understanding student attitudes towards their peers can only help this process.

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