

**PRE-SERVICE PHYSICAL EDUCATION TEACHERS AND INCLUSIVE EDUCATION:
ATTITUDES, CONCERNS AND PERCEIVED SKILL NEEDS**

Boitumelo Mangope
Magdeline C. Mannathoko
University of Botswana

Ahmed Bawa Kuyini
University of New England

The purpose of this study is to ascertain Botswana physical education (PE) student teachers' attitudes toward the inclusion of children with disabilities in the general education classrooms and also to identify their concerns and perceived skill needs with regards to inclusion. A two-part questionnaire consisting of background variables and attitudes using the ATIES Scale was completed by 96 PE student teachers from the University of Botswana. Data on the concerns, and perceived skill needs were collected through interviews and analysed descriptively. Statistic descriptive, t-tests and ANOVA were employed to analyse the quantitative data. The results of the study have shown that PE pre-service student teachers have moderately positive attitudes towards inclusion. Participants were also more concerned about the lack of knowledge and skills required for inclusion and that resources and pedagogical knowledge on inclusion were perceived as the required skills for the success of inclusion in Botswana.

Attitude research in education and physical education has grown increasingly popular over the past twenty years (Folsom-Meek & Rizzo, 2002). This increase has been driven by the belief that the attitude of the teacher can have a direct influence on the successful inclusion of children with disabilities into regular classes (Avramidis, & Norwitch, 2002; Dart, 2007; Mastropieri & Scruggs, 2004). Within the contemporary inclusive classrooms, general education teachers face increased pressure as their roles change, compared to the traditional ones (Avramidis, Bayliss, & Burden, 2000). In the midst of this, a considerable amount of research is being conducted and policies amended worldwide including Botswana in order to appropriately address the views and philosophies of how children with disabilities can be best educated. Currently students with various types of disabilities are generally placed into general physical education classes without an accompanying teacher aide in Botswana. The inclusion of students with disabilities into general physical education classes has provided a tremendous challenge to physical educators who have strived to meet the needs of the included children without neglecting the needs of the other children. It is therefore important to prepare future physical education (PE) teachers for inclusion of students with disabilities in general physical education (GPE) settings and in order to prepare these students we must be able to measure and to understand their attitudes towards inclusion.

Inclusion focuses on the need for schools to adapt in order to meet the needs of all children, and not children having to change to meet the requirements of the school. This reform in the school system requires a new and different school culture, a culture whereby teachers have to change their beliefs, attitudes and behaviour towards students with diverse needs. Researchers have attempted to investigate the beliefs and attitudes of the individuals who are responsible for implementing inclusive policies. The role of teachers' attitudes has been studied and identified as being one of the central elements to the success or failure of inclusive education practice (Avramidis & Norwitch, 2002). The role of teachers' attitudes in the success or failure of inclusive schools is evident in Dart, (2007) and Kuyini and Mangope, (2011) Mittler, (2003), who noted negative attitudes of teachers as the major obstacle to the progress of inclusive education globally. The majority of these studies in physical education have also assumed that a positive attitude towards inclusion was necessary for the successful inclusion of children

with disabilities into physical education (Loreman, Forlin, & Sharma, 2007). These studies have examined the relationship between different types of attitudes and variables such as teacher age (Mdikana, Ntshagangase, & Mayekiso, 2007), gender (Sharma & Desai, 2002), teaching experience (Marston & Leslie, 1983), educational preparation (Mangope, Koyabe, & Mukhopadhyay, 2012), perceived teaching competence (Mukhopadhyay, Molosiwa, & Moswela, 2009), and type and severity of student disability (Rizzo & Vispoel, 1991).

Variables linked with teacher attitudes

Several student and teacher related variables have been significantly and consistently linked with specific teacher attitudes toward inclusion (Avramidis, Bayliss, & Burden, 2000). Student grade level and severity of disability have been found to influence teachers' attitudes toward inclusion. Specifically, students with disabilities were viewed more favourably in lower grade levels than in higher grade levels (Mittler, 2003), and children with less severe disabilities were viewed more favourably than those with more severe disabilities (Avramidi & Norwitch, 2002; Nthitu, Kathard, & Sayed, 2011; Mukhopadhyay, 2009). Research on teacher variables has revealed that attitudes were related to self-perceptions of competence, educational preparation, and experience in teaching students with disabilities (Kuyini & Mangope, 2011). Specifically, teachers' attitudes toward inclusion were more likely to be favourable if they perceived themselves as better teachers (Dart, 2007; Mangope, 2002) had greater education preparation (Kuyini & Mangope, 2011), and had more years of experience in teaching children with disabilities (Mukhopadhyay, 2009; Kuyini & Dessai, 2005).

Preparing teachers for inclusion has been a major pedagogical shift in the field of education. This then means that institutions responsible for training teachers ought to ensure that student teachers are adequately prepared to meet the diverse needs of learners in the general classrooms. In this process, crucial factors like teacher attitudes, beliefs, expectations and acceptance of learners with various special needs should be seriously addressed. According to Mukhopadhyay and Molosiwa (2010) positive teacher attitudes can and need to be fostered through training. As observed by Mukhopadhyay, Molosiwa, and Moswela (2009), if teachers leave the training institutions with negative attitudes then such attitudes tend to be difficult to change. This therefore, means that, if Botswana is to achieve its goal of a Well-Educated and Informed Nation by 2016, then teacher training programs need to be strengthened by including programs such as special/ inclusive education, so as to be able to produce teachers who will be able to meet the demanding challenges of inclusion.

Inclusive education in Botswana

The government of Botswana has long focused on responding to the needs of students with disabilities. Although education of such students started in segregated settings of special schools, currently Botswana has adopted an inclusive education approach as a strategy to address the needs of its children with disabilities whose education has been ignored. Inclusive education comes with challenging demands to all general education teachers as they will now be expected to accept and teach students with diverse needs who traditionally were not under their responsibility. As a result, inclusive education calls for a thorough preparation of teachers on issues of special inclusive education so as to develop some positive attitudes which would enhance the inclusion of such learners by teachers. In this regard, teacher training institutions are being compelled to reform their training structures and include some introductory courses in their programs for their student teachers to cater for the increasing diverse range of learners with disabilities. In Botswana, such practices are in place, for example the University of Botswana offers various programs for student teachers in various subject areas, and physical education is one of the many areas that are being addressed.

Even though training of student teachers on issues of special/ inclusive education is an important area that needs to be addressed, few if not none, studies in Botswana have directly examined the relationship between physical education student teachers' expectations or attitudes towards the inclusion of students with disabilities in their physical education classes in Botswana. The increasingly diverse characteristics of students with disabilities to be educated in Botswana are causing government officials, educators and other important stakeholders to examine the benefits of educating all children in heterogeneous classrooms. Regardless of gender, ethnicity, culture social status and disabilities, it has become clear to many that the needs of all students must be met, and their differences welcomed, celebrated and nurtured in an inclusive classroom. The attitude of Botswana student teachers' attitudes towards the inclusion of students with disabilities into their classrooms is vital in determining the success of the government's efforts in implementing inclusive education policy. Similarly it is also vital in determining the effectiveness of the inclusive education program offered by the University of Botswana to all prospective

teachers (Mukhopadhyay & Molosiwa, 2010). It is therefore necessary to investigate the attitudes of PE student teachers as such research may shed light on attitude factors in the context of Botswana and may help identify the gaps in the special /inclusive education programs offered that may warrant improvement.

Purpose of the study

The purpose of this study is to identify the attitudes of the University of Botswana's PE student teachers toward the inclusion of students with varying types of disabilities into their general education classrooms. The study also intends to identify the concerns and perceived skill needs of pre-service PE student teachers with regards to inclusion. The research questions guiding the study were:

1. Do PE student teachers hold varying attitudes towards inclusion of students with different disabilities?
2. What are the influences of PE student teachers' background variables on their attitudes towards inclusive education?
3. What concerns do they have about inclusive education?
4. What knowledge and skills do they think they require to successfully include students with disabilities?

Method

Participants

One hundred and twenty-six students (71 females and 55 males) of an average age of 22 years were enrolled in physical education teacher preparation program at the University of Botswana. A total of eighty-six (86) prospective PE teachers (51 females and 35 males) participated in the study by completing a two-part survey questionnaire. The sampling design was purposive, meaning all students were surveyed who met the criteria of the enrollment in the above explained teacher preparation program. The sampling goal was to obtain as many participants as possible. However, due to late registration processes of the students, the researchers were not able to cover all of the anticipated students.

Instruments

Attitude toward the inclusion of individuals with disabilities scale (ATIES) (Wilczenski, 1992, 1995) was used to assess the attitudes and to use the results to personalize teacher preparation so that University students develop positive attitudes and strong intentions toward inclusion. The ATIES was developed by Wilczenski (1992) and was further validated in 1995. It is a 16-item scale that measures participants' attitudes towards inclusive education, where each item is rated on a 6 point-Likert type classification from 1 (strongly disagree) to 6 (strongly agree). Example statements from the ATIES are; students who are frequently absent from schools should be in regular classes, Students who cannot control their behaviour and disrupt activities should be in regular classes, students who are shy and withdrawn should be in regular classes. Each subject's overall attitude rating is evaluated relative to the possible score range of 16 to 96, with higher scores indicating more favorable attitudes. This scale has been used in Botswana (Mangope, 2002); in Ghana (Kuyini, 2004), in India (Sharma, 2001) and in a cross-country study (Loreman, et al., 2007) and has been found to be a reliable measure of attitudes towards inclusive education.

Data collection and Analysis

The questionnaires were distributed to participants who signed consent forms and collected personally by the researchers on the day of the distribution. Of the 116 questionnaires sent out 96 questionnaires were returned and correspond to a response rate of (87%). Ten of the 96 had missing information in many areas and could not be included in the data set for analysis. The total number of questionnaires analysed was therefore 86.

Reliability and factor analysis were undertaken for the ATIES scale, and the reliability analyses showed an alpha coefficient of 0.77, which is similar to the value of 0.71 obtained with student teachers in a study by Kuyini & Mangope (2011) in Ghana and Botswana. The factor analyses generated five factors, which is a complete departure from the four factors underpinning the original scale (Wilczenski, 1992). The first of the five factors in this study, Factor 1 (Behavioural) was comprised of three items relating to physical aggression, Verbal Aggression and Shy and Withdrawn. Factor two (Sensory) was comprised

of three items relating to use of Braille, students with speech difficulties and students with hearing impairment. Factor three (Need Help) was comprised of four items relating to not following school rules, Need help with daily living skills, Difficulty expressing thoughts, and need help to move. Factor four (mixed support) was comprised of three items relating to students needing functional academic programming, those who cannot control their behaviour and those who cannot hear conversational speech. Factor five (Academic) was comprised of three items relating to students whose academic performance is 1 year below and 2 years below and those who absent themselves from school.

These factors did not reflect factor loading in previous studies in Botswana and elsewhere (Ghana, India and the USA) where the ATIES has been used. Perhaps this may have to do with the sample size and the uniqueness of this population (P.E. Teacher trainees), who may not necessarily engage students with special needs at all in the level of sensory and intellectual activity in their teaching.

Table 1. Factor Analysis Rotated Component Matrix^a
Principal Component Analysis: Varimax with Kaiser Normalization

	Component				
	1	2	3	4	5
Verbally aggressive	.798				
Students with physical aggression	.723				
Shy and withdrawn students	.618				
Cannot read standard print & need to use braille		.822			
Speech difficult to understand		.722			
Students using sign language/ comm. Boards		.685			
Do not follow school rules of conduct			.699		
Need training in self-help & daily living skills			.596		
Difficulty expressing thoughts verbally			.530		
Students needing help to move			.504		
Need functional academic program in reading & maths				.635	
Cannot control their behaviour & disrupt activities				.618	
Cannot hear conversational speech				.568	
Students with academic achievement 2years /more below					.856
Students with academic achievement 1 year below peers					.597
Frequently absent themselves from school					.486

Results

The results of this study are presented in line with the research questions. For research questions 1: *Do PE student teachers hold varying attitudes towards inclusion of students with different disabilities?* The descriptive statistics results showed that the total sample mean score was 57.2 of a maximum score of 96. This means that overall the teachers held moderately positive attitude towards inclusive education. However, the means scores for the individual items showed that only students who are shy and withdrawn attracted positive attitudes ($M= 4.91$) which is the near the upper limit of the 6-point Likert scale classification. On the other hand, students with more obvious disabilities such as visual ($M=2.39$) hearing ($M=2.84$), speech & language ($M=2.67$ & 2.51) impairment attracted less positive attitudes. These scores were within the lower levels of the 6-point scale (See Tables 2 and 3).

Table 2. Total score of ATIES Measure for all participants.

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Totals	85	22	87	57.24	12.233
Valid N (listwise)	85				

Relationship between background variables and ATIES

The results of t-tests and ANOVA analysis for research question 2: *What are the influences of PE student teachers' background variables on their attitudes towards inclusive education?* showed that teachers background variables such as Gender, education, class level taught, class-size, training in special

/inclusive education, experiences, accounted for differences in attitude scores. However, these differences were not statistically significant (See Table 4 below)

Table 3. Mean scores for individual items of ATIES

	N	Mean	SD
Shy and withdrawn students	85	4.91	1.453
Do not follow school rules of conduct	85	4.22	1.538
Difficulty expressing thoughts verbally	85	4.19	1.729
Frequently absent themselves from school	85	4.11	1.753
Students with academic achievement 1 year below peers	85	4.02	1.558
Need training in self-help & daily living skills	85	4.00	1.697
Verbally aggressive	85	3.89	1.448
Students needing help to move	85	3.69	1.832
Students with academic achievement 2years or more below	85	3.61	1.726
Cannot control their behaviour & disrupt activities	85	3.44	1.651
Need functional academic program in reading & maths	85	3.41	1.706
Students with physical aggression	85	3.34	1.570
Students using sign language/ comm. Boards	85	2.84	1.696
Speech difficult to understand	85	2.67	1.467
Cannot hear conversational speech	85	2.51	1.461
Cannot read standard print & need to use braille	85	2.39	1.655
Valid N (listwise)			

Table 4. Background variables and ATIES Mean scores

Variable	N	Mean scores	SD
Gender:	Male = 36	55.2	12.41
	Female = 49	58.8	12.00
Age	20-25 Years= 62	58.2	12.23
	26-30 Years= 3	57.0	13.00
	Above 30 Years = 20	54.2	12.27
Education	1= 65	57.7	11.86
	2=20	55.8	13.60
Training	1=19	56.5	11.82
	2=66	57.5	12.43
Pre/Insert	1=66	57.9	12.18
	2=19	54.7	12.41
Class-size	Up to 20 students=43	57.2	11.83
	21-30 students =28	57.3	12.34
	31-40 students =9	59.7	9.98
	Above 40 students=5	53.2	20.35
Rel-Dis	1=15	55.67	18.21
	2=70	57.57	10.69

The variables that stood out clear for mention are age and class size. Younger teachers appeared to have higher mean scores compared to those above 30 years, but this is not statistically significant. Although class-size showed differences among groups, these were not significant. However, the mean score of 57.2 showed that teachers in classes of more than 40 students held less positive attitudes.

Concerns about Inclusive Education

To answer the research question *What concerns do they have about inclusive education?* The participants were asked an open-ended question: *What are your concerns about including learners with disabilities in your PE regular classrooms?*

The qualitative responses were grouped into themes and the key themes emerged were: Concerns about teacher skills, Concerns about time pressures, Concerns about resources to support inclusive education, and Concerns about the negative impact on students without disabilities. We present details of these key themes and discuss the findings in relations to findings from the attitude data.

Concerns about teacher knowledge and skills

The respondents expressed the view that while inclusion of students with disabilities in physical education classes was laudable, many teachers did not have skills to support such students because the University courses were not broad and detailed enough. One respondent said the following about the inadequacy of the University program:

At the moment we as P.E teachers are not receiving enough training on adapted P.E. In the last semester we were only 12 who were doing Adapted P.E in which we were taught the practical part. We as P.E teachers are not usually equipped with enough skills. I think Adapted P.E should not be an option if we are working towards an inclusive system of education.

Another respondent expressed concern about limited teacher knowledge and skills in the following way: My other concern is about lack of training of teachers and yet they are expected to take part in teaching exceptional children with their exceptional needs. Majority of the teachers do not have the prerequisite skills and knowledge on how to handle students with these types of disabilities
One participant also felt that: *...the problem is that (PE) teachers are not taught or provided with enough information in order for them to operate well in this style of inclusion.*

Similar complaints were recorded from a number of the participants who were interviewed. Some believed that the reason why they are seen as incompetent as compared to teachers from Colleges of education is that even though they have content to teach, they fail to deliver it properly to the learners due to the minimal amount of experience culled in the PE program.

Lack of appropriate pedagogical skills by PE teachers

Most student teachers interviewed agreed that they lack pedagogical content knowledge on how to handle students with disabilities. As described by one respondent *...my concern is that teachers have not been fully equipped with the appropriate skills to handle students with difficulties. Even the curriculum is designed to cater for the able bodied.*

Another participant raised a similar concern saying:

...right now I do not know any adaptive equipment used by a child of any disability whilst inclusion dictates that I should be able to adapt the class for an exceptional learner, but right after this I will be going to teach, how am I expected to teach?

Concerns about time pressures

It is clear in the literature that many teachers are concerned about lack of time to implement inclusive activities. And in this study Physical Education student teachers expressed similar concerns. Student teachers view the inclusion of students with disabilities into mainstream settings as being difficult and stressful, other concerns include the availability of support services, which include overcrowded classrooms, lack of prepared teaching materials, inflexible time table, inadequate time for planning and meeting, and inadequate specialist support to meet the needs of this students.

One participant expresses a sense of frustration due to insufficient time by indicating that such students need to be in their own special classes thus *...my concern is where we get the time, why can't these children have their specialised equipment in their special classes to make everything easier.*

Similarly another student teacher expressed the view that

...teaching does not mean waking up and delivering everything that comes to your mind to the student. One has to research fully, plan and organize their presentation and be familiar with tools needed. You also have to assess student progress in class and give feedback, so having to do it for different groups

will not bear perfect results let alone exhaustive. The best thing for everyone is for them to have their special place with their special attention where that technology won't be put to waste.

Other similar comments were raised. Two participants put it as below:

I don't think that it's a good idea for children with inclusion because it might take time in class to teach them as they have to be separated and the teacher has to compromise or sacrifice to teach them separately and this might take time. And it's also not a good idea in a way that it brings the self-esteem down of those with inclusion as they see others excelling than them.

The other one said:

My concerns about inclusion therefore are that, the disabled may not get appropriate, specialised attention and care from the teacher because he/she is forced to look after both the normal and exceptional, this may disrupt the normal children's education often, teachers are also forced to direct more attention and time to these exceptional children thereby leaving the normal children behind or vice versa, to be honest, it is a mammoth task to cater for these two groups in the same class, believe you me that it requires more time and patience of which many of us lack, therefore our teaching would be very much inadequate

Concerns about resources to support inclusive education

Resources are critical to inclusive education implementation and the lack of it is usually a problem. In this study majority of student teachers expressed a concern about the need to have the necessary support services for inclusion to thrive. One participant said:

Students with disabilities need special equipments that can help them execute some skills. So, I don't think they can feel free using some things that their normal classmates are not using, for example using a wheel chair playing basketball, while others are running around. The teammates might not even pass the ball to their friend in a wheel chair and it can lead to low self-esteem and inability to acquire skills.

Other concerns include, the availability of support services, overcrowded classrooms, lack of prepared teaching materials, inflexible time table, inadequate time for planning and meeting, and inadequate specialist support to meet the needs of these students.

One participant said:

There should be resources like well paved playing grounds not the dusty grounds which are in our government schools. They should re-think about constructing better grounds because wheel chairs and other materials to be used perform better in well constructed grounds.

Concerns about the negative impact on students without disabilities

One of the key arguments about inclusive education has been about the impact of those with disabilities on those without disabilities in terms of academic and social achievement. In this study the teachers expressed these concerns. One participant said:

Honestly I believe that inclusion is not a good thing....children with disabilities are more different from children without disabilities in terms of learning because they somehow tend to be slow learners so taking them to regular classes will disadvantage learning especially for normal children as they would have to work at the same pace with them therefore delaying progress!!

Another expressed such concern in relation to teacher engagement time as follows:

I think the inclusive system will in a way disadvantage both individuals with disabilities and those without disabilities. For instance the teachers may tend to give too much attention to the children with disabilities and the other children will not get the attention they deserve. The fact that the number of pupils in the regular classroom is too much, will lead to all the children not getting the attention they deserve. Every child needs the teacher's attention and I feel the inclusive system is not suitable for all children with disabilities.... disabled kids would hinder also the quality of content and material being delivered in lessons to accommodate everyone. It would slow everyone down and the abled students may not get the right attention required because the main focus will be on the disabled ones which will lead to them not performing to their full potential.

Perceived knowledge and skills required by P.E teachers to include students with disabilities.

To answer the research question *What knowledge and skills do they think they require to successfully include students with disabilities?* the participants were asked the question: What kind of Knowledge and skills would you recommend for PE teachers to prepare them for inclusion?

Student teachers had various ideas on the skills needed to assist them in their efforts to include learners with disabilities. One said:

The skills that I will recommend for teachers to prepare them to for the inclusion of learners with disabilities are acceptance, tolerance, respect and patience. It is not that easy to just accept the situation, firstly teachers are not well equipped with methodology of teaching children with various disabilities, let take for example a child with cerebral palsy, for a P.E teacher to be able to help such a child they must have done adapted physical education, but at the U.B for instance Adapted P.E is still an option and not every one knows how to deal with a child with C.P.

Others felt that it is important for them to have adequate specialist knowledge regarding handling learners with disabilities, so having more knowledge in sport medicine, sport psychology, sport sociology, kinesiology, biomechanics and exercise physiology can maybe help a great deal. One participant said:

My main concern is that some PE teachers might not have adequate specialist knowledge regarding handling learners with disabilities, hence they need knowledge. Teachers should have vast knowledge on the types of students, e.g. slow learners and fast learners as well as students with disabilities and they should have knowledge on how to deal with these different students. Teachers should know best teaching methods that they can employ in which students with disabilities will also be incorporated...

Another participant agreeing with the above said:

At the moment we as P.E teachers are not receiving enough training on adapted P.E. In the last semester we were only 12 who were doing Adapted P.E in which we were taught the practical part, which is important. We as P.E teachers are not usually equipped with enough skills. I think Adapted P.E should not be an option if we are working towards an inclusive system of education...teachers will have to be equipped with ways of assisting students with disabilities...how do you modify? Knowledge of special education is required ...because the teacher has to teach from all angles that is from modified instructions to clear instructions that applies across.

Discussion

This study aimed to explore the attitudes of P.E. teachers towards inclusive education, their concerns about inclusive education and the knowledge and skills they perceived they required to be able to include students with disabilities in their classrooms. The overall findings for the attitude measure showed that generally PE student teachers hold moderately positive attitudes toward the inclusion of students with disabilities into their general education classrooms. The mean scores for individual items showed that teachers held more positive attitude towards students who are shy and withdrawn. On the other hand, students with more obvious disabilities such as visual, hearing, speech and language impairment attracted less positive attitudes. Teacher background variables such as age and class size showed some influence on attitudes even though this was not statistically significant.

Although they had positive attitudes as student teachers in other Botswana studies (Kuyini & Mangope, 2011; Mangope, Koyabe, & Mukhopadhyay, 2012), no significant differences were found between teachers' background variables such as gender, age, training in special education and their scores on the attitude measure. The finding in relation to training was rather surprising, given that training in special education, the literature has shown, is linked to more positive attitudes towards inclusion of learners with disabilities. However, such results may have been due to the rather modest sample of 85 teachers.

The concerns data showed that teachers had concerns about inclusive education and were related to limited knowledge and skills, time pressures and difficulty dealing with students with disabilities, lack of resources and potential negative impact the inclusion of students with disabilities have on students without disabilities.

These findings mirror other studies in Botswana and Ghana (Kuyini & Mangope 2011; Chhabra, et al., 2010), and in other countries (Johnstone & Chapman, 2009; Sharma, et al., 2007), which revealed that these factors were some of the key concerns of both student teachers and regular teachers. Specifically, Kuyini, and Mangope (2011) found that student teachers in Botswana expressed higher concerns about

issues of inclusion that loaded on what they called Welfare and Workload (Factor 2) and Resources (Factor1). The participants' lowest concerns were about Academic and Acceptance needs of students. This previous finding is mirrored in this study because the analysis of individual items showed that the participants were also worried about not having enough time, and resources (Instructional materials, inadequate para-professionals).

It is interesting to note that many were less concerned about the factors that are internal to the students like type and severity of the disability but rather concentrated more on external factors like instructional materials, para-professionals, and other infrastructure. As captured in comments by one of the participants such as *My main concerns is that some PE teachers might not have adequate specialist knowledge regarding handling learners with disabilities, hence they need knowledge.*

Chhabra, et al., (2010), also found that teachers in Botswana showed concern about inadequate equipment and availability of paraprofessionals, additionally they raised concerns about provision of resources and funding to support the students with disabilities in regular classrooms. Some of the concerns raised by participants were:

students with disabilities need special equipments that can help them execute some skills and that there should be resources like well paved playing grounds not teh dusty grounds which are in our government schools.they should re think about constructing better grounds because wheel chairs and other materials to be used perform better in well constructed grounds

These findings in addition to those of Johnstone and Chapman, (2009) and Sharma, Forlin, and Loreman, (2007) indicate that resources are always a concern for teachers when they think about inclusive education. It is therefore imperative that the Ministry of Education, and Skills Development of Botswana, expands the scope of resource allocation and strengthens resource delivery mechanisms in schools to enhance receptivity to inclusive education. In this case P.E. student teachers were worried about lack of equipment and the Ministry should be looking to identify the equipment required for P.E. classes as a way to allay the fears of teachers.

The participants' responses to knowledge and skills showed that they lack some skills which they also perceive as very useful if they are to successfully include students with disabilities. The literature shows that general and adaptive instructional skills are necessary to make for a meaningful inclusion of students with special learning needs. Indeed researchers such as Mastropieri and Scruggs (2000) and Mitchell (2006) and Kuyini and Desai (2008) have highlighted the fundamental role of adaptive instruction to the success of inclusive education.

However different groups of teachers have need for different types of skills peculiar to their learning area. This unique need may apply to Physical Education teachers.

The student teachers' responses showed that they required skills in the pedagogical content delivery which is lacking from their training. Student teachers may have the subject matter (content) to teach but knowing how to teach students with disabilities is also valuable in making learning more meaningful and enjoyable to the learners.The student teachers expressed the need to have knowledge and skills about how to adapt the P.E. environment to the needs of those with disabilities. Given that they do not feel adequately trained for making instructional adaptations, which require teachers to implement alternative teaching strategies such as modifying instructional materials and presentation styles (Jolivet, Wehby, Canale, & Massey, 2001), this finding is one that should attract the attention of teacher education institutions and policy makers in Botswana.

A more important issue that can be gleaned from their responses is that their expressed knowledge and skills needs are stated in more generic terms without being very specific to the instructional competencies or strategies that have been shown in the literature to support inclusive education. Such a finding has two main implications:

1. Lack of understanding of what modifying instruction in a P.E. class entails to meet the needs of a range of students with disabilities. This implies that their current training has given them a general understanding of inclusive schooling but more specific content around teaching strategies is important if they are to be useful to students with special needs in the classrooms they will be teaching in future.
2. Lack of knowledge or understanding of the specific skills or competencies they may be able to use, which is different from what they have used for students without disability. This lack of knowledge

of the required adaptive instruction skills meant that they could not articulate their needs more clearly. However, the limitation of the interview comes out here in that not enough follow-up questions were used to dig deeper for more specific responses about the knowledge and skills. On the other hand these general responses make it easy for teacher training institutions to adopt a training strategy focusing on the broad fields which means that other related skills can be covered which will be more specific to individual teacher skill needs.

Conclusion

This study set out to investigate the attitudes of P.E. teachers towards inclusive education, their concerns about inclusive education and the knowledge and skills they perceived they required to be able to include students with disabilities in their classrooms. Although the results showed that teachers held moderately positive attitudes towards the inclusion of students with disabilities in their classrooms, teachers did not differ in their attitudes as a function of background factors. Students with visual, hearing and speech and language impairments attracted less positive attitudes, a finding which betrays the links between these more obvious disabilities and less positive attitudes in traditional societies. Participants also expressed concerns about inclusion on the basis of limited knowledge and skills, lack of resources, and the impact of disability on academic engagement and outcomes of those without disability. While the participants acknowledged that they did not have adequate training, they felt that training to acquire knowledge and skills for inclusive education will be very useful. The implications of these findings are that in spite of the government's pronouncements and efforts to support inclusion, teachers would require more resources and other supports in the future to allay their concerns, build positive attitudes and enable them to contribute effectively to Botswana's inclusive agenda.

References

- Avramidis E., & Norwich, B (2002) Teachers' attitudes towards integration/inclusion: A review of literature. *European Journal of Special Needs Education*, 17(2), 129-147.
- Avramidis, E., Bayliss, P. & Burden, R. (2000). 'A survey into mainstream teachers' attitudes toward the inclusion of children with special educational needs in the ordinary school in one local education authority.' *Educational Psychology*, 20(1), 191-205.
- Chhabra, S., Strivasta, R., & Strivasta, I. (2010). Inclusive education in Botswana: The perceptions of school teachers. *Journal of Disability Policy Studies*, 20 (4), 219-228.
- Dart, G. (2007). Provisions for learners with special educational needs in Botswana; A situational Analysis. *International Journal of Special Education*, 22(2), 56-66.
- Johnstone, C. J. & Chapman, D.W. (2009). Contributions and Constraints to the Implementation of Inclusive Education in Lesotho, *International Journal of Disability, Development and Education*, 56 (2), 131-148.
- Kuyini, A. B. & Mangope, B. (2011). Student teachers' attitudes and concerns about inclusive education in Ghana and Botswana. *International Journal of Wholeschooling*, 7, (1), 1-18
- Kuyini, A. B. & Desai, I. (2008). Providing instruction to students with special needs in inclusive classrooms in Ghana: issues and challenges. *International Journal of Whole Schooling*, 4(1), 22-38.
- Loerman, T., Forlin, C., & Sharma, U. (2007). An international comparison of pre-service teacher attitudes towards inclusive education, *Disability Studies Quarterly*, 27(4).
- Mangope, B. (2002). The attitudes of rural primary and secondary school teachers towards the inclusion of students with disabilities in their classrooms in Botswana. Unpublished Master's Thesis, University of Melbourne, Australia.
- Mangope, B., Koyabe, B., Mukhopadhyay, S. (2012). Attitudes of pre-service teachers toward the inclusion of students with disabilities in the general classrooms in Botswana. *International Journal of Scientific Research and Application*, 1(1), 1-12.
- Mastropieri, M. & Scruggs, T. (2000). *The inclusive classroom: Strategies for effective instruction*. Upper Saddle River, NJ: Prentice-Hall.
- Mastropieri, M & Scruggs, T. (2004) (2nd Ed). *The inclusive classroom: Strategies for effective instruction*. USA: Prentice Hall, Inc.
- Mitchell, D. (2006) *What Really Works in Special and Inclusive Education: Using Evidence-based Teaching Strategies*, UK, Taylor & Francis Ltd
- Mukhopadhyay, S. (2009) Factors influencing the status of inclusive education for learners with disabilities in Botswana primary schools. Unpublished PhD thesis. University of Botswana.
- Mukhopadhyay, S., Molosiwa, S. M., & Moswela, E. (2009). Teacher trainees level of preparedness for inclusive education in Botswana schools: Need for change. *International journal of scientific Research in Education*, 2(2), 51-58.

- Mukhopadhyay, S., & Molosiwa, S. M.,(2010). Influence of introductory special education course on attitude change of Post Graduate Diploma Education students of the University of Botswana. *Asia Pacific Disability Rehabilitation journal*, 21 (2), 60-69 .
- Nthitu, J.M., Kathard, H. & Sayed, A. (2012). Teachers' perspectives on inclusion of disabled learners in Botswana. www.lcint.org/download.php?id=941
- Sharma, U., Forlin, C. & Loreman, T. (2007). What concerns pre-service teachers about inclusive education: An international viewpoint? *KEDI Journal of Educational Policy* KJEP 4 (2), 95-114
Electronic version: <http://eng.kedi.re.kr>
- Sharma, U. (2001). The attitudes and concerns of school principals and teachers regarding the integration of students with disabilities into regular schools in India. Unpublished Doctoral Dissertation, University of Melbourne, Australia.
- Sharma, U., Moore, D., & Sonawane, S. (2009). Attitudes and Concerns of Pre-service Teachers regarding Inclusion of Students with Disabilities into Regular schools in Pune, India, *Asia Pacific Journal of Teacher Education*, 37 (3) 319-339.
- Sharma, U., Loreman, T. & Forlin, C. (2007). What concerns pre-service teachers about inclusive education: An international view point. *KEDI Journal of Educational Policy*, 4(2), 95-114.
- Wilzenski, L. F. (1992) 'Measuring attitudes toward inclusive education'. *Psychology in the schools*, 29(2), 10-22.
- Wilczenski, L. F. (1995). Development of a scale to measure attitudes toward inclusive education. *Educational and Psychological Measurement*, 55(2), 291-299.