

**The Journal  
of the  
International Association  
of  
Special Education**



**Spring 2011  
Vol. 12, No. 1**

**Schedule of Events  
for the  
Twelfth Biennial Conference  
Windhoek, Namibia  
July 10–14, 2011**

*Official Journal  
of the  
International Association of Special Education*

## Editorial Staff

ISSN 1555-6913

- Editor:** *Morgan Chitiyo*, Southern Illinois University Carbondale,  
Carbondale, Illinois, USA
- Associate Editors:** *Greg Prater*, Northern Arizona University, Flagstaff, Arizona,  
USA
- Malgorzata (Gosia) Sekulowicz*, University of Lower Silesia,  
Wroclaw, Poland
- Managing Editor:** *Lawrence K. Ametepee*, Southern Illinois University Carbondale,  
Carbondale, Illinois, USA

### Consulting Editors:

*Theophilus Adebose Ajobiewe*, Federal College of Special  
Education, Oyo, Nigeria

*Anies M. Al-Hourb*, American University of Beirut, Lebanon

*Panayiotis Angelides*, Intercollege 46, Nicosia 1700, Cyprus

*Lynn Aylward*, Acadia University, Wolfville, Nova Scotia

*Ángela Vitória Casaca Botelho*, Center for Support of Child  
Development, Cascais, Portugal

*Yvonne Bui*, University of San Francisco, San Francisco, California,  
USA

*Lyndal M. Bullock*, University of North Texas, Denton, Texas, USA

*Linda J. Byrnes*, The University of Melbourne, Melbourne, Australia

*Cristina Cardona*, University of Alicante, Alicante, Spain

*Anupriya Chadha*, Chief Consultant, Education For All Campaign  
Project, New-Delhi, India

*Darlington Changara*, Midlands Aids Caring Organization,  
Zvishavane, Zimbabwe

*Lotus Chiang*, Special Education Department of National Chiayi  
University, Taiwan

*George Chitiyo*, Tennessee Technological University, Cookeville,  
Tennessee, USA

*Meng Deng*, Central China Normal University, Wuhan, Hubei  
Province, China

*Yi Ding*, Fordham University, New York, USA

*Robert Gable*, Old Dominion University Norfolk, Virginia, USA

*Richard M. Gargiulo*, University of Alabama at Birmingham,  
Alabama, USA

*Dawn Iwamoto*, University of Phoenix, Phoenix, Arizona, USA

*Joan Jafthas*, Western Cape Education Department, South Africa

*Marcel Rene Lebrun*, Plymouth State University, Plymouth, New  
Hampshire, USA

*Paula Leitz*, Pacific Lutheran University, Tacoma, Washington,  
USA

*Sam Minner*, Truman State University, Kirksville, Missouri, USA

*Karen Philomena Nonis*, Nanyang Technological University,  
Singapore

*Sekhar S. Pindiprolu*, The University of Toledo, Toledo, Ohio, USA

*Kim Fong Poon-McBrayer*, Hong Kong Institute of Education, Hong  
Kong

*Emilie Rodger*, Northern Arizona University, Flagstaff, Arizona,  
USA

*Karen Schulte*, School District of Janesville, Wisconsin, USA

*Karen Sealander*, Northern Arizona University, Flagstaff, Arizona,  
USA

*Bernadeta Szczupal*, Academy of Special Education in Warsaw,  
Poland

*Scott Anthony Thompson*, University of Regina, Regina,  
Saskatchewan, Canada

*Jamie Timmerman*, Northern Arizona University, Flagstaff, Arizona,  
USA

*John J. Wheeler*, Western Michigan University, Kalamazoo, USA

*Nguyen Thi Hoang Yen*, Ha Noi University of Education, Ha noi,  
Vietnam

*Kaili Zhang*, University of Hong Kong, Hong Kong

**Layout and Design:** Morgan Chitiyo  
Educational Psychology & Special Education  
Southern Illinois University Carbondale  
625 Wham Drive  
Carbondale IL 62901-4618

**Printed by:** SIUC Printing and Duplicating  
Service Building 1 – Mail code 6733  
Southern Illinois University Carbondale  
210 Physical Plant Drive  
Carbondale IL 62901  
618 453 2268 Fax 618 453 1643

Copyright © 2011, International Association of Special Education

*No part of this publication may be stored in a retrieval system, transmitted, or reproduced in any way, including, but not limited to, photocopy, photograph, magnetic or other record, without prior permission of the publisher. It is the responsibility of the author(s) to ensure the accuracy of the content in their articles. Also, it is the responsibility of the author(s) to obtain appropriate permission and ensure the ethical treatment of research participants. Points of view and opinions are those of the individual authors and are not necessarily those of the international Association of Special Education.*

# The Journal of the International Association of Special Education

Volume 12/Number 1

Spring 2011

## CONTENTS

<b>Note from the Editor</b>	
Morgan Chitiyo.....	2
<b>Pre-Service Teachers' Views about Inclusion in Singapore</b>	
Karen P. Nonis Tan Sing Yee Jernice.....	3
<b>Maximizing Access, Equity, and Inclusion in General and Special Education</b>	
Festus E. Obiakor.....	10
<b>Parents of Children with Hearing Impairment Accessing Counseling Services in Zimbabwe</b>	
John Charema Irma Eloff.....	17
<b>The Perils and Promises of Inclusive Education in Ghana</b>	
Beatrice A. Adera Lewis Asimeng-Boahene.....	28
<b>Effects and Social Validity of Differentiated Instruction on Student Outcomes for Special Educators</b>	
James M. Ernest Shirley E. Thompson Kelly A. Heckaman Karla Hull Jamie Yates.....	33
<b>Miscue Analysis of Oral Reading among Less Proficient Readers in Primary Schools in Brunei Darussalam</b>	
Juliana Bte Haji Abdul Hamid Okechukwu Abosi.....	42
<b>Using Course Assessments to Train Teachers in Functional Behavior Assessment and Behavioral Intervention Plan Techniques</b>	
Moira A. Fallon Jie Zhang Eun-Joo Kim.....	50
<b>The Emergence of Early Intervention for Children with Hearing Loss in China</b>	
Liu Shenglin Sharon A. Raver.....	59
<b>Adaptive Skills and Maladaptive Behavior of Adolescents with Autism Spectrum Disorders Attending Special Schools in Singapore</b>	
Kenneth K. Poon.....	65
<b>Stress Faced By Pakistani Mothers of Children with Intellectual Disabilities and its Impact on Their Family Life</b>	
Shahida Sajjad.....	71
<b>PRAXIS Article</b>	
<b>Peer-Collaboration: An Effective Teaching Strategy for Inclusive Classrooms</b>	
Sitembiso Ncube.....	79
<b>Submission Guidelines</b> .....	81
<b>PRAXIS Guidelines</b> .....	82
<b>Conference Information</b> .....	83

### **Note from the Editor**

Welcome to the 2011 edition of *The Journal of the International Association of Special Education (JIASE)*. The *JIASE* continues to attract quality work from authors around the world, which continues to give it a truly international focus as attested by the breadth and scope of this issue. This issue covers a variety of topics that are important to the advancement and provision of special education globally. The issue also includes a praxis article which I think many schoolteachers will find quite helpful in working with children with disabilities in inclusive settings.

I would like to thank all the Authors who contributed to this publication. I am also grateful to Lawrence Ametepee, the Managing Editor, and the Consulting Editors who provide invaluable feedback in a very timely manner which allows us to maintain a prompt turnaround for the authors. Special accolades should also go to Greg Prater for his continued leadership, guidance and advice. Without Greg's vision and guidance the journal would not be as successful. A final word of appreciation goes to Southern Illinois University Carbondale for the support I continue to receive towards publication of this journal.

I look forward to seeing many of you at the 12<sup>th</sup> Biennial Conference in Windhoek, Namibia, in July. While there, I invite you to join me and Greg Prater in a session where we will be discussing the *JIASE*. You can also find information about the journal on the IASE Website (<http://www.iase.org>).

Thank you,

Morgan Chitiyo

## Pre-Service Teachers' Views about Inclusion in Singapore

**Karen P. Nonis, Ph.D.**

Early Childhood & Special Needs Education  
National Institute of Education, Nanyang Technological University, Singapore  
Karen.nonis@nie.edu.sg

**Tan Sing Yee Jernice, M.Ed.**

Early Childhood & Special Needs Education  
National Institute of Education, Nanyang Technological University, Singapore  
jernice.tan@nie.edu.sg

### Abstract

*This study investigated pre-service general education teachers' views about including children with special education needs (SEN) into general classrooms in Singapore. While attitudes towards inclusion have been studied widely in other countries, little research in this area has been done in Singapore. In this study, the pre-service general education teachers (N = 114) were asked about their attitudes towards including children with SEN into their classroom. A survey method was used to elicit information on teacher's views towards (a) including children with SEN, (b) the quality or adequacy of their training and (c) the adequacy of resources to educate children with SEN in general classrooms. The teacher candidates in this study would eventually be posted into general schools. The findings of this study point to the overall positive attitudes of the pre-service general education teachers towards including children with SEN into their classrooms. The authors discuss the concerns that the pre-service general education teachers raised in relation to insufficient knowledge and lack of resources for including children with SEN in the general classrooms.*

### Pre-Service Teachers' Views about Inclusion in Singapore

Change in leadership together with strong economic growth marked a new beginning in special needs education in Singapore (Nonis, 2006; Teo, 2004). The recent legislative and economic changes have led to an increased number of children with special education needs (SEN) being included in general education classes.

Researchers have identified several facilitators of successful inclusive programs (Ching, Forlin & Au, 2007; Dymond, Renzaglia & Chun, 2008; Liber, Hanson, Beckman, Odom, Sandall, Schwartz, Horn & Wolery, 2000; McLaughlin, 1990; Mukhopadhyaya, 2008; Nonis, 2006; Nutbrown & Clough, 2004; Quah & Jones, 1996; Soodak, Podell & Lehman, 1998; Watnick & Sacks, 2006). Some facilitating factors are strong national and state policies that encourage inclusion, strong leadership and support for inclusive programs, personnel within any organization particularly supervisors and teachers, and availability of resources, including infrastructure, within classrooms and schools. Singapore is experiencing challenges regarding both policy and practice on the inclusion of children with SEN into general education schools (Bourke & Carrington, 2007; Farrell, 2004; Kalambouka, Farrell, Dyson & Kaplan, 2007; Kristensen, Omagor-Loican, Onen & Okot, 2006; Lim & Thaver, 2009; Mittler, 2008).

This study aimed to provide a better insight into pre-service general education teachers' views about including children with SEN into general classrooms.

### National Policy

The impact of national policy has been many changes in

the current state of special education in Singapore (Nonis, 2006; Teo, 2004). For example, time and money is spent in developing new special education teacher training programs and there has been an increased recruitment of teacher candidates and an emphasis on increasing other service providers such as special education teachers at local universities. In addition, efforts are being made to redesign Singapore's infrastructure to meet the needs of both persons with disabilities and the elderly. For example, the nation's transportation industry has increased public buses designed with plenty of room for wheelchair access and all of Singapore's public housing in most housing estates is currently undergoing a facelift, known as the Lift Upgrading Program (LUP, Housing and Development Board, 2010), to include lift landings for all floors for wheelchair and elderly access.

### *The Impact of the Change of National Policy on Teacher Training*

Teacher training has an important influence on the teachers' attitudes towards including children with SEN into general education (Avramidis & Kalyva, 2007; Buell, Hallam & Gamel-McCormick, 1999; Ching et al., 2007; Loreman, Sharma, Forlin & Earle, 2005; Mitchell & Hedge, 2007; Rakap, 2008; Watnick & Sacks, 2006). Loreman et al. (2005) reported positive trends in both Australian and Canadian pre-service teachers' attitudes towards inclusion which were linked to increase in knowledge of disabilities - a result of their training. Interestingly, the authors also reported gender differences in attitudes with females being more positive towards including children with SEN into general classrooms (Loreman et al., 2005).

In Singapore, to facilitate the inclusion of children with SEN into general schools, the Ministry of Education started training Special Needs Officers (SNOs) in 2005. These SNOs are also known as Allied Educators (AEDs) (Ministry of Education, 2010) and are recruited to support teachers working with children with SEN in general schools. The AEDs provide one-to-one and/or group support to children with SEN. The initial training program for AEDs consisted of one and a half years of part-time training, which resulted in the Diploma in Special Education (DISE) from the National Institute of Education (NIE). Currently, the training for the AEDs consists of a one-year full-time study and includes a 10-week teaching practicum at a general school where the AEDs would be working after graduation. In 2005, approximately 81 AEDs graduated from the program and were subsequently employed in general schools. Currently, there are 600 AEDs working in the schools (Ministry of Education, 2010). It is estimated that a total of about a thousand AEDs would be trained by the year 2030.

Further support for teachers in general schools, the Teachers Training in Special Needs (TSN; for more details on course structure visit <http://www.ecse.nie.edu.sg/ecse/tsn/index.html>), an in-service training program for already trained general education teachers in general schools was introduced. The TSN training was provided for 10% of teaching staff in all general schools to support students with mild disabilities in general classrooms. Introduced in 2005, the TSNs' work with Learning Support Coordinators, AEDs, teachers and school counselors and the Case Management Teams in general schools. Beginning with 180 teachers in 2005, an estimated 1250 teachers are expected to be trained under the TSN Program by the end of 2009. General Education teachers who complete three courses in the TSN Preparatory Training will be awarded a certificate in special needs support (<http://www.ecse.nie.edu.sg/ecse/tsn/index.html>) which has been introduced to meet the growing demand of support for children with diverse needs included in general classrooms.

Singapore does not believe in wasting time; with a clear mandate given through its national policy towards special needs and meeting the diverse needs of individuals, the country has moved efficiently to develop and implement new and/or enhanced initiatives in training in special needs. While the changes in training courses for AEDs and TSNs primarily serve to enhance the quality of education for children with SEN, the MOE has also increased the quantity of resources to support children with SEN (Ministry of Education, 2006).

Research on training teachers for inclusive classrooms suggests that quality programs include a hands-on approach, workshops and visitation to classrooms, and additional special educational classes as part of the teacher preparation for inclusive settings (Kraayenoord, 2003; Buell et al., 1999; Burstein, Sears, Wilcoxon, Cabello & Spagna, 2004). Kraayenoord (2003) suggested that in inclusive classrooms, teachers should be given time for reflection, listening and discussion of practices. However, providing time for reflection, discussion and listening for teachers in general schools can be a challenge (Salleh, 2006). Salleh reported that time for reflection amongst teachers in general education was a challenge.

Research indicates that teachers have a strong influence on the implementation and success of inclusion (Ching et al., 2007; Dymond et al., 2008; Lambe & Bones, 2006; Mitchell & Hedge, 2007; Mukhopadhyay, 2008; Rakap, 2008; Soodak et al., 1998; Watnick & Sacks, 2006). However, the lack of classroom resources such as appropriate teaching materials and strategies can inhibit the potential success of inclusion (Ahsan & Burnip, 2007, Kristensen et al., 2006; Wong, 2002). Little is known about the current resources available in general classrooms to support children with SEN.

Research indicates that while teachers in inclusive classrooms have an influence on the success of the program, barriers may exist that impede the successful inclusion of SEN in their classrooms (Farrell, Dyson, Polat, Hutcheson & Gallannaugh, 2007; Nonis, 2006; Rakap, 2008). For example, Farrell et al.'s (2007) study explored the relationship between achievement and inclusion in general schools in England and highlighted that one of the key concerns of many stakeholders, teachers and parents was the impact that inclusion had on the achievement of pupils without SEN in the school (Farrell et al., 2007). However, the study revealed that inclusion had no negative impact on the overall academic performance of pupils without disabilities (Farrell et al., 2007).

Furthermore, a study carried out with children with SEN (i.e. intellectual impairment, autism and hyperactivity) in general schools in Hong Kong found that the academic requirements were a great burden to the students and this affected their parents (Wong, 2002). As a result, Wong suggested that different inclusion strategies need to be incorporated for students with different disabilities.

Teachers have also expressed their concern about handling behaviors of children with SEN and the effect this would have on the other students in their classes (Ellins & Porter, 2005; Ford, 2007; Hastings & Oakford, 2003; Nonis, 2006; Rakap, 2008). Rakap (2008) reported that teachers had negative attitudes towards including students with disabilities into general classrooms. Specifically, only 35% of the teachers in Rakap's (2008) study were willing to include students with severe disabilities. Similarly, Nonis (2006) reported that only 25% of kindergarten teachers were confident of managing the behaviors of children with SEN in their classrooms while 57% rejected responsibility.

#### *The Challenge of Teacher to Pupil Ratio*

Class size and teacher to pupil ratio is another concern that could influence teacher's response to inclusion. Nonis (2006) reported that while the majority of kindergarten teachers agreed that they would include children with SEN into their classrooms, 33% did not think that a child with SEN would benefit from being included in a general education class particularly because of teacher to pupil ratios and class sizes. Cheng (2007) highlighted that class size could also affect the success of inclusion in Hong Kong. Cheng reported that a class size of 35 to 40 in primary and 30 in secondary schools was common. Teachers, as a result, found it difficult to attend

to the needs of children with SEN in their classrooms. Similarly, Lamb and Bones' (2006) study of student teachers' perceptions of inclusive teaching in Northern Ireland highlighted the need for the country's government to increase financial support for education which could then enable smaller class sizes. In Singapore, one could expect to have a class size of up to 40 students in primary and secondary schools. General schools have been encouraged to be creative in how they approach this challenge of class size especially when they have a child with SEN included in the classroom.

Research has indicated how a change in leadership and a more favorable national policy in relation to the enhancement of support for SEN have led to an increase in operational and professional development and the education and service for the growth of an inclusive education system in Singapore. Given the importance of the role of the teacher as one of the key influencing factors on the success of inclusion in general education, this study was designed to investigate pre-service general education teacher's attitudes towards inclusion.

## Method

### *Participants*

One hundred and fourteen (Male:  $n = 75$ , Female:  $n = 39$ ) pre-service general education teachers volunteered to participate in this study. A majority of the participants ( $n = 113$ ) had a bachelor's degree and some exposure to courses that included topics in special education. The participants' teaching experience ranged from none to four years. They took a 24-hour behavioral and learning problems elective course in fulfillment of the teacher training program. Participation in the study was voluntary and participants' consent was obtained prior to the beginning of the study and they could choose not to participate in the survey. Participants completed the survey at the university premises at the end of their elective course.

### *Administration of the Survey Instrument*

A modified version of a questionnaire developed by Nonis (2006) was adopted for this study. The questionnaire was in the form of a 5-point Likert Scale which solicited the participants' views about including children with SEN into general classrooms. The Likert Scale had three areas related to (a) teachers' attitudes towards inclusion, (b) adequacy of teachers' professional development and (c) adequacy of resources. Participants filled out the survey upon completion of the course and they could ask the lecturer any question relating to the survey. Participants were given an hour to complete the survey, although many took less than an hour.

### *Data Reduction and Analysis*

A trained researcher entered the data. Responses to each statement in the survey were analyzed using percentage responses for each category of the Likert Scale. To provide for further interpretation of the data, grouping of the responses using two groups of percentages where agree (1) and strongly agree (2) formed one group while responses disagree (4) and

strongly disagree (5) formed another group was used in this study.

## Results and Discussion

### *Pre-service Teachers' Views about Support for Inclusion*

Overall the results showed that 47% ( $n = 53$ ) of pre-service general education teachers supported inclusion while 18% ( $n = 21$ ) had the view that their schools would be supportive of inclusion (see Table 1). In comparison with Nonis' (2006) study of kindergarten teachers, the current study suggests that pre-service teachers in this study were cautious about including children with SEN into general classrooms. Thirty-five percent ( $n = 40$ ) of pre-service general education teachers were unsure about inclusion. However, when they were asked if they were given the opportunity to include a child with SEN in their class, a total of 47% ( $n = 53$ ) were confident that they would do so (see Table 1). While this study showed that only 47% of pre-service teachers in this study were positive towards including children with SEN into general classrooms, this view has also been expressed in other studies (Lambe & Bones, 2006; Nonis, 2006; Rakap, 2008; Warnick & Sacks, 2006).

Surprisingly, 44% ( $n = 50$ ) of the pre-service teachers in this study thought that the schools they may be posted to when they graduated, would not support including children with SEN into general classrooms. Despite all the news and information about the changes taking place in special education and children being included into general schools in Singapore, half of the cohort in this study did not think that general schools would support inclusion. A further 38% ( $n = 43$ ) were unsure about general school's view about inclusion. Unlike the pre-service teachers in this study, kindergarten teachers (77%,  $n = 58$ ) were confident of their kindergarten's support of including children with SEN into their classroom (Nonis, 2006). However, a closer look at the data shows that while the percentages were different, the number of responses were similar (Kindergarten teachers  $n = 58$ ; pre-service teachers in this study  $n = 50$ ). The reasons why pre-service teachers in general schools in this study were uncertain about general schools support for inclusion needs to be examined in future studies.

Pre-service teachers' in this study were of the view that both children with (55%,  $n = 63$ ) and without SEN (79%,  $n = 90$ ) would benefit from the interaction with each other (see Table 1). Pre-service general education teachers in this study disagreed with the statement that including children with SEN would have detrimental effects on children in general classrooms. This is consistent with the results reported in other studies (Bruns & Mogharrebane, 2007; Farrell et al., 2007; Kalambouka et al., 2007; Nonis, 2006). In the study by Bruns and Mogharreban (2007) using the STARS questionnaire investigating Pre-Kindergarten and Headstart Professionals perceptions about inclusion, the authors reported that 70% and 80% of the respective participants believed that young children with or without disabilities should receive services alongside each other. Similarly, Kalambouka et al. (2007) reported that there were no adverse effects on pupils with the inclusion of children with SEN in general schools.

Table 1

Percentage Responses of Pre-service Teachers' Attitude towards Inclusion (N=114)

Question	Strongly Agree % (n)	Agree % (n)	Unsure % (n)	Disagree % (n)	Strongly Disagree % (n)	No Response % (n)
1. Are you supportive of including children with special needs into general classrooms?	7 (8)	40 (45)	35 (40)	15 (18)	3 (3)	0 (0)
2. Do you think that general schools are supportive of inclusive education into their general classrooms?	1 (1)	17 (20)	38 (43)	41 (47)	3 (3)	0 (0)
3. Do you think that children with special needs can benefit/ learn from being in general classrooms?	6 (7)	49 (56)	26 (30)	13 (15)	5 (5)	1 (1)
4. Do you think that normal children can learn from interacting with children with special needs in general classrooms?	13 (15)	66 (75)	16 (19)	2 (2)	2 (2)	1 (1)
5. Do you think that normal children enrolled in general classrooms alongside children with special needs will have detrimental effects on the normal child?	0 (0)	8 (9)	39 (44)	44 (51)	9 (10)	0 (0)
6. If given the opportunity, would you include a child with special needs in your general classroom?	4 (5)	47 (53)	33 (38)	14 (16)	2 (2)	0 (0)

Note. Percentages are round up to nearest whole number.

#### *Pre-service Teacher's Knowledge, Experience and Training in relation to Educating Children with SEN*

The results revealed that the pre-service general education teachers were not of the view that they had sufficient knowledge (92%,  $n = 105$ ; see Table 2) to work with children with SEN. This finding that teachers were concerned about a lack of knowledge and expertise about working with children with SEN is supported by other studies (Ching et al., 2007; Ellins & Porter, 2005; Hastings & Oakford, 2003; Nonis, 2006; Rakap, 2008). Ching and colleagues (2007) reported that pre-service teacher's lack of experience and knowledge in managing diverse needs of students frightened teachers about including children with SEN into the classrooms. Pre-service teachers in this study had a range of years of teaching experience which could explain these results and needs to be examined with future research.

In the current study, 50% ( $n = 57$ ) were unsure if they could manage the behaviors of children with SEN in their classrooms (see Table 2). Other researchers have also reported that teachers are negative about including students with emotional and behavioral problems (Ellins & Porter, 2005; Ford, 2007; Hastings & Oakford, 2003). This response from the pre-service teachers in this study came somewhat as a surprise, since the Pre-service teachers in this study completed a 12-week elective course relating to behavioral problems of students in general classrooms. Based on the findings of this study, it is recommended that the current training in special needs and specifically relating to understanding behavioral and emotional problems of students in general classrooms should go beyond project work within general schools and lectures (Buell et al., 1999; Burnstein et al., 2004; Kraayenoord, 2003). Instead, a combination of lectures with hands-on practice, workshop and classroom visitations

suggested in other studies could be introduced in the training program (Buell et al., 1999; Burnstein et al., 2004; Kraayenoord, 2003).

Similar to Nonis (2006), Pre-service teachers in this study were of the view that they would develop better confidence teaching children with SEN with experience (see Table 2). Given that research has shown that teachers' lack of knowledge and confidence affects their attitudes towards including children with SEN into their classrooms, it is suggested that providing training programs beyond the theoretical foundations in special education would be necessary for successful training in special education (Ching et al., 2007). For example, Ching et al. (2007) suggested that a 20-hour module was insufficient to prepare student teachers to face the challenges of an inclusive setting. Instead, Ching et al. (2007) recommended that student teachers should be exposed to strategies and skills for working with children with SEN.

More than half of the sample in this study (69%,  $n = 79$ ; see Table 2) agreed that they would be interested in further training in special needs education. Encouragingly, the pre-service general education teachers, despite recently completing a full-time course, were receptive to further training in special needs education. One suggestion for this result is that pre-service general education teachers in Singapore are receptive and positive towards training in special needs education. A response that is critical at a point when Singapore is moving towards becoming increasingly responsive to the diverse needs within her community. This positive response towards training in special education was also expressed by pre-school kindergarten teachers (Nonis, 2006).



Table 2

*Percentage responses of pre-service teachers' knowledge, experience and training in SEN (N=114)*

Question	Strongly	Agree	Unsure	Disagree	Strongly	No
	Agree				Disagree	Response
	% (n)	% (n)	% (n)	% (n)	% (n)	% (n)
1. Do you think that you have sufficient knowledge to teach a child/ren with special needs in your general classroom?	0 (0)	8 (9)	27 (31)	49 (56)	16 (18)	0 (0)
2. Do you think that you are able to manage the behavior of children with special needs?	1 (1)	12 (14)	50 (57)	24 (28)	11 (12)	2 (2)
3. Would you be willing to go for additional workshops or training to learn about special needs?	15 (17)	54 (62)	24 (27)	4 (5)	3 (3)	0 (0)
4. Do you think that your confidence to teach children with special needs will improve as you have more experience with children with special needs in your general classroom?	23 (26)	52 (59)	16 (18)	5 (6)	4 (5)	0 (0)

*Note:* Percentages are round up to nearest whole number.

### *Pre-service Teachers' view of Support for Resources*

Overall, the results showed that pre-service general education teachers were of the opinion that they would not have sufficient instructional materials to teach children with SEN in general classrooms (53%,  $n = 60$ ; see Table 3). About 58% ( $n = 66$ ) of them were unsure if their schools would provide support to purchase the necessary materials to teach children with SEN in their class. While it can be expected that pre-service teachers in this study could not predict how their schools would respond to SENs, since they would only be posted after graduation, this finding raised some concern. The pre-service teachers in this study were uncertain about general school's support of SEN in Singapore. However, the reasons why pre-service general education teachers were unsure (18%,  $n = 21$ ; see Table 3) that their schools would provide support to purchase specific materials to assist children with SEN in their general classrooms warrant further investigation. Based on the findings of this study, it is suggested that it would be important to ensure that pre-service teachers become aware of the support of general schools to provide them with the necessary resources for including children with SEN in general classrooms since this could influence them away from inclusion (Bradshaw & Mundia, 2006; Dymond et al., 2008). Consequently, it is recommended that presentations highlighting the types of support for inclusion of children with SEN into general schools be included in induction programs for pre-service general education teachers entering the teaching profession.

### *Limitations*

The findings of this study should be interpreted with caution given the limitation that the population sample was restricted to the group of pre-service general education teachers from a class of an elected course in special education. Given that the participants do not represent the whole cohort of pre-service teachers in training, any conclusions drawn may

not be reflective of all pre-service general education teachers' views in Singapore. The pre-service teachers in this study had a number of years of teaching experience ranging from zero to four years and thus, they were relatively new to the teaching profession which could have affected their responses especially in the area of resources and support of the school they would be posted to after graduation.

### **Recommendations and Conclusion**

In conclusion, the overall results indicate that pre-service general education teachers in this study were more cautious about including children with SEN into schools as a whole. However, when they were asked if they would personally include a child with SEN into their classrooms, they were more confident in their support. Pre-service general education teachers were of the opinion that both children with and without SEN in general classrooms would benefit from interactions with each other. However, of concern was that they were unsure and had mixed views of general schools' position to support the classrooms. However, this may be explained by the limited number of years they were in the teaching profession and their uncertainty about which schools they would be posted to upon graduation.

Pre-service general education teachers in this study expressed concern about insufficient knowledge in dealing with students with behavioral and emotional problems even after completing a 12-week elective course on the subject matter. The implication of this finding is that courses in special education will need to include hands-on, classroom observations and visitations and workshops. Encouragingly, this study revealed that pre-service teachers in this study were receptive to continued training in developing their knowledge base of children with SEN. This positive attitude towards training is especially important when more children with SEN are being included into general classrooms and teachers need to be trained in SEN.

Given that the literature indicates that pre-service teachers'

Table 3

Percentage Responses of Teachers' to Support of Resources in General Schools (N=114)

Question	Strongly Agree % (n)	Agree % (n)	Unsure % (n)	Disagree % (n)	Strongly Disagree % (n)	No Response % (n)
1. Do you anticipate that you will have sufficient instructional materials to teach children with special needs in your classroom?	2 (2)	9 (11)	36 (41)	45 (51)	8 (9)	0 (0)
2. Do you anticipate that your school will provide support to purchase the necessary resources for teaching children with special needs in the general classroom setting?	0 (0)	24 (27)	58 (66)	16 (19)	2 (2)	0 (0)

Note. Percentages are round up to nearest whole number.

views of limited resources could influence teachers' attitudes away from inclusion, it would be important to develop their confidence in the support that general schools would provide for inclusive settings. For example, Wilson (2006) reported that providing outreach early intervention programs in public schools supported the public school professionals with students who were deaf or hard of hearing better.

While the overall findings of this study suggest overall positive attitudes of pre-service teachers in general schools, the conclusions should be interpreted with caution. It is recommended that a larger representation of teachers in pre-service teacher education be included in future studies.

## References

- Ahsan, M. T., & Burnip, L. (2007). Inclusive education in Bangladesh. *Australasian Journal of Special Education, 31*(1), 61-71.
- Avramidis, E., & Kalyva, E. (2007). The influence of teaching experience and professional development in Greek teachers' attitudes towards inclusion. *European Journal of Special Needs Education, 22* (4) 367-389.
- Bradshaw, L., & Mundia, L. (2006). Attitudes and concerns about inclusive education: Bruneian inservice and preservice teachers. *International Journal of Special Education, 21* (1), 35-41.
- Bruns, D. A., & Mogharreban, C. C. (2007). The gap between beliefs and practices: Early childhood practitioners' perceptions about inclusion. *Journal of Research in Childhood Education, 21*(3), 229-240.
- Bourke, P., & Carrington, S. (2007). Inclusive education reform: Implications for teacher aides. *Australasian Journal of Special Education, 31*(1), 15-24.
- Buell, M. J., Hallam, R., & Gamel-McCormick. (1999). A survey of general and special education teachers' perceptions and in-service needs concerning inclusion. *International Journal of Disability, Development and Education, 46*(2), 143-156.
- Burstein, N., Sears, S., Wilcoxon, A., Cabello, B., & Spagna, M. (2004). Moving toward inclusive practices. *Remedial and Special Education, 25*(2), 104-116
- Cheng, C. Y. K. (2007). Challenges posed on inclusive education in Hong Kong and their implications for educational provision and intervention. *Hong Kong Special Education Forum, 9*, 32-46.
- Ching, C. S., Folin, C., & Au, M. L. (2007). The influence of an inclusive education course on attitude change of pre-service secondary teachers in Hong Kong. *Asia-Pacific Journal of Teacher Education, 35*(2) 161-179.
- Dymond, S. K., Renzaglia, Chun, E. J. (2008). Inclusive high school service learning programs: Methods for and barriers to including students with disabilities. *Education and Training in Developmental Disabilities, 43*(1), 20-36.
- Ellins, J., & Porter, J. (2005). Departmental differences in attitudes to special educational needs in the secondary school. *British Journal of Special Education, 32*(4), 188-195.
- Farrell, P. (2004). Making inclusion a reality for all. *School Psychology International, 25*(1), 5-19.
- Farrell, P., Dyson, A., Polat, F., Hutcheson, G., & Gallannaugh, F. (2007). The relationship between inclusion and academic achievement in English mainstream schools. *School Effectiveness and School Improvement, 18*(3), 335-352.
- Ford, J. (2007). Educational supports for students with disabilities and significant behavioral challenges: Teacher perceptions. *Australasian Journal of Special Education, 31*(2), 109-127.
- Hastings, R., & Oakford, S. (2003). Student teachers' attitudes towards the inclusion of children with special needs. *Educational Psychology, 23*(1), 87-94.
- Housing Development Board. (2010, January 19). *What is Lift Upgrading Programme (LUP)*. Retrieved from [http://www.hdb.gov.sg/fi10/fi10328p.nsf/w/UpgradeWhatsLUP?](http://www.hdb.gov.sg/fi10/fi10328p.nsf/w/UpgradeWhatsLUP?OpenDocument) OpenDocument. Singapore: HDB InfoWEB, Housing Development Board (HDB)
- Kalambouka, A., Farrell, P., Dyson, A., & Kaplan, I. (2007). The Impact of placing pupils with special educational needs in mainstream schools on the achievement of their peers. *Educational Research, 49*(4), 365-382.
- Kraayenoord, C.V. (2003). The task of professional development. *International Journal of Disability, Development and Education, 50*(4), 363-365.
- Kristensen, K., Omagor-Loican, M., Onen, N., & Okot, D. (2006). Opportunities for inclusion? The education of learners with special educational needs and disabilities in special schools in Uganda. *British Journal of Special Education, 33*(3), 139-147.
- Lambe, J., & Bones, R. (2006). Student teachers' perceptions about inclusive classroom teaching in Northern Ireland prior to teaching practice experience. *European Journal of Special Needs Education, 21*(2), 167-186.
- Lim, L., & Thaver, T. (2009). Preparing the inclusive teacher in Singapore through the "road less travelled". *Hong Kong Special Education Forum, 11*, 12-27.
- Liber, J, Hanson, M. J., Beckman, P. J., Odom, S. L., Sandall, S. R., Schwartz, I. S., ... Wolery, R. (2000). Key influences on the initiation and implementation of inclusive programs. *Exceptional Children, 67*(1), 83-98.

- Loreman, T., Sharma, U., Forlin, C., & Earle, C. (2005, August) *Pre-service teachers' attitudes and concerns regarding inclusive education*. Paper presented at ISEC 2005. Scotland: Glasgow.
- McLaughlin, M. W. (1990). The Rand change agent study revisited: Macro perspectives and micro realities. *Educational Researcher*, 19(9), 11-16.
- Ministry of Education. (2006, June 19). [Press Releases]. *Greater support for students with special needs in selected schools in 2007*. Retrieved from <http://www.moe.gov.sg/media/press/2006/pr20060619.htm>
- Ministry of Education. (2010, February 10). [Press Releases]. *Information Sheet on Allied Educators*. Retrieved from <http://www.moe.gov.sg/media/press/2009/02/information-sheet-on-allied-ed.php>
- Mitchell, L. C., & Hedge, A. V. (2007). Beliefs and practices of in-service preschool teachers in inclusive settings: Implications for personnel preparation. *Journal of Early Childhood Teacher Education*, 28, 353-366.
- Mittler, P. (2008). Planning for the 2040s: Everybody's business. *British Journal of Special Education*, 35(1), 5-10.
- Mukhopadhyay, S. (2008, June). *Pre-service special education teacher's attitude towards including students with severe speech and physical impairment in Botswana*. Paper presented at the 2<sup>nd</sup> International Conference on Special Education. Turkey: Marmaris, Mugla.
- Nonis, K. P. (2006). Integrating children with special needs: Singapore preschool teachers share their feelings: preliminary investigation. *The Journal of the International Association of Special Education*, 7(1), 4-10.
- Nutbrown, C., & Clough, P. (2004). Inclusion and exclusion in the early years: conversations with European educators. *European Journal of Special Needs Education*, 19(3), 301-315.
- Quah, M. M. L., & Jones, K. (1996). The professional development needs of learning support coordinators in Singapore primary schools. *European Journal of Special Needs Education*, 11(2), 181-190.
- Rakap, S. (2008, June). *Teacher's attitudes towards inclusion/integration in Turkey*. Paper presented at the 2<sup>nd</sup> International Conference on Special Education. Turkey: Marmaris, Mugla.
- Saleh, H. (2006). Action research in Singapore: Constraints and sustainability. *Educational Action Research*, 14(4), 513-523.
- Soodak, L. C., Podell, D. M., & Lehman, L. R. (1998). Teacher, student and school tributes as predictors of teachers' responses to inclusion. *Journal of Special Education*, 31, 480-497.
- Teo, L. (2004, 19 September). \$220m school aid for disabled kids. *The Sunday Times*, p. 8
- Watnick, B., & Sacks, A. (2006). A snapshot of teacher perceptions on full inclusion in an international urban community: Miami-Dade County, Florida. *The Journal of the International Association of Special Education*, 7(1), 67-74.
- Wilson, K. (2006). Beyond early intervention: providing support to public school personnel. *The Volta Review*, 106(3), 419-431.
- Wong, D. K. P. (2002). Struggling in the mainstream: The case of Hong Kong. *International Journal of Disability, Development and Education*, 49(1), 79-94.

# Maximizing Access, Equity, and Inclusion in General and Special Education

Festus E. Obiakor, Ph. D.  
University of Wisconsin-Milwaukee  
fobiakor@uwm.edu

## Abstract

*The goal of any educational program is to help its students to maximize their fullest potential in inclusive environments. For many students with disabilities, having an inclusive environment seems to be an ideal policy. Ironically, this policy continues to be debatable and controversial. Sometimes, the controversy or debate dominates the real mission, making the ideal goal unrealistic. Because of the condition of their disabilities, students experience educational professionals and service providers who not only downplay their capabilities and willingness to live a “normal” life, but also exclude them in educational processes. To increase normalcy in their lives, it is important that they are educated with their typical peers in environments that are accessible, equitable, and inclusive. This is the premise of this article.*

## Maximizing Access, Equity, and Inclusion in General and Special Education

The inclusion of students with disabilities in general education classrooms has continued to stimulate policy debates in education. King (2003) explained that “inclusive education means that all students within a school regardless of their strengths or weaknesses, or disabilities in any area become part of the school community” (p. 152). Inclusion is built on the principle that all students should be valued for their exceptional abilities and included as important members of the school community (Causton-Theoharis & Theoharis, 2008; Council for Exceptional Children, 1993). As it appears, it is a matter of entitlement, an issue of belonging within an educational community on equal terms (Hall, Collins, Benjamin, Nind, & Sheehy, 2004). Though these derivatives are positive and sometimes popular, full inclusion seems to have applicability and practicality problems; and as a policy, it continues to be controversial (Allan, 2003; Clegg, Murphy, Almack & Harvey, 2008; Cole, 1999; Craft, Chappell, & Twining, 2008; Hilton, 2006; Kauffman, 2002; Kauffman & Hallahan, 1995; Mager, 2004; Schumaker, Deshler, Bulgren, Davis, Lenz, & Grossen, 2002; Whitty, 2001).

About two decades ago, the Council for Exceptional Children (1993) developed its policy on inclusive schools and communities. It urged policy makers to “fund programs in nutrition, early intervention, health care, parent education, and other social programs that prepare all children, youth, and young adults to do well in school” (p.1). A few years later, Cole (1999) presented the structure of arguments that support or oppose inclusion policies, namely: (a) *consequentialist argument* that requires empirical methods to quantify positive and negative outcomes of inclusion policies; (b) *justice argument* that focuses on the importance of equality and fairness in the delivery and services to persons with and without disabilities; (c) *rights argument* that focuses on rights of persons with disabilities to receive services; and (d) *needs argument* that focuses on the specific needs of persons with disabilities. Cole concluded that these arguments lack practicality since they fail to reconcile parental rights of educating their children and the state’s goals of reducing costs. In the same vein, Allan (2003) argued that “barriers to inclusion extend beyond school systems and include ways of

knowing (special education), ways of learning (to be a teacher); and ways of working (within accountability regimes)” (p. 178). Allan added that being inclusive “means being political; listening to what children and their parents say about what inclusion means for them; and recognizing the way in which we ourselves are implicated in practices that exclude” (p. 178). Not long ago, Clegg et al. (2008) made similar observations. As they pointed out:

There is a need to address service gaps but, more importantly to acknowledge the moral pressures and judgments that complicate decision making and to shift the moral compass away from individual achievement and towards engagement and relationships. Inclusion fails not as an idea, but as a policy that has been tied to young people with disability somewhere, when what they need is the activities and relationships that support them to become someone. (p.93)

While the debates on full inclusion take place in educational policy circles, it is dangerous to miss the big picture about educating all learners in inclusive environments. The clear goal of any educational program must be to buttress access, equity, and inclusion. Embedded in these imperatives is social justice.

Social justice is a central ingredient of inclusion because it is in opposition to exclusion. In addition, social justice focuses on challenging the arrangements that promote the continuation of marginalization and exclusionary practices; and it supports a foundational process of respect, care, recognition, and empathy (Theoharris, 2007). Earlier, Fullan (2003) discussed these same proponents as essential characteristics in building an ethical school. Within ethical schools, social justice is a major component of the belief systems of educators. Frattura and Capper (2007) confirmed that the inclusion of students in the general education curriculum and environment is an issue of equity and social justice. They contended that in order to develop an inclusive school where all students feel as a part of the school’s community, school officials must engage in reflections about (a) the current state of the school as it relates to social justice for students with disabilities, (b) what they need to do to get there, and (c) how they are going to do it. With inclusion, students with disabilities are able to achieve academic success and emotional stability while learning with their typical peers (Hall et al., 2004).

Inclusion in schools is not far removed from the social justice reform movement in education. In fact, it is an issue of social justice since it cannot and will not be a reality in schools where students are segregated from their typical peers in curriculum and instruction (Theoharris, 2007). Students with disabilities have historically been excluded from learning aside their typical peers, denied access to the general education curriculum, and educated in programs with little to zero accountability (Artiles, Harris-Murri, & Rostenberg, 2006). Due to this lack of accountability, students with disabilities get subjected to educational programs that do not prepare them for life. As a result, they lack the basic skill sets of reading, writing, and mathematics. Since we do not generally live in homogenous or separatist society, our students with disabilities must be provided with programs that are accessible, equitable, and inclusive. This is the focus of this article.

### **The Quest for Accessible, Equitable, and Inclusive Educational Placement**

The 1954 *Brown v. Board of Education* case opened the doors for parents and educators to argue for equal accessibility to schooling for students with disabilities (Obiakor & Utley, 2004). The doors were further opened by the Civil Rights Act of 1964. In 1994, the World Conference on special needs education, concluded that “regular schools with [an] inclusive orientation are the most effective means of combating discriminatory attitudes, creating welcoming communities, building an inclusive society and achieving education for all” (Foreman & Arthur-Kelly, 2008, p. 110). Within inclusive classrooms, students feel connected to their peers and have access to meaningful, rigorous general education curricula (Causton-Theoharis & Theoharis, 2008). Approximately 70 percent of students with disabilities are educated in the general education classroom amongst their typical peers (King, 2003); however, *some* students with exceptionalities are educated in separate facilities from their typical peers. As Katsiyannis, Yell, and Bradley (2001) observed, more than 1.75 million students with exceptionalities failed to receive educational services, forcing families to seek costly educational services outside the public sphere.

From a legal perspective, special education is supposed to provide an avenue through which children with disabilities are guaranteed to receive specifically designed instruction to assist them in maximizing their highest potential. Special education is a necessary component of public education that provides services to students with exceptionalities; and it includes effective methods of specially designed instruction for students who require specific, controlled, monitored, and intensive content (Hockenbury, 1999). In addition, it provides these students with an education that achieves meaningful outcomes while simultaneously experiencing learning as valued members of general classes and schools (Ford, Davern, & Schnorr, 2001). Historical exclusionary practices, such as educating students with disabilities within separate facilities and outside of the general education are contradictory to the goals of educating students in the least restrictive environment (LRE).

The LRE mandate of the Education of All Handicapped Children’s Act of 1975 was later reauthorized as a mandate of the Individuals with Disabilities Education Act (IDEA) of 1990 and 1997 and the Individuals with Disabilities Education Improvement Act (IDEIA) of 2004. The LRE mandate stated that students with disabilities must be educated with non-disabled peers to the “maximum extent appropriate,” “and that they may be removed from the general education environment only if they cannot be satisfactorily educated with the use of supplementary aides and services” (Hosp & Reschly, 2003, p. 68). Further, the LRE ensures that these students must have access to the general curriculum and be taught with their typical peers (Turnbull, 2003). As a result, fully integrated applications of learning strategies designed originally for students with disabilities are implemented, and scores on the No Child Left Behind Act of 2001 have increased as sanctioned accountability measures for all students have increased (Sailor & Roger, 2005). In other words, where students are educated and placed can influence their performance.

It is common knowledge that placement decisions can cause “unrealistic expectations, prejudicial generalizations, illusory conclusions, and deceptive self-aggrandizement” (Obiakor, 2001, p. 84). It is also critical to know that different placement options can benefit students with disabilities. As a placement option, *inclusion* is where students are served within the general education environment with their typical peers. *Resource* is where students are pulled out of the regular education environment and served outside of the regular environment, usually in the special education classroom. *Self-contained* or most restrictive placement (MRP) is where students, with moderate to profound needs, remain in a special education classroom for the majority of their school day. *Alternative placement* is where students are served outside of the general public school. And, *institution* is where services are provided to children in a day or residential treatment center or the like. Though these placement options are debatable, many researchers have found inclusion to be beneficial to students with and without disabilities. For instance, Pugach and Warger (2001) stated that the general education environment is optimal for the greatest success in education. Furthermore, many parents and professionals of students with disabilities have agreed that most students with disabilities should receive the greatest portion of their education within the general education classroom with their typical peers (Cardona, 2009). Earlier, Klinger and Vaughn (1999) analyzed 20 studies that investigated the perceptions of learning of over 4,659 students in kindergarten through 12<sup>th</sup> grade. Among this group of students, 760 students had high incidence disabilities. The studies revealed that students with disabilities wanted to (a) learn the same material, (b) use the same books, and (c) enjoy homework and grading practices as their typical peers.

To achieve equitable and inclusive placements, collaboration and consultation of all stakeholders must be at the forefront. It is critical to understand some placement principles to increase access, equity, and inclusion (Obiakor, 2001, 2007), namely:

- Race and culture can matter in the placement of students.

- Placements must be based on needs and not on students' racial or cultural identities.
- Language differences should never be misconstrued as a lack of intelligence.
- Empathy is an important ingredient of good placement.
- Good placements are usually the LREs.
- Differences are not deficits.
- Students are best served when their due process rights are respected.
- Appropriate inclusion reduces biased exclusion of students in classroom activities.
- Prejudicial placements have devastating effects on students.
- The unique differences students bring to the classroom must be valued.

### *The Case of Miguel*

The placement of students with disabilities into the general education classroom ensures they participate equitably within the general curriculum (Council for Exceptional Children, 1993; Mastropieri & Scruggs, 2001). This has not been easy to achieve! See the case of Miguel below:

At the age of eight, third grader, Miguel was diagnosed as a student with a learning disability. He was bilingual and used Spanish whenever in dialogue with his father, a native of Mexico who did not speak English. However, Miguel and his Caucasian mother spoke English to one another. The school considers Miguel's home to be a bilingual household in that both English and Spanish were frequently used in the home environment. Miguel enjoyed math tasks and demonstrated strength within this area. One the other hand, he was not very enthusiastic about reading. Additionally, he had difficulty with maintaining focus while being instructed by his general education teacher. The teacher was concerned that because Miguel was so "busy" during class time he was not retaining the information from class. His teacher reported several behaviors about him that were concerning to her. He was out of his seat more often than he was in his seat and he did not raise his hand to answer questions. The teacher concluded that these behaviors interfered with Miguel's learning and the learning of others and clearly was indicative of a learning disability. His reading skills appeared to be low and his teacher wanted him tested for special education services. Miguel did meet the criteria for a student with a learning disability. Immediately, he was assigned to a special education resource teacher. The teacher pulled Miguel out of his general education classroom for reading and writing. This was approximately one to two hours of time spent outside of his general education classroom without his friends in general education. Miguel's reading skills did not get to grade level and his behavior did not improve. However, he remained engaged in math in the general education classroom, even when the curriculum required a large amount of reading. On the contrary, as

Miguel approached middle school, whenever he had to leave his general education classroom to come to the special education classroom, the behaviors would manifest within the small group at a more intense rate than what the general education teacher reported. It became clear that he would have been better served in the inclusive classroom.

Miguel's story is not uncommon in today's schools. His case is complicated by his cultural and linguistic differences. Apparently, we force such students to become a part of a system that is ultimately damaging to their academic and social achievements. Students with disabilities, such as Miguel, want to be a part of the classroom community of learners with their peers. They do not want to be excluded or stigmatized based on their placements. To help students like Miguel to maximize their potential in accessible, equitable, and inclusive programs, the Comprehensive Support Model (CSM) (see Obiakor, 2001, 2008; Obiakor, Grant, & Dooley, 2002) has been known to work. The CSM involves the collaborative and consultative interdependent energies of several key elements (i.e., the *student, family, school, community, and government*). These key elements must work together to build a strong and proactive foundation of access, equity, and inclusion. When one element lags behind or fails, we "scotch the snake, but not kill it." Put another way, the "whole village" must work together to foster access, equity, and inclusion.

As it was noted elsewhere (Obiakor et al., 2002), the CSM has mutually inclusive elements that are operational when:

- The development and use of identification, assessment, and instructional strategies function within multidimensional and cultural contexts.
- The creation of a collaborative system of community support for families has its guiding principle in the eradication of social stereotyping based on race, ethnicity, national origin, gender, and socioeconomic status.
- The development of an awareness and appreciation for the many family forms values individual differences and strengths.
- The thwarting of conditions leading to violence in the home or the community cultivates a sense of safety for children and families.
- The advocacy for economic policies and human services attests to being pro-family by virtue of proven outcomes.
- The promotion of culturally competent practices in schools and in the larger society respects differences in world-views and learning styles among individuals.
- The advocacy for expanded services provides for affordable quality childcare to meet the varied needs of all families and children (e.g., infant and adolescent 24-hour care and weekend care).
- The development of collaborative community approaches to problem solving involves students, parents, schools, community leaders, and government agencies.

- The recognition that the problem in at-risk situations is not only in the individual but also in institutional barriers in the environment.
- The reconfiguration of curricula eliminates the hidden curriculum and other culturally insensitive curricula variables.
- The reinstatement of rites of passage and service opportunities cultivates a sense of belonging and resiliency in youth.
- The broadening of visions in educational reform includes economic reform and the investment in human capital.

### Using the CSM to Maximize Access, Equity, and Inclusion

The aforementioned elements of the CSM must be functional in nature to lead to goal-directed decisions of stakeholders (i.e., students, families, schools, communities, and government agencies). Surely, these stakeholders have to play specific and interrelated roles to foster access, equity, and inclusion and facilitate the potential for school success and completion.

#### *The Student's Role in Fostering Access, Equity, and Inclusion*

The "self" is an important ingredient in the growth of students. Based on the CSM, the student has roles to play in fostering access, equity, and inclusion. This is not the traditional "blame-the-victim" idea; it is the individual's power and ability to be involved in his/her destiny (Obiakor et al., 2002; Obiakor & Weaver, 1995). There are success stories of persons who have refused to give up when life's crises appear unbearable in the face of adversities. These persons have pulled themselves up by their own boot straps, even though some had boots without straps and straps without boots. Since the "self" is so important in increasing academic and human achievements, students must be taught or empowered to be resilient and believe in themselves (Brooks, 1991; Obiakor & Beachum, 2005a). They must be taught to build their self-knowledge, self-esteem, and self-ideal even in the face of adversities. Specifically, they can be empowered to:

- Develop self-talks and individual plans.
- Relax and not jump to conclusions.
- Learn to work collaboratively and consultatively with others.
- Engage in positive thinking.
- Talk with counselors about personal and school problems.
- Be a part of school conflict resolution teams.
- Inform adults and parents when situations are not going right.
- Manage their time properly.
- Respect school regulations and society's laws.
- Utilize mentors from the school and community.

#### *The Family's Role in Fostering Access, Equity, and Inclusion*

Families are extremely important in the education of their children. To a large measure, family functioning and parent-child relationships can be helpful in the educational processes of access, equity, and inclusion (Kerka, 2000). Parents must be proactive, involved, and supportive in school programs. Even when they cannot, they should be empowered to maximize the potential of their children (Harry, 1992). Clearly, negative home circumstances can affect school performance; and when parents are discouraged in the education of their children, they become unaware of how their children perform. We cannot divorce parents from the education of their children. It is important that we proactively empower families to increase access, equity, and inclusion. Kerka concluded that proactive families:

- Are well-organized, cohesive, and expressive.
- Are extroverted and manage conflict positively.
- Seek out ways to grow.
- Make decisions through the democratic process.
- Are sociable.
- Encourage individual development.
- Are emotionally engaged.
- Are willing to work with their child, school authorities, and community and government agencies.

#### *The School's Role in Fostering Access, Equity, and Inclusion*

Schools provide fundamental nurturing environments for students' growth. They have the power to uplift humanity, especially when teachers and service providers are well-prepared. Poorly prepared, ill-prepared, or unprepared professionals negatively impact their students' access, equity, and inclusion. Renchler (1992) agreed that schools can increase students' motivation by implementing policies that promote:

- Goal-setting and self-regulation.
- Student choices.
- Student achievements.
- Teamwork and cooperative learning.
- Self-assessment models rather than social comparisons.

Apparently, schools can reduce the *failure syndrome* (Brophy, 1998; Salisbury, 2006; William Bost, 2007; William Bost & Riccumini, 2006) by enhancing accessible, equitable, and inclusive education strategies for students. The failure syndrome can be reversed when schools value their students, collaborate with families, work with community members, and consult with government agencies (D. King, 2003; Obiakor et al., 2002; Obiakor, Algozzine et al., 2002). For instance, D. King concluded that teachers and service providers must arrange and modify their classrooms and programs to:

- Facilitate on-task behaviors.
- Facilitate listening and attending skills.
- Facilitate academic performance.
- Make implementation of a behavior management system easy.

- Allow for large, small, and cooperative grouping and one-on-one instruction.
- Have a place for students to relax.
- Provide students with private space. (p. 12)

In addition to the above imperatives, schools must have prudent professionals who can use common sense or intelligent approaches to solve problems of access, equity, and inclusion (Algozzine, 1995; Chomsky, 2000). These professionals must engage all students with *realistic* expectations (Obiakor, 1999; Rosenthal & Jacobson, 1968) and avoid the *myth of socioeconomic dissonance* (i.e., when poverty is viewed as the ultimate cause of all students' malaise). Poverty does not mean that students and their parents have "poor" intelligence, "poor" self-concept, and "poor" zest for success (Gould, 1981; Hale, 2001; Obiakor, 2001, 2007, 2008; Obiakor & Beachum, 2005a, 2005b; Utley & Obiakor, 2001; Watkins, Lewis, & Chou, 2001; Williams & Obiakor, 2009). To avoid all forms of discriminatory and derogatory actions that increase exclusion or widen achievement gaps in schools, general and special educators and school leaders must:

- Know who they are (i.e., acknowledge their strengths and weaknesses).
- Learn the facts when they are in doubt (i.e., be inquisitive about learning).
- Change their thinking (i.e., reframe their perspectives).
- Use resource persons (i.e., involve families and community members).
- Build self-concepts (i.e., encourage people to know, value, and empower themselves).
- Use divergent techniques (i.e., be multidimensional in teaching and learning).
- Make the right choices (i.e., shift paradigms and powers).
- Continue to learn (i.e., become lifelong learners).

#### *The Community's Role in Fostering Access, Equity, and Inclusion*

The community traditionally houses a wealth of resources that students can access for academic and social development (Ford, 2002). Additionally, students can take advantage of the many learning opportunities that are available within the community (e.g., libraries, museums, schools, jobs, and entrepreneurial offers). When done right, these learning opportunities tend to improve access, equity, and inclusion, and in the long run, close achievement gaps. To a large extent, some communities are more forward-looking than others; and some are extremely destructive to their children and youth. Dooley and Toscano-Nixon (2002) noted that some communities are:

- *Dysfunctional and struggling* – In such communities, "the problem can be traced back to either the role that community members are playing or the direction that community members are following" (p. 103).
- *Borderline* – In such communities, "there is universal community participation and the citizens rely heavily on the government to impose changes" (p. 104).

- *Conscientious* – In such communities, "all members assume their social and moral responsibilities to their community's social and economic growth" (p. 106).

To foster accessible, equitable, and inclusive education and increase school success rates, the goals and objectives must be to have conscientious communities that:

- Develop cutting-edge programs that build capacity for change for students at-risk.
- Help to build responsible citizens through churches, mosques, synagogues, and community agencies (e.g., YMCA, YWCA, Boy Scouts, Girl Scouts, Boys and Girls Club, and Urban League).
- Discover softer ways to manage behavior problems and not build jails/prisons to replace schools.
- Collaborate, consult, and cooperate as they tackle perennial educational problems that confront students.
- Have as their slogan, "Together we can make a difference," and as their principle, "It takes a whole village to raise a child."

#### *The Government's Role in Fostering Access, Equity, and Inclusion*

The government cannot be divorced from the education of its citizens. It must do whatever it can to enhance access, equity, and inclusion. It is no surprise that the government has initiatives and laws that have been instrumental in buttressing some levels of accountability in schools and communities (Obiakor, 2004, 2007; Obiakor et al., 2002). In many cases, they have provided funding to various institutions, school districts, and community organizations to foster access, equity, and inclusion and further create innovative educational programs such as Charter, Voucher, and Choice Schools. Specifically, these initiatives have provided funds for school districts that mostly cater to the needs of the most vulnerable and disenfranchised in our society (Obiakor, Beachum, & Harris, 2005; Vesely, Crampton, Obiakor, & Sapp, 2008). Clearly, to effectively foster access, equity, and inclusion in education for students, it is imperative that local, state, and federal governments establish policies that:

- Buttress positive changes and advancements in traditional programs.
- Support laws that protect students and stakeholders. For instance, due process of students, parents, and teachers must be maintained.
- Impose penalties on institutions that violate the civil rights of any student.
- Engender funding for innovative inclusive programs and techniques that work.
- Increase funding for research that discovers new ways of teaching, learning, and intervention (e.g., Response-to-Intervention).
- Bring professionals and agencies together in the form of conferences and summits.
- Make programs accountable to their consumers/students.
- Assist institutions in shifting their paradigms and powers.



- Support the reward of visionary leaders and programs that do what they are supposed to do.

### Conclusion

Educating students with disabilities within the general education classroom, from a policy perspective, signifies that these students are not only members within the classroom and school community, but that they are also valued as unique learners within that community. It is important for educators and service providers to understand their role in facilitating accessible, equitable, and inclusive programs within the school and making it a part of the culture of the school in which students are learning. It is critical for school leaders and policy makers to build consensus around the vision that all students can achieve at high levels within an inclusive community of learners.

To a large measure, education must have the power to uplift humanity. A logical extension is that it has the power to reduce discrimination, segregation, and social exclusion. For education to be education, it has to value and include all learners despite their abilities and disabilities. And, for inclusion to work, it must be located within a broader social policy framework since most policies succeed when they avoid unrealistic expectations and daredevil dreams of the past, present, and future. As a realistic antidote to systemic exclusionary educational policies, the CSM provides collaborative and consultative interactions of all stakeholders, including students, families, schools, communities, and government agencies. The CSM must be incorporated into general and special education policies and programs to encourage valuing of stakeholders' strengths. Remember, "it takes a whole village to raise a child!"

### References

Algozzine, B. (1995). *Teachers little book of wisdom*. Merrillville, IN: ICS Books.

Allan, J. (2003). Productive pedagogies and the challenge of inclusion. *British Journal of Special Education*, 30(4), 175-179.

Artiles, A. J., Harris-Murri, N., & Rostenberg, D. (2006). Inclusion as social justice: Critical notes on discourses, assumptions, and the road ahead. *Theory Into Practice*, 45(3), 260-268.

Brooks, R. (1991). *The self-esteem teacher*. Circle Pines, MN: American Guidance.

Brophy, J. (1998, May). Failure syndrome students. *Elementary and Childhood Education*, pp.1-3.

Brown v. Board of Education of Topeka, Kansas, 347 U.S. 483, 74 s. ct. 686, 98 L. Ed. 873, 530.0.326 (1954)

Cardona, C. M. (2009). Teacher education students' belief of inclusion and perceived competence to teach students with disabilities in Spain. *Journal of the International Association of Special Education*, 10(1), 33-41.

Causton-Theoharis, J., & Theoharis, G. (2008). Creating inclusive schools for all students. *School Administrator*, 65(8), 24-25.

Chomsky, N. (2000). *Chomsky on miseducation*. Lanham, MD: Rowman & Littlefield.

Civil Rights Act (1964), Pub. L. No. 88-352, 42 U.S.C. § 2000 et seq.

Clegg, J., Murphy, E., Almack, K., & Harvey, A. (2008). Tensions around inclusion: Reframing the moral horizon. *Journal of Applied Research in Intellectual Disabilities*, 21, 175-179.

Cole, P. G. (1999). The structure of arguments used to support or oppose inclusion policies for students with disabilities. *Journal of Intellectual & Developmental Disability*, 24(3), 215-225.

Council for Exceptional Children (1993). *CEC policy on inclusive schools and community settings*. Reston, VA: Author.

Craft, A., Chappell, K., & Twining, P. (2008). Learners reconceptualising education: Widening participation through creative engagement? *Innovations in Education and Teaching International*, 45(3), 235-245.

Doley, E. A., & Toscano-Nixon, C. M. (2002). Community involvement in education. In F. E. Obiakor, P. A. Grant, & E. A. Dooley (Eds.), *Educating all learners: Refocusing the comprehensive support model* (pp. 99-112). Springfield, IL: Charles C. Thomas.

Education of All Handicapped Children Act (1975), Pub. L. No. 94-142, 20 U.S.C. § 1401 et seq. Ford, A., Davern, L., & Schnorr, R. (2001). Learners with significant exceptionalities. *Remedial and Special Education*, 22(4), 214-225.

Ford, B. A. (2002). African American community resources: Essential education enhancers for African American children and youth. In F. E. Obiakor & B. A. Ford (Eds.), *Creating successful learning environments for African American learners with exceptionalities* (pp. 159-173). Thousand Oaks, CA: Corwin Press.

Foreman, P., & Arthur-Kelly, M. (2008). Social justice principles, the law and research as basis for inclusion. *Australian Journal of Special Education*, 32(1), 109-124.

Frattura, E. M., & Capper, C.A. (2007). *Leading for social justice: Transforming schools for all learners*. Thousand Oaks, CA: Corwin Press.

Fullan, M. (2003). *Leading in a culture of change: Personal action and guide workbook*. Malden, MA: John Wiley & Sons.

Gould, A. J. (1981). *The mismeasure of man*. New York: Norton.

Hale, J. F. (2001). Culturally appropriate pedagogy. In W.H. Watkins, J.H. Lewis, & V. Chou (Eds.), *Race and education: The roles of history and society in educating African American students* (pp. 173-189). Boston: Allyn and Bacon.

Hall, K., Collins, J., Benjamin, S., Nind, M., & Sheehy, K. (2004). Saturated models of pupildom: Assessment and inclusion/exclusion. *British Educational Research Journal*, 30(6), 801-817.

Harry, B. (1992). *Cultural diversity, families, and the special education system: Communication and empowerment*. New York: Teachers College Press.

Hilton, Z. (2006). Disaffection and school exclusion: Why are inclusion policies still not working in schools? *Research Papers in Education*, 21(3), 295-314.

Hockenbury, D. P. (1999). What is right about special education. *Exceptionality*, 8(1), 6-14.

Hosp, J. L., & Reschly, D. J. (2003). Referral rates for intervention or assessment: A meta-analysis of racial differences. *The Journal of Special Education*, 37(2), 67-80.

Individuals with Disabilities Education Act (1990), Pub. L. No. 101-476, 20 U.S.C. § 1400 et seq.

Individuals with Disabilities Education Act (1997), Pub. L. No. 105-117, 20 U.S.C. § 1400 et seq.

Individuals with Disabilities Education Improvement Act (2004), Pub. L. No. 108-446, 20 U.S.C. § 1400 et seq.

Katsiyannis, A., Yell, M. L., & Bradley, R. (2001). Reflections of the 25<sup>th</sup> anniversary of the individuals with exceptionalities education act. *Remedial and Special Education*, 22(6), 324-339.

Kauffman, J. M. (2002). *Education deform: Bright people sometimes say stupid things about education*. Lanham, MD: Scarecrow Press.

- Kauffman, J. M., & Hallahan, D. P. (1995). *The illusion of full inclusion: A comprehensive critique of a current special education bandwagon*. Austin, TX: Pro-Ed.
- Kerka, S. (2000). Parenting and career development. *Career Education, 214*, 1-5.
- King, D. (2003). Tips to help new teachers with classroom management. *CEC Today*, p. 12.
- King, I. C. (2003). Examining middle school inclusion classrooms through the lens of learner centered principles. *Theory into Practice, 42*(2), 151-158.
- Klinger, J. K., & Vaughn, S. (1999, Fall). Students' perceptions of instruction in inclusion classrooms: Implications for students with learning disabilities. *Exceptional Children, 66*(1), 23-37.
- Mager, G. M. (2004). *Report on the activities of Higher Education Task Force on Quality Inclusive Schooling*. Syracuse, NY: Syracuse University.
- Mastopieri, M. A., & Scruggs, T. E. (2001). Promoting inclusion in secondary classrooms. *Learning Disabilities Quarterly, 24*(4), 265-274.
- No Child Left Behind Act (2001), Pub. L. 107-110, 20 U.S.C. § 16301 et seq.
- Obiakor, F. E. (1999). Teacher expectations of minority exceptional learners: Impact on "accuracy" of self-concepts. *Exceptional Children, 65*, 39-53.
- Obiakor, F. E. (2001). *It even happens in "good" schools: Responding to cultural diversity in today's classrooms*. Thousand Oaks, CA: Corwin Press.
- Obiakor, F. E. (2004). To assess or not: Is that the question? Who benefits from the No Child Left Behind Act? Personal perspectives. *Myriad*, pp. 14-15.
- Obiakor, F. E. (2007). *Multicultural special education: Culturally responsive teaching*. Upper Saddle River, NJ: Pearson Merrill/Prentice Hall.
- Obiakor, F. E. (2008). *The eight-step approach to multicultural learning and teaching* (3<sup>rd</sup> ed.). Dubuque, IA: Kendall/Hunt.
- Obiakor, F. E., Algozzine, B., Thurlow, M., Gwalla-Ogisi, N., Enwefa, S., Enwefa, R., & McIntosh, A. (2002). *Addressing the issue of disproportionate representation: Identification and assessment of culturally diverse students with emotional or behavioral disorders*. Arlington, VA: Council for Children with Behavioral Disorders, the Council for Exceptional Children.
- Obiakor, F. E., & Beachum, F. D. (2005a). Developing self-empowerment in African American students using the Comprehensive Support Model. *The Journal of Negro Education, 74*, 18-29.
- Obiakor, F. E., & Beachum, F. D. (2005b). *Urban education for the 21<sup>st</sup> century: Research, issues, and perspectives*. Springfield, IL: Charles C. Thomas.
- Obiakor, F. E., Beachum, F.D., & Harris, M. (2005). Restrictiveness and race in special education: Practicalizing the laws. *Learning Disabilities: A Contemporary Journal, 3*, 52-55.
- Obiakor, F. E., Grant, P. A., & Dooley, E. A. (2002). *Educating all learners: Refocusing the comprehensive support model*. Springfield, IL: Charles C. Thomas.
- Obiakor, F. E., & Utey, C. A. (2004). Educating culturally diverse learners with exceptionalities: A critical analysis of the Brown Case. *Peabody Journal of Education, 79*, 141-156.
- Obiakor, F. E., & Weaver, K. A. (1995, May 17). Has the U.S. become a nation of victims? *The Emporia Gazette*, p. 7.
- Pugach, M. C., & Warger, C. L. (2001). Curriculum matters: Raising expectations for students with disabilities. *Remedial and Special Education, 22*(4), 194-196, 213.
- Renchler, R. (1992). School leadership and student motivation. *Educational Management, 71*, 1-5.
- Rosenthal, R., & Jacobson, L. (1968). *Pygmalion in the classroom*. New York: Holt, Rinehart, & Winston.
- Sailor, W., & Roger, B. (2005). Rethinking inclusion: School wide applications. *Phi Delta Kappan, 86*(7), 503-509.
- Salisbury, C. L. (2006). Principals' perspectives on inclusive elementary schools. *Research and Practice for Persons with Severe Disabilities, 31*(1), 70-82.
- Schumaker, J. B., Deshler, D. D., Bulgren, J. A., Davis, B., Lenz, B. K., & Grossen, B. (2002). Access of adolescents with disabilities to general education curriculum: Myth or reality? *Focus on Exceptional Children, 35*(3), 1-16.
- Theorharris, G. (2007). Social justice educational leaders and resistance: Toward a theory of social justice leadership. *Educational Administration Quarterly, 43*(2), 221-258.
- Turnbull, R. (2003). A quality of life framework for special education outcomes. *Remedial and Special Education, 24*(2), 67-74.
- Utey, C. A., & Obiakor, F. E. (2001). *Special education, multicultural education, and school reform: Components of quality education for learners with mild disabilities*. Springfield, IL: Charles C. Thomas.
- Vesely, R. S., Crampton, F. E., Obiakor, F. E., & Sapp, M. (2008). The role of states in funding education to achieve social justice. *Journal of Educational Finance, 34*, 56-74.
- Watkins, W. H., Lewis, J. H., P Chou, V. (2001). *Race and education: The roles of history and society in educating African American students*. Boston: Allyn and Bacon.
- Whitty, G. (2001). Education, social class and social exclusion. *Journal of Educational Policy, 16*(4), 287-295.
- Williams, G. L., & Obiakor, F. E. (2009). *The state of education of urban learners and possible solutions: The Milwaukee experience*. Dubuque, IA: Kendall/Hunt.
- Williams Bost, L. (2007). *Building effective dropout prevention programs – Some practical strategies from research and practice*. Clemson, SC: National Dropout Prevention Center for Students with Disabilities, Clemson University.
- Williams Bost, L., & Riccomini, P. J. (2006). Effective instruction: An inconspicuous strategy for dropout prevention. *Remedial and Special Education, 27*, 301-311.

# Parents of Children with Hearing Impairment Accessing Counseling Services in Zimbabwe

**John Charema**

Mophato Education Centre in Botswana  
charemajohn@yahoo.com

**Irma Eloff**

University of Pretoria  
South Africa

## Abstract

*This paper explores how parents of children with hearing impairment access counseling services in Zimbabwe. A survey design was used in which a sample of 300 parents of children with hearing impairment completed a multi-item questionnaire. Interviews were then conducted with the 300 parent-participants in order to cross-check questionnaire responses. The questionnaire sought to establish how they accessed counseling and also to elicit their views about the counseling they did receive. Parents' difficulties and problems in accepting and coping with their children with hearing impairment were also explored. Subsequently, an open-ended questionnaire was then used to elicit parents' views on how counseling could be made more accessible. Questionnaire data were analyzed through descriptive statistics to provide information on how parents accessed counseling services. Interview data was analyzed by means of a correlation with the quantitative data. Results from this study indicate that most of the parents in this study accessed counseling from special schools and to a lesser extent from individuals, hospitals, churches, counseling organizations and relatives. In terms of influential factors, financial constraints, communication and lack of knowledge to teach children with hearing impairment basic living skills were highlighted by participants in this study.*

## Introduction

Apart from the already existing traditional counseling carried out by relatives, elders in the community and church leaders, counseling arrived in Zimbabwe from two sources, namely Britain and the USA, developing gradually in schools through the 1980s. Its focus was originally two-fold, on one hand guidance and counseling in schools to enhance career guidance and to address rising concern of children with learning disabilities and those with behavior problems (Webb, 2000). On the other hand there was a Christian focus in counseling, mainly through voluntary work, to address family and personal problems.

The 1981 Zimbabwe National Disability Survey identified 22 600 people with hearing impairment. Out of this figure, 7500 pupils were of school age and only 800 pupils were catered for at the time. To date Zimbabwe has five established special schools for children with hearing impairment. The introduction of integration and inclusion has witnessed the birth of 25 units set up in mainstream schools and some isolated cases included in some of these schools. From the time of the survey and the time of this research, there were no or very few qualified counselors in most mainstream and special schools (Chimedza, & Peters, 2001). However, parents of children with hearing impairment continue to rely on the services provided by special schools for children with hearing impairment. Such services do not necessarily include professional counseling. In most cases counseling is carried out by teachers who are not qualified counselors.

The present system of guidance and counseling by individuals and organizations in Zimbabwe does not seem to address the problems faced by parents of children who have hearing impairment (Richards, 2000). This is evidenced by the fact that many parents of children with hearing impairment fail

to cope with the needs of their children. Richards (1996) asserts that most parents of children with disabilities are not aware of how they can access counseling services available in the country. These parents frequently fail to access the services they require. Makoni (1996) endorses the fact that counseling services in Zimbabwe are limited and not many people know where they are situated. This lack of fit between the needs of families and the provision of services may be accounted for in a number of ways. Some of these explanations concern the families while others relate to the provision of the services. Early in the 1990s Lea and Clarke (1991) carried out a study in the USA and found that even families who requested help from health professionals, thus seeming eager to help themselves, often failed to attend appointments possibly due to difficulties in traveling to specialized centers, lack of funds, lack of knowledge of what the services offer or fear of stigmatization. It appears parents' expectations often tend to lack a thorough understanding of the child's problems.

In Zimbabwe it is generally the practice of these parents to come back to the school where their children learnt for guidance and help after failing to cope in day-to-day life. In some cases parents dump children in special schools for years and then pitch up during the final year of primary or secondary school (Makoni, 1996). Shadish, Ragsdale, Glaser and Montgomery (1995) point out that most parents who do not receive proper guidance and counseling fail to cope in any practical way with their children with hearing impairment. It is also important to point out that guidance and counseling have not yet been subjected to much research in Zimbabwe. Many authorities in the field of special education, (e.g. Martin & Clark, 1996; Medwid & Weston, 1995; Schwartz, 1996) strongly emphasize the importance of counseling parents of children with hearing impairment from the time the children

are born up to the time the parents are able to cope with their children. Early guidance and counseling helps parents to accept, cope and plan for their children. The purpose of this study was to explore how parents of children with hearing impairment access counseling services in Zimbabwe.

### **Method**

The survey method was used in conjunction with interviews in conducting this study. The main focus of this study was on guidance and counseling of parents of children with hearing impairment and on the way in which they access these services. This method helped to make estimated assertions about the nature of the total population from which the sample had been selected. Interviews were used to cross check questionnaire responses.

#### *Sample and Procedure*

Participants comprised of all families that had children with hearing impairment who were attending primary or secondary education in special schools and units at the time of the study. Families that had children in special schools were identified through the administration's school records. It is important to point out that parents whose children were not attending school in special schools and units during the time of the study were not included in the study. Those who were included in the study came from five cities, Masvingo, Harare, Gweru, Bulawayo and Mutare, all located in different provinces of the country.

The sample comprised of families of children with hearing impairment in special schools and units. The researchers used the sample size formula available in Babbie (1990) and Fowler (1988). Simple random sampling was used to obtain the required sample. Parents were grouped according to the provinces they came from. A random number table was used to prepare cards that were used to randomly select the required sample. Cards were numbered and put in five boxes labeled with the names of the five towns mounted in different places outside the administration block. Each box had cards with valid and invalid numbers and parents were asked to pick a card from the box labeled with the name of the town in their province. All parents who volunteered to take part in the study and picked valid numbers up to 300 were considered in the sample. Invalid numbers had the value of their first three digits bigger than 300. If both a husband and wife took part in the study, they picked one card and completed one questionnaire.

A simple sampling procedure was used in this study in order to give each family an equal chance of being included in the sample. The main idea was to include parents from different ethnic and socio-economic backgrounds, rural and urban areas. A comprehensive overview of the data was gained by reading through all the results of the qualitative part of the questionnaires. Then the results were considered item by item. Key aspects and/or themes that were mentioned by a majority of the participants in their responses to each item were written down.

### *Instrument*

To explore how parents accessed counseling, semi-structured questionnaires were constructed. This was done with the help of fifteen experts in the area of special education and ten in the counseling department, all being university lecturers. The researchers used questionnaires and oral interviews to gather data. The questionnaire format made it possible for participants to freely express their views, opinions, and ideas on their experiences in writing. The researchers considered that the anonymity of questionnaires would help elicit more satisfactory information. This claim appears to be corroborated by the assertion of Babbie (1990) who pointed out that questionnaires are preferable since they avoid the embarrassment of direct questioning and so enhance the validity of the responses.

Two questionnaires were constructed for parents of children with hearing impairment; one was structured and the other was open-ended. A semi-structured interview questionnaire was prepared and was used to cross check parents' questionnaire responses. It covered all the aspects in the parents' questionnaire. The questionnaire consisted of three sections two with closed questions, and another with open ended sections. Section A had questions on personal information of the parents and the children. Section B dealt with the Likert-type questions that sought to establish whether or not parents received counseling, were aware of counseling service organizations that offered counseling and whether or not they were able to cope with their children after counseling. Section C had open-ended questions that sought to establish the difficulties parents faced in raising their child, organizations that counseled them, whether counseling helped them or not and their views on how counseling could be made more accessible. These instruments were used to collect comprehensive data concerning the counseling of parents of children with hearing impairment.

### **Results**

Parents of pupils with hearing impairment from the five main cities of the country, namely Harare, Bulawayo, Gweru, Masvingo and Mutare completed three hundred questionnaires. Interviews were also conducted with the same parents to cross check the questionnaire responses. Of the 300 parents who responded to item 40% were men, 50% were women and 10% were couples.

On the gender of children, out of 300 participants, 60% of the parents' children were boys, 40% of the parents' children were girls and .3% of the parents had both a girl and a boy with a hearing impairment. When parents were asked to indicate whether or not their children were born with a hearing impairment, out of 300 parents who responded, 55% of the parents indicated that their children were born with a hearing impairment, 41% of the parents indicated that their children had acquired a hearing impairment later and 4% of the parents did not know whether their children were born with a hearing impairment or acquired it later.

On the ages of participants' children, out of 300 parents who responded, 24% had children between the ages of five and eight, 49% had children between the ages of nine and 13

years, 26% had children between the ages of 14 and 18 years and 1% of the parents had children between nine and 13 years and also between 14 and 18 years. All 300 parents indicated where they were counselled. The results indicate that 63% of the parents got counselling from special schools, 40% from registered counselling organizations, 45% from churches, 47% from hospitals, 30% from relatives, 52% from individuals, 1% from friends and 10% did not get any counselling at all.

Table 1 indicates results of participants to the negatively phrased items. The researchers presented these results by indicating the cumulative sum for all the responses on each of the scale points. The researchers also presented percentages of the total number of responses for a given question.

Table 2 indicates results of participants to the positively phrased items. Again, these results were presented by indicating the cumulative sum for all these responses on each of the scale points as well as percentages of the total number of responses for a given question.

Parents were asked to give five major difficulties parents experienced in raising their children with hearing impairment. One hundred and eighty two parents responded to this item and the results indicated that 52% cited communication as the biggest problem. Forty six percent cited shortage of financial resources to pay school fees and purchase hearing aids for the child(ren), 43% cited teaching the children basic living skills, 24% cited societal negative attitudes and 15% cited lack of means to transport the children to school and visit the hospital. When asked whether or not counselling helped them, 218 parents responded. Results indicated that 97% of the participants agreed that they received counselling, 54% agreed that counselling helped them to accept their children with hearing impairment, which also correlates to the earlier findings shown in Table 2.

Parents were asked whether or not they thought the counseling they received helped them to cope with their children. If they thought it helped their views on how it helped were sought. Two hundred and twenty six parents responded and the results indicated that 70% received counseling and it helped them to cope with their child(ren) with hearing impairment, 10% indicated that counseling did not help them to cope with their child(ren) and 57% indicated that they were better able to cope with their child(ren) only after counseling. Parents' views were sought on what could be done to make counselling more accessible. Two hundred and six parents responded, 76% of the participants suggested that seminars and workshops would inform more people of the available counselling services, 38% suggested that parents support groups would help especially when parents who have similar problems share possible solutions to their problems, and 35% suggested awareness campaigns using the media, posters, and advertisements over the radio and or on television.

## Discussion

Results indicate that out of 300 participants who responded to the item on gender, 40% were men, 50% were women and 10% were couples. The high number of participating fathers is encouraging, because fathers are often under-represented in studies on the parents of children with disabilities (Soliman, 1991; Stewart, 1986). It is interesting to note that there is such

a high number of men in this sample, because in Zimbabwe it is usually mothers who are more involved with children with disabilities. However, it can also be argued that the parents' main reason for coming was not the study but to spend a day with the family, interacting and sharing ideas with other parents, which has always been the tradition. It is also at such meetings that parents discuss the future of their children with school authorities and have to make a commitment by signing documents for secondary or vocational education, especially for those children completing primary education. The high percentage can also be explained by the fact that the data were gathered during enrolment days at schools, when fathers are often present. A number of studies (Peters & Chimedza, 2000; Chimedza & Peters, 2001; Charema, 2008; Charema, 2009a; 2009b; Charema & Shizha, 2008) indicate that fathers of children with disabilities show less interest in, and commitment to, their children's education than their counterparts with typically developing children. However, a study by Hallahan and Kauffman (1994) of fathers and mothers of children with disabilities indicated that while mothers are more involved than fathers, there is a gradual increase in the number of men who are taking an active role in the life of children with disabilities. As pointed out by Charema (2009b) this could be caused by the general wide spread knowledge on disability and its causes that is gained through the media, literature and televised educational programs. The number of father-participants in this study is also indicative of this trend.

Out of the 300 parents who responded to the item on gender of children, 60% (n = 180) of the parents' children were boys and 40% (n = 120) of the parents' children were girls. Only one parent had a boy and a girl but this incidence became insignificantly small as the larger pool of the data were analysed. As indicated in the results biographical details confirm the prevalence of hearing disabilities among boys and girls. Cartwright, Cartwright and Ward (1995) as well as Moores and Meadow (1990) point out that deafness is more prevalent in boys than in girls, although the difference is not always significant. The fact that one parent had a boy and a girl with a hearing impairment, may imply that the causes were hereditary. The fact that some parents were not sure whether their children were born deaf or not implies that the screening system is either delayed or is ineffective. Hunt and Marshall (1994) assert that it is difficult to be certain whether the child was born deaf or became deaf later, if the screening system is not implemented at birth or is not effective.

The high percentage of children in the age groups nine to 13 years and 14 to 18 years is likely to be caused by late discovery of hearing impairment. This further confirmed the findings of Chimedza (1986) who carried out a study in special schools for children with hearing impairment in Zimbabwe. Some children are hidden due to superstitious beliefs while others are hidden due to feelings of inadequacy and/or ignorance (Baine, 1988; UNESCO 1981). Such children are sometimes discovered at a late age and put in a special school in standard one at the age of ten years. This may explain why 49% of the parents have children between nine and 13 years and 25% have children between the ages of 14 and 18 years.

From the first author's own experiences as a teacher of

Table 1

*Parents' Views on Counseling*

Questions	Strongly Agree		Agree		Undecided		Disagree		Strongly Disagree		Total	
	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>
1. Parents of children with hearing impairments do not need counseling.	8	2.7	8	2.7	2	.7	112	37.3	170	56.7	300	100.0
2. Counseling is totally different from advice.	34	11.4	93	31.2	15	5.0	106	35.6	50	16.8	298	99.3
4. Counseling did not help us to understand the needs of our child.	14	4.8	21	7.2	17	5.8	154	52.9	85	29.2	291	97.0
5. Counseling does not help parents to accept the idea of having a hearing impaired child in the family.	13	4.4	35	11.9	15	5.1	141	48.0	90	30.6	294	98.0
6. Children who are hearing impaired should be looked after by the Social Welfare.	15	5.1	53	18.1	12	4.1	163	55.6	50	17.1	293	97.6
8. We do not allow our child to play with other children in our community because they may not treat him well.	19	6.4	37	12.5	10	3.4	121	40.9	109	36.8	296	98.6
9. My child does not relate well and interact effectively with other members of the family.	19	6.3	88	29.3	14	4.7	124	41.3	55	18.3	300	100.0
10. Most people, who counseled us, told us what to do.	34	11.8	147	50.9	18	6.2	69	23.9	21	7.3	289	96.3
12. The counseling we received did not help us to cope with the child at all.	6	2.0	59	20.1	17	5.8	152	51.9	59	20.1	293	97.6
15. It is almost impossible to plan the future of a child who is hearing impaired.	82	27.8	141	47.8	20	6.8	40	13.6	12	4.1	295	98.3
16. People who counseled us did not give us guidance at all.	28	10.0	47	16.8	63	22.5	104	37.1	38	13.6	280	93.3
21. Parents can equally do well for their child without guidance and counseling.	19	6.5	81	27.8	43	14.8	105	36.1	43	14.8	291	97.0

Table 2

*Parents' Opinions on Counseling*

Questions	Strongly Agree		Agree		Undecided		Disagree		Strongly Disagree		Total	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
7. Counseling helped me to plan the future of my child.	25	8.4	62	20.9	18	6.1	131	44.1	61	20.5	297	99.0
11. Counseling is a must for parents of children with hearing impairments.	8	2.7	14	4.7	16	5.3	144	48.0	116	38.7	300	100.0
13. I am aware of organizations that offer I in Zimbabwe.	42	14.2	78	26.4	16	5.4	100	33.9	59	20.0	295	98.3
14. My child fits well and interacts effectively with family members.	14	4.7	60	20.0	10	3.3	158	52.7	58	19.3	300	100.0
17. Without counseling one cannot fully accept having a child with hearing impairment in the family.	19	6.4	41	13.9	11	3.7	137	46.3	88	29.7	296	98.6
18. With or without help from other organizations, it is parents' responsibility to fully cater for their children who are hearing impaired.	15	5.1	48	16.3	7	2.4	146	49.5	79	26.8	295	98.3
19. We allow our child to make friends and play with other children in our neighborhood.	8	1.7	19	6.4	11	3.7	193	65.2	65	22.0	296	98.6
20. The problem with counseling is that one is not provided with answers.	28	9.9	108	38.2	52	18.4	81	28.6	14	4.9	283	94.3
22. Counseling really helped us to understand the child.	8	2.7	16	5.4	16	5.4	156	52.9	99	33.6	295	98.3
23. Counselors also referred me to other professionals for further help.	36	12.4	74	25.5	22	7.6	110	37.9	48	16.6	290	96.6
24. Counseling helped us to cope with our child who is hearing impaired.	3	1.0	27	9.1	16	5.4	166	56.1	84	28.4	296	98.6
25. Guidance and counseling are important for both parents and the child.	26	8.8	71	24.1	12	4.1	114	38.6	72	24.4	295	98.3
26. It is difficult to separate counseling from advice.	39	13.3	97	33.1	33	11.3	97	33.1	27	9.2	293	97.6

children with hearing impairment for 23 years, it is very likely that parents of some of these children come from rural areas where they had limited resources in terms of transport and even lack of knowledge of special schools and the procedure of enrolling a child in a special school. They may also take time to acquire the required boarding and/or tuition fees for the child. By the time the necessary funds are secured, the child would have lost a considerable amount of schooling time.

Heward and Orlansky (1988), in a study in America, specify that late identification of hearing impairment delays correct placement and causes loss of time on the part of the child. Children whose hearing impairment is discovered late lose out on early intervention programs that help the formation of speech patterns, listening skills, speech and lip reading as well as correct concept formation (Martin & Clark, 1996; McCormick, 1988). It is encouraging to note that 24% of the parents indicated that their children were between five and eight years, this being the most appropriate age for speech development and auditory training (Charema & Charema, 2010).

#### *Participants who Received and Those who did Not Receive Counselling*

As pointed out earlier, people obtain counseling from different sources; from professionals, non-professionals, members of the extended family, individuals and sometimes from relatives (Howard, 1992). Howe (1993) and Howard (2000) assert that some counseling sessions are unstructured, taking place in natural conversation where the counselor may not say anything but just listens attentively and empathises with the client as they relate their story. Charema and Shizha, (2008) assert that some clients may not interpret this as counseling due to their expectations of what should come out of a counseling session. These factors may explain why 10% of the parents perceived that they did not receive counseling. It is, of course, possible that they did indeed receive no counseling.

In developing countries, particularly in sub-Saharan Africa, (Roffey, 2001; Charema, 2009a) parents of children with disabilities mainly rely on teachers of special education for professional counseling and expert advice. This is so because these are the professionals they come to know and work with, as they seek to enrol their child in a school. This was endorsed by Chimedza and Peters, (2005) when they pointed out that parents and the community regard special schools as their saviour regarding children with disabilities. To them, special schools have everything for both children with disabilities and their parents. According to Werner (1987) parents' assumptions are that in special schools, all their needs are met, problems solved, and the children are fully catered for. However, in reality, special schools have a lot of gaps that other professionals such as psychologists, speech therapists, audiologists and social workers must fill in order for the school to provide a comprehensive service. Most special schools in developing countries cannot afford to employ these professionals full time in schools, though some have them on part-time basis (Charema, 2008). The other factor is that developing countries have a shortage of qualified personnel in

all the above-mentioned professions (UNESCO, 2001). Considering the explanations given by a number of researchers, it would seem logical to assume that most participants were counseled in special schools simply because they (special schools) were a more readily available source, possibly offering free service (Werner, 1987; Roffey, 2001; Charema, 2010). Gartner, Lipsky and Turnbull (1991) indicate that in developed countries, where resources, qualified personnel and registered counseling organizations are readily available, by the time parents of children with hearing impairment visit special schools, most of them would have already received counseling and/or advice from different professionals and/or organizations.

The fact that only 40% of the participants received counseling from registered counseling organizations may be due to the fact that not many parents were aware of counseling organizations, as indicated in items seven and eight. Although there was a slightly higher percentage of participants who were aware of counseling organizations (53.9%), it is possible that mode of transport, travelling expenses and financial constraints could have prevented them from visiting the counseling organizations all of which are situated in towns. These factors are apparent in the results where participants cited lack of transportation and financial constraints as some of the difficulties they faced in taking children to special schools and hospitals. Lea and Clarke (1991) found that 11 families that had requested help from health professionals failed to attend the appointments. Possible reasons given were that they might have failed due to difficulties in travelling to specialised centres, lack of funds, lack of knowledge of what the services offered and where the services could be located, as well as fear of stigmatisation.

It is interesting to note that 45% of the participants received counseling from churches. Most studies in special education, particularly in developing countries, target children, teachers and to a lesser extent parents (Kisanji, 1992; Makoni, 1996; United Nations, 2001). Most of these studies are conducted in a school and/or home environment, but this study included churches, and church environments. Fukuyama (1997) indicates that there are a number of studies in general spiritual counseling that involve families, teachers and students but a lot more is still to be done in the area of special education. Fukuyama (1997) points out that churches play an important role in counseling as long as counselors are well trained and offer spiritual support. It is clear from Howe (1996) that church counselors who continuously gave their clients moral, social and physical support achieved better counseling results than other counselors who quickly disengaged. According to the above studies there seems to be some indication that churches are an effective source of counseling that could be encouraged to continue to play a major role in counseling parents of children with disabilities.

Only 47% of the participants indicated that they received counseling from hospitals. If the screening procedure were to be effective from birth, this figure would have been much higher. Charema and Charema (2010) declare that work in guidance and counseling should be co-ordinated by educational audiologists. In the UK one of the major roles of audiologists is to train the health visitors who carry out the initial screening procedures in hospitals and other health



related centres. Part of this training involves counseling parents since audiologists and health visitors are the first to discover hearing impairment in children. They are therefore the ones called upon to break the news to the parents. Audiologists, nurses and health visitors who work in audiological centres and clinics have a counseling background and many parents get their initial counseling soon after the child's hearing impairment is confirmed (Martin & Clark, 1996). In Zimbabwe there is a shortage of qualified audiologists and counselors with the result that only isolated cases of hearing impairment are discovered at an early age (Chimedza & Peters, 2000; Charema, 2009a). Such children are mostly found merely by chance. The percentage of parents counseled in hospitals only started increasing from 1999 due to rehabilitation units set up in hospitals. The units are serviced by trained specialist teachers for the children with hearing impairment. A number of nurses are also being trained in counseling by a non-governmental counseling organization that has qualified counselors. Parents in rural areas may not have sufficient money to travel to big hospitals where specialists are stationed. All these factors contribute to the low percentage of parents counseled in hospitals.

Participants who indicated that they received counseling from relatives totalled 91 out of 300 (30%). Those who indicated counseling by individuals were 157 out of 300 (52%) while those who indicated that they were counseled by friends only totalled four out of 300 (1%). According to the literature, in the African traditional counseling, (e.g. Shumba, 1995; Sue & Sue, 1990; Charema, 2009b) relatives and members of the extended family were considered as counselors of a family. There is also a growing trend of families moving away from the traditional extended family to the single-parent family and/or the modern nuclear family (Charema, 2010; Blocher, 2000). This is encouraged by the limited facilities in towns that do not allow for big families. A high percentage of the participants in this study who indicated that they received counseling from individuals might have obtained it from professionals or counselors in their individual capacities or church members or family doctors or any other individuals. Throughout the literature, professional counselors who operate as individuals offer counseling to many who approach them either for a fee or for free (Howard, 1996; Howe, 1996; Charema, 2010). It is interesting to note that in this study friends do not seem to be considered to be the best people to approach for counseling. It is possible that they are so close to the family with a child with hearing impairment that they are considered part of the family that needs counseling. As pointed out by Charema (2010) a family with a child with disabilities will need counseling together with friends and members of the extended family in order for them to offer appropriate moral and emotional support to one another.

#### *Counseling and its Effect on Parents Accepting and Coping with Their Children*

Out of the 300 participants that responded to the statement "Parents of children with hearing impairment do not need counseling", 93% disagreed with the statement, 6% agreed and 1% was undecided. In response to the opposite question

"Counseling is a must for parents of children with hearing impairments," out of the 260 participants who responded 87% agreed with the statement, 7% disagreed and 5% were undecided. The high percentages of agreement are a clear indication that counseling is regarded as necessary for parents of children with hearing impairment. These results are confirmed in the literature. Thomas (1989) examined the social and emotional adjustment of 84 families of children with hearing impairment. Thomas' study indicates that parents who had received counseling developed positive attitudes towards their children and that this further produced emotional and social stability in both children and parents, with a higher correlation in older children. The role of counseling cannot be underestimated. Gartner et al. (1991) indicate the needs of parents for counseling and report that "as families of children with hearing impairment, we require guidance and counseling and support, preferably from families that have gone through a similar experience and have successfully integrated into the community" (p.148). This is further supported by Charema (2010) who pointed out that the process of going through anger, guilt, shock and denial requires guidance and counseling to help parents and siblings work through their emotions in such a way that they as a family accept the child.

Results of this study indicated that counseling in general helped parents to accept their children with hearing impairment. Out of the 294 participants who responded to the statement "Counseling does not help parents accept the idea of having a hearing impaired child in the family", 16% agreed with the statement, 79% disagreed and 5% were undecided. In response to the direct opposite statement, "Without counseling one cannot fully accept having a child with a hearing impairment in the family" out of 296 participants who responded 76% agreed with the statement, 20% disagreed and 4% were undecided. Again, this clearly confirms extant research. Chimedza and Peters (2005) assert that parents of children with hearing impairment gradually accept their child as part of the family after a lot of consultation and counseling sessions. However, Chimedza and Peters point out that not only is the study of families of individuals with disabilities difficult because of the complexity of the interactions that take place, but it is further complicated by the fact that studies rely so much on subjective impressions. One is then dealing with parents' feelings towards the child, and the siblings and parents' feelings towards the society's reactions towards the child. Moores (1996) and Charema (2010) both point out that many parents accept their children with hearing impairment after receiving counseling and interacting with other parents who went through a similar situation. Moores and Meadow (1990) indicate that parent support groups are more powerful in helping parents of children with hearing impairment accept their children than counselors who have never had children with disabilities.

In response to the statement "The counseling we received did not help us to cope with the child at all" out of 293 participants, 22% agreed with the statement, 72% disagreed and 6% were undecided. In response to its direct opposite, "Counseling helped us to cope with our child who is hearing impaired", 85% of the 296 participants who responded to this statement agreed, 10% disagreed and 5% were undecided. There was a clear indication that parents of children with

hearing impairment were more able to cope with their children after receiving counseling. This result concurs with similar results in the literature. Chimedza and Peters (2005) indicate that while parents go through difficult times in which they experience, fear, shock, guilt, frustration and grief, eventually with the help of counsellors and professionals in the field of hearing impairment the whole picture normally changes into loving, accepting and coping with the child. In a study with 24 families that each had a child with a hearing impairment and had received counseling Meese (2001) interviewed parents and siblings to find out if they had accepted and were able to cope with the child. All families indicated that they loved their children and were coping although it was not always easy. One family said, "It is like the world has rejected you, but with counseling and numerous consultations it is rewarding at the end". Hunt, Peters and Chimedza (2000) assert that even after counseling, parents who have only one child, their first born, who happens to have a hearing impairment take longer to accept and to cope with the children. Such parents are shattered, they do not understand why it happened to them, and in some instances they might not even want to try having another child.

Parents indicated the five major difficulties they experienced in raising their children with hearing impairment. A number of parents expressed frustrations with some of the difficulties (e.g. "I get frustrated when I fail to understand what my child wants and likewise, when she fails to understand what I want"). Both parents and children get frustrated when they fail to engage in a meaningful conversation for basic needs and requirements (Chimedza & Peters, 2005; Charema & Charema, 2010; Hunt & Marshall, 1994). As social beings, communication is one of our most important means of survival. Without it, the potential of an individual in communicating needs and wants is severely restricted and yet the ability to carry out a conversation with another person is one of the unique characteristics of human beings. Communication is important to everyone to such an extent that lack of it carries social penalties that may give birth to emotional instability. Therefore, the power of communication cannot be over-estimated. The parents of children with hearing impairment in this study placed it at the top of the list of the problems they faced.

The second item in terms of the difficulties parents faced was financial constraints. Out of the 182 participants who responded 46% (n = 130) indicated that they did not have enough money to pay for school fees and to buy hearing aids. A good number of these parents are based in rural, semi-urban and low-income areas and they send their children to the only special schools for children with hearing impairment. School uniforms, books and stationery are expensive. Parents from rural areas depend entirely on subsistence farming. The difficulties of earning a living in this way make it very difficult for such parents to be able to pay school fees and also buy hearing aids.

Hearing aids are very expensive, bearing in mind that they are imported mainly from Europe. Charema and Charema (2010) indicated that 51% of all parents of children with hearing impairment, from low socio-economic status had difficulties in obtaining sufficient money for transport, medical treatment and sometimes hearing aids. They also

found that children from poverty-stricken families were more likely to be sent for special education before they were ready for school. In this study 122 (43%) out of 182 of the participants indicated that teaching the child basic living skills was also difficult for them. This may be due to the lack of skills necessary to teach the child basic living skills such as toilet, dressing, eating and sleeping habits. The community's negative attitudes towards the child were one of the aspects mentioned; 68 out of 182 parents (24%) stated that the community showed a negative attitude towards the child with hearing impairment. Some of the participants indicated that negative attitudes were shown in different ways, such as withdrawing their children from interacting with a child with hearing impairment, looking at the child with suspicion and talking negatively about the situation. Charema and Charema (2010) assert that parents of children with hearing impairment and other disabilities may suffer from an inferiority complex, feelings of inadequacy and guilty conscience as a result of the way in which society views them in relation to their child with hearing impairment. The other difficulty that was cited by participants was transporting the child to school and to the hospital. Forty two out of 182 participants (15%) who responded to this item indicated serious transport problems. This is a common problem in developing countries where the transport system is poor and unreliable (Chimedza & Peters, 2001). In some places the roads are not rehabilitated, meaning that no buses service the areas. As a result parents walk long distances to access buses or they simply give up and stay with the child at home.

On the number of participants who received counseling and those who did not, out of the 218 participants who responded, 97% indicated that they received counseling while 3% indicated that they did not. Out of those who received counselling 54% indicated that it helped them to fully accept their children. As indicated in the results, most parents who received counseling confirmed that it helped them accept and cope with their children. Both quantitative and qualitative results confirm that most parents received counseling. On whether the parents thought the counseling they received helped them or not and in what way, if they were helped, out of 226 participants who responded 70% indicated that counseling helped them while 27% did not think so or did not receive counseling. Fifty seven percent felt that counseling helped them to cope with their children. As discussed earlier, results from both quantitative and qualitative data concur that counseling helped parents to accept and cope with their children who have hearing impairment. This result confirms the findings by Davis (1993) who interviewed 27 families of children with disabilities after they received counseling. Out of the 27 families, 25 indicated that counseling helped them to accept, cope and understand their children fully. About parents' views of what they thought could be done to make counseling more accessible, out of the 206 participants who responded 35% suggested awareness campaigns using the media, posters and advertisements over the radio and/or television. In developing countries, as pointed out by Charema (2009b), there are limited counseling facilities and most of them are set up in urban areas. The majority of the people who badly need such services are situated in rural areas. Therefore for such services to be known there is need to publicise them

through the print media, television or radio. Seventy six percent of the participants suggested that seminars and workshops would inform more parents about the nearest available counseling services. Charema (2010) endorses the view that workshops and seminars run by special schools and parents' support groups enlighten parents of children with disabilities. Thirty eight percent of the participants suggested that parents' support groups would help by sharing experiences, ideas, the problems they went through and the possible solutions to those problems. They suggested that such groups could also invite professionals to come and address them on topics of their choice. Counselors could also be invited to give advice and inform parents about the available services. It would appear that parents prefer to share information with other parents who have experienced a similar situation and managed to cope. The researchers quoted some parents expressing their feelings. For example, one family expressed the following: "It would be helpful if a family that has gone through a similar experience and are in a similar situation could share with us the problems they faced and how they solved them". Parents' support groups are the most relevant and powerful means of counseling, giving advice, sharing ideas and referring to other professionals (Kirk, Gallagher & Anastasiow, 1997).

About how parents could help more through guidance and counseling, out of the 172 participants who responded to this item, 16% suggested that counseling for children with hearing impairment would help both parents and children. Through such counseling children would be helped to understand their situation and how to handle certain situations in relation to their disabilities. Tucker and Nolan (1984) suggest that children should be counseled before they are fitted with hearing aids. They further point out that children with hearing impairment need to adjust emotionally, socially and psychologically, and such adjustment can be facilitated through counseling. Hallahan and Kauffman (1994) claim that for families to successfully integrate their children with disabilities into the broader society calls for the counseling of parents, siblings and close members of the extended family. Inclusion in broader society is very valuable for language, social, emotional and psychological development. Twenty five percent of the participants in this study suggested that counseling should include helping parents to plan the future of their children with hearing impairment. This is a topical issue throughout the literature because, so far, there has been very little success in this area (for example transition to work life) as evidenced by short period and longitudinal studies (Edgar, 1987; Frank & Sitlington, 1997). Many students with disabilities fail to complete college work and often fail to secure reasonably paying employment. This is largely attributed to the education system, poor planning by parents and education authorities, general unemployment due to changes in economy and societal attitudes towards people with disabilities (Kisanji, 1993; Charema, 2010).

### Conclusion

Different countries the world over, developed and developing, have now adapted counseling, an originally American phenomenon, to assist people to cope with the

problems brought about by natural, social and economic changes in the modern world in which we live. Although many families with children with disabilities manage their lives as effectively as other families, most of them require counseling to facilitate the integration of children with disabilities into the family. While most parents experience diverse problems and stress in raising their children, parents of children with disabilities appear to experience more stress and hence seem to have a greater need for counseling than others.

In agreement with the practice and development in other countries of the world, counseling has received a huge attraction from parents of children with disabilities in Zimbabwe for various reasons some of which are indicated in this study. Counseling serves the purpose of equipping parents with knowledge about hearing impairment and its causes, helping parents adopt a positive attitude towards the child, that would lead to acceptance, equipping parents with the necessary skills that would enable them to cope with the child, helping parents integrate the child into the family, making parents aware of how they can access counseling and other professional services such as medical, educational and audiological services.

Given the historical background of counselling, families and parents that experience difficulties and challenges can benefit from the available counseling services. Even if almost half of the parents of children with hearing impairment in Zimbabwe were aware of organizations that offered counseling, increased hardships in the form of financial constraints and lack of transport prevented them from accessing such services in good time. Due to financial constraints, most of the parents ended up with the spurts of counseling they received free from special schools instead of approaching registered counseling organizations that would give professional counseling for a fee. However, most special schools and units for children with special needs are located in the big cities such that people in the rural areas need to travel long distances using expensive and unreliable public transportation. This makes it difficult for parents to easily access counseling from professionals knowledgeable about hearing impairment and skills in counseling. Instead they end up resorting to consulting relatives and friends who also might be in need of counseling together with the family that has a child with a hearing impairment. While external support systems, such as members of the extended family, friends and the community neighbourhood still play a part in counseling, this is fast disappearing due to current developments that have fashioned many single-parent families. Unfortunately, counseling organizations and special schools are not spread throughout the country nor do they have branches across the country that can service parents in small towns, semi-urban areas and villages in rural areas. The results of the study clearly indicate that counseling is important for both children and parents. Against this background it is clear that counseling plays a significant role in families that have children with hearing impairment.

### References

- Babbie, E. (1990). *Survey research methods*. (2<sup>nd</sup> ed.) Belmont, CA: Wadsworth.

- Bane, D. (1988). *Handicapped children in developing countries*. Alberta, University of Alberta
- Blocher, D. H. (2000). *Counseling: A Developmental Approach*. (4<sup>th</sup> ed.) New York, John Wiley and Sons.
- Cartwright, G. P., Cartwright, C.A. and Ward, M.E. (1995). *Educating Special Learners*. London, Wadsworth Publishing Company.
- Charema, J. (2008). School counselors' perceptions of guidance and counseling in secondary schools in Botswana. *The Nigerian Journal of Guidance and Counseling*, 13(1), 158-170.
- Charema, J. & Shizha, E. (2008). Counseling indigenous Shona people in Zimbabwe: Traditional versus western Eurocentric perspectives. *Alternative; An International Journal of Indigenous Peoples*, 4(2), 123-139
- Charema, J. (2009a). Counseling in educational institutions in Sub-Saharan African countries: Is there anything new? – Strategies for the 21<sup>st</sup> century. *The Rehabilitation Professional: The Official Journal of the International Association of Rehabilitation Professionals*, 17(1), 17-23.
- Charema, J. (2009b). Preference for sources of counseling among parents of children with hearing impairments in Zimbabwe. *The Nigerian Journal of Guidance and Counseling*, 14(1), 1-14.
- Charema, J. (2010). *Counseling parents of pupils with special educational needs*. Berlin, Lambert Academic Publishing.
- Charema, J. & Charema, G. (2010). *Teaching mathematics to children with hearing impairments*. Berlin, Lambert Academic Publishing.
- Chimedza, R. (1986). Integration of the hearing impaired child into the ordinary school. *Zimbabwe Teachers Forum* 1(2), 9-10
- Chimedza, R. & Peters, S. (2001). *Disability and special needs education in an African context. Different voices*. Harare, College Press.
- Chimedza, R. & Peters, S. (2005). Disability in contemporary Africa. *Encyclopedia of Disability* (Gary L. Albrecht), 1, 423-429. London, Sage Publications.
- Davis, H. (1993). *Counseling parents of children with chronic illness or disability*. Bristol, British Psychological Society.
- Edgar, E. (1987). Secondary Programs in Special Education; Are any of them justifiable? *Exceptional Children*, 53, 555-561.
- Fowler, F. J. (1988). *Survey research methods*. Newbury Park, California: Sage Publication
- Frank, A. R. & Sitlington, P. L. (1997). Young adults with behavioural disorders. Before and after IDEA. *Behavioural Disorders*, 23(1), 40-56.
- Fukuyama, M. (1997). Spiritual Issues in counseling. *Counselor Education and Supervision*, 36 (3), 233-244.
- Gartner, A., Lipsky, D. K. & Turnbull, A. P. (1991). *Supporting Families with a child with disability*. Baltimore, Paul H. Brookes.
- Hallahan, D. P. & Kauffman, J.M. (1994). *Exceptional Children*. London, Allyn and Bacon.
- Heward, W. L. & Orlansky, M.D. (1988). *Exceptional children*. Columbus, OH: Merrill.
- Howard, A. (1992). *Favorite counseling techniques*. Bristol, Accelerated Development.
- Howard, A. (1996). *Challenges to Counseling and Psychotherapy*. London, McMillan.
- Howard, A. (2000). *Philosophy for Counseling and Psychotherapy*, London, MacMillan.
- Howe, D. (1993). *On being a client: Understanding the process of counseling and psychotherapy*. London, SAGE.
- Howe, D. (1996). Client Experiences of Counseling and Treatment Interventions; a qualitative study of family views of family therapy. *British Journal of Guidance and Counseling*, 24(3), 367-376.
- Hunt, N. & Marshall, K. (1994). *Exceptional Children and Youth: An introduction to Special Education*. Boston, Houghton Mifflin Company.
- Hunt, S. Peters, S. & Chimedza, R. (2000). "Conscientization and the cultural politics of education: a radical minority perspective. *Comparative Education Review*, 44(3), 245-271.
- Kirk, S. A., Gallagher, J. J. & Anastasiow, N. J. (1997). *Educating Exceptional Children*. Boston, Houghton Mifflin Company.
- Kisanji, J. (1993). *Special Education in Africa*. London, Kogan Page Limited and Contributors.
- Kisanji, J. (1992). Basic facts about special education in Tanzania, Dar es Salaam: *Ministry of Education*.
- Lea, S. J. & Clarke, M. J. (1991). An Evaluation of counseling skills course for health professionals. *British Journal of Guidance and Counseling*, 26(2), 159-172.
- Makoni, J. (1996). *Traditional Counseling in Zimbabwe*. Paper presented at the counseling training seminar of the Center for Distance Education (April). University of Zimbabwe, Harare, Zimbabwe.
- Martin, F. N. & Clark, J. G. (1996). *Hearing Care for Children*. London, Allyn and Bacon.
- McCormick, B. (1988). *Pediatric Audiology 0-5 years*. London, Taylor and Francis.
- Meadow, K. P. (1980). *Deafness and Child Development*. London, Edward Arnold.
- Medwid, D. J. & Weston, D. C. (1995). *Kid-friendly parenting with deaf and hard of hearing children: A treasury of fun activities towards better behavior*. Washington, DC: Gallaudet University Press.
- Meese, R. L. (2001). *Counseling learners with mild disabilities; Integrating research and practice*, London, Wadsworth
- Moores, D. F. (1996). *Educating the Deaf. Psychology Principles and Practices*. Boston, Houghton Mifflin Company.
- Moores, D. F. & Meadow, K. (1990). *Educational and Development Aspects of Deafness*. Washington DC, Gallaudet University Press.
- Richards, L. (1996). Outcomes and processes in genetic counseling. *International Association of Addictions and Offender Counseling*, 3, 243-365
- Richards, K. (2000). Counseling supervision in Zimbabwe: A new direction, *International Journal for the Advancement of Counseling*, 22, 143-155.
- Roffey, S. (2001). *Special Needs in the Early Years*. London, David Fulton Publishers.
- Shadish, W., Ragsdale, K., Glaser, R. R. & Montgomery, L. M. (1995). The efficacy and effectiveness of family therapy: *Journal of marital and Family Therapy*, 21(4), 345-360.
- Shumba, O. (1995). Interaction of traditional socio-cultural variables with instructional ideology and knowledge of the nature of science: A review of the literature with implications for Zimbabwe. *Zimbabwe Journal of Education Research*, 7(1), 23-56.
- Soliman, A. M. (1991). The role of counseling in developing countries. *International Journal for the Advancement of Counseling*, 14(1), 3-11.
- Stewart, J. C. (1986). *Counseling Parents of Exceptional Children*. London, Charles E. Merrill Publishing Company.
- Sue, D. W. & Sue, D. (1990). *Counseling the culturally different: Theory and Practice*, New York, John Wiley and Sons.
- Schwartz, J. (1996). Counseling families in need. *Journal of Counseling and Development*, 88, 152-160
- Thomas, J. (1989). *The Social Psychology of Childhood Disability*, London, Methuen.
- Tucker, I. & Nolan, M. (1984). *Educational Audiology*. London, Croom Helm.

UNESCO (2001). Education for All: The program on Guidance, *Counseling and Youth Development in Africa*. Paris, UNESCO.  
UNESCO (1981). *Statistics in special education*. Paris, UNESCO  
United Nations (2001). *Empowering the rural disabled in Asia and the Pacific*. Bangladesh, FAO

Webb, S. B. (2000). Debugging counseling for the new millennium: A counselor's view from Mount Hikurangi, *International Journal for the advancement of counseling*, 22, 301-315.  
Werner, D. (1987). *Disabled village children: A guide for community health workers, rehabilitation workers and families*. Palo Alto, CA: Hesperian Foundation

# The Perils and Promises of Inclusive Education in Ghana

**Beatrice A. Adera**

West Chester University  
badera@wcupa.edu

**Lewis Asimeng-Boahene**

Penn State – Harrisburg  
lab45@psu.edu

## Abstract

*Inclusion of students with disabilities into the mainstream educational system continues to be a major issue and concern faced by many developing nations. Many individuals with disabilities face the challenge of exclusion from any form of education and failure by society to recognize their capabilities and rights. The educational system in Ghana still has a long way to go in providing efficient and effective services despite the government's adoption of inclusion as the policy to guide the education of individuals with disabilities. This paper provides an historical overview of special education in Ghana addressing both pre-independence and post-independence efforts. The status of inclusive education in Ghana is examined focusing on the challenges and prospects of inclusive education. Recommendations for future direction of inclusive education in Ghana are also addressed.*

## Introduction

Despite increased worldwide attention and advocacy for the inclusion of students with disabilities in mainstream regular education settings, the situation in many developing countries continues to depict a depressing landscape. Efforts to include students with disabilities in Ghana have been marked by a lot of caution as evidenced by the slow progress towards inclusive schooling. Research on inclusive education in Ghana (Asamani, 2000; M. Avoke, 2001, 2002; M. K. Avoke & Avoke, 2004; Gyimah, Sugden & Pearson, 2008; Obeng, 2007) indicates that the different key players (e.g., educational professionals, government representatives, educational institutions including schools, teacher training colleges, and universities) are at different levels of conceptualization of inclusive education as depicted by the gradual changes in philosophy and the policies in place to guide the education of students with disabilities.

Inclusion is a philosophy that brings diverse students, families, educators and community members together to create schools and other social institutions based on acceptance, belonging, and community (Sapon-Shevin, 2003). Over the past two decades, the movement towards inclusive education has continued to gain recognition worldwide, with many countries adopting inclusion as the framework for educational programming and service provision for students with disabilities. The idea behind including students with disabilities in general education classrooms is fundamentally about provision of individualized educational programs and services that address the unique needs of each child with a disability. Despite efforts by many countries to enact laws and policy guidelines to safeguard the education and welfare of students with disabilities, the educational systems continue to face a myriad of challenges in their attempt to provide equitable educational opportunities for students with disabilities. Furthermore, in many developing countries, including Ghana, efforts to eliminate practices that promote exclusion of students with special needs from the regular educational settings have continued to make slow progress (M. K. Avoke & Avoke, 2004; Gyimah et al., 2008; Obeng, 2007). This paper examines the status of inclusive education

in Ghana focusing on the challenges and prospects including obstacles to effective inclusion such as cultural perspectives, the educational system, and availability of supports and services for students with disabilities.

## Historical Overview of Special Education in Ghana

Before the introduction of Western education, students with disabilities in Ghana were completely excluded from all formal educational programs. By the first half of the 19th century, Christian missionaries undertook education as a major part of their missionary endeavors, leading to the establishment of missionary schools (M. K. Avoke & Avoke, 2004). These schools were mainly aligned with the Western educational system with an emphasis on memorization of facts, moral education, aversion to indigenous culture and high regard for western culture (Asimeng-Boahene, 2000). The foundation for special schools can be traced back to the mid-1940s when the Basel missionaries established a school for students with visual impairment in Begoro and Akropong-Akwapim, which was later followed by the emergence of special schools for other disability categories (M. K. Avoke & Avoke, 2004; Torto, 2000). The efforts by the early missionaries focused on disabilities that were visible, such as visual impairment, mental retardation, hearing impairment, etc., whereas invisible disability categories that affected learning and/or behavior were either not recognized or given any special consideration (Abosi, 2007).

After Ghana attained independence in 1957, education became a high priority on the government's agenda. It was not until 1959 that the plight of children with disabilities captured the attention of the government leading to the passage of a parliamentary bill calling for development of programs focused on education and rehabilitation of children with disabilities (M. Avoke, 2001). The bill called for the provision of free education for students with physical and mental challenges and made provisions for teachers and administrators serving this population to pursue further training in England, Denmark, and the United States. The passage of the Education Amendment Act of 1962 empowered the Ghanaian Ministry of Education to establish

a Special Education Division that would handle the issues and affairs of students with disabilities. This division was charged with the responsibility of offering professional advice for the purposes of identifying children with disabilities; developing programs for early identification; providing professional guidance and counseling to children with disabilities and their families; procuring specialized materials, equipment and assistive technological devices; and cooperating with the universities to train special education teachers (Ghana Education Service, 1995).

In 1994, Ghana participated in the United Nations Educational, Scientific and Cultural Organization (UNESCO) conference in Salamanca, Spain. At this conference, the delegates developed the Salamanca Statement outlining a framework for action to increase access to regular schools including provision of child-centered pedagogy that effectively accommodates students with special educational needs. Delegates at the Salamanca conference argued that regular schools with an inclusive orientation were the most effective means of combating discriminatory attitudes, creating welcoming communities, building an inclusive society, and achieving education for all (UNESCO, 1994). Following participation in the Salamanca conference, the Ghanaian government intensified its efforts to address the needs of students with special needs. These efforts included collaboration with non-governmental organizations (NGOs) to develop programs such as the community-based rehabilitation program to reform the service delivery and improve educational opportunities for students with disabilities who were still unreached (Torto, 2000).

Furthermore, efforts to achieve UNESCO's mandate of free universal education for all by 2015 led to the launching of the free compulsory universal basic education (FCUBE) in 1996. The FCUBE focused on improving the quality of teaching and learning, increasing educational access, and participation of all school-aged children including free educational resources and establishment of local educational agencies to provide efficient management of education (Agbenyega, 2007). Equally important, the Ghanaian Education Strategy policy for 2003-2015 adopted inclusion as a policy with the goal of providing equitable educational opportunities to all children, ensuring that students with the less severe special educational needs are incorporated into mainstream schools by 2015 (Torto, 2000). All these policies led to an increased enrollment of students including students with disabilities leading to overcrowded classrooms (M. Avoke, 2001), further compounding the challenge of providing quality education for students with disabilities.

### **Prevalence of Disability**

Estimates of the population of school-age children with a disability in most African nations are based on the United Nations formula of considering that 10% of school age children have a disability (Abosi, 2007). According to the Ministry of Education and Ministry of Employment and Social Welfare estimates, the national average of persons with disabilities in Ghana is well above 10% of the population (Kuyuni & Desai, 2008). The lack of accurate prevalence statistics has been attributed to unclear guidelines, lack of appropriate assessment procedures for disability determination, and lack of appropriate criteria and/or standard policies for determination of special

education eligibility (Agbenyega, 2002; Asamani, 2000; M. Avoke, 1997, 2001). This poses a major problem in educational planning for children with disabilities in Ghana given, that determination of whether an individual has a disability or not is attributed to factors within their situational context (M. Avoke, 2001). For this reason, current educational research using prevalence statistics available through government agencies in Ghana may not depict a clear picture or the contextual reality of prevalence of different disability conditions.

### **Challenges facing Inclusive Education in Ghana**

In spite of the positive development including policy initiatives that have been enacted to safeguard the education of students with disabilities in Ghana, several aspects of the current educational system and schools present major obstacles to the provision of inclusive education as discussed below.

#### *Cultural Perspectives Regarding Disabilities*

Prejudice and negative attitudes towards individuals with disabilities continue to be an integral part of the Ghanaian society. People with disabilities face occasional ridicule through local folklore and songs due to the long-held beliefs that they are a curse from the ancestors. According to Agbenyega (2003), the "language used to label, inscribe and construct disabilities in Ghana is premised by cultural ideology that marginalizes, silences and constructs subjectivities through the society and the school system" (p. 2). Persons with disabilities receive a variety of offensive and dehumanizing labels, including "social misfits," "outcasts," or "feeble-minded," and their parents become victims of isolation and mockery (Oliver-Commey, 2001). The author asserts that with the labeling process deeply rooted in the traditional beliefs, it often starts within the family network and eventually makes its way into the school system. Hence, persons with disabilities tend to be ostracized and excluded from mainstream society.

The general apathy and neglect of individuals with disabilities in some Ghanaian communities have been attributed to superstitions that view disability as a curse from the gods (Mba, 1989) or the result of witchcraft, sorcery and magic (Agbenyega, 2002; M. Avoke, 1997).

Some Ghanaian communities perceive the birth of a child with a disability as punishment (Abosi, 2007) or a sign of anger of the gods upon the family (Ocloo et al., 2002). These communities view disability as a stain to the social status of a family, often leading to these children being isolated and hidden away or placed in segregated institutions where they are excluded from inclusion in mainstream society. Obeng (2004) maintains that the occurrences of stigmatizing disability conditions and developmental delays have been attributed to unexplainable occurrences related to spirits. The author reported that family members are often blamed for causing such diseases or in some situations, the individual would be blamed for spiritually causing his or her own sickness in order to cause financial loss to his or her lineage. All these factors result in persons with disabilities being treated with a lot of superstition, often shunned and restricted from participation in the community.

Recognition of the rights and capabilities of students with disabilities is still very limited in many parts of Ghana, as evidenced by the minimal effort made to include students with disabilities into mainstream educational system (Gyimah et al., 2008; Obeng, 2007). Many students with disabilities continue to receive their education in segregated residential special schools mainly located in the outskirts of large cities. These special schools have been portrayed as “safe havens” where persons with disabilities are protected from exposure to the hazards associated with inclusion in mainstream society (Artkinson, Jackson, & Walmsky, 1997; M. Avoke, 2001). On the contrary, disability advocates attribute placement in the special schools and location of the special schools away from the major cities to prevailing cultural beliefs and attitudes.

In recent years, many African classrooms have experienced a new wave of learning and behavioral problems, which have been associated with the negative teacher attitudes and beliefs towards inclusion. Researchers (Agbenyega, 2007; Obeng, 2007) found that many Ghanaian teachers were reluctant to have students with disabilities in their classrooms mainly because they perceived themselves as not being skilled enough to accommodate the academic, social, and emotional needs presented by these students. These teachers are also faced with the challenge of high teacher to student ratios and lack of educational resources and/or supports to accommodate the diverse needs of students in the overcrowded classrooms. Obeng noted that several teachers expressed concern that the practice of inclusion was being imposed on them without provision of the necessary supports and services needed to work with students with special needs.

Equally important, despite government policies on inclusive education, implementation of the policy guidelines is still very limited as demonstrated by the widespread lack of awareness of the policies even among the key players. In a study examining the level of awareness of the special educational needs (SEN) policy, Asamani (2000) found that many educators were not aware of the existence of SEN policies and had no arrangements to implement these policies in their schools. Eighty seven percent of the teachers and school administrators were not aware of the existence of any policy, whereas, 11% of teachers cited the Education Act of Ghana as the policy guiding education of students with disabilities. This calls for collaboration among the different entities providing services to students with disabilities to promote awareness of current policies that guide provision of educational services and supports, in an effort to ensure appropriate and equitable implementation at all levels.

#### *Teacher Preparation, Supports and Services*

Issues pertaining to the education of students with disabilities continue to gain recognition and are gradually becoming an important facet of Ghanaian educational practices and discourse. Challenges such as shortage of qualified teachers and support personnel, lack of appropriate professional development for special education professionals (Sayed, Akyeampong, & Ampiah, 2000), limited pre-service and in-service training opportunities for regular classroom teachers (Ghana Education Service,

2004), and the shortage of teaching resources and supplies (Obi, Mamah, & Avoke, 2007) present major setbacks to the provision of inclusive education.

The general lack of instructional materials and other educationally valuable resources presents serious roadblocks to teachers in their effort to include diverse learners in their classrooms. Equally important, the current nature of teacher preparation in Ghana centers on methodologies and assessment practices geared towards the “one-size-fits-all” pedagogical approach (M. Avoke, 2007; M. K. Avoke & Avoke, 2004) as demonstrated by the didactic and examination oriented teacher styles. These pedagogical approaches cater for students with above average intelligence and do not leave room for accommodating the diverse academic and socio-emotional needs characteristic of students with disabilities. In addition, the lack of flexibility in the curriculum impedes delivery of differentiated instruction. Efforts to address the gaps in teacher preparation call for enhancement of the curriculum to include strategies for early identification and best practices for students with disabilities (Ghana Education Reform, 2007).

#### **Recommendations and Conclusion**

The success of inclusive education in Ghana is a dynamic process that requires grass root support and consensus building among all the key players in both the educational and political arena. Adoption of inclusive education as the framework for educational programming for individuals with disabilities in Ghana calls for development of appropriate regulations and guidelines that are relevant to the educational arena of the country while ensuring compliance with the Salamanca framework for action (UNESCO, 1994). Efforts geared towards effective inclusion of individuals with disabilities necessitates that all stakeholder make clear distinction between characteristics of the different disabilities and the disabling effects of society. The current framework of service delivery for persons with disabilities in Ghana incorporates tenets of the medical model as evidenced by societal attitudes, beliefs and reliance on a purely medical basis for diagnosis of disabilities. Inclusive education, as articulated in the current Ghanaian special education policy framework calls for adoption of tenets the social model while gradually phasing out elements of the medical model.

Effective inclusion of students with disabilities into mainstream regular classrooms will require an adequate supply of qualified personnel to staff programs serving these students. Currently, the country’s flagship institutions of higher education (e.g., University of Cape Coast, University of Education, Winneba) do not produce enough qualified practitioners to staff these programs. Efforts to address this shortage and to boost enrollment in special education training calls for institutions to explore options such as providing college tuition grants and scholarships to pre-service special education teachers. This may require institutions to explore innovative sources of fundraising, drawing on their local resources and supports to fund the grants and scholarships. Other incentives for boosting enrollment in teacher training programs may include loan forgiveness for teachers who commit to teach in high need areas like special education. Additionally, institutions of higher education and teacher training colleges could embark



on developing collaborative relationships and partnerships with other institutions within Ghana and from neighboring countries, to provide opportunities for networking and to facilitate the sharing of resources and innovative ideas.

The current teaching practices used in many Ghanaian schools are based on a one-size-fits-all didactic and examination oriented teaching approach that focus on preparing all students for college. Unfortunately, this approach does not present alternative post-school options for students with disabilities resulting into many students feeling that their education has little usefulness for their future lives and educational pursuits. To address these challenges, it is imperative that teacher preparation programs reshape their curriculum to ensure that teachers are equipped with the necessary knowledge, skills that will enable them transform from their didactic and examination oriented teacher styles to embrace best practices for inclusive classrooms e.g., differentiated instruction. In addition, efforts to include individuals with disabilities into mainstream society should focus on the development of alternative post-school options for students who are unlikely to achieve on the college track, ensuring that educational services provided match their post-school goals.

Grass-root efforts to educate the populace about the different disabilities may help the different stakeholders gain a better perspective of characteristics and the causes of the different disabilities. These efforts may include the use of major media outlets and local channels to promote awareness and understanding that persons with disabilities are capable of participating in mainstream society provided they receive the necessary supports and services. These media outlets may help facilitate changes in cultural ideology and societal attitudes that promote seclusion and segregation of persons with disabilities and the use of deficit-based labels that constantly remind them of their shortcoming. Equally important, advocacy groups and non-governmental organizations may spearhead involvement of persons with disabilities as guest speakers in the schools, teacher-training colleges, institutions of higher learning, and in community settings. Likewise, students with disabilities who have successfully completed their formal education should serve as mentors to school age students with disabilities.

Lessons learned from the Ghanaian experience indicate that developing nations still have a long way to go despite efforts by religious organizations, missionary groups, and nongovernmental organizations to supplement government efforts in the provision of services. It is imperative that all key players present a united front as they embark on comprehensive nationwide campaigns to educate their populace on characteristics and causes of the different disabilities, best practices for addressing their diverse needs and effective ways of empowering individuals with disabilities. All key stakeholders must be cognizant of the fact that individual needs will vary from one country to another and that guidelines and regulations should be clearly defined and tailored to the unique needs of each country. Only then can we begin to make major strides towards achieving the goal of inclusive schooling for all children with disabilities.

- Abosi, O. (2007). Educating children with learning disabilities in Africa. *Learning Disabilities Research and Practices*, 22(3), 196-201.
- Agbenyega, J. S. (2002). *The need for transitional services for students with intellectual disabilities in Ghana* (Unpublished honors thesis). Monash University, Melbourne, Australia.
- Agbenyega, J. S. (2003). *The power of labeling discourse in the construction of disability in Ghana* (Unpublished manuscript), Monash University, Melbourne, Australia.
- Agbenyega, J. S. (2007). Examining teachers' concerns and attitudes to inclusive education in Ghana. *International Journal of Whole Schooling*, 3(1), 41-56.
- Artkinson, D., Jackson, M. & Walmsley, J. (1997). *Forgotten lives: Exploring the history of learning disabilities*. Kidderminster, United Kingdom: British Institute of Learning Disabilities.
- Asamani, C. A. (2000, July). *Developing special education needs policy in Ghana: A silver lining in the dark clouds for children with special need*. Paper presented at International Special Education Congress, Manchester, UK.
- Asimeng-Boahene, L. (2000). Social studies in Ghana. In M. Adeyemi (Ed.), *Social studies in African education* (pp. 185-204). Gaborone, Botswana: Pyramid Publishing.
- Avoke, M. (1997). *Introduction to special education for universities and colleges*. Accra, Ghana: City Publishers.
- Avoke, M. (2001). Some historical perspectives in the development of special education in Ghana. *European Journal of Special Needs*, 16(1), 29-40.
- Avoke, M. (2002). Models of disability in the labeling and attitudinal discourse in Ghana. *Disability and Society*, 17(7), 769-777.
- Avoke, M. K. & Avoke, S. K. (2004). *Inclusion, rehabilitation and transition services in special education*. Winneba, Ghana: Salt and Light Co. Publications.
- Ghana Education Service. (1995). *Special education division document* (Unpublished Report). Accra, Ghana: Ministry of Education.
- Ghana Education Service. (2004). *The development of education national report of Ghana: The basic education division*. Accra, Ghana: Government Publications.
- Ghana Education Reform. (2007). *Education reform 2007 at a glance*. Retrieved from [http://planipolis.iiep.unesco.org/upload/Ghana/Ghana\\_education\\_reform\\_2007.pdf](http://planipolis.iiep.unesco.org/upload/Ghana/Ghana_education_reform_2007.pdf)
- Gyimah, E. K., Sugden, D. & Pearson, S. (2008). Teacher education and inclusion in Ghana: An investigation into the emotional reactions of inclusion of Ghanaian mainstream teachers. *Support for Learning*, 23(2), 71-79.
- Kuyuni, 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.
- Mba, P. O. (1989). *A survey of special educational needs in Nigeria: A historical survey*. Lagos, Nigeria: Educational Research and Development Council.
- Obeng, C. (2004). *Voices of affliction: Aspects of traditional healing practices and their impact on Akan families in Ghana*. Cologne, Germany: Rudiger Koeppel Verlag.
- Obeng, C. (2007). Teachers views on the teaching of children with disabilities in Ghanaian classrooms. *International Journal of Special Education*, 22(1), 96-102.
- Obi, F., Mamah, V., & Avoke, K. (2007). Inclusive education in an emerging country: The state of teacher preparedness in Ghana. *Journal of International Special Needs*, 10, 31-39.
- Ocloo, M., Hayford, S., Agbeke, W., Gadagbui, G., Avoke, M., Boison, c., Oppong, A., Essel, J. (2002). *Foundations in special education: The Ghanaian perspective*. Cape Coast: Nyakod Printing Works.
- Oliver-Commey, J. O. (2001). *The disabled child in Ghana: Whose fault and who cares?* Accra: Ghana University Press.

Sapon-Shevin, M. (2003). Inclusion: A matter of social justice. *Educational Leadership*, 61(2), 25-28.

Sayed, Y., Akyeampong, K., & Ampiah, J. G. (2000). Partnership and participation in whole school development in Ghana. *Education Through Partnership*, 4(2), 40-51.

Torto, E. O. (2000, July). *Inclusive education in Ghana: An overview*. Paper presented at the international special education conference, University of Manchester, UK.

UNESCO. (1994). *The Salamanca statement and framework for action on special needs education: Access and quality*. Paris: Author.

**James M. Ernest**

University of Alabama at Birmingham

**Shirley E. Thompson**

Valdosta State University

**Kelly A. Heckaman**

Valdosta State University

**Karla Hull**

Valdosta State University

**Jamie Yates**

Valdosta State University

## Abstract

*Student outcome data were examined for 35 teacher education candidates working toward special education certification who used an iterative differentiated instruction process over a 5-week period. Data were analyzed across a range of content areas and ages. Results indicated statistically significant and noteworthy effects across students regardless of whether teachers were working in an elementary, middle, or high school in a number of content areas. Qualitative data support a conceptual shift in how teacher education candidates use outcome data to inform their teaching, providing support for the social validity of this approach to implementing differentiated instruction.*

## Introduction

In 2004, UNESCO published *The Right to Education for Persons with Disabilities: Towards Inclusion*. In 2009, Inclusion International published *Better Education for All: A Global Report* that supports inclusionary practices. The year 2010 saw 146 signatories and 90 ratifications for the United Nations Convention on the Rights of Persons with Disabilities that has as one of its articles that “States Parties shall ensure an inclusive education system at all levels, and life-long learning” (UNCRPD, Article 24, 2006). Although few would argue with the necessity for a range of service options in a range of service settings, there is a clear and concerted shift toward an international approach to providing special education services within a more inclusive setting. As Mack, Smith, and Straight (2010) noted, there are many promising frameworks (e.g. Response to Intervention, Universal Design for Learning) that have the potential to move special education toward a more collaborative framework. Of note, Mack et al. identified differentiated instruction as a promising educational concept at the international level.

It has been argued that differentiated instruction has been seen in practice as early as the one room schoolhouse when students of all ages learned together (Tomlinson, 1999) and is “rooted in years of educational theory and practice” (Hall, 2002, p. 5). The rationale for differentiated instruction is clear, logical, and difficult to argue against. Willis and Mann (2000, para. 1) put it succinctly: “When students are diverse, teachers can either ‘teach to the middle’ and hope for the best, or they can face the challenge of diversifying their instruction.” Research has indicated that when students see that an effort is being made to individualize the instruction given to them, they feel more satisfied and in turn are likely to be more successful in their

academic endeavors (Tomlinson, 2000). Also, when students are given choices and are involved in the implementation of the curriculum, they feel more committed to their studies and are instilled with a greater sense of self-determination than their less involved peers (Benjamin, 2006).

In its many forms, differentiated instruction developed from teachers’ efforts to respond to variance among diverse learners in their classrooms by tailoring instruction to meet the particular needs of students at their specific readiness level (Tomlinson, 2000). Given a teacher’s choice for various and varying strategies that fall under the differentiated instruction umbrella, there are limited studies that evaluate the effectiveness of differentiated instruction on student outcomes when teachers choose different strategies. Of particular importance is the paucity of research that identifies whether the implementation of differentiated instruction by beginning special educators results in better student outcomes and whether these neophyte teachers use differentiated instruction in a sustainable way.

This article describes a mixed methods study of the effectiveness of differentiated instruction implemented by 35 teacher-education candidates (TEC) on an alternate pathway to special education certification. Each of the teachers worked full time as the teacher of record within their classroom, while completing university classes to earn their initial certification as a teacher. During their first class in the certification program, the teachers used an iterative differentiated instruction process over a 5-week period to collect student outcome data in the general curriculum, across a range of content areas. This data was analyzed quantitatively to provide an indication of a generalized effect of the differentiated instruction process. Qualitative analyses of journal entries during the course and up to two

years later during a capstone course were explored to provide teacher-oriented evaluations of the social validity of differentiated instruction as a method of instruction for children with special educational needs.

### Literature Review

Although the reason for differentiated instruction is commonly accepted, and the value is logical and empirically grounded, describing or defining differentiated instruction has proved to be a challenge. Tomlinson (2000) stated that differentiation is high-quality intensely-focused curriculum and instruction. A teacher may vary lessons and activities so they are designed to enhance and augment the essentials and skills taught; materials and tasks are presented in such a way that students are engaged and interested; learning is active; and for each and every student there is joy and satisfaction in learning. In terms of instruction, differentiation takes into account a student's or groups of students' particular needs at their specific readiness level (Tomlinson, 2000) and provides appropriate challenges to gifted students; students who lag behind grade level and those in between; and delivers instruction in ways appealing to auditory, visual, and kinesthetic learners (Willis & Mann, 2000). According to Waldron and McLeskey (2001) differentiation might be done by creating "different levels of expectations for task completion within a lesson or unit" (p. 176).

The research literature has focused on the implementation of differentiated instruction (e.g., Clark, 2010; Patterson, Connolly, & Ritter, 2009; Walker-Dalhouse & Risko, 2009), the perceived effects of differentiated instruction and students' change in behavior (e.g., Clark, 2010; Flaherty & Hackler, 2010) and people's perceptions of differentiated instruction (e.g., Danzi, Reul, & Smith, 2008; Goodnough, 2010). However, in spite of differentiated instruction's appeal, there is limited research about its effectiveness. Initially, the empirical support for the use of differentiated instruction came in the form of testimonials and classroom examples (Hall, 2002). The second wave of evidence was largely confined to unpublished master's theses and doctoral dissertations and has provided varied results. For example, Hodge's (1997) dissertation described 2<sup>nd</sup> to 6<sup>th</sup> grade (7 to 11 years old) children's gain scores in reading and math for teachers who either received or did not receive training in differentiated instruction. Results indicated improvements in math scores but no change in reading scores on standardized tests when differentiated instruction was implemented.

In contrast, Baumgartner's master's thesis (Baumgartner, Lipowski, & Rush, 2003) provided evidence of a relationship between implementing differentiated instruction and reading achievement. The authors found that when differentiated instruction strategies included flexible grouping, allowing students choices on tasks, increased time for self-selected reading, and offering a greater variety of reading materials, improvements in reading success as defined by the percentage of children reading at or above grade level were particularly notable for 3<sup>rd</sup> and 7<sup>th</sup> grade classes. Further evidence of the effectiveness of differentiated instruction was provided by Brimijoin's dissertation (Brimijoin, 2002). Brimijoin provided evidence that in her 5<sup>th</sup> grade classroom, students improved substantially in the areas of reading, social studies, and science, with some improvement in math. More recent

support for the effectiveness of differentiated instruction has come from additional theses and dissertations (e.g., Bantis, 2008, Ivory, 2007) and a few empirical articles that equate specific models with differentiated instruction (e.g., Tiered Instruction in Debaryshe, Gorecki, & Mishima-Young, 2009; Task Based writing Instruction in Bantis, 2008).

One of the major obstacles to studying differentiated instruction was outlined in Hall's (2002) review of the differentiated instruction literature for the National Center on Accessing the General Curriculum. One conclusion was that differentiated instruction is a "package" of different practices. As Hall noted, and to date, there is very little empirical data to validate the use of differentiated instruction as a "package" and more research is warranted on this topic. Using the Access Center Research Continuum (n.d.), the evidence available for differentiated instruction can at best be classified as an emerging or promising practice where the data is often anecdotal, based on professional wisdom, collected using weak research designs, or limited in generalizability. Although there are many recommended ways to differentiate instruction, there is no specific set of rules, which at times may make differentiation seem difficult to implement. As Tomlinson (2000) stressed, it is all about recognizing the needs of the students in a given class at a given time and responding with appropriate materials and instruction.

The responsiveness to individual needs and the need for flexibility in choice of strategies provides a conundrum for quantitative analysis as there are obvious and inherent threats to fidelity of intervention. However, it has been argued that it is necessary to address the tension between fidelity of intervention and adaptation to be responsive to diverse cultural groups (Gonzalez Castro, Barrera, & Martinez, 2004). Gonzalez Castro et al. highlighted one person's concerns with top-down implementations of research strategies when they said "What good is science, if it doesn't help us?" (p. 41). This recognition was echoed by Rust (2009) in a special issue of *Teachers College Record* when we were reminded that teachers often see research as unrelated to their "day-to-day and minute-by-minute interactions" (p. 1882). Lytle and Cochran-Smith (1992) proposed that if teachers choose their own evidence-based strategies and implement them in a systematic way, there is a potential to narrow the research to practice gap. Thus, there has been a call for what Gonzalez Castro et al. refer to as a second generation of studies: those that systematically and empirically study phenomena but are adaptable to fit the unique needs of the environment.

The purpose of this study was two-fold. First, quantitative analyses were used to answer the question of whether implementation of a self-selected package of differentiated instructional strategies by 35 teachers led to substantial gains in student achievement on informal weekly-based assessments. The second purpose of the research was to use qualitative data to analyze and provide an indication of whether there was support for the social validity of implementing differentiated instruction. Specifically, data were used to assess the acceptability of treatment outcomes and procedures (Foster & Mash, 1999).

## Method

### Participants and Context

Data were collected from teachers who were employed by school systems throughout a Southern state in the US. The teachers were hired as the teacher of record in their classroom even though they were not certified. Each teacher had a bachelor's degree in a field other than education and was seeking a masters' degree in special education with initial state certification. A condition of employment was that they seek certification within five years from the date of employment. To meet this need, the teachers were enrolled in the only fully online initial certification program with a masters' degree in the state, taught by collaborative faculty from two university institutions. As such, the teacher education candidates (TEC's) in this study represented a range of teaching placements (rural, urban and suburban), teaching areas (math, science, reading, language arts, music, languages), and grades (Kindergarten through high school). The data were collected over a period of a year from several classes of TEC's who were enrolled in a methods course.

Specifically, of the 35 TEC's, eight (23%) taught in an elementary school (grades pre-k through 5<sup>th</sup> grade), nine (26%) taught in a middle school (grades 6 through 8), and 14 (45%) taught in a high-school setting. Four of the candidates did not provide information on the ages of children they were teaching. The TEC's in this study taught in a variety of subject areas. Most of the data came from assessments in the subject areas of math (40%, n = 145), science (18%, n = 65), reading (13%, n = 47), and English language arts (12%, n = 43). Additional areas identified included social studies, science, writing, spelling, and French (all less than 10% for a cumulative percentage of 17%).

### Procedure

In one of the TEC's first courses toward certification, the candidates were required to develop and implement five weeks of lesson plans. The course was designed to focus on identifying and implementing instructional practices that have demonstrated effectiveness in the literature. Within a few weeks of starting the program, the TEC's had to identify children that had special educational needs within their classrooms. For the children, the TEC's were asked to (a) target instructional objectives; (b) provide assessment data of targeted students; (c) identify instructional strategies that address Tomlinson's four domains of differentiated instruction: content, process, product, and learning environment (examples are provided in Figure 1); (d) provide pretest and post-test data on student performance on the targeted objectives; (e) provide a reflection of student performances related to differentiated instruction strategies; and (f) develop revisions for the upcoming week. The process was repeated each week, for five weeks. The faculty member responsible for the course would answer any questions, provide formative feedback on a weekly basis, and provide guidance to ensure fidelity of the six-step process. Prior to and concurrent with the five weeks of lessons, the TEC's were required to read about and integrate the four components of differentiated instruction (process, product, content, and learning environment) into their lesson plans.

Content	Product
<ul style="list-style-type: none"> <li>Varying reading materials</li> <li>Reorganizing content - Describing similarities, categorizing into groups, developing abstract thought</li> <li>"Skipping" a student through the acquisition phase to the "application" phase</li> <li>Varying content by student interest</li> </ul>	<ul style="list-style-type: none"> <li>Working alone or in small groups on different "products" e.g., giving a speech, creating a model, create a flyer</li> <li>Encouraging creation of individual products that contain "aspects" of the assignment</li> <li>Providing expectations that allow for varying degrees of difficulty, meaning, and procedures</li> <li>Providing rubrics that are developed based on varying skill levels</li> </ul>
Process	Learning Environment
<ul style="list-style-type: none"> <li>Varying how much support we provide each student by how much they need</li> <li>Using graphic organizers, concept maps, or charts.</li> <li>Using tiered activities to incorporate the same skills</li> <li>Using centers to allow further learning of current lessons</li> <li>Using student-specific task sheets (agendas) written for whole class and individuals</li> <li>Using manipulatives and hands-on activities</li> <li>Presenting learning through different means. e.g., audio/visual – varying text size, color contrasts.</li> <li>Varying time and support for specific tasks</li> </ul>	<ul style="list-style-type: none"> <li>Varying where students complete their assignments <ul style="list-style-type: none"> <li>In a "homey" place – on pillows, in a tent.</li> <li>On the floor or in a chair</li> <li>In a structured place</li> <li>In a place that minimizes distractions</li> </ul> </li> <li>Including structured guidelines so that students are more comfortable in familiar settings.</li> <li>Creating a positive learning environment by incorporating materials that encourage student collaboration</li> <li>Establishing consistent routines</li> </ul>

Figure 1. Examples of Differentiated Instruction Strategies by Tomlinson's Categories

### Data Collection

Quantitative data was collected from the pre-test and post-test data that were reported by the TEC's on a weekly basis. The idiosyncrasies of the teacher, classroom, subject area, and grade level led to the TEC's reporting their students' performance in a variety of ways. For example, some teachers developed rubrics with a range of scores from 1 to 5, while other assessments may have used ten items and a possible score out of ten. The candidates were required to provide quantitative raw scores for assessments that were then converted to percentages for each data point, for each pretest and posttest. As the TEC's determined whom they were going to track progress on over time, the range of students and data points varied from one student with 16 pre- to posttests to 13 students with a total of 19 pre- to posttests. The large variation occurred as each teacher may have been responsible for a single student within a specific class as the special educator to choosing to implement differentiated instruction to all the students in their class.

Qualitative data were collected from multiple sources and were used in two ways that Greene, Caracelli, and Graham (1989) characterized as development and expansion. The qualitative data was used as development to sequentially inform the quantitative results. Also, qualitative data was used as expansion to address different aspects of the research question and provide supporting evidence about the effectiveness of differentiated instruction. First, data was culled from the lesson plan assignments where each candidate had to reflect on student performance in regard to outcome data. The lesson plan assignment allowed for what Bogdan and Bilken (1992) called a reflexive journal. The information included daily schedule and logistics of what they did, a personal diary that allowed for reflection about growing insights, and a methodological log, which in the teachers case, was documentation of the different differentiated instruction strategies chosen and an accompanying rationale. Second, data were obtained from a capstone course that candidates took up to a year and a half after implementing their differentiated instruction work. The data came in the form of journal notes with a “purpose of *attesting to an event or providing an accounting*” (Bogdan & Bilken, 1992, p. 277, emphasis in original).

### Data Analysis

The pretest and posttest data were analyzed using repeated measures analysis of variance (ANOVA). The first analysis considered the unit of study to be the teacher where an average of scores was computed for each TEC. For example, if a TEC collected data for 15 pre- to posttest assessments throughout the five weeks, then an average pretest score was computed and an average posttest score computed. The ANOVA then compared 35 pretest to 35 posttest scores, one pair for each TEC. The second ANOVA analysis was performed on all of the pretest to posttest scores independent of TEC. There were 366 pretest and posttest scores included in the analysis.

Qualitative results came from a narrative analysis using the constant comparison method (Glaser & Strauss, 1967). Data comparisons were made through “categorizing, coding, delineating categories and connecting them” (Boeije, 2002, p. 393). Initial data collection came from the lesson plan activities where students implemented and reflected on the differentiated instruction strategies in their own classrooms. Later, cyclical refinement of generated themes came from the capstone projects that the TEC’s provided at the completion of their initial certification program. The capstone reflections were provided by the TEC’s a year and a half to two years after completing the differentiated instruction course and served as a source of data triangulation. Within the capstone course, TEC’s were required to use prior coursework as artifacts that demonstrated their development of knowledge, skills, and dispositions and reflect on their professional development as a function of student achievement.

Initially, data were triangulated between the journals, the capstones, and instructor notes for credibility and trustworthiness (Brantlinger, Jimenez, Klinger, Pugach, & Richardson, 2005). Data analysis took the form of taking notes and coding data. The themes that emerged took the form of categories of experience to be explained and a final analyst oriented category that provides explanation and investigator triangulation to look for disconfirming evidence

(Lincoln & Guba, 1985). Throughout the analysis and interpretation process, multiple researchers served as peer debriefers using Spillert’s (2003) recommendations. Specifically, the course instructor and two peer debriefers not involved in the analysis of data provided feedback on the accuracy and completeness of the data analysis phase of inquiry. Examples were debriefing with a view to whether the themes remained true to the data and the accurate representation of the themes during the analysis synthesis process. Finally, a peer debriefer corroborated with checks for disconfirming evidence to help refine the emergent themes.

## Results and Discussion

### Question 1

The first research question was, does implementation of different packages of differentiated instructional strategies by 35 teachers lead to substantial gains in student achievement on informal weekly-based assessments? Thirty-five TEC’s provided a total of 366 pretest and post assessment scores for 129 students. The range of the number of students taught by the TEC’s was from one to 13, with data taken for an average of 4.8 (SD = 2.3) students with a mode of providing data for four students. The number of assessments that TEC’s provided for their students ranged from three to 25, with a mean number of 10.5 (SD = 7.2) per TEC with a mode of four pre- to posttests given.

After averaging the pretest and posttest scores for each TEC, the mean pretest score for the 35 teachers was 49% (SD = 18) and mean posttest score was 80% (SD = 11). Table 1 provides the percentage of teachers who reported average student scores within a certain grade level. For example, for the pretest scores, none of the teachers indicated that their students scored an average of 90 or more points. This compares with 11% of teachers for the posttest results whose students were scoring an average at the A grade level.

Of particular importance to students and teachers alike are the scores that fall in the passing/failing range. If using a cutoff of 60 + points for a passing score (a D or better), only eight out of the 35 teachers (23%) reported pretest scores that indicated that students were passing. In contrast, the posttest scores indicated that 97% of the teachers (n = 34) reported scores where their students earned a ‘D’ or better.

Table 1

*Letter Grades For Pretests and Posttests*

Grade	Pretest* % of scores at the grade	Posttest % of scores at the grade
A (90+)	0	11
B (80 – 89)	3	49
C (70 – 79)	11	20
D (60 – 69)	9	17
F < 60	77	3

\* Percentages do not add up due to rounding

Similarly, only 14% (n = 5) of the teachers' pretest scores indicated students earning a 'C' or better. For the posttests, 80% of the teachers had students who received a 'C' grade or better (n = 28). At the highest achievement level, only 3% of the teachers' data indicated that their students were obtaining A's or B's during pretests. This compared with 60% of the teachers' data at posttest where students scored at the A or B grades.

Table 2 provides results from comparisons of the pretest to posttest data for the average scores for the TEC's. The average pretest score was 49% (SD = 17.6) and the average posttest score was 80% (SD = 10.7). There was a statistically significant and noteworthy change from pretest to posttest scores ( $F [1, 33] = 126, p < .001$ , partial eta<sup>2</sup> = .79). This indicates a strong positive effect in the change from pretest to posttest scores for the teacher candidates' students.

Analysis of the individual scores for each child provided similar results to the results where the teacher was the unit of analysis. The average pretest score for the 366 pretests was 49.6 (SD = 26.8) and the average posttest score was 77.4 (SD = 19.6). Within subjects analysis of the difference in pretest to posttest scores indicated a statistically significant increase in scores ( $F [1, 364] = 526, p < .001$ , partial eta<sup>2</sup> = .59).

One-way ANOVA was used to explore the relationship between teaching in a specific type of school (elementary, middle school, or high school) and was related to gain scores from pretest to posttest for the 35 TEC's. Four TEC's data were ignored in the analysis as it was not possible to discern the grade level in which they were teaching. Results indicated that there were no statistically significant or noteworthy differences between the three types of grade levels,  $F (2, 28) = .16, p = .85$ .

For the individual pretest/posttest scores (n = 366), a one-way ANOVA was used to test the hypothesis that there would be no statistically significant difference in the gain scores between the different subject areas taught. The subject areas of spelling and French were removed from the analysis as there were too few gain scores to warrant analysis. Results indicate a significant group effect,  $F (6, 343) = 4.45, p < .001$ , eta = .27. Post hoc analysis indicated that the gain scores in math (n = 145 gain scores) were statistically significantly different than the gains in reading (n = 47) or the gains in science (n = 65). There were no other significant differences. Caution should be used when interpreting these data as Leven's test of the homogeneity of variance was rejected ( $p = .003$ ) and sizes of the cells were not equal.

### Question 2

The second research question addressed was, is there support for the social validity of implementing differentiated instruction by the teachers? In conjunction with data to indicate whether differentiated instruction worked for our TEC's, was the question of whether teachers were likely to continue to implement differentiated instruction? As Foster and Mash (1999) implied, the goals of an interventions should be assessed for not only whether it is effective, but also for its importance and acceptability. With the guiding research hypotheses of importance and acceptance, qualitative analysis of the lesson plan journal (LPJ) and

Table 2

*Within-subjects ANOVA of the Difference in Scores For Each TEC and Each Pre to Post Test, Mean (SD)*

	M (SD)	F	Sig.	Partial Eta Sq
<i>Average for each TEC (N = 35)</i>				
Pretest	48.9 (17.6)	126	.000*	.79
Posttest	80.2 (10.7)			
<i>Average for all tests (N = 366)</i>				
Pretest	46.7 (18.8)	526	.000*	.59
Posttest	77.8 (17.3)			

\* Denotes statistical significance at the .001 level

capstone reflections (CR) led to several emergent and consistent themes that support the use of differentiated instruction as an effective strategy in their classrooms. The TEC shared perspectives about the social validity of differentiated instruction that emerged and evolved from simple dichotomous statements of effectiveness to how differentiated instruction informs their teaching for other students, in other classes, with other professionals, to how they continued to use the strategies they implemented. A final theme emerged as an explanatory description of why we think differentiated instruction seemed to be so effective for student outcome gains and why it continued to be implemented long after TEC's had completed the course requirements.

*Teacher's perceptions of the effectiveness of differentiated instruction.* The first emerging theme supported Labaree's (2003) contention that, in contrast to the view of many teacher educators, teachers are interested in what works and what doesn't in their classroom. When one candidate shared "Dare I say, that I enjoy my job more using differentiated instruction? However, the primary motivator is having students that are learning more than in the past" (CR) we see a teacher who is motivated by personal gains (enjoying teaching to a greater degree) but identifies student achievement as a primary motivator. Another candidate indicated that they valued the progress that their students were making and continued to implement the differentiated instruction practices:

Having pre and post tests showed me the growth of my students and it also showed me which students needed some extra help. I also found that most of my students showed an increase of 20% from the pre-test to the post-test. (LPJ)

If student outcomes are to be an indicator of teacher education candidate success (Zimpher, 2011), the following is a clear indication that using differentiated instruction has been effective:

My writing students just got their scores back. They all passed. All of them. Even the student who needed the most help whose mother passed away a week before the test. This writing remediation teacher is EXCITED! A 100% success rate is nothing to sneeze at. This was the only thing standing between these students and graduating with a regular education diploma instead of a special education diploma. Now all I have to do is write it up and I can finish [my capstone]. (CR)

*Effectiveness as a function of effort.* A second theme took the issue of effectiveness further, by comparing the potential gains to be made by using a strategy against the initial effort involved by the teacher. In contrast to the first rationale for using differentiated instruction, the weighing up of gains as a function of cost leads to decisions to use teaching strategies (e.g., differentiated instruction) that are likely to be more permanent in nature. A TEC who was the teacher of record for 23 students including three with disabilities wrote, "I feel I had an advantage because I recently entered teaching with few preconceived ideas of the best ways to teach; so I was a sponge soaking in all of these strategies" (LPJ). As a beginning teacher, she shared many of the barriers listed by Tomlinson (1995) that included administrative barriers, additional time to prepare for the lessons, and general unease about implementing differentiated instruction practices in their classrooms. This was a concern with many of our teacher candidates but as another TEC noted in her LPJ: "In the future, I will make differentiated instruction a permanent part of my instruction. Although it did take more planning time, the results from a differentiated lesson are well worth the extra time and effort."

A consistent finding about differentiated instruction is that success needs to happen quickly. This was the case with our TEC's. For example, in one LPJ a teacher wrote: "Once applied, it is easy to see that differentiated instruction is no more time consuming than trying to teach all the students the same way with only minimum success". Another teacher was co-teaching with the general educator and both were responsible for the 21 students in their class. First, she reflected in her capstone course on what was happening before the implementation of differentiated instruction: "Many times, my co-teacher and I would acknowledge the euphemism of the 'blind leading the blind'. The students were given the same tests; taught with the same techniques; placed in the same environments; and basically handled as a group." (CR) She noted that she had initially conceived of a collaborative co-teacher as someone who ensured that students with special educational needs be "treated as the general education population. I later realized that thought process was in direct contrast to the very basis for special education service." (CR) Quickly she realized the value of differentiating assessments as part of differentiated instruction and wrote: "I remember thinking as I sat to write my second set of lesson plans for this course that, of course we should be using data to plan our lessons!" (CR)

Labaree (2003) reminded us that "Teachers spend a lot of time examining their experience to find out what works and what doesn't, and many can deploy their tested instructional techniques in a dazzling display of expertise" (p. 17). This examination of teaching is a continuous and formative process and, as one TEC shared (CR), her implementation of differentiated instruction sometimes became stagnated. She used reminders of student success as a reinforcement for her efforts:

There are times I get stuck on certain specifics and don't have a clear view of the big picture. Then the gen ed teacher will make a comment about how far the student has come and I will see once again the benefits and advantages to the differentiated instruction strategies I use.

These data support Johnson's (2003) research that indicated when teacher education candidates varied instruction, they

were more gratified with how their lessons went and their students were more engaged within the lessons. The sharing of differentiated instruction with a co-teacher appeared to help; although planning for differentiation has been found to be more difficult for the teacher (McAdamis, 2001; Tomlinson, 1995), working together and sharing resources and tips with one another has the potential of making everyone's job easier (Benjamin, 2006). Benjamin stated that the reflection on lessons with colleagues is seen to offer indispensable encouragement that can only come from someone dealing with a similar situation.

*Maintenance and generalizability of differentiated instruction.* Data from the lesson plan journals and capstone course allowed us to compile evidence for the continued use of differentiated instruction strategies within the TEC classrooms. Initially there was a consistent intent by the TEC's to use differentiated instruction in later semesters. One of our candidates reflected in her lesson plan journal about what she planned to do in the following school year and noted positive dispositions toward differentiated instruction as an evidence-based practice: "Already having a basis [in differentiated instruction] will allow me to focus more on new differentiated instruction techniques and how they will affect my students. It will also allow me more time to experiment to see what really works". Another indicated that "Differentiated Instruction will be a constant in my teaching and planning. I cannot imagine trying to reach students without using all the different strategies I have learned." (LPJ) Another candidate in her LPJ stated:

After reviewing their assessment results over the five weeks, I am amazed by their progress and improvement. I will carry the material I have learned in this class with me the rest of my teaching career! After this experience, all of my lessons will be differentiated in the future.

At the end of their program, TEC's noted: "Before enrolling in this program, I had no clue what differentiated instruction was" and "By creating a learning environment that was conducive to the needs of every student, my students achieved great success."

As an indication of the lasting effects of utilizing differentiated instruction, one candidate at the end of her program shared "Now when working with certain students, I always incorporate my pre and post-test, plus I make sure to use a variety of different teaching methods." (CR) A different candidate noted how she continues to use some of the practices developed within the class and has changed her teaching for other students within the class who did not require as much intense support:

Because of this simple differentiation technique of using an assessment designed for ..., his other reading abilities improved. I employed this technique with the rest of my students and watched them exceed my expectations when they were able to witness their own growth and improvement. I continue to use this method of data collection, student and parent conferences, and goal setting in the new year of school. (CR)

As with most interventions, there was an indication that the implementation of differentiated instruction was still a challenge in certain situations. For example, one candidate noted the potential benefits and reminds us of the continuous challenge of meeting all students' needs: "Differentiating instruction gives all types of students the chance to learn



together and from one another. I am finding that one of the most difficult areas to address is whole class instruction while differentiating instruction.” (CR) This type of experience informs practice in individual settings and has the potential to lead to teachers using an evidence-based practice like differentiated instruction in their daily teaching routines (Heckaman, Thompson, Hull, & Ernest, 2009).

*Generalization of benefits beyond academics.* One TEC was a first year teacher and found that the improved performance of her students related to other changes in her classroom. She noted, “Test grades were also improved and classroom disruptions decreased”. Although it is logical to propose that a teacher needs to take care of positive behavior before they can focus on their academics, previous research (Gunter, Denny, & Venn, 2000) has indicated that if there is an increase in students’ achievement first, then this leads to a positive effect on student behavior. Another teacher candidate provides support for this effect:

The students started out the semester as if they did not care and was [sic] not about to learn or act interested with the content. However, as the semester went on and differentiated instruction plans were implemented, the progress of the students increased, they were more engaged and interested in what they were learning.

Another TEC used a grouping differentiated instruction strategy and found “We experienced fewer behavior issues and soon noticed our students grasping the concepts in shorter time frames.

*Teaching as a systematic effort.* The final category that emerged could be considered an analyst category (Lincoln & Guba, 1985) and serves as an explanation or theory for why our candidates achieved the successes they did. For our teacher education candidates, the process has been at least as important as the product. Repeating the differentiated instruction process over a five week period, and continuing to see these strategies implemented beyond the first semester of the initial certification program reflects Walsh’s (2007, p. 123) call to teacher educators:

Understanding and appreciating sound research and effective assessment, learning to apply these tools to improve outcomes in the classroom, and accepting that outcomes must be the measure of teacher performance are all precepts that must be rooted in the process of teacher education.

The teacher education candidates engaged in conceptualizing the challenges of their day-to-day and minute-by-minute teaching and choosing and implementing evidence-based practices in a systematic way. Our candidates practiced their craft using a systematic research framework with support from a university supervisor – a guided practice in research that informed their teaching. The effect on our TEC’s in how they use student achievement data has been routinely documented:

The lesson plans I created for [class] were the most time-consuming, demanding assignments I have ever completed and yet when it was over, I felt successful and had the data to prove it. This was the first time I really analyzed the standards and intertwined various objectives. It was like a light bulb went off and it was so much easier for me to write lesson plans because I knew exactly what I was going to teach that week. It became exciting to find resources that not only

pertained to my objectives but also incorporated other subject areas. CR

For our TEC’s, data was used to inform future practices, and it created new understanding, and often led to generalization of practice to other subject-areas, across semesters. The changes in how our TEC’s taught started with the initial course that focused on lesson planning and integrating differentiated instruction and is reflected in the following:

Before entering this program I did not spend enough time planning assignments and activities for my students. This resulted in much confusion and low student performance. It was not until I learned how to plan appropriately and deliver quality instruction that my students started to achieve great success. (CR)

## Conclusion

The first question answered by the research was one of whether teacher selected differentiated instruction strategies when implemented over a five week period resulted in notable increases in student outcome scores. With the implementation of differentiated instruction, there was a consistent 30% change from pretest to posttest scores for the students. Although it should be acknowledged that a limitation of this research was the lack of standardization of curriculum, strategies, tests, and scores, as the intent of the study was to localize and individualize differentiated instruction at the teacher and student level, the informal teacher developed tests provided formative data for instruction. Using conventional grading guides, the data indicated that 29 out of 30 (97%) of the students shifted from having ‘failing’ grades at pretest to having ‘passing’ grades at posttest. The one TEC whose average pretest to posttest scores did not increase to at least a ‘D’ grade provided data that showed that her children increased from an average pretest score of 13% to a posttest score of 56%. Even though the students were not “passing” at a conventional scoring level, they were still making notable progress. For our TEC’s, the most salient difference was working with children who were failing their pretests to having them receive passing grades on their posttests. Our data indicate that regardless of whether one uses an average of scores for a single teacher as the unit of measurement or un-weighted scores for each pre- to posttest, the outcomes were very similar.

Of importance to teacher education candidate trainers and teachers alike are results that indicated a relative immediacy of positive results by each of the TEC’s. As noted, Tomlinson (1995) recognized that for teachers to want to continue to use differentiated instruction practices, it was necessary for them to experience success quickly. Our candidates recognized significant gains in student success repeatedly over a five week period and the effect-size for the change from pretest to posttest scores indicated a large degree of change. The results support the effectiveness of differentiated instruction for our teacher candidates and add empirical support to the literature-base that Hall (2002) called for.

In previous research, questions have been asked about the effectiveness of differentiated instruction practices across multiple content areas (Hodge, 1997). Hodge’s study used results from standardized tests as a proxy for learning and found no effect of differentiated instruction on math. Contrary to this finding, the results of this study provide

support for the short-term effectiveness of differentiated instruction strategies in eight content areas, with the greatest gains in math. In the state where the TEC's were teaching, the curriculum is closely tied to the state's standardized tests, so it is reasonable to suggest that short-term gains should translate to improvement in more formal assessments. Anecdotal data from our TEC's supports this potential correlation but needs to be examined more systematically.

In regard to the second general question, results of this study indicate excellent social validity for the implementation of differentiated instruction practices. Of note, were the many examples of positive dispositions toward using differentiated instruction not only while the teachers were engaged in an online course that provided support for differentiated instruction, but also in their capstone reflections that occurred at the end of the candidates' program.

As differentiated instruction "requires teachers to be flexible in teaching and adjusting the curriculum rather than holding high expectations for the students to adjust themselves to the curriculum" (Hall, 2002, p. 2) a choice to balance control (fidelity of implementation of specific strategies) was sacrificed to be able to be responsive to individual / small group within each of the TEC's classrooms. This was seen in the diverse array of strategies chosen and was reinforced by the university professor on a weekly basis. The final theme describes TEC's being responsible for using an assessment-planning-delivery of differentiated instruction-assessment process that led to maintenance and generalizability of differentiated instruction. This in turn led to our candidates being empowered advocates for differentiated instruction. This particular powerful reason for teacher-chosen strategies has been advocated by many, including Lytle and Cochran-Smith (1992), who reminded us that the sharing of teacher-generated information has a perceived authenticity within the profession that is "well positioned to produce precisely the kind of knowledge currently needed in the field" (p. 466).

Parry (2009) noted that more courses and programs are transitioning to some form of online education to create a greater degree of access to students. As all of our participants were alternate certification students in a Southern state that elected to do an initial certification master's degree fully online, there is a representativeness in the 'sample' that goes beyond typical samples. As the results were similar across grade level taught and age of students, the data suggest overarching support for the use of differentiated instruction as an instructional strategy across our TEC's. Whether the candidates merely recognized the effectiveness of differentiated instruction; rationalized differentiated instruction as a benefit that outweighed the 'costs' associated with its implementation; and/or continued to implement differentiated instruction practices during other semesters, in other content areas, or provided a model of differentiated instruction that was learned by collaborating teachers, there is general support for the use of differentiated instruction. The potential for transferability of the results (Bogdan & Bilken, 1992) to other teacher education candidates is to be determined by the reader, with the recommendation that further research explore whether similar results are found with TEC's who are not teaching

full time in the classroom or as a series of inservice supports for certified teachers.

Here in the US, there have been recent calls for teaching to become more clinically oriented (Zimpher, 2011). The leading teacher preparation accreditation agency (the National Council for Accreditation of Teacher Education; NCATE) recently created a Blue Ribbon Panel (see Zimpher) who proposed the following as their number one recommendation:

There must be an intense focus on developing teaching practice and P-12 student learning, making clinical practice the centerpiece of the curriculum and interweaving opportunities for teaching experience with academic content and professional courses. Teachers need to be prepared to use research-based developmentally appropriate strategies, assess student progress, and change practice as appropriate for the purpose of improving student learning and meeting students' developmental needs.

As our candidates were the teachers of record in the classroom and employed full time by the school system, the benefits of differentiated instruction in this study may be of particular importance to programs that develop models of clinical practice or student teaching that integrate university-oriented coursework to mesh with teaching practice in the classroom.

As with every study, it is important to note potential limitations. The strength of the current study can also be considered its greatest limitation. As each person defined their own package of interventions, there is an inverse relationship between a researcher's control of the study and the authenticity of the results. The pre to post assessments were developed in response to student needs and therefore not standardized across the participants, and the interventions varied not only between participants, but within the participants from week to week. There was little formal control over how differentiated instruction was implemented (which strategies chosen by the candidates), but high fidelity in the process that the TEC's engaged in as each candidate submitted lesson plan journals at the end of each week, and as the university professor checked each journal for fidelity to the assignment directions. Future research should consider the benefits of TEC selected interventions and flexibility of implementation as a function of reduced fidelity of intervention and researcher control.

## References

- Bantis, A. M. (2008). Using task based writing instruction to provide differentiated instruction to English language learners (Unpublished masters dissertation). University of Southern California.
- Baumgartner, T., Lipowski, M., Rush, C. (2003). *Increasing reading achievement of primary and middle school students through differentiated instruction* (Masters dissertation). Saint Xavier University. Retrieved from ERIC database. (ED479203)
- Benjamin, A. (2006). Valuing differentiated instruction. *Leadership Compass*, 3(3), Retrieved from [www.eddigest.com](http://www.eddigest.com)
- Boeije, H. (2002). A purposeful approach to the constant comparison method in the analysis of qualitative interviews. *Quality and Quantity*, 36, 391-409.

- Bogdan, R. C., & Bilken, S. K. (1992). *Qualitative research for education: An introduction to theory and methods*. Needham Heights, NJ: Allyn and Bacon.
- Brantlinger, E., Jimenez, R., Klinger, J., Pugach, M., & Richardson, V. (2005). Qualitative studies in special education. *Exceptional Children, 71*(2), 195-207.
- Brimjain, K. (2002). *A journey toward expertise in differentiated instruction: A preservice and inservice teacher make their way*. (Unpublished doctoral dissertation). University of Virginia, Charlottesville.
- Clark, K. (2010). Helping the environment helps the human race: Differentiated instruction across the curriculum. *Science Scope, 33*(6), 36-41.
- Danzi, J., Reul, K., & Smith, R. (2008). *Improving student motivation in mixed ability classrooms using differentiated instruction*. Retrieved from ERIC database. (ED500838)
- DeBaryshe, B. D., Gorecki, D. M., & Mishima-Young, L. N. (2009). Differentiated instruction to support high-risk preschool learners. *National Head Start Association Dialog, 12*, 227-244.
- Flaherty, S., & Hackler, R. (2010). *Exploring the effects of differentiated instruction and cooperative learning on the intrinsic motivational behaviors of elementary reading students*. Retrieved from ERIC database. (ED509195)
- Foster, S. L. & Mash, E. J. (1999). Assessing social validity in clinical treatment research. Issues and procedures. *Journal of Consulting and Clinical Psychology, 67*(3), 308-319.
- Glaser, B. G. & Strauss, A. L. (1967). *The discovery of grounded theory: Strategies for qualitative research*. Chicago, IL: Aldine.
- Gonzalez Castro, F., Barrera, M., & Martinez, C. R. (2004). The cultural adaption of prevention interventions: Resolving tensions between fidelity and fit. *Prevention Science, 5*(1), 41-45.
- Goodnough, K. (2010). Investigating pre-service science teachers' developing professional knowledge through the lens of differentiated instruction. *Research in Science Education, 40*(2), 239-265.
- Greene, J. C., Caracelli, V. J., & Graham, W. F. (1989). Towards a conceptual framework for mixed-method evaluation designs. *Educational Evaluation and Policy Analysis, 11*, 255-274.
- Gunter, P. L., Denny, R. K., & Venn, M. L. (2000). Modifications of instructional materials and procedures for curricular success of students with emotional and behavioral disorders. *Preventing School Failure, 44*, 116-121.
- Hall, T. (2002). *Differentiated instruction*. Wakefield, MA: National Center on Accessing the General Curriculum. Retrieved from [http://www.cast.org/publications/ncac/ncac\\_diffinstruc.html](http://www.cast.org/publications/ncac/ncac_diffinstruc.html)
- Heckaman, K., Thompson, S., Hull, K., & Ernest, J. (2009). Preparing teacher candidates to use evidenced-based practices to impact student learning. *Southeastern Teacher Education Journal, 2*(3), 5-17.
- Hodge, P. H. (1997). An analysis of the impact of a prescribed staff development program in differentiated instruction on student achievement and the attitudes of teachers and parents toward that instruction (Unpublished doctoral thesis). University of Alabama.
- Inclusion International (2009). *Better education for all: A global report*. Retrieved from [http://ii.gmalik.com/pdfs/Better\\_Education\\_for\\_All\\_Global\\_Report\\_October\\_2009.pdf](http://ii.gmalik.com/pdfs/Better_Education_for_All_Global_Report_October_2009.pdf)
- Ivory, T. (2007). *Improving mathematics achievement of exceptional learners through differentiated and peer-mediated instruction*. Retrieved from ERIC database. (ED 498376)
- Johnson, S. (2003). Adapting instruction with heterogeneous groups. *Gifted Child Today, 26*(3), 5-6.
- Labaree, D. F. (2003). The peculiar problems of preparing educational researchers. *Educational Researcher, 32*(4), 13-22.
- Lincoln, Y. S. & Guba, E. G. (1985). *Naturalistic enquiry*. Newbury Park, CA: Sage.
- Lytle, S., & Cochran-Smith, M. (1992). Teacher research as a way of knowing. *Harvard Educational Review, 62*, 447-474.
- Mack, R-P., Smith, V. G. & Straight, H. (2010). Response to intervention: Implications for the proficiency of early childhood special educators. *The Journal of International Association of Special Education, 11*(1), 15-21.
- McAdamis, S. (2001). Teachers tailor their instruction to meet a variety of student needs. *Journal of Staff Development, 22*(2), 1-5.
- Parry, M. (2009, August 31). Professors embrace online courses despite qualms about quality. *The Chronicle of Higher Education*. Retrieved from <http://chronicle.com/article/Professors-Embrace-Online/48235/>
- Patterson, J., Conolly, M., & Ritter, S. (2009). Restructuring the inclusion classroom to facilitate differentiated instruction. *Middle School Journal, 41*(1), 46-52.
- Rust, F. O'C. (2009). Teacher research and the problem of practice. *Teachers College Record, 111*(8), 1882-1893.
- Spillett, M. A. (2003). Peer debriefing: Who, what, when, why, how. *Academic Exchange Quarterly, 7*(3), 36-40.
- The Access Center Research Continuum (n.d.). from [http://www.k8accesscenter.org/training\\_resources/documents/ACResearchApproachFormatted.pdf](http://www.k8accesscenter.org/training_resources/documents/ACResearchApproachFormatted.pdf)
- Tomlinson, C. A. (1995). Deciding to differentiate instruction in the middle school: One school's journey. *Gifted Child Quarterly, 39*(2), 77-114.
- Tomlinson, C. A. (1999). *The differentiated classroom: Responding to the needs of all learners*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Tomlinson, C. A. (2000). *Differentiation of instruction in the elementary grades*. Retrieved from ERIC database. (ED443572)
- UNCRPD (2006). Convention on the rights of persons with disabilities. Retrieved from <http://www.un.org/disabilities>
- UNESCO (2004). The right to education for persons with disabilities: Towards inclusion. Retrieved from <http://unesdoc.unesco.org/images/0013/001378/137873e.pdf>
- Waldron, N. & McLeskey, J. (2001). An interview with Nancy Waldron and James McLeskey. *Intervention in School and Clinic, 36*(3), 175.
- Walker-Dalhouse, D., & Risko, V. (2009). Crossing boundaries and initiating conversations about RTI: Understanding and applying differentiated classroom instruction. *Reading Teacher, 63*(1), 84-87.
- Walsh, K. (2007). Becoming part of the solution, not part of the problem. *Journal of Teacher Education, 58*(1), 117-123.
- Willis, S., & Mann, L. (2000). *Differentiating instruction*. Curriculum update. Retrieved from [http://www.ascd.org/cms/objectlib/ascdframeset/index.cfm?publication=http://www.ascd.org/ed\\_topics/cu2000win\\_willis.html](http://www.ascd.org/cms/objectlib/ascdframeset/index.cfm?publication=http://www.ascd.org/ed_topics/cu2000win_willis.html)
- Zimpher, N. L. (2011, January 10). SUNY: The key to economic revitalization lies in teacher preparation. *Teachers College Record*. ID Number 16282. Retrieved from <http://www.tcrecord.org>

Please address all correspondence to:  
 James Ernest  
 Assoc. Professor of Early Childhood Education  
 University of Alabama at Birmingham  
 117 SOE; 901 13th Street South  
 Birmingham, AL 35294-1250  
 jernest@uab.edu

# Miscue Analysis of Oral Reading among Less Proficient Readers in Primary Schools in Brunei Darussalam

**Juliana Bte Haji Abdul Hamid**  
Sekolah Rendah O.K.S.B. Kilanas  
Negara Brunei Darussalam  
liana1dec@yahoo.com

**Okechukwu Abosi**  
University of Brunei  
Brunei Darussalam  
okechukwuabosi@yahoo.com

## Abstract

*Reading disability is the most common disability. At least one in five children has significant challenges learning to read. This study focused on the oral reading performance of 30 Year-Three students. The students were identified as less proficient readers from two randomly selected primary schools in Brunei Darussalam. The oral reading performance of all the students was collected after each of them read three passages based on the Year-Three curriculum. The objectives of this study were to examine the types of miscues made, language-cueing systems used and how miscues affected the reading comprehension of the students. The instruments used were three oral reading passages based on the Year-Three curriculum. The collected data were both quantitatively and qualitatively analyzed. The results indicated that among the seven types of miscues analyzed, the most common type of miscue made by the students was on substitution. This study also found that the most frequently used cues by the students in their effort to read was on the grapho-phonics cues compared to syntax and semantic cues. In the comprehension performances of the students, it was found that the number of miscues made was not necessarily the main factor that caused failure in oral comprehension questions.*

## Introduction

### *Definitions of Reading*

Reading is an activity that may be taught to almost everybody, either by formal learning at school or informally at home. Different definitions of reading have been given by various authorities. The National Reading Panel (2000) defined reading as a complex system of deriving meaning from print that requires, (a) the skills and knowledge to understand how phonemes, or speech sounds are connected to print, (b) the ability to decode unfamiliar words, (c) the ability to read fluently, (d) sufficient background information and vocabulary to foster reading comprehension, (e) the development of appropriate active strategies to construct meaning from print, and (f) the development of maintenance of motivation to read. All these requirements are the skills or strategies which are necessary to become proficient readers. These strategies can be used as guidance in teaching non-proficient readers to improve their reading skills. According to Davenport (2002), reading is a process of bringing together information from one's background knowledge and experiences as well as using information from the language-cueing systems of syntax, semantics, pragmatics, and grapho-phonics.

### *Oral Reading Skills among Low Achievers*

Reading disability is the most common of all learning disability. At least one in five children has significant difficulty learning to read (Hamilton & Glascoe, 2006). Approximately, 50 percent of students in special education programs have a diagnosed learning disability (Lyon, 1996) and approximately 80% of students with a learning disability have a reading disability (Drummond, 2005). Reading

disabilities can affect basic reading skills and comprehension. According to Hamilton and Glascoe (2006) a disability in basic reading skills is defined as difficulty sounding out words or acquiring sight word vocabulary. Hamilton and Glascoe claimed that students with a disability in reading comprehension are not able to make sense of text, and this is associated with delays in language comprehension.

Reading should be for meaning. As students read, it is discovered that they make miscues or errors (Goodman & Goodman, 2004). Non-proficient readers would likely make more miscues than proficient readers. Proficient readers use a variety of skills when they read. According to Hook and Jones (2002), proficient readers not only read fluently and with adequate speed, but they are also able to use appropriate phrasing and intonation when they read aloud as though they are talking in their spoken language. Kuhn and Stahl (2000) stated that proficient readers not only read fast, but also read with efficient phrasing and expression. Kuhn and Stahl also claimed that proficient readers were able to express meaning into the text through the readers' oral interpretation of the passage they read. This means that as readers learn to read in an expressive and meaningful manner they are also learning to construct meaning or comprehend the text.

### *Problems in Oral Reading*

Non-proficient readers are those who display problems while reading aloud. They may read haltingly, may not be able to identify certain words, omit selected words, and repeat words read correctly (Ediger, 2005). Ediger also found that non-proficient readers fail to use context clues to identify unknown words. These readers do not know how to emphasize commas when reading words in series and

punctuations are usually omitted as they read. Nes (2003) stated that non-proficient readers tend to read slowly, haltingly, and with little or no expression and as a result, text comprehension is negatively affected; the readers become less confident and the reading is not enjoyable.

### *Oral Reading Miscues*

When students read aloud, especially those who have been identified as non-proficient readers, they tend to make errors or miscues while they are reading. A miscue, according to Davenport (2002) is an unexpected response that a reader makes during his or her oral reading. According to Tolistefl (2007) there are seven types of miscues in oral reading:

- (a) substitution (occurs when the reader puts another word in place of the correct one),
- (b) omission (occurs when the reader leaves a word out and it is done so quickly that it appears to be an accident),
- (c) insertion (occurs when the reader adds a word that is not in the text),
- (d) repetition (occurs when the reader repeats the word),
- (e) refusal (occurs when the reader pauses on a word (for 3 to 5 seconds) but does not make any attempt to read it),
- (f) hesitation (occurs when a reader pauses more than five seconds after attempting to read a word) and
- (g) self-correction (occurs when a reader has realized that he or she has made a mistake and immediately tries to correct it) ( p.7).

The idea that oral miscues provide a window into how a child processes text originated with the work of Kenneth Goodman (Brown, Goodman & Marek, 1996). Goodman and Goodman (2004) found that children identified words more accurately in context than in isolation. This finding led Goodman to consider just how context helps children to identify a word, and the result was a model of reading that proved extremely influential (McKenna & Picard, 2007).

### *Miscue Analysis in Oral Reading*

Miscue analysis refers to a research tool which is used to investigate the underlying processes and strategies of readers through an analysis of their miscues in oral reading. Miscue analysis looks into the error patterns that the readers make in their oral reading. For example, the oral reading analysis can identify that the readers use one or more of the language cueing systems (grapho-phonics, syntax and semantics) to help them with their reading. Miscue analysis can also serve as a practical function for reading specialists, teachers and other professionals who are in the education profession and therefore efforts should be made to provide teachers with relevant information about this problem.

### *Informal Reading Inventory*

An informal reading inventory is a type of informal reading test designed to provide teachers with a variety of information (Burns & Roe, 1999). As students read text, teachers observe the students' strengths and weaknesses, ask questions to probe their understanding and knowledge, and record quantitative and qualitative information (Paris & Carpenter, 2003). The assessments are informal because the informal reading inventory's administration is tailored to each student and the observations do not emphasize uniform

or comparative data. It is also diagnostic because each student's case is looked into very carefully. The inventories usually include assessments of oral reading accuracy based on running records or miscue analysis (Paris & Carpenter, 2003).

The most important reason for using informal reading inventories is to diagnose the students' specific reading problems to generate detailed information on the students' reading performance (Burns & Roe, 1999). Early detection can also lead to early remedial help in a variety of reading skills. Another important reason for using informal reading inventory is for teachers to document the growth of students' reading. Informal reading inventories can easily be carried out by teachers in their classroom as the assessments are flexible and can provide quick and immediate reading performance information of the students (Paris, Paris & Carpenter, 2002).

The objectives of this study were to: (1) examine the most common types of oral reading miscues among less proficient readers, (2) examine the differences in miscues made by less proficient readers in terms of grapho-phonics similarity, syntax and semantics that change the meaning of the text and (3) examine the effects of oral reading miscues on less proficient readers' comprehension of the reading text.

## **Method**

### *Participants*

A total of 30 Year-Three students participated in this study. They were selected from a total of 141 Year-Three students who were assessed in an earlier screening test. The students were required to orally read a passage with the title '*Kucing dan Tikus*' (A Cat and A Mouse). The 30 students selected for this study met the following criteria: 1) the students' oral reading performances during the screening test were in the frustration level which was 89% and below, 2) the students used Bahasa Melayu as their first language, and 3) the students were identified as non-proficient readers by their reading teachers based on the students' oral reading performance in class.

Among the 30 students involved in this study, 10 were from Bendahara Sakam Bunut primary school whereas 20 were from Beribi, Telanai primary school. Twelve of the students were currently taking the Remedial Education Program either under Special Education Needs Assistant's (SENA) supervision or the class teacher's supervision. Two of the students had just been transferred from other schools and were identified as having severe reading problems.

### *Instrument*

The instruments used in this study were four selected reading passages in Bahasa Melayu which is the national language of Brunei Darussalam. The reading materials were short passages taken from children's story books. The passages were: Passage A '*Kucing Dan Tikus*' (A Cat and A Mouse) which contained 147 words; Passage B '*Anjing Dan Seketul Tulang*' (A Dog and A Piece of Bone) with 129 words; Passage C '*Balasan Tabah*' (A Reward for Good Deeds) which contained 135 words and; Passage D '*Rusa Dengan Siput*' (A Deer and A Snail) which had 151 words.

These researchers used the identified reading passages as

instruments rather than the school's reading books because the content of the reading passages were not familiar to the students. Also, these researchers selected passages with animal characters because the students were more familiar with stories that were based on local Malay folklore.

### *Procedure*

Before carrying out the study in schools, the researcher asked the head of unit for the Bahasa Melayu section in the Curriculum Development Department of the Ministry of Education to check all the oral reading passages to be used in this study. After few corrections were made, all the passages were approved as being suitable for testing students in the Year-Three level. This was also meant to check the face validity of the reading passages.

The passages were also checked for validity through a pilot study which involved testing nine students from Mulaut primary school. The researchers selected three high-ability, three average-ability and three low-ability students for the pilot study. All the selected students were tested in reading the four passages used for this study. All the students were assessed for their oral comprehension skills.

The results from the pilot study showed that the high and average-ability students were able to read the passages very well with their oral reading performances ranging from 95% to 100% for Passage A, 88% to 98% for Passage B, 92% to 99% for Passage C and 93% to 99% for Passage D. These results indicated that the reading passages were suitable for Year-Three students' reading. The low-ability students in the pilot study scored lower compared to the high and average-ability students.

The oral reading results from the pilot study indicated that all four passages were relevant and suitable for the participants of this study. Thus, no changes were required. However, the oral comprehension results from the pilot study indicated that some of the questions were too confusing to the students. Therefore, those questions which could not be answered correctly by at least 50% of the students were modified. These researchers modified two comprehension questions from Passage B, four comprehension questions from Passage C and four comprehension questions from Passage D.

*Data Collection.* In the actual study, the researcher listened and followed along a copy of the passage as the student read aloud. As the student was reading, the researcher took record of all the errors (mispronunciation, substitution, omission, insertion, reversals, repetition, and refusal to pronounce). The teachers were not involved in assessing the students. To get more accurate data collection, each session was audio taped so that the researcher could listen to every session more clearly and re-check the earlier data written on the researcher's copy of the passages. Each session took five to 20 minutes, depending on the student's reading fluency and time taken in answering the comprehension questions.

*Data Analysis.* The data collected were analyzed qualitatively for the following types of miscues: omissions, substitutions, insertions, repetitions, mispronunciations, reversals and refusal to pronounce. The types of reading miscues that the students made were recorded in the Worksheet for Qualitative Analysis of Uncorrected Miscues in Context (Burns & Roe, 1999). The worksheet was adopted from Burns and Roe's Informal Reading Inventory

book but these researchers modified the contents in order to focus on information which was relevant for this study. The students' comprehension scores (from each passage) were collected for comparison and to find out if the amount or types of errors were affecting the students' comprehension performance.

The reading miscues were reported in terms of percentages for the total number of miscues made for each reading passage. Scores for each type of miscues on all the three passages were recorded. Results of the comprehension performances were calculated in percentages. Each miscue was judged whether it was grapho-phonically similar to the actual word and whether it was syntactically and semantically acceptable in context.

All of the oral reading passages that were used to collect data for this study were analyzed. A total of 12450 words were analyzed after all 30 students had read the three oral reading passages which consisted of 415 words. From these passages, all the miscues were counted and analyzed individually. Each miscue that was made (except for repetitions and refusal to pronounce) by the students was analyzed to find out if it was grapho-phonically similar or syntactically and semantically acceptable and if it did not change the meaning of the text. The students' oral comprehension results were also analyzed to find out whether the amount of miscues made had affected the students' comprehension of the passage read.

## **Results**

### *The Most Common Types of Oral Reading Miscues*

All of the oral reading miscues made by each student were recorded to find out which type of miscues were most commonly made by the grade three students in their oral reading. This study found that a total of 2416 out of 87150 words were miscued by the students during their oral reading assessments. It further indicated that 2.77% of 87150 words were miscued. From the seven types of miscues targeted for this study, only six types of miscues have been identified from the students' oral reading assessments. No miscues on reversals were found in this study, as shown in Table 1.

Table 1 also shows that the most common type of miscues that the students made in their oral reading was on substitution. Table 1 indicates that 8.5% of 12450 words, (1060 of the total words) were substituted by the students.

### *Percentages of Miscues in Grapho-phonics, Syntax and Semantics that Changed the Meaning of the Text*

The miscues made by the students were analyzed to identify which of the three cueing systems (grapho-phonetic, syntax and semantic) was commonly or frequently used by the students in their effort to acquire meaning from text. There were only miscues in mispronunciations, substitutions, insertions, omissions and reversals that were analyzed for the second research question. Miscues on repetitions and refusal to pronounce were not included. There were a total of 2058 miscues analyzed to identify which of the three cueing systems was commonly used by the students. During oral reading, each student read the passage according to their own pace as they were using their own reading methods. It was discovered that there were some

Table 1

*The Overall Number of Miscues according to Each Type of Miscues Made by Individual Students in all the Three Passages*

Student	Miscues made by individual students in Passage B, Passage C and Passage D							Total	%
	Types of miscues								
	Mis.	Sub.	Ins.	Omi.	Rep.	Rev.	Ref.		
1	51	41	3	0	4	0	19	118	4.06
2	41	51	5	1	8	0	3	109	3.75
3	18	21	0	1	7	0	1	48	1.65
4	13	39	0	3	1	0	6	62	2.13
5	15	27	0	34	1	0	21	98	3.37
6	63	37	1	6	0	0	5	112	3.86
7	34	47	1	8	3	0	6	99	3.41
8	26	36	1	0	3	0	0	66	2.27
9	23	46	1	1	1	0	0	72	2.48
10	23	31	2	4	1	0	2	63	2.17
11	26	35	1	6	0	0	11	79	2.72
12	28	22	1	2	4	0	2	59	2.03
13	4	17	1	2	2	0	4	30	1.03
14	0	51	1	2	3	0	9	66	2.27
15	18	22	0	4	2	0	37	83	2.86
16	27	54	0	1	0	0	12	94	3.24
17	115	23	1	1	1	0	2	143	4.92
18	61	26	2	10	2	0	3	104	3.58
19	20	30	1	1	1	0	6	59	2.03
20	12	22	1	5	3	0	7	50	1.72
21	8	102	9	20	1	0	12	152	5.23
22	9	33	2	1	7	0	1	53	1.82
23	14	41	2	8	0	0	28	93	3.20
24	14	29	2	4	3	0	6	58	2
25	30	35	0	9	3	0	36	113	3.89
26	11	35	0	5	3	0	7	61	2.10
27	22	18	1	1	1	0	0	43	1.48
28	29	33	0	8	1	0	1	72	2.48
29	9	10	0	1	10	0	24	54	1.86
30	43	49	1	2	4	0	7	103	3.55
Total	807	1060	40	151	80	0	278	2416	2.77
%	6.48	8.51	0.32	1.21	0.64	0	2.23	2.77	

Note. Mis=Mispronunciations, Sub=Substitutions, Ins=Insertions, Omi=Omissions, Rep=Repetitions, Rev=Reversals, Ref=Refusal to pronounce

students who even read 10-15 words per minute especially if the reading materials given contained words that were too difficult for them (see Appendices A & B). However, students' reading fluency was not part of this current study.

The current study focused on the cueing systems used in the students' oral reading. The results on which of the cueing systems were mostly or less used by the students in their effort to get meaning of the text were put in terms of percentages. Table 2 indicates that there was not much difference in percentages between semantic cues and syntactic cues. The total number of miscues that were

semantically not acceptable from all the three passages was 71.14% or 1464 out of 2058 miscued words whereas the total number of miscues that were syntactically not acceptable was 1454 words representing 70.65% of the total miscues. A big difference can be seen between the two cueing systems with the third cuing system. The students only made 391 (19%) miscues that were grapho-phonically not similar with the words in the passages. This indicated that among the three types of language-cueing systems that the students used in their effort to read, the most frequently used cueing was on grapho-phonics cues.

Table 2

*Percentages of Miscues That Were not Grapho-Phonically Similar; Syntactically and Semantically not Acceptable in Passage B, C and D.*

No. of students involved in the reading	Types of cueing system used by the students	Total miscued words in the passages	Total miscued unacceptable words	Percent of miscued unacceptable words (%)
30	Grapho-phonics	2058	391	19
30	Syntax	2058	1454	70.65
30	Semantic	2058	1464	71.14

### *The Effects of Miscues on the Comprehension of the Reading Text*

Table 3 shows the percentages of miscues and comprehension made by the students in all the reading passages. During the oral reading assessment, each student was asked to orally answer six comprehension questions immediately after the student had finished reading. Among the three passages, Passage C had the most number of students who failed their oral comprehension assessments compared to the other two passages. According to Table 3, there were twenty-one students who failed to understand the story in Passage C. In Passage C, the highest percentage of miscues made among the 21 students was 44.44% or 60 miscues out of 135 words; the lowest was 9.63% or 13 miscues. Even though there was a big difference in the total number of miscues made between the two students, both of them managed to answer the same number of comprehension questions. Both students were able to answer two oral comprehension questions correctly. This indicated that the amount of miscues made did not necessarily affect comprehension performance.

When comparing the number of miscues made by students who had passed their comprehension questions, it was indicated that the number of miscues made did not seem to affect the students' ability in comprehending the passage. For example, both Student 2 and Student 28 managed to answer five out of six comprehension questions but the difference in the number of miscues made between them was apparent. Student 2 made 22.52% miscues whereas Student 28 made 9.27% miscues. This also showed that the total number of miscues made were not necessarily the only factor that affected the comprehension performance of the students.

### **Discussion**

Findings of this study indicated that miscues do exist among children in their oral reading. The common miscues include substitutions, mispronunciations, omissions and reversals. The miscues found in this study have been highlighted in Table 1. However, findings of this study are different from those of a study done by Tolistefl (2007) who found miscues on repetition as the most common type of miscues made by students in that study. The difference in results between the previous study and the current study could be due to several reasons. First, the number of subjects in the previous study was small and they came from three different levels (Year-Three, Year-Four and Year-Five) whereas the current study involved 30 students from Year-

Three only. The second reason could be because the previous study analyzed miscues of students reading in a second language whereas this current study analyzed the oral reading miscues of students in their first language. However, a study which was done nearly 20 years ago also found substitution as the most common type of oral reading miscues (Masnah, 1989). This result is consistent with this current study. The second type of miscues commonly made by the students was on repetition. Fauziah (1989) also studied the oral reading of Year-Three students. Fauziah found that the Year-Three students involved in that study made a lot of miscues on repetition during their oral reading than other types of miscues.

From the findings of this study, it can be concluded that the number of miscues made by the students was not necessarily the main factor that resulted in the students' failure in answering the oral comprehension questions. Some students got quite higher percentages in their miscues but they were still able to pass their comprehension assessments; in contrast, some students got lower percentages in their miscues but were unable to answer most of the comprehension questions correctly. Other than reading the words in the passage correctly, students need to understand what they have just read. The students in this study might have been accurate in reading most of the words in the passages but were unable to do well in their comprehension. It might be because of their inability to remember what they had just read possibly due to memory deficits. Another possible reason might be because the students were unable to relate the ideas in the passages with their own prior knowledge.

Future research should investigate miscues among children especially from diverse backgrounds. Any effort to improve the learning of children with special needs is a worth investment. Specific effort should be made towards the development of relevant strategies for correcting the oral reading miscues found among less proficient readers.

### **References**

- Brown, J., Goodman, K. S., & Marek, A. M. (Eds.). (1996). *Studies in miscue analysis: An annotated bibliography*. Newark, DE: International Reading Association.
- Burns, P. C., & Roe, B. D. (1999). *Informal reading inventory: Preprimer to twelfth grade (5<sup>th</sup> ed.)*. Boston: Houghton Mifflin.
- Davenport, M. R. (2002). *Miscues not mistakes: Reading assessment in the classroom*. Portsmouth: Heinemann Publishers.
- Drummond, K. (2005). *About reading disabilities, learning disabilities and reading difficulties*. Retrieved from: <http://forums.readingrockets.org/article/639>



Table 3  
Overall Results of Miscues and Comprehensions for Passage B, C and D

Student	Individual students' results on miscues and comprehension for Passage B,C and D.					
	Passage B		Passage C		Passage D	
	Miscues (%)	Comprehension (%)	Miscues (%)	Comprehension (%)	Miscues (%)	Comprehension (%)
1	31.01	16.67	25.19	0	29.14	66.67
2	30.23	83.33	26.67	16.67	22.52	83.33
3	10.08	50	14.81	33.33	9.93	50
4	19.38	83.33	14.07	50	11.92	83.33
5	22.48	0	18.52	16.67	29.14	50
6	27.13	16.67	32.59	33.33	21.85	33.33
7	23.26	66.67	29.63	33.33	19.21	83.33
8	15.50	50	21.48	83.33	11.26	50
9	18.60	66.67	26.67	33.33	7.95	100
10	13.18	16.67	16.30	33.33	15.89	16.67
11	19.38	33.33	21.48	33.33	16.56	33.33
12	10.08	66.67	17.04	66.67	15.23	83.33
13	6.98	83.33	9.63	33.33	5.30	83.33
14	17.05	66.67	17.78	50	13.25	66.67
15	22.48	66.67	20	50	17.88	50
16	27.91	50	35.19	33.33	15.89	66.67
17	34.88	16.67	34.07	16.67	38.52	0
18	26.36	16.67	28.89	33.33	28.88	16.67
19	14.73	50	14.07	50	13.91	50
20	12.40	66.67	12.59	66.67	11.29	83.33
21	32.56	66.67	44.44	33.33	33.11	33.33
22	10.85	16.67	11.85	66.67	15.23	50
23	20.16	66.67	23.70	66.67	23.18	66.67
24	16.28	50	14.07	33.33	11.92	83.33
25	29.46	16.67	31.11	33.33	21.85	33.33
26	12.40	33.33	22.22	16.67	9.93	50
27	12.40	66.67	10.37	16.67	8.61	33.33
28	18.60	66.67	25.19	16.67	9.27	83.33
29	15.50	100	13.33	16.67	10.60	50
30	19.38	50	30.37	16.67	24.50	33.33

- Ediger, M. (2005). Struggling readers in high school. *Reading Improvement, 42*, 34-39.
- Fauziah Haji Ibrahim. (1989). Reading skills achievements in the primary school level. BA Thesis, Sultan Haji Hassanal Bolkiah Institute of Education, Universiti Brunei Darussalam.
- Goodman, Y. M., & Goodman, K. S. (2004). To err is human: Learning about language Processes by analysing miscues. In R. B. Ruddell, & E. J. Unrau (Eds.), *Theoretical models and processes of reading (5th ed.)*. Newark: International Reading Association.
- Hamilton, S. S., & Glascoe, F. P. (2006). Evaluation of children with reading difficulties. *American Family Physician, 74*, 2079-2084.
- Hook, P. E., & Jones, S. D. (2002). *The importance of automaticity and fluency for efficient reading comprehension*. Retrieved from [http://www.resourceroom.net/readspell/2002\\_automaticity.asp](http://www.resourceroom.net/readspell/2002_automaticity.asp)
- Kuhn, M. R., & Stahl, S. A. (2000). *Fluency: A review of development and remedial practices*. Ann Arbor, MI: Center for the Improvement of Early Reading Achievement.
- Lyon, G. R. (1996). Learning disabilities. *Future Child, 6*, 54-76.
- Masnah Ahmad. (1989). Reading skills achievements in the primary school level in Brunei. BA Thesis, Sultan Haji Hassanal Bolkiah Institute of Education, Universiti Brunei Darussalam.
- McKenna, M. C., & Picard, M. C. (2007). Revisiting the role of miscue analysis. *The Reading Teacher, 60*, 378-380.
- National Reading Panel. (2000). *Report of the National Reading Panel. Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction*. National Institute of Child and Human Development. Retrieved from <http://www.nationalreadingpanel.org>
- Nes, S. L. (2003). Using paired reading to enhance the fluency skills of less-skilled readers. *Reading Improvement, 40*, 179.
- Paris, S. G., & Carpenter, R. D. (2003). FAQs about IRIs. *The Reading Teacher, 56*, 578-580.
- Paris, S. G., Paris, A. H., & Carpenter, R. D. (2002). Effective practices for assessing young readers. In B. Taylor & P. D. Pearson (Eds.), *Teaching reading: Effective schools, accomplished teachers* (pp. 141-160). Mahwah, NJ: Erlbaum.
- Tolistefl. (2007). *Miscue analysis in reading a second language*. Retrieved from <http://www.proz.com/translationarticles/articles/1429/1/Miscue-Analysis-in-Reading-a-Second-Language> 1-16.

**An example of a teacher's copy on student's oral reading passage.**

tambah

**BALASAN TABAH**

Di sebuah kebun sayur tinggal seekor siput. Pagi-pagi lagi Sang Siput keluar <sup>makan</sup> mencari makanan. Sang Siput suka makan rumput yang ada <sup>(di)</sup> sekitar kebun sayur <sup>disusun</sup> itu. Malangnya, rumput-rumput di kebun itu telah diracun. Rasanya masam dan tidak sedap.

Tiba-tiba Sang Siput terpandang pucuk-pucuk kacang di atas batas. Sang Siput <sup>RF</sup> menghambiri batas itu perlahan-lahan. Perutnya <sup>pertinya</sup> ~~sangat~~ <sup>sanati</sup> lapar. Batas itu <sup>menjati</sup> tinggi dan curam. Sang Siput <sup>degan</sup> ~~memanjainya~~ dengan ~~nati-hati~~.

Sedikit demi sedikit Sang Siput mendaki. Apabila penat ia <sup>pun</sup> beresahat. Malang <sup>berhenti</sup> Sungguh nasib Sang Siput, belum pun sempat sampai ke puncak ia terjatuh. Badannya terasa sakit kerana <sup>rasa</sup> ~~azamanya~~ <sup>R</sup> masih kuat, Sang Siput bangun semula. Ia mesti mencuba lagi. Akhirnya setelah puas mencuba, ia <sup>(s)</sup> sampai ke puncak. Sang Siput segera menjamah pucuk-pucuk kacang itu. Rasanya sungguh lazat dar <sup>RF</sup> menyelerakan. Sang Siput makan sepuas-puasnya. <sup>perutiya</sup> ~~Perutnya~~ kenyang dan hatinya gembira. (135 Perkataan)

**Key:**

- makan - words in red are considerable words used to replace the actual words underneath
- encircled words were omitted by the reader
- R - a word repeated once
- RF - words repeated frequently
- words underlined in orange are the repeated words
- words crossed out by yellow lines are words substituted by non-considerable words above them
- / - a word inserted by the reader

## APPENDIX B

### WORKSHEET FOR TYPES OF MISCUSES IN CONTEXT AND COMPREHENSION RESULTS

Student's name : Student 21      Date: 8<sup>th</sup> to 24<sup>th</sup> July. 2008

School : S.R. Beribi, Telanai.

Gender : Female

Passage	Mispronun.	Substitution	Insertion	Omission	Repetition	Reversal	Refusal to Pronounce	Total no. of errors	%
B (129 words)	3	28	0	5	1	0	5	42	32.56
C (135 words)	2	43	8	6	0	0	1	60	44.44
D (151 words)	3	31	1	9	0	0	6	50	33.11
Total	8	102	9	20	1	0	12	152	36.63
%	1.93	24.59	2.17	4.82	0.24	0	2.89	36.63	

Passage	Comprehension Questions						Total	%
	1	2	3	4	5	6		
Passage B	✓	✓	✓	X	✓	X	4	66.67
Passage C	✓	X	✓	X	X	X	2	33.33
Passage D	X	X	✓	X	✓	X	2	33.33

# Using Course Assessments to Train Teachers in Functional Behavior Assessment and Behavioral Intervention Plan Techniques

**Moira A. Fallon**

Department of Education and Human Development  
The College at Brockport State University of New York  
mfallon@brockport.edu

**Jie Zhang**

Department of Education and Human Development  
The College at Brockport State University of New York

**Eun-Joo Kim**

Department of Education and Human Development  
The College at Brockport State University of New York

## Abstract

*As the need to train more teachers to work in inclusive classrooms increases, college instructors should identify and implement course assessments measuring their effectiveness in training practices. Skills in managing the challenging behaviors of students with disabilities, such as autism and emotional disturbances are important for teachers worldwide. The purpose of this paper is to explore the use of a course assessment to develop Functional Behavior Assessment (FBA) and Behavior Intervention Plan (BIP). The course assessment used in this study was developed, revised, and then implemented to evaluate participants' knowledge to identify, assess and develop plans to improve challenging behaviors of students with behavior disabilities. The course assessment was used in training teachers who currently hold general education certification in obtaining special education training. All participants were new teachers, previously certified in childhood education, and seeking additional certification in special education. Results show there were significant differences across the years of implementation of the study. The paper includes recommendations for other institutions of higher education to utilize similar course assessments into their teacher training programs.*

## Introduction

The need is becoming even more critical for all teachers entering the field of education to manage the challenging behaviors of their students, including students with disabilities. By 1999, almost 80% of American students with special needs spent the majority of their time in general education classrooms (U.S. Department of Education, 2007). The 2004 reauthorization of the Individuals with Disabilities Education Improvement Act (IDEIA) emphasized ensuring access for students with disabilities to the general education curriculum in the inclusive classroom, to the maximum extent possible, to meet their developmental goals (IDEIA, 2004). Since then, there has been a steady increase in the number of students with disabilities educated in inclusive classrooms. This trend is not limited to the United States (US) alone. Many students served in classrooms worldwide are in less restrictive learning environments (Vaughn & Bos, 2009). With the inclusion of these students, teachers are challenged to provide appropriate instruction and services.

The richness of various cultural groups adds tremendously to the educational experiences of all, teachers and students alike. Yet this richness also poses a huge challenge to teachers who are increasingly discovering that traditional methods of teaching and learning do not work well for all students in the diverse populations (Fallon & Brown, 2010). To better serve students with disabilities in inclusive settings, teachers need a variety of skills. Regardless of country of origin or ethnicity,

teachers need to assess learning differences, plan and implement research-based instructional strategies, carry on professional and ethical practice, and collaborate with families and other professionals (Council for Exceptional Children, 2009). In addition, teachers need to address a wider range of behavior challenges in the classrooms (Katsiyannis, Ellenburg, & Acton, 2000). Since a teacher's effectiveness to deal with students' behavior challenges affects students' achievement as well as their aptitude for learning, academic success is found intrinsically linked to behavioral success (Doolittle, Horner, Bradley, Sugai, & Vincent, 2007; Wang, Haertel, & Walberg, 1997). However, both general education teachers and novice special education teachers indicated concerns about their lack of preparation to meet the needs of students with disabilities in inclusive settings (Baker & Zigmond, 1990; Kilgore & Griffin, 1998; Lesar, Benner, Habel, & Coleman, 1997; Welch, 1996).

Garriott, Miller, and Snyder (2003) examined teacher candidates' beliefs in inclusive settings for students with mild disabilities and found that half of the teacher candidates shared concerns regarding lack of preparation for providing individualized instructions and learning environments in inclusive classrooms while attempting to meet the needs of all students in the classroom. Teacher education programs need to take responsibility for preparing educators for inclusive classrooms (Hinders, 1995). Blanton (1992) pointed out that the goal of teacher preparation programs is to provide experiences to facilitate teacher candidates' transforming

knowledge into personal knowledge structures and using it in a flexible way during teaching. Through the use of a performance-based case study (Arthaud, Aram, Breck, Doelling, & Bushrow, 2007), teacher candidates practice what they have learned and demonstrate their proficiency of the knowledge and skills by testing and reflecting on them (Berry, Montgomery, Curtis, Hernandez, Wurtzel, & Snyder, 2008).

### *Developing Teacher Quality*

A major transition occurs as the teacher candidate exits the teacher education program and prepares to enter the field. Many teacher candidates exit an education program feeling confident in their ability to teach, but they also feel challenged by the ever evolving needs of their students and families (Fallon, 2004; Fallon & Brown, 2002). Teachers throughout the world must acquire new skills and knowledge. In the US recent legislation such as the 2004 reauthorization of the Individuals with Disabilities Education Improvement Act (IDEIA) and the 2001 No Children Left Behind Act (NCLB) require teachers to be highly qualified.

Research tells us that teacher quality is the single most powerful influence on student achievement, not class size or facilities (Brownell, et al., 2009; New York State Professional Standards and Practices Board for Teaching, 2009). The American Federation for Teachers (2006) stated that teacher preparation should be reformed to ensure that each child in American schools can be taught by a competent and qualified teacher. It is essential, therefore, to ensure that teachers are provided with ongoing, high quality educational training and professional development to develop and sustain their practice. It is important that colleges and universities support school districts in their efforts to provide high quality professional development that addresses these needs because it is critical for teachers in inclusive classrooms to be knowledgeable and effective in the appropriate procedures to reduce challenging behaviors that interfere with learning.

Assessing the quality or impact of a teacher education program is often difficult and unreliable, yet necessary. In the past, university students in traditional teacher education programs who struggled academically (Fallon & Brown, 2010) were too often considered poor students and were expected or even encouraged to leave school. Today, with increasing competition for students, retention rates are closely analyzed and programs implemented to minimize student drop-outs (Fallon & Brown, 2010). In a market driven environment, teacher education programs should train teacher candidates to be highly qualified in the inclusive classroom.

### *Using Course Assessments*

The use of course assessments has been increasingly more commonplace in the field of teacher education worldwide (Fallon & Watts, 2001). Course assessments have developed out of a demand for evidence-based documentation of academic performance and are often used in the US for the purposes of accreditation or teacher evaluation (Rutledge, Smith, Watson, & Davis, 2003). The National Council for Accreditation for Teacher Education (NCATE) set guidelines for the use of course assessments that consistently "...collect

and analyze data on...candidate and graduate performance and unit operations to evaluate and improve the unit and its programs" (NCATE, 2008, pg 12). According to NCATE (2008), candidates preparing to work in schools should know and demonstrate the content knowledge, pedagogical content knowledge and skills, pedagogical and professional knowledge and skills, and professional dispositions necessary to help all students learn. The Council for Exceptional Children (CEC; 2009) also pointed out the importance of special education professionals working within the standards and policies of their profession. The intent of the course assessments is to develop a tool for measuring the candidate's performance in a consistent manner across sections of the same course and different instructors.

Unfortunately, there is little research available on developing course assessments in managing the behavior of students with disabilities. The Behavior Analyst Certification Board (2004) stated that "behavior analysts rely on scientifically and professionally derived knowledge when making scientific or professional judgments in human service provisions or when engaging in scholarly or professional endeavors" (pg. 1). Functional behavioral assessment (FBA) is one data-driven and evidence-based strategy for learning the function of behavior(s) and thus to plan and implement intervention in order to decrease inappropriate behavior and increase appropriate behavior. The CEC stated that special educators should conduct formal and informal assessment of behavior to design learning experiences that support the growth of effective special educators (CEC, 2009). In the US, the NCATE also points out that the unit should have an assessment system that collects and analyzes data on applicant qualifications and candidate and graduate performance (NCATE, 2008). Currently, however, the level and consistency of FBA training for pre-service teachers is scientifically unclear (Stichter, Shellady, Sealander, & Eigenberger, 2000).

Course assessments have been fairly common across teacher education programs in many countries within the last decade. Course assessments are often non-standardized, informal assessments that are directly related to course content. They include performance based tasks and portfolio entries. They have grown more common out of a need to demonstrate that pre-service level teachers are qualified to perform to teaching standards (Zions, Shellady & Zions, 2006). However, most course assessments are developed by a single individual, the course instructor. They are often not subject to field testing for either reliability or validity. Further, many course assessments differ when implemented by instructors in other sections of the same course in order to meet the individual needs of that instructor and his/her students. With many colleges and universities relying upon part time instructors to teach sections of courses, these course assessments should be investigated for their effectiveness in training teacher candidates in meeting teaching standards.

### *Managing Challenging Behaviors*

One important training gap for pre-service level classroom teachers is in the area of assessment and treatment of students' aggressive, disruptive, emotional, and other severe behaviors

(Desrochers & Fallon, 2007). Students with challenging behaviors are increasingly being served in the inclusive classroom setting. Students with intellectual disabilities, behavioral and emotional disorders, and autism often display poor social skills in addition to difficulties in academic performance and challenging classroom behaviors. About 11.4% of students in the US are identified with disabilities (U.S. Department of Education, 2007), among which 54% of whom spend most of their school day in a general education classroom (McLeskey, Rosenberg, & Westling, 2010). With the increasing number of students being served in the general classroom, one of the biggest concerns for teachers is students' behavior (Zionts, Shellady, & Zionts, 2006). Pindiprolu, Peterson, and Bergloff (2007) stated that intervention for behavior problems was the most frequently cited area of need for teachers.

The 1991, 1997 and 2004 reauthorizations of IDEA mandated the use of FBA with persons with disabilities as a means of gathering information about the cause of problematic behaviors. These behaviors often keep students with disabilities from performing appropriately in general education classrooms; thus, placement in a more restrictive environment is often a likely outcome. FBA, which identifies the relationships between behavior and environment, is considered an efficient and effective classroom management

The purpose of this study was to explore the use of a course assessment in teacher education programs to train teacher candidates. This study was a four year investigation on developing effective FBA and BIP skills in students in a one year, full time graduate program in special education. This study focused on developing the dispositions, knowledge and skills necessary to the field of special education for beginning teachers. The research question to be explored was: As new, pre-service level teachers enter the field of education with training in both special and general education, can teacher candidates and general educators be taught effective FBA and BIP practices using such a course assessment?

## Method

### *Participants*

Participants of this study were new teachers to the profession of special education who varied in their demographics. Each was previously certified in childhood education and was seeking additional certification in special education. They were all participants in one-year, full time programs in graduate special education in the northeastern part of the US. All were volunteers in a graduate class in managing and assessing behaviors of students with disabilities. Convenience sampling was used in this study as participants who had chosen to take a course on developing FBA and BIP volunteered to participate in the study. Of the total participants ( $N=59$ ), six were male (10.2%) and 53 were female (89.8%). Two participants did not complete the program, but did participate in the course and study on FBA and BIPs. One teacher candidate did not complete the course and the FBA/BIP training. The participants ranged in age from 22 to 45 years. Ten percent of the participants were of an ethnic minority ( $n=6$ ), while 90% were Caucasian ( $n=53$ ).

strategy (Iwata, Kahng, Wallace, & Lindberg, 2000). FBA can also be an approach to treating problem behaviors in the setting in which they occur, thus allowing a greater chance of success for the student.

There is a growing body of evidence that states that teachers can be appropriately trained to use FBA in order to derive a Behavior Intervention Plan (BIP) and that this training is both practical and worthwhile. The direct observation of students in authentic settings can provide valuable information to the observer on the quality and mastery of his/her professional skills. Research has shown that teachers can effectively conduct FBA procedures in their classrooms (Grey, Honan, McClean, & Daily, 2005). However, some research (e.g. Van Acker, Boreson, Gable, & Potterton, 2005) shows that teachers receive inadequate training in this area in defining target behaviors and operational definitions of challenging behaviors. Some researchers (Bulik, Frye, Callaway, Romero, & Walters, 2002; Maag & Larson, 2004) believe that for teachers who are being trained to acquire new skills, direct observation is a critical component. It is therefore assumed that greater active teacher participation in development and use of FBA and BIP must be learned in a college setting or over a longer period of time rather than short term professional development sessions (e.g. several hours).

### *Procedure*

*Course assessment.* The course assessment used in this study was developed based on professional standards for special educators developed by the CEC. The course assessment is found in Appendix A. The course assessment was developed by a panel of three experts in special education. Each of the three experts had doctoral degrees in special education, as well as advanced training in applied behavior analysis (ABA). The course assessment was initially developed by an instructor in an ABA course. It was revised by the panel of experts for accuracy and appropriateness for use in this study and was pilot tested with a group of volunteers ( $n=9$ ) and revised for editing and clarity of word usage and conventions. The course assessment was then implemented in an ABA course designed to train special educators to identify, assess, and develop plans to improve challenging behaviors of students with disabilities.

The purpose of the ABA course was "...to provide the knowledge and skills required in the assessment and evaluation, instructional planning, management of behaviors....appropriate for students with behavioral disabilities..." (excerpt from course syllabus, *EDI 653, College at Brockport*, 2006). The scoring guide for the course assessment is found in Appendix B.

During the first three weeks of the ABA course, knowledge of FBA and BIP techniques was shared with the participants by the course instructor. Examples and written case studies were used to illustrate aspects of the FBA and BIP. In the fourth week of the course, the course assessment was distributed to participants and timelines were established. Each participant identified a student with challenging behavior in his or her classroom as the focus of the FBA and BIP. By the sixth week of the course, participants had a final version of

the FBA and BIP written and approved by the panel of experts. The FBAs and BIPs were then implemented in the classroom setting by the participants with the students with behavior disorders under the supervision of school based mentors who provided feedback to the participants. The FBA and BIP course assessment was due in the fourteenth week of the course and was graded and evaluated by a panel of three experts. Inter-rater reliability among the three experts was 93.4%.

### Results

Descriptive data were analyzed by calculating both the frequency and percentage of the participants' gender and ethnicity across years. Fifty-nine students participated in this study across four years. Fifty-three were female (89.8%) and six were male (10.2%). Similarly, a majority were Caucasian ( $n = 53$ , 89.8%) while only six were not (10.2%). Among the six non-Caucasian students, two were African-American (3.4%), one Hispanic, one Indian, one Caucasian/Jewish, and one Caucasian/American.

In addition, one-way analysis of variance (ANOVA) was used to test whether there were any significant differences in students' performance across the four years. Due to the limited number of male participants and non-Caucasian participants, the ANOVAs were conducted using (i) all students, (ii) female students only, and (iii) Caucasian students only. When comparing the performance of the entire sample by year, there was a significant difference across the years ( $F=3.076$ ,  $p=.035$ ). Significant differences were found in Years Two and Three despite the same instructor and same panel of three evaluators for the course assessments. Furthermore, significant difference was also found using only female students' scores ( $F=3.805$ ,  $p=.016$ ) as well as when using only Caucasian students' scores ( $F=3.712$ ,  $p=.017$ ). See Table 1 for these results.

The results of the multiple comparisons using Tukey's HSD are found in Table 2.

Participants ( $N=58$ ) were asked to make an open ended comment about their ability to assess and manage challenging behavior using the FBA and BIP course assessments. Two patterns or themes occurred in reviewing their answers. One pattern is that a majority of the participants felt they were better able to understand their own skills and areas for growth by completing the course assessment. Another pattern discerned was that the teacher candidates felt their FBA raised more questions in their minds about their students and the reasons those behaviors continued. These results are found in Table 3.

### Discussion

The current study was a four year investigation exploring the following research question: As new, pre-service level teachers enter the field of education with training in both special and general education, can teacher candidates and general educators be taught FBA and BIP practices using course assessments? There are a number of limitations associated with this study. The first limitation pertains to the use of volunteers who were participating in a graduate

Table 1

*One-way Analysis of Variance (ANOVA) of Students' Scores by Year*

	Sum of Squares	df	Mean Square	F	Sig.
<b>Everyone</b>					
Between Groups	166.105	3	55.368	3.076*	.035
Within Groups	972.050	54	18.001		
Total	1138.155	57			
<b>Female Only</b>					
Between Groups	197.906	3	65.969	3.805*	.016
Within Groups	832.094	48	17.335		
Total	1030.000	51			
<b>Caucasian Only</b>					
Between Groups	202.728	3	67.576	3.712*	.017
Within Groups	892.065	49	18.205		
Total	1094.792	52			

program. All were pre-service level teachers. Despite the assurances of researchers, some potential participants may have felt compelled to participate. Another limitation was the small sample size. Also, the majority of participants were Caucasian (89.8%), female (89.8%) teacher candidates. There were a limited number of participants from culturally, linguistically, and ethnically diverse populations. Because of these limitations, findings of this study should be interpreted with caution.

In spite of these limitations, it is clear that understanding and identifying the challenging behaviors of students is a necessary skill for teachers who work with students with disabilities. Increasing training of FBA and BIP skills in pre-service programs may help teachers prepare for behavioral challenges more adequately (Pindiprolu, Peterson, & Bergloff, 2007). The results of this study found significant differences in the FBA and BIP scores between years of the program for all participants and for female Caucasian participants. One reason for these differences may be due to differences in the FBA and BIP course content. Another reason for the difference may be found with the subjects of the FBA and BIP. As the students with disabilities changed, perhaps the impact to the FBA and BIP was different. Future research should focus on the impact of the FBA and BIP on the students with disabilities and how teachers must adapt the FBA and BIP in response. One training gap for pre-service level teachers has been in the area of assessment and treatment of students' aggressive, disruptive, emotional, and severe behaviors. This study demonstrated that effective FBA and BIP skills can be taught to pre-service level teachers using a course assessment.

The researchers in this study recommend that this FBA and BIP course assessment may be used or adapted by other college instructors teaching similar college courses. However, the following recommendations should be considered by those

Table 2

Tukey's HSD of Students' Scores by Year

(I) Year	(J) Year	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
<b>Everyone</b>						
1	2	3.050	1.525	.201	-.99	7.09
	3	-1.667	1.620	.733	-5.96	2.63
	4	-.283	1.525	.998	-4.33	3.76
2	3	-4.717*	1.643	.029	-9.07	-.36
	4	-3.333	1.549	.150	-7.44	.77
3	4	1.383	1.643	.834	-2.97	5.74
<b>Female Only</b>						
1	2	4.451*	1.604	.038	.18	8.72
	3	-.584	1.678	.985	-5.05	3.88
	4	.571	1.574	.983	-3.62	4.76
2	3	-5.035*	1.706	.024	-9.57	-.50
	4	-3.879	1.604	.087	-8.15	.39
3	4	1.156	1.678	.901	-3.31	5.62
<b>Caucasian Only</b>						
1	2	3.500	1.613	.146	-.79	7.79
	3	-1.896	1.719	.689	-6.47	2.68
	4	-.357	1.613	.996	-4.65	3.93
2	3	-5.396*	1.719	.015	-9.97	-.82
	4	-3.857	1.613	.092	-8.15	.43
3	4	1.539	1.719	.807	-3.03	6.11

Note: \* indicates there was a significant difference at the 0.05 level.

instructors. Course assessments can and should be shared among teacher educational professionals. Clarity, language, and appropriateness of tasks can be improved with input from other professionals. Care must be taken to ensure that differences in language, ethnicity, and culture be carefully considered and adapted as needed. In order to achieve this, future research should focus on the issue of diversity among teacher candidates and among their students. However, many teachers have received inadequate training on issues of diversity in conducting FBA and interpreting the results appropriately to aid in decision-making. Campbell (2007) pointed out that knowledge and skills are essential variables to successfully deal with challenging behaviors. If teachers were better trained their students would have a greater chance for success. Professionals in the field of teacher education need to develop course assessments based on professional standards by an appropriate accreditation body. The course assessments need to be carefully field tested for reliability and validity. Assessments of this type need to be implemented within a college setting as opposed to a short-term professional development workshop.

### Summary and Conclusion

Producing high quality special education teachers who have proper knowledge and skills is of international interest (Martinez & Hallahan, 2000). FBA and BIP course assessment

would provide teacher education programs worldwide a unified tool to measure pre-service teachers' proper acquisition of behavior management skills. However, cross-cultural investigation of the appropriateness of the use of FBA and BIP course assessment throughout countries should take place to meet their own national standards of special education teacher preparation programs. Also, culturally appropriate format and procedure of FBA and BIP course assessments need to be identified internationally.

Table 3

Open Ended Comments on the FBA and BIP

	<i>n</i>	Sample Comments
Better understanding own skills and areas for growth	38	Inclusion, rules for classroom, standards, characteristics of disability, understand behaviors, socialization, strategies for managing skills
Raising more questions about students' behaviors and the reasons of the occurrence of the behaviors	54	Changes in behavior, understanding why students behave, collaborate with parents, writing behavior goals in IEP, paying early attention to students' needs.



As teacher education programs attempt to implement course assessments, a number of significant evaluation issues have arisen such as reliability and validity of these assessments. Issues such as instructor's teaching styles, content knowledge, and amount of teaching time can impact the effectiveness of the course assessments in accurately measuring the candidate's performance on the task. Using a course assessment to train teachers in developing FBA and BIP has been an underexplored area for developing teacher quality. However, course assessments may be a valuable tool for improving teacher quality. The researchers in this study suggest that it is worth the effort to continue research efforts on course assessments. Such a path may lead to improvements in both teacher and student quality and performance.

## References

- American Federation of Teachers. (2006). *Teaching quality*. Retrieved from <http://www.aft.org/topics/teacher-quality/prep.htm>.
- Arthaud, T. J., Aram, R. J., Breck, S. E., Doelling, J. E., & Bushrow, K. M. (2007). Developing collaboration skills in pre-service teachers: A partnership between general and special education. *Teacher Education and Special Education, 30*, 1-12.
- Baker, J. M., & Zigmond, N. (1990). Are regular education classes equipped to accommodate students with learning disabilities? *Exceptional Children, 56*, 515-526.
- Behavior Analyst Certification Board. (2004). *Behavior Analyst Certification Board guidelines for responsible conduct for behavior analysts*. Retrieved from <http://www.bacb.com/Downloadfiles/BACBguidelines/1007GuidelinesFpdf.pdf>
- Berry, B., Montgomery, D., Curtis, R., Hernandez, M., Wurtzel, J., & Snyder, J. (2008). *Creating and sustaining urban teacher residencies: A new way to recruit, prepare, and retain effective teachers in high-needs districts*. Retrieved from <http://www.aspeninstitute.org/sites/default/files/content/docs/pubs/FINAL.CREATINGANDSUSTAININGUTR.PDF>
- Blanton, L. P. (1992). Preservice education: Essential knowledge for the effective special education teacher. *Teacher Education and Special Education, 15*, 87-96
- Brownell, M., Bishop, A., Gersten, R., Klingner, J., Penfield, R., Dimino, J., ... Sindelar, P. (2009). The role of domain expertise in beginning special education teacher quality. *Exceptional Children, 75*(4), 391-411.
- Bulik, R., Frye, A., Callaway, M., Romero, C., & Walters, D. (2002). Clinical performance assessment and interactive video conferencing: An interactive exploration. *Teaching and Learning in Medicine, 14*, 124-133.
- Campbell, J. M. (2007). Middle school students' response to the self-introduction of a student with autism: Effects of perceived similarity, prior awareness, and educational message. *Remedial and Special Education, 28*, 163-173.
- Council for Exceptional Children. (2009). *What every special educator must know: Ethics, standards, and guidelines* (6th ed.). Retrieved from <http://www.cec.sped.org/Content/NavigationMenu/ProfessionalDevelopment/ProfessionalStandards/RedBook6thEditionWebVersion.pdf>
- Desrochers, M. N. & Fallon, M. A. (2007). *WebSID: Development and evaluation of a web-based functional behavioral assessment system for educators' professional development training*. (Grant proposal). New York: Department of Education, The National Institute on Disability and Rehabilitation Research Field Initiated Program.
- Doolittle, J. H., Horner, R. H., Bradley, R., Sugai, G., & Vincent, C. G. (2007). Importance of student social behavior in the mission statements, personnel preparation standards, and innovation efforts of state departments of education. *The Journal of Special Education, 40*, 239-245.
- Fallon, M. (2004). Preparing inclusive special educators: Policy implications for partnerships among public schools, colleges, and universities. In K. Alexander & R. Hunt (Eds.), *Administering special education: In pursuit of dignity and autonomy* (pp. 239-248). London, UK: Elsevier JAI Publishing Co.
- Fallon, M., & Brown, S., (2002). Crossing over from student teaching to first year teaching. *Curriculum and Teaching Dialogue, 4*(1), 37-46.
- Fallon, M., & Brown, S. (Eds.). (2010). *Teaching inclusively in higher education*. Charlotte, NC: Information Age Publishing Co.
- Fallon, M., & Watts, E. (2001). Portfolio assessment: Navigating uncharted territory. *Teacher Education and Special Education, 24*(1), 50-57.
- Garriott, P. P., Miller, M., & Snyder, L. (2003). Preservice teachers' beliefs about inclusive education: What should teacher educators know? *Action in Teacher Education, 25*, 48-54.
- Grey, I., Honan, R., McClean, B., & Daly, M. (2005). Evaluating the effectiveness of teacher training in applied behavior analysis. *Journal of Intellectual Disabilities, 9*, 209-227.
- Hinders, K. (1995). Dual certification and the regular education initiative. *Journal of Teacher Education, 46*, 200-209.
- Individuals with Disabilities Education Improvement Act (2004), Pub. L. No. 108-446, 20 U.S.C. § 1400 et seq.
- Iwata, B. A., Kahng, S. W., Wallace, M. D., & Lindberg, J. S. (2000). The functional analysis model of behavioral assessment. In J. E. Carr, & J. Austin, (Eds.), *Handbook of applied behavior analysis, 91-112*. Reno, NV: Context Press.
- Katsiyannis, A., Ellenburg, J. S., & Acton, O. M. (2000). Twenty ways to address individual needs: The role of general educators. *Intervention in School and Clinic, 36*, 116-121.
- Kilgore, K., & Griffin, C. (1998). Beginning special educators: Problems of practice and the influence of school context. *Teacher Education and Special Education, 21*, 155-173.
- Lesar, S., Benner, S. M., Habel, J., & Coleman, L. (1997). Preparing general education teachers for inclusive settings: A constructivist teacher education program. *Teacher Education and Special Education, 20*, 204-220.
- Maag, J., & Larson, (2004). Training a general education teacher to apply a functional assessment. *Education and the Treatment of Children, 27*, 26-36.
- Martinez, E. A., & Hallahan, D. P. (2000). Some thoughts on international perspectives in special education, with special attention to the research-to-practice gap. *Exceptionality, 8*(4), 305-311.
- McLeskey, J., Rosenberg, M. S., & Westling, D. L. (2010). *Inclusion: Effective practices for all students*. Upper Saddle River, NJ: Pearson.
- National Council for Accreditation for Teacher Education. (2008). *Professional standards for the accreditation of teacher preparation institutions*. Retrieved from <http://www.ncate.org/documents/standards/NCATE%20Standards%202008.pdf>.
- New York State Professional Standards and Practices Board for Teaching. (2009). *New York State Professional Development Standards*. Retrieved from <http://www.highered.nysed.gov/tcert>
- No Child Left Behind Act (2001), Pub. L. 107-110, 20 U.S.C. § 16301 et seq

- Pindiprolu, S. S., Peterson, S. M., & Bergloff, H. (2007). School personnel's professional development needs and skill level with functional behavior assessments in ten midwestern states in the United States: Analysis and issues. *The Journal of the International Association of Special Education*, 8, 31-42.
- Rutledge, V., Smith, L., Watson, S., & Davis, M. (2003, February). *NCATE, NCLB, and PDS: A formula for measuring success*. Paper presented at the meeting of the annual meeting of the Maryland Professional Development School Network, University of Tennessee at Chattanooga, Teacher Preparation Academy. Retrieved from ERIC database, (ED 465748)
- Stichter, J. P., Shellady, S., Sealander, K., & Eigenberger, M. (2000). Teaching what we do know: Preservice training and functional behavior assessment. *Preventing School Failure*, 44, 142-146.
- U.S. Department of Education. (1999). *Annual report to Congress on the implementation of the Individuals with Disabilities Education Act*. Washington, D.C.: U.S. Government Printing Office.
- U.S. Department of Education. (2007). *Final regulations on modified academic achievement standards summary*. Retrieved from <http://www.ed.gov/policy/speced/gguid/modachieve-summary.html>
- Van Acker, R., Boreson, L., Gable, R., & Potterton, T. (2005). Are we on the right course? Lessons learned about current FBA/BIP practices in schools. *Journal of Behavioral Interventions*, 14, 35-56.
- Vaughn, S., & C. Bos, (2009, 7th ed.). *Strategies for teaching students with learning and behavior problems*. Upper Saddle River, NJ: Pearson Education, Inc.
- Wang, M. C., Haertel, G. D., & Walberg, H. J. (1997). *What helps students learn? Spotlight on student success*. Philadelphia PA: Mid-At-Lantic Lab for Student Success.
- Welch, M. (1996). Teacher education and the neglected diversity: Preparing teachers to teach students with disabilities. *Journal of Teacher Education*, 47, 355-367.
- Zionts, L. T., Shellady, S. M., & Zionts, P. (2006). Teachers' perceptions of professional standards: Their importance and ease of implementation. *Preventing School Failure*, 50, 5-12.

## APPENDIX A

---

### **FBA CORE ASSIGNMENT**

#### **TASK:**

Create and present a functional behavior assessment student who exhibits characteristics associated with learners described as demonstrating “emotional-behavioral disorders”. The FBA demonstrates fundamental understanding of the purpose and organization of an FBA and is clearly related to case study behaviors described.

Describe specific academic, social-emotional, behavioral antecedents, consequences and characteristics that present significant obstacles in school environments and social success for the specific student. Include hypothesis for the behavior(s) selected.

Design and present a preliminary Behavior Intervention Plan (BIP) for the individual student based upon their significant social, emotional and behavioral needs. This should include a complete system of behavior management that could be implemented into the classroom setting. The BIP demonstrates fundamental understanding of the purpose and organization of a BIP and is clearly related to Functional Behavior Assessment. Your BIP should comply with all legal and ethical standards, specific strategies or tactics to be used, explanations for implementation of the system, and be able to be directly attached into the student’s Individualized Education Program (IEP).

#### **PURPOSE:**

The purpose of the case study is to demonstrate a foundational understanding of the cases, characteristics, and developmental, instructional, behavioral and social-emotional implications of a specific disability.

This assignment addresses core standards (NCATE, CEC, ABA) for special educators including:

1. Educational implications of characteristics of various exceptionalities
2. Psychological and social-emotional characteristics of individuals with disabilities.
3. Effects of an exceptional condition on an individual’s life.
4. Basic classroom management strategies and theories.
5. Strategies for crisis prevention and intervention.
6. Ways to modify the learning environment to manage behaviors.
7. Use the least intensive behavior management strategy consistent with the needs of the exceptional individual.
8. Use functional assessments to develop intervention plans.
9. Similarities and differences among individuals with exceptional learning needs.
10. Reflect on one’s practice to improve instruction and guide professional growth.

## APPENDIX B

### FUNCTIONAL BEHAVIORAL ASSESSMENT RUBRIC

<b>AREA OR SKILL</b>	<b>UNSATISFACTORY</b>	<b>SATISFACTORY</b>	<b>PROFICIENT</b>	<b>DISTINGUISHED</b>
<p>Communication: Style, mechanics, spelling, grammar</p>	<p>Writing, style, vocabulary, organization and mechanics create an unclear, disjointed or incomplete document.</p>	<p>Occasional errors of construction, style or mechanics, yet content is generally coherent.</p>	<p>Writing is consistently correct and acceptable for level of course. Clear, easy to understand and organized.</p>	<p>Writing is powerful and imaginative. Clear, succinct and well-presented language and well-presented ideas vividly.</p>
<p><b>CONTENTS: FBA</b> Problem verification Refine definition Collect information Data analysis Hypothesis and test of hypothesis statement</p>	<p>Required step is incomplete, vague, or inaccurate.</p>	<p>Required step is usually relevant, accurate and complete for the FBA.</p>	<p>Required step is relevant, accurate and complete for stated purposes.</p>	<p>Required step fully address all essential needs of the FBA process.</p>
<p><b>Behavioral Descriptions</b></p>	<p>Behavioral descriptions are vague, general and/or non-measurable; observable.</p>	<p>Behavioral descriptions typically are clear, and measurable; observable.</p>	<p>Behavioral descriptions exhibit clarity and specificity.</p>	<p>Behavioral descriptions demonstrate exemplary clarity, specificity and objectivity.</p>
<p><b>Data Sources</b></p>	<p>Interview and observational data for assessment are sparse or lacking.</p>	<p>Interview and observational data are provided although limited in scope and relevance.</p>	<p>Interview and observational data are thorough and relevant to FBA process.</p>	<p>Interview and observational data are comprehensive, detailed, clear and highly relevant to FBA process.</p>
<p>Overall Impression, Originality and Presentation</p>	<p>More than one area where improvement is needed. Does not sufficiently demonstrate knowledge and skills of the nature and purposes of FBA.</p>	<p>Meets acceptable standards for course. Demonstrates rudimentary knowledge and skill of the nature and purposes of FBA.</p>	<p>Consistently high quality in nearly all areas. Meets the assignment objectives fully.</p>	<p>Strikingly impressive in nearly all areas. Ideas and analysis are original, creative or resourceful. Exceeds expectations.</p>

# The Emergence of Early Intervention for Children with Hearing Loss in China

**Liu Shenglin, Ph.D.**

Sichuan Normal University  
Chengdu 610068, China  
xiaoduo.lui@gmail.com

**Sharon A. Raver, Ph.D.**

Old Dominion University  
sraverla@odu.edu

## Abstract

*In the last decade, China began developing early intervention services for very young children with hearing loss, and their families. This article presents a broad description of some of these programs, including the national rehabilitation networks for speech and hearing training, increased attention on the development of professionals, the introduction of newborn hearing screening, increased assistance to children from disadvantaged families for receiving hearing aids and cochlear implants, and increased attempts to integrate speech and hearing services into preschool programs for children with typical hearing. Implications of these efforts are discussed.*

It has been asserted that one of the main indicators of the robustness of a society is the attention the country provides to its people with disabilities and its underprivileged. In the last decade, China, a large developing country with a population of more than 1.3 billion, has begun to shift its national attention toward its more vulnerable citizens. According to the statistics of the Second National Disabled Persons Sample Survey (SNDPSS) conducted in China in 2006, there were 82,960,000 people with disabilities living in the country, representing a disabilities prevalence rate of about 6.34%. Among this population, there were 1,430,000 children under the age of six years (National Bureau of Statistics of China, 2007). Because of reforms implemented about 30 years ago and the rapid economic developments that have occurred in the country in the last 15 years, significant progress has been made in the field of special education. Today, as an important part of the education system, special education involves a comprehensive network of early intervention services, compulsory and basic education programs, special vocational educational programs, and special higher education programs.

Children with hearing impairment are included in the nation's special education system and have received renewed attention as special education has expanded its scope and services. This article will describe the general characteristics of some of the new initiatives that have been developed for young children with hearing loss, and their families, in the past ten years.

## The Impetus for Early Intervention for Children with Hearing Loss

Early intervention, commonly called early rehabilitation in China, refers to a series of services provided to children who are at-risk for developmental problems or children who have been determined to have an established disability such as hearing impairment or intellectual disabilities. Early intervention services attempt to reduce the impact a disability may have on a child's development (such as offering speech-

language services to children who may not develop speech independently), as well as reduce possible secondary effects caused by a disability (such as supporting early literacy skills for children with hearing loss who are at-risk for academic problems) (Piao, 2006). Generally, early intervention is divided into infant-toddler intervention for children from birth to three years of age, and preschool intervention for children aged three to five years (Raver, 1999). For the purpose of this discussion, the term early intervention will be used to describe services provided between birth and six years of age to children who have a diagnosed disability.

Internationally, special educators have recognized that early childhood is a period of remarkable brain development that forms the foundation for all later learning (Bertenthal, 1996). Many skills, such as communication and social skills, are learned more easily during early life and treatment provided during this time tends to be more cost effective since children who receive early intervention often require fewer services when they are adults, and tend to achieve higher levels of independence as adults (Raver, 2009). Early diagnosis and early treatment are therefore, critical for children with hearing impairments. The time from birth to six years is the most sensitive time for the acquisition of speech and language skills. As the Joint Committee on Infant Hearing (2007) in the United States stated in their position statement: "Without appropriate opportunities to learn language, these children will fall behind their hearing peers in communication, cognition, reading, and social-emotional development, and such delays may result in lower educational and employment levels in adulthood... (p. 898)." In fact, in the United States, Yoshinaga-Itano and colleagues (2000) reported that children with hearing impairment, who are identified by six months of age and who received appropriate early intervention services, were 2.6 times more likely to have language skills at or near typical levels than were children who received services later.

Although there was recognition in the 1980s in China that early intervention for children with hearing loss was important, there were few programs primarily due to the country's large population and the associated financial

constraints. China's policies are implemented from a top-down approach with regulations from the government serving as the most powerful tool to promote changes in services. Consequently, the Compulsory Education Law of the People's Republic of China was passed in 1986 creating a national special education system which enabled children with special needs to have access to a nine-year mandatory education. According to this law, schools are required to accept children with special needs and school entrance rates of students with disabilities have become an important area of attention during official district inspections (Deng, Poon-Mcbrayer, & Fransworth, 2001). Slowly, policies have changed. Statistics from the SNPDS indicated that in 2005 there were over 110,000 school-aged children with hearing loss between the ages of six and 14 years. Over 85% of these were receiving their education in special or general education schools (National Bureau of Statistics of China, 2007). In contrast, services children from birth to six years old are less developed in China. In 2001 the China Handicapped Children's Sampling Survey, funded by the United Nations International Children's Fund (UNICEF), was concluded with the efforts of the Ministry of Health, the China Disabled Persons Federation (CDPF), and the National Bureau of Statistics of China (NBSC) (Chen, 2003). This survey indicated that there were 1,395,000 children with disabilities from birth to six years in China and that only about 43.4% of these attended preschool programs. This percentage is far lower than the number of preschoolers without disabilities who attended preschool programs and lower than the number of school-aged children with disabilities who received education. Additionally, it was found that where a family lived influenced their access to services. About 26.41% of children who lived in rural areas and 61.48% of those who lived in urban areas attended a preschool program (Chen, 2003). This survey further revealed that there were severe shortages of trained professionals to provide early intervention services to children who needed these programs.

### **Challenges Facing Early Intervention for Children with Hearing Loss**

Due to the size of the population of children in need of services and the complexity of factors which may cause hearing impairment, China faces many challenges as it attempts to build services for children with hearing loss. In 2001, the China Disabled Persons Federation (CDPF) identified the following obstacles to early intervention in China: (1) universal newborn hearing screening had not been implemented so the diagnosis of hearing loss was often delayed; (2) the rate of children with hearing impairment who were wearing hearing aids was low and the quality of hearing aids and associated services could not be guaranteed throughout the country; (3) few children with profound hearing loss, who may have benefitted from cochlear implants had access to them; (4) there was an acute shortage of professionals who could offer audiology-related training and therapy; (5) there was a limited amount of integrated early intervention programs and services for children, and their families, and those that were available were expensive and often required hours of transportation, which caused some

families to move or parents to give up their jobs; (6) there were few professionals who had sufficient knowledge regarding hearing loss to assist eligible children and their families, and (7) there were striking disparities in the development of early intervention programs between urban and rural locations. Despite these challenges, China has begun to directly address these needs in the past decade.

### **Recent Efforts in the Area of Early Intervention**

As the economy grew, the Chinese government invested more money in education, especially programs for children with special needs. The government mobilized a network of social resources, public and private sector agencies, spearheaded domestic programs, and utilized international supports to place an emphasis on supporting young children with hearing loss. Several of these initiatives will be discussed.

#### *National Ear-Care-Day*

Since 2000, March 3<sup>rd</sup> has been identified as the National Ear-Care-Day. This event was established by ten governmental ministries, such as the China Disabled Persons Federation, the Ministry of Health, the Ministry of Education, and the Ministry of Civil Affairs, to enhance public awareness of hearing loss, to inform the public of good hearing health, and to reduce the prevalence of hearing impairment in the country. On this day meetings are held with individuals with hearing impairment, free consultations and diagnoses are provided, and hearing aids are distributed. The day involves media coverage such as TV programs, news broadcasts, newspaper articles, non-profit advertisements, posters, and the publication of books which are devoted to publicizing information about hearing impairment. The aims of the activities are to develop the public's awareness of appropriate ear care, and inform the public about hearing impairment and treatment. The activities are considered to be primary prevention, and are targeted at bolstering early diagnosis and treatment. Each year a different theme is used to tie the events together. For example, the theme in 2000 was "Preventing Deafness Caused by Ototoxic Drugs," while in 2008, the theme was "The Olympics are Wonderful --I Can Hear" (Hinhuanet News Center, 2009).

#### *Nationwide Early Intervention Speech and Hearing Training Programs*

In 1991, the China Research Center for Deaf Rehabilitation (CRCDR) was designated as a national technological resource center and the supervising department by the Chinese State Council. Currently, it consists of three departments: (1) the department of hearing clinics, (2) the department of speech training, and (3) the department of information and devices/equipment (Piao, 2006). This center is primarily responsible for hearing evaluations and diagnoses, therapy and rehabilitation training, as well as training professionals who can provide speech and hearing training for children. Thirty-one provincial rehabilitation centers have been established. Not only do these centers provide speech

and hearing services directly to children and their families, but they also serve as technical resource centers. Since 2001, CRCDR guided the building of new facilities and the development of training programs to prepare professionals to provide audiological services, speech training, and support community awareness of hearing loss in their communities (National Disabled Persons Rehabilitation Office, 2008a; China Research Center for Deaf Rehabilitation, 2008a).

*Local Speech Training Centers.* As a component of this national network of programs and services, China is developing local speech training centers across the country. By the end of 2006, there were 1,679 of these state-funded centers (National Disabled Persons Rehabilitation Office, 2008b). These training centers offer speech and hearing training which usually involves the following activities related to the perception and comprehension of sound: (1) identifying environmental and natural sounds, such as birds chirping, transportation sounds, tool sounds, and human speech, (2) differentiating sounds; (3) differentiating music; (4) differentiating speech; and (5) word and sentence recognition. As has been the historical orientation, only an oral approach, which emphasizes vocal and speech training, is taught. In addition, it is planned that these centers will assume responsibility for training parents to support their children's oral language development. As a result, the number of children, and their families, who had access to speech and hearing services steadily increased each year in China from 2001 to 2007. This trend is shown in Figure 1.

*Personnel Training Programs.* Before 2000, there were no university level preservice training programs in early intervention for young children with hearing loss. To address this limitation, Li Jiacheng an industrialist in Hong Kong, along with the China Disabled Persons Federation and Beijing Normal University built the Beijing Hearing and Speech Rehabilitation College (BHSRC) (National Disabled Persons Rehabilitation Office, 2008a). At the time, BHSRC was the only higher education facility which trained speech and hearing interventionists. This was a milestone because after

the development of this training program, speech and hearing interventionist/specialists were included in the national education plan.

Today, the Beijing Hearing and Speech Rehabilitation College recruits graduates from secondary high schools throughout China and has trained more than 500 speech and hearing trainers (National Disabled Persons Rehabilitation Office, 2008b). This multidisciplinary training program trains professionals in the characteristics of hearing and speech rehabilitation, the psychology of preschool children, preschool pedagogy, medical aspects of hearing impairment rehabilitation, rehabilitation audiology, instructional methodology, and educational diagnosis of hearing impairment rehabilitation.

Along the same lines, a major in Speech and Hearing Science was added to the degree choices at East China Normal University (ECNU) in Shanghai in 2004, with the purpose of training professionals who could work in special schools, rehabilitation centers, and in resource centers in regular schools. This program trains preservice professionals in the areas of audiology, rehabilitation audiology, speech science and practice, childhood language development, theory and practice in hearing impairment rehabilitation, and diagnosis and therapy of speech disorders.

To train more skilled professionals who could conduct research in hearing impairment, collaboration between the China Research Center for Deaf Rehabilitation and East Normal University resulted in the establishment of the Institute of Speech and Hearing Rehabilitation at East Normal University in 2007. This program offers graduate and doctoral programs for students who have research interests in hearing impairment rehabilitation and therapy. These new programs have created multiple levels of training for professionals who can serve very young and school-aged children and adults with hearing impairment (National Disabled Persons Rehabilitation Office, 2008a, 2008b; China Research Center for Deaf Rehabilitation, 2008f).

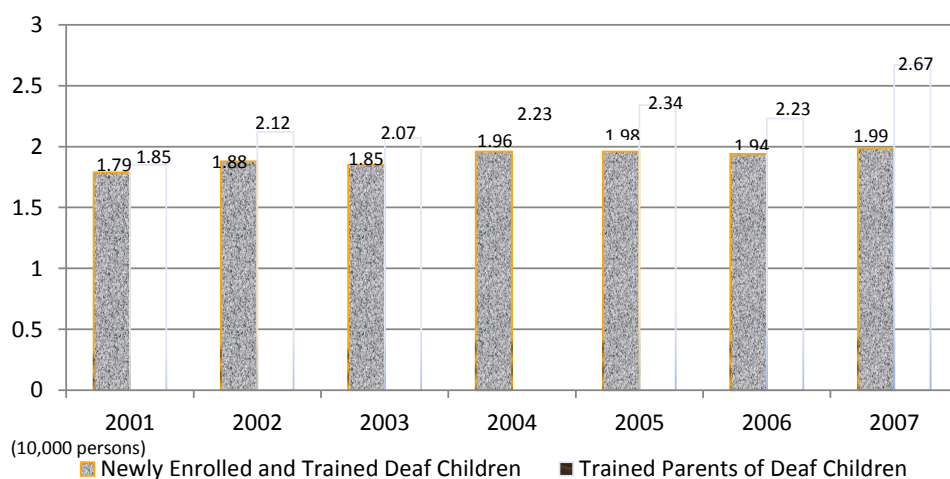


Figure 1. The Number of Children who are Deaf, and Their Parents, who have been Trained with Speech and Language Services in China from 2001 to 2007. (Statistical Report of the Disabled Cause in China) Retrieved from [http://www.cdpf.org.cn/sytj/content/2008-05/12/content\\_25056403](http://www.cdpf.org.cn/sytj/content/2008-05/12/content_25056403)

*Universal Newborn Hearing Screening.* While hearing screening for newborns, called a silent revolution by Olusanya (2006), for early detection of children with congenital hearing loss or early onset hearing loss has been commonplace in most industrialized countries, it was introduced in China in 1999. Once it began, it expanded quickly. Newborn hearing screening is a component of newborn disease screening listed in “The Tenth Five-Year Plan of the China Disabled Cause” (China Research Center for Deaf Rehabilitation, 2008e). This plan requires all provincial organizations, including departments such as the Department of Health Care, the Department of Education, the Department of Civil Affairs, and the Women’s Federation to send the results of newborn hearing screening to the China Disabled Persons Rehabilitation Office (Shi, 2007). Led by Professor Shen Xiaoming of Shanghai Transportation University, the effects of newborn hearing screening from 2000 to 2005 has been evaluated (Shi, 2007). During this period, 220,000 newborns (95% of newborns born in Shanghai City) were screened before they were discharged from hospitals. Based on these findings and the strong recommendations of parents, the China Disabled Persons Federation issued “The National Plan of Hearing Impairment Rehabilitation from 2007 to 2015” in 2007. This plan proposed a long-term goal of developing newborn hearing screening throughout the country. By 2015, it is projected that the rate of newborn hearing screening will be increased by 30% when compared to the 2005 levels. Individual provinces are enacting their own local governmental goals as well. For example, the goal of Tianjin’s municipal government is to screen 95% of all newborns by 2015. Despite different levels of progress among regions, increasingly efforts are pushing for universal newborn hearing screening in the country (China Disabled Persons Federation, 2007).

*National Program of Providing Hearing Aids to All Citizens.* China has the largest population of children with hearing loss in the world (National Bureau of Statistics of China, 2007). A large portion of these children appear to be born to economically disadvantaged families in the countryside or in poor urban areas. Although hearing aids have become more affordable, some children from low-income families have not been able to benefit from them and receive hearing services. In 2001, the National Disabled Persons Rehabilitation Office (NDPRO) implemented a program which provided hearing aids to poor children and established programs to encourage the use of aids (National Disabled Persons Rehabilitation Office, 2008a). At present, The Poor Children’s Fund offers quality and affordable hearing aids to children from low-income families, especially those who live in the western section of the country and in rural areas. To enact this plan, the NDPRO collaborated with Siemens Company in Germany to reduce the cost of aids through government wholesale purchasing. As a result, 106,000 poor children with hearing impairments were provided with hearing aids. If a hearing impairment is detected in the hospital and a family’s income level is below the poverty line, the child can be offered free hearing aids (Beijing Disabled Persons Rehabilitation Office, 2001). In 2004, the National Lottery Public Welfare Fund was started to guarantee that money would be invested so that free or

subsidized hearing aids could be given to poor children. This fund also addressed services such as fitting hearing aids, tailoring ear molds, providing batteries, offering repairs, and subsidizing some training. In the “Eleventh Five-Year plan of National Disabled Persons Development,” it is stated that by the end of 2015, appropriate amplification, including cochlear implants, will be provided to at least 90% of the children who need these supports (China Disabled Persons Federation, 2007). China’s plan may provide a blueprint for other countries as they attempt to provide more equitable access to hearing aids and cochlear implants to all their young citizens. Clearly, China has made a national commitment to its young children with hearing impairment.

*The Use of Cochlear Implants.* Cochlear implants were introduced in China in 1995 (China Research Center for Deaf Rehabilitation, 2008a). Although children with severe-to-profound hearing loss may benefit from these devices, the costs of the surgery and follow-up services keep them out of reach for most families. To open this option to more children, the government has introduced a series of initiatives. First, the China Disabled Persons Federation, the Ministry of Health, and the Australian Cochlear Company jointly purchased 100 cochlear implants. The price was reduced through wholesale purchasing and these were implanted in suitable children. Secondly, the training of specialists in cochlear implants was initiated. To enable follow-up services to keep pace with the surgery, specialists were trained in testing and assessment before the operation, the mechanics of the devices, and how to conduct follow-up therapy after the surgery (China Research Center for Deaf Rehabilitation, 2008a; 2008b). By 2003, ten cochlear implants rehabilitation bases had been registered as formal rehabilitation centers. The number of children served in these centers continues to grow (China Research Center for Deaf Rehabilitation, 2008b). Thirdly, as of 2004, the China Research Center for Deaf Rehabilitation began to cooperate with hospitals that provided cochlear implant surgery and began exploring integrative services to cover children’s needs before and after operations. Today, more designated local hospitals provide these services to children and families (China Research Center for Deaf Rehabilitation, 2008c). Lastly, considerable effort has been directed toward encouraging donations of cochlear implants by individuals. For example, in 2005 alone an entrepreneur in Taiwan, Mr. Wang Yongqing, donated 200 cochlear implants to the China Disabled Persons Welfare Funds (China Research Center for Deaf Rehabilitation, 2008d). To optimize the use of these devices, a national program entitled, “Hearing Rebuilding--Opening Hearing Action” was instituted. This program offered a series of services for children with hearing loss such as choosing appropriate hospitals and securing speech and hearing training after implantation. After that, Mr. Yongqing reported that he would donate 14,750 cochlear implants to children between 2006 and 2013 (National Disabled Persons Rehabilitation Office, 2008b). To be eligible for these programs, children have to pass a test for adaptability to cochlear implants, have normal intelligence, pass hearing and speech ability assessments, and have the ability to become independent in adulthood. Priority was given to children who were younger than three years. Further, families must be able to afford the 40,000 Yuan expenditure of the operation and



rehabilitation (National Disabled Persons Rehabilitation Office, 2008b). For disadvantaged families, the government stated that it planned to spend 400 million Yuan from central finance to implement the China Disabled Persons Federation Salvage Rehabilitation Program (National Disabled Persons Rehabilitation Office, 2008b). This program reported that 1,500 children, ranging from one to five years old with severe-to-profound hearing loss, would be offered free cochlear implants and associated services from 2009 to 2011 (China Research Center for Deaf Rehabilitation, 2009). With these diverse initiatives, cochlear implants, which had been the privilege of only a few children from wealthy families in China, would become an option of children from middle class and poor families (China Research Center for Deaf Rehabilitation, 2009).

*Inclusive Preschool Programs.* With the success of the first wave of early rehabilitation services in China, more professionals and parents came to recognize that early intervention for children with hearing impairment should not be restricted to only speech and hearing training. Consequently, preschool programs which focused on all aspects of a young child's development are now becoming the site for services for children with hearing loss. To guide inclusion of children with hearing loss into preschool programs for children with typical hearing, the China Disabled Persons Federation (CDPF) issued a document entitled, "Guidelines of Early Rehabilitation Education for Children with Hearing Impairment" (China Disabled Persons Federation, 2005) in 2005. This document argued that while a fundamental goal for young children with hearing loss is to develop their speech and listening abilities, interaction with typical peers is also necessary to support the development of the whole child. The plan recommended that inclusive programs tailor their instruction to meet the individual needs of all children, those with and without hearing impairment (China Disabled Persons Federation, 2005). Although few would argue with the intention of this ideal, some educators have reported difficulties as programs attempted to move from the theoretical notion of inclusion to actual practice. Despite this, many parents report they are pleased that inclusion is considered an option for their young child with hearing loss.

### Conclusion

Over the last decade, China has made great strides in creating programs for very young children with hearing impairment and their families. To increase standards and provide more comprehensive early intervention services for more children with hearing loss, several areas still need to be considered. First, although new programs are being devised each year, only a small percentage of children actually have the ability to profit from such programs. More services in rural areas and small towns as well as programs for less economically privileged children continue to be an urgent need. Secondly, although early intervention services have historically followed a strictly auditory-verbal communication model, there are children who may benefit from a more comprehensive communication approach such as total communication (e.g., signing, speaking, finger-spelling). This approach would offer children who are not successful in an

oral approach an opportunity to communicate immediately. It would also improve their personal-social and cognitive development as well as their later academic learning (Wurst, Jones, & Luckner, 2005). Thirdly, China has been slow in its efforts to move from a child-centered to a family-centered approach with young children. Other countries have found that programs that are family-centered, in that they support and train parents so parents can facilitate their child's development when professionals are not present, tend to produce children who acquire better developmental and academic outcomes (Raver, 2009). Finally, other countries have found that a multidisciplinary approach allows professionals to better serve children and their families. This model is based on the premise that the issues involved in hearing loss are too complex to be handled by a single professional. When a team approach is used, less fragmented services are offered and each child's unique needs are better addressed and supported. International teams tend to include a specialist in hearing impairment, an early education specialist (special education and general education), a speech and language specialist, and a pediatric audiologist.

Guralnick (2008) asserted that early intervention should be grounded in common values that cross national and cultural boundaries. He claimed that early intervention programs should assume a comprehensive developmental approach, offer services that are integrated between medical and education facilities, involve families as the cornerstone for helping children reach their optimal level of independence, focus on early detection, and continually evaluate the effectiveness of the program's efforts. China appears to be making sincere efforts to bring its early intervention system for children with hearing impairment and their families to the levels that Guralnick described while at the same time acknowledging its own cultural realities.

In the past decade, China has increased its expectations and standards for educating very young children with hearing impairment. Although gaps in services and opposing philosophies continue to exist, the progress that is being made is very encouraging. One can only hope that China takes the time to learn from other countries, like the United States, that have been offering early intervention for nearly 45 years so China may avoid some of the challenges such countries have encountered. Nonetheless, using the past decade as a yardstick, early intervention for the children with hearing loss in China will likely improve in the coming years.

### References

- Beijing Disabled Persons Rehabilitation Office. (2001). *The rewarding and subsidizing methods in early intervention for children with hearing loss*. Retrieved from <http://www.bdpf.org.cn/zcfg/zcfg-kfzd/8731.htm>
- Bertenthal, B. (1996). Origins and early development of perception, action and representation. *Annual Review of Psychology*, 47(1), 431-459. Retrieved from <http://ehis.ebscohost.com/ehost/pdfviewer/pdfviewer?vid=9&hid=102&sid=b4e06db8-f3d1-4046-a4a3-c2540a968ba2%40sessionmgr113>
- Chen, P.S. (2003, December 13). 200,000, 0-6 years old handicapped children increase annually in China, *China Youth Newspaper*, p.3.

- China Disabled Persons Federation. (2001). *The Implementation Project of the Tenth Five-Year Rehabilitation Plan*. Retrieved from [http://www.cdpf.org.cn/zcfg/content/2001-11/06/content\\_50489.htm](http://www.cdpf.org.cn/zcfg/content/2001-11/06/content_50489.htm)
- China Disabled Persons Federation. (2005). *The guideline of early rehabilitation education for children with hearing impairment*. Retrieved from [http://www.cdpf.org.cn/ggtz/content/2005-11/03/content\\_72114.htm](http://www.cdpf.org.cn/ggtz/content/2005-11/03/content_72114.htm)
- China Disabled Persons Federation. (2007). *The implementation project of the eleventh five-years rehabilitation plan*. Retrieved from [http://www.cdpf.org.cn/zcfg/content/2007-12/06/content\\_50515.htm](http://www.cdpf.org.cn/zcfg/content/2007-12/06/content_50515.htm)
- China Research Center for Deaf Rehabilitation. (2008a). *National work summary of deaf rehabilitation in 2002*. Retrieved from [http://www.chinadeaf.org/edit/organizationbuild/enterpriseannual/2008.02.22\\_09.12.24.html](http://www.chinadeaf.org/edit/organizationbuild/enterpriseannual/2008.02.22_09.12.24.html)
- China Research Center for Deaf Rehabilitation. (2008b). *National work summary of deaf rehabilitation in 2003*. Retrieved from [http://www.chinadeaf.org/edit/organizationbuild/enterpriseannual/2008.02.22\\_09.27.29.html](http://www.chinadeaf.org/edit/organizationbuild/enterpriseannual/2008.02.22_09.27.29.html)
- China Research Center for Deaf Rehabilitation. (2008c). *National work summary of deaf rehabilitation in 2004*. Retrieved from [http://www.chinadeaf.org/edit/organizationbuild/enterpriseannual/2008.02.22\\_10.09.41.html](http://www.chinadeaf.org/edit/organizationbuild/enterpriseannual/2008.02.22_10.09.41.html)
- China Research Center for Deaf Rehabilitation. (2008d). *National work summary of deaf rehabilitation in 2006*. Retrieved from [http://www.chinadeaf.org/edit/organizationbuild/enterpriseannual/2008.02.22\\_12.51.51.html](http://www.chinadeaf.org/edit/organizationbuild/enterpriseannual/2008.02.22_12.51.51.html)
- China Research Center for Deaf Rehabilitation. (2008e). *The statistical report of implementation of the "Tenth Five-Year Plan" for China disabled persons cause*. Retrieved from [http://www.chinadeaf.org/edit/organizationbuild/enterpriseannual/2008.02.22\\_14.06.43.html](http://www.chinadeaf.org/edit/organizationbuild/enterpriseannual/2008.02.22_14.06.43.html)
- China Research Center for Deaf Rehabilitation. (2008f). *National hearing impairment prevention and rehabilitation plan from 2007 to 2015*. Retrieved from [http://www.cdpf.org.cn/ggtz/content/2008-05/04/content\\_25053452.htm](http://www.cdpf.org.cn/ggtz/content/2008-05/04/content_25053452.htm)
- China Research Center for Deaf Rehabilitation (2009). *The starting of salvage rehabilitation program from China Disabled Persons Federation in Beijing*. Retrieved from [http://www.cdpf.org.cn/mrxx/content/2009-07/06/content\\_30249112.htm](http://www.cdpf.org.cn/mrxx/content/2009-07/06/content_30249112.htm)
- Deng, M., Poon-Mcbrayer, K. F., & Fransworth, E. B. (2001). The development of special education in china: A sociocultural Review. *Remedial and Special Education, 22*(5), 288-298. doi: 10.1177/074193250102200504
- Guralnick M. J. (2008). International perspectives on early intervention: A search for common ground. *Journal of Early Intervention, 30*(2), 90-101. doi: 10.1177/1053815107313483
- Hinhuonet News Center (2009, March 2). *Themes of Care-Ear-Day from 2000 to 2009*. Retrieved from [http://news.xinhuanet.com/newscenter/2009-03/02/content\\_10927065.html](http://news.xinhuanet.com/newscenter/2009-03/02/content_10927065.html)
- Joint Committee on Infant Hearing. (2007). Position statement: Principles and guidelines for early hearing detection and intervention programs. *American Academy of Pediatrics, 120*(4), 898-922.
- National Bureau of Statistics of China. (2007). *The main statistics report on the second national survey in 2006*. Retrieved from [http://www.cdpf.org.cn/sytj/content/2007-11/21/content\\_74902.html](http://www.cdpf.org.cn/sytj/content/2007-11/21/content_74902.html)
- National Disabled Persons Rehabilitation Office. (2008a). *National work summary of deaf children rehabilitation in 2001*. Retrieved from [http://www.chinadeaf.org/edit/organizationbuild/enterpriseannual/2008.02.22\\_08.55.47.html](http://www.chinadeaf.org/edit/organizationbuild/enterpriseannual/2008.02.22_08.55.47.html)
- National Disabled Persons Rehabilitation Office. (2008b). *National work summary report of deaf children rehabilitation in 2005*. Retrieved from [http://www.chinadeaf.org/edit/organizationbuild/enterpriseannual/2008.02.22\\_12.58.58.html](http://www.chinadeaf.org/edit/organizationbuild/enterpriseannual/2008.02.22_12.58.58.html)
- Olusanya, B. O. (2006). Early hearing detection and intervention in developing countries: Current status and prospects. *The Volta Review, 106*(3), 381-418.
- Piao, Y. X. (2006). *Dictionary for Special Education*. Beijing, China: Huaxia Publishing Press.
- Raver, S. A. (1999). *Intervention strategies for infants and toddlers with special needs: A team approach*. Upper Saddle River, NJ: Prentice-Hall/Pearson Education Company.
- Raver, S. A. (2009). *Early childhood special education—0-8 years: Strategies for positive outcomes*. Upper Saddle River, NJ: Merrill/Pearson Publishing.
- Shi, X. Y. (2007). Research on newborn hearing screening and intervention, *China Awards for Science and Technology, 20*(4), 51.
- Wurst, D., Jones, D., & Luckner, J. (2005). Promoting literacy development with students who are deaf, hard of hearing, and hearing. *Teaching Exceptional Children, 37*(5), 56-62. Retrieved from <http://ehis.ebscohost.com/ehost/detail?vid=10&hid=102&sid=b4e06db8-f3d1-4046-a4a3-c2540a968ba2%40sessionmgr113&bdata=JnNpdGU9ZWhvc3QtbGl2ZQ%3d%3d#db=a9h&AN=16832532>
- Yoshinaga-Itano, C., Sedey, A., Coulter, D., & Thomson, V. (2000). Infant hearing impairment and universal hearing screening. *Journal of Perinatology, 20*, s131-s136. Retrieved from <http://www.nature.com/jpp/journal/v20/n1s/pdf/7200438a.pdf>

All correspondence concerning this article should be directed to the second author.

# Adaptive Skills and Maladaptive Behavior of Adolescents with Autism Spectrum Disorders Attending Special Schools in Singapore

**Kenneth K. Poon**

National Institute of Education, Nanyang Technological University, Singapore  
kenneth.poon@nie.edu.sg

## Abstract

*This study describes the profile of and relationships between adaptive skills and the maladaptive behaviors exhibited by adolescents with autism spectrum disorders (ASD) attending special schools in Singapore. Parents of 20 adolescents with ASD attending special schools completed the Development Behavior Checklist (DBC; Einfeld & Tonge, 1995; Einfeld & Tonge, 2002) and were interviewed on Vineland Adaptive Behavior Scales, second edition (VABS-II; Sparrow, Cicchetti, & Balla, 2005). Consistent with studies conducted in other contexts, this study reported low levels of adaptive skills and the presence of challenging behavior, albeit at levels reflecting lower levels of severity when compared with previous research. The only statistically significant relationship between the instruments was the correlation between the social and communication subscales of the VABS-II with the social relatedness subscale of the DBC. Implications for further research and for practice are discussed.*

Autism spectrum disorders (ASD) represent a group of neurodevelopmental disorders including autism disorder, Asperger's disorder, Rett's syndrome, childhood disintegrative disorder, and pervasive developmental disorder, not otherwise specified, identifiable from the triad of impairments (Wing & Gould, 1979) that emerge before three years of age. The three areas of impairment include social impairment, impaired reciprocal communication, and a restricted range of interests and behaviors (Bailey, Phillips, & Rutter, 1996). Once thought to be a rare condition, it is now understood ASD occurs more commonly than once thought with a conservative estimated prevalence of about 60 per 10,000 children (Bertrand et al., 2001; Chakrabarti & Fombonne, 2001, 2005).

## Adaptive Skills and Maladaptive Behavior

While there is a strong focus on ASD in the early years, the triad of impairments continue to impact upon the lives of these individuals in adulthood (Howlin, Goode, Hutton, & Rutter, 2004; Seltzer, Shattuck, Abbeduto, & Greenberg, 2004). While playing a lesser role in diagnosis, adaptive skills as well as maladaptive behavior carry equal, if not greater, weight as outcomes for individuals with ASD. Adaptive skills are daily activities that are necessary for supporting the personal and social sufficiency of a person (Doll, 1953). Individuals with ASD have lower levels of adaptive skills than would be expected when compared to their mental age peers with intellectual disabilities in general (Matson & Shoemaker, 2009), and more specifically among specific groups such as fragile X syndrome (Fisch, Simensen, & Schroer, 2002) and Down syndrome (Loveland & Kelly, 1991). As such, it has been suggested that adaptive skills were more predictive of successful employment and independent living than academic achievement or intellectual abilities (e.g., Carter et al., 1998) and even as a primary outcome indicator in ASD (Matson & Shoemaker, 2009).

Playing an equally important role is the degree of maladaptive or challenging behaviors which could be an impediment to the application of adaptive skills and participation within the contexts of individuals with ASD

(Matson & Nebel-Schwalm, 2007). Similar to the case of adaptive skills, individuals with ASD have also been reported to show greater levels of challenging behavior than their peers with intellectual disabilities (e.g., Fisch et al., 2002; Holden & Gitlesen, 2006; Loveland & Kelly, 1991; McCarthy et al., 2010). Although studies of adaptive skills and maladaptive behavior among individuals with ASD are not uncommon, few studies have described the relationships between these two pivotal domains in outcome (Matson, Minshawi, Gonzalez, & Mayville, 2006). In addition, studies describing adaptive skills and maladaptive behavior have described largely populations in America, Europe, and Australia.

## Generalization of Research Findings Across Cultures

Although reports originating from developed countries in the West and Australia provide insight into lives of individuals with ASD, the degree to which they generalize to other contexts remains untested. There is need for studies from other contexts, especially when the differences in cultural and social environments may influence findings. In particular, Asia represents an often underrepresented context in research even though it accounts for the majority of the world's population. Studies conducted in Singapore offer a glimpse into Asia as it represents a spread of major ethnic groups in Asia and many of its population speak English. There are two aspects of the Singapore context that may influence the outcomes of adolescents with ASD to differ from their peers in previously reported studies. These are culture and education.

Singapore is a rapidly developing country and has one of the most developed cities in Southeast Asia. In part due to its economic development, it is also becoming an increasingly diverse society blending cultures from Asia and the West. The major ethnic groups that comprise the population in Singapore include, in order of representation, the Chinese originating from southern China, the Malays comprising the original inhabitants as well as those from Malaysia and Indonesia, and the Indians who predominantly find their roots in southern India. Embedded within these ethnic groups are values and expectations (e.g., Poon, submitted), which may be translated

to practices (c.f., Carnie & Orelove, 1988). There are reasons for expecting a difference in how adolescents may present within an Asian context. First, is the perceived shame associated with having a child with disability (c.f., Holroyd, 2003). There is a changing but still prevalent perception that a child with disability represents a 'loss of face' (i.e., shame) to the family (especially for Chinese and Indian families). Although the notion of shame associated with having a child with disability is not unique to Asia, persons with disabilities in Asian cultures have traditionally been kept at home and away from participation in the activities of wider society such as education, employment, leisure (Poon, submitted). The extreme isolation of persons with disabilities could have diminished but the stigma is likely to continue to affect the degree of participation of people with disabilities in Asia.

Education is another factor that is likely to affect the outcomes among adolescents with ASD. Most school-going children with ASD in Singapore are educated exclusively in special schools. The current support provided to children with ASD typically begins with early intervention services from the point of diagnosis to the year they turn six years, and followed by school-based special education services which end the year they turn 18 years. There are exceptions such as in the case wherein individuals are diagnosed later in childhood or when they present with milder features (e.g., Asperger's syndrome or high functioning autism). In such cases, the individuals with ASD receive part of their education alongside their peers. Special education services in Singapore are characterized by instruction in classrooms with better teacher-student ratios in custom built schools offering an individualized education plan. These students are also typically supported by a team of psychologists, therapists, and/or autism consultants. Adolescents with ASD who undergo this form of educational experience typically have limited opportunities for interaction with typically developing peers in structured environments unless it is provided by the parents. They also have a lower degree of academic pressure compared to their peers with ASD attending mainstream schools.

In light of the dearth of research describing Asian populations, which account for a sizeable proportion of the world's population, this study aimed to provide a description of adaptive skills and challenging behaviors among adolescents with ASD in Singapore. Specifically, it sought to (a) examine the profile of adaptive skills and challenging behaviors of such adolescents, and (b) describe the extent to which these areas relate to each other. Through the description and exploration of relationships between these variables, it is hoped that individuals with ASD could be better supported and that this could inform other contexts, particularly in Asia, experiencing similar issues.

## Method

### *Participants*

The participants of this study were 20 adolescents with ASD aged between 13 and 19 years (mean age of 15.6 years; 75% male). Organizations providing services to adolescents with ASD such as special schools and day activity centers were approached for their support in the recruitment of

participants. These organizations helped in forwarding letters of invitation to parents of adolescents with ASD and in consolidating the responses of the parents. Although the diagnostic evaluation reports of the adolescents with ASD were unavailable, access to services within these organizations would require a diagnosis of ASD from a medical practitioner and a psychological evaluation. However, all the adolescent children with ASD would have received a clinical diagnosis of ASD from a medical practitioner and a psychological assessment as part of its entry requirements for the recruiting organizations. Based on the information provided by the recruiting organizations, close to half (45%) of the participants were diagnosed with autism disorder, 5% were diagnosed with pervasive developmental disorder, not otherwise specified, and the rest (50%) received a diagnosis of ASD. The participants are largely representative of the ethnic mix in Singapore (70% Chinese, 15% Malay, 10% Indian, 5% Others). But, an analysis of the type of residence suggests that the participants from the lower-income group were under-represented in this study.

### *Materials*

*Vineland Adaptive Behavioural Scales 2<sup>nd</sup> Edition (VABS-II)*. The VABS-II (Sparrow et al., 2005) is a standardized semi-structured caregiver interview designed to measure adaptive skills. It yields standard scores (mean = 100; SD = 15) in the Communication, Social, Daily Living Skills, and Motor Skills domains, and an Adaptive Behavior Composite. The VABS-II possesses strong psychometric properties (split half reliabilities of between .77 to .93 for the subscales) and confirmatory factor analyses indicate that the data fit well with the model as described by the authors (Sparrow et al., 2005). Moreover, it has been frequently utilized in autism research to provide a gauge of the adaptive skills of the participants (Carter et al., 1998).

*Developmental Behavior Checklist – Primary Carer Version (DBC-P)*. The DBC-P (Einfeld & Tonge, 1995; Einfeld & Tonge, 2002) is a 94-item checklist measuring behavioral and emotional difficulties among individuals with developmental disabilities (Einfeld & Tonge, 2002). It yields a Total Problem Behavior Score and six subscales (i.e., communication disturbance, disruptive, anxiety, self-absorbed, antisocial behavior, and autistic-relating behaviors). This instrument yields percentile ranks for the total as well as each of the subscales and has strong psychometric properties with internal consistency of  $r = .93$  (Cronbach's Alpha).

### *Procedure*

Organizations serving adolescents with ASD in Singapore were approached to assist in the recruitment of participants as part of a larger study of adolescents with ASD in Singapore. These organizations forwarded the names and contact details of parents who responded positively to the initial letter of invitation. The parents were contacted by a research assistant to arrange for an interview date. Once written informed consent was obtained, a survey packet consisting of a demographic survey and the DBC-P was sent to parents. Following that, a semi-structured interview with parents

regarding their aspirations for the adolescent with ASD and the VABS-II was conducted by two research assistants at the participants' home or settings chosen by the participants (e.g., coffee joints, neighborhood parks). Each interview session began with the interviewers checking the survey forms and having the parents complete sections of it, if missed. It was then followed first by the semi-structured parent aspirations interview (reported in Poon, submitted) and then the VABS-II. The entire interview took between one to three hours and was conducted, depending on the availability of participants, over one or two sessions. In cases where the interview was spread over two sessions the parent aspirations interview and the VABS-II were each conducted during one session.

### Results

The adaptive skills and maladaptive behavior of the study participants were presented in Table 1. The overall adaptive functioning of adolescents with ASD in special education settings was in the low range. In terms of maladaptive behavior, parents of adolescents with ASD reported levels of maladaptive behavior which were generally consistent with those of individuals with intellectual disabilities (just under the clinical cut-off of 58%). Domains which appeared to be elevated in relation to their peers with intellectual disabilities included communication, social relatedness, and anxiety.

As indicated in Table 2, there were variations in the degree to which the subscales of the instruments related with each other. There were strong correlations (.65 to .72) between subscales on the VABS-II. A similar trend was observed for the DBC. With the exception of the relationship between the Social Relating and Communication Disturbance subscales where the relationship was non-significant, there were strong correlations between the DBC subscales (.51 to .82). In terms of relationships between instruments, there were only two significant relationships between the DBC Social Relating Subscale with the Communication and Socialization subscales of the VABS (-.46 and -.48, respectively).

### Discussion

The findings of this study in relation to poor adaptive skills were not surprising given similar findings in previous studies (e.g., Fisch et al., 2002; Loveland & Kelly, 1991). However, the adaptive skills appeared about one standard deviation higher. In contrast to the findings of Loveland and Kelly (1991), this study revealed a trend of uniformly low subscale scores. However, interpretation of these differences was difficult given the heterogeneity of the ASD phenotype and the contexts within which the studies were conducted. In addition, this study utilized the VABS-II rather than the earlier version (Sparrow, Balla, & Cicchetti, 1984) utilized in the Loveland and Kelly (1991) study. The different norms applied in these two versions of the VABS make comparisons difficult.

Table 1

*Profile of Adaptive Skills and Maladaptive Behaviors*

	Mean	SD
Vineland Adaptive Behavior Scale (standard score)		
Communication	46.35	10.44
Social	50.90	13.76
Daily living skills	43.30	3.77
Adaptive behavior composite	45.80	9.17
Developmental Behavior Checklist (Primary carer version percentile rank of total sample)		
Disruptive/antisocial behavior	51.47	22.95
Self-absorbed	47.89	22.83
Communication disturbance	71.89	24.25
Anxiety	64.95	29.92
Social relatedness	67.79	25.89
Total problem behavior	56.42	27.18

The reports from parents of children in this study of maladaptive behaviors being at a level consistent with individuals with intellectual disabilities was surprising given that findings from other studies typically report an opposite trend (e.g., Holden & Gitlesen, 2006; McCarthy et al, 2010). However, this finding needs to be interpreted in light of the absence of a control group and with the report of Singaporean parents being compared to that of Australian parents. This differences in the nature of participants, the broader social context (e.g., education), and instruments for measuring behavior make direct comparison between studies difficult.

One unexpected finding in this study was the limited relationship between adaptive skills and maladaptive behavior. Few studies focused on the relationship between adaptive skills and maladaptive behavior (Matson et al., 2006) and when reported, a negative relationship is typically described (Minshawi, 2007). This negative relationship makes sense as the presence of maladaptive behavior upon the person with ASD and others is likely to reduce the likelihood of the person

Table 2

*Relationship between Adaptive Skills and Maladaptive Behavior*

	Vineland Adaptive Behavior Scales				Development Behavior Checklist					
	Communication Subscale	Daily Living Skills Subscale	Socialization Subscale	Adaptive Behavior Composite	Disruptive/Antisocial Percentile	Self-Absorbed Percentile	Communication Disturbance Percentile	Anxiety Percentile	Social Relating Percentile	Total Behavior Problem Percentile
VABS-II Communication Subscale	.714**	1								
VABS-II Daily Living Skills Subscale	.676**	.650**	1							
VABS-II Socialization Subscale	.914**	.919**	.774**	1						
VABS-II Adaptive Behavior Composite	.100	.289	.347	.262	1					
DBC Disruptive/Antisocial Percentile	-.154	-.050	-.073	-.085	.617**	1				
DBC Self-Absorbed Percentile	.314	.279	.246	.351	.651**	.761**	1			
DBC Communication Disturbance Percentile	-.114	.091	-.117	-.012	.704**	.736**	.585**	1		
DBC Anxiety Percentile	-.456*	-.377	-.482*	-.415	.511*	.660**	.425	.636**	1	
DBC Social Relating Percentile	.043	.131	.104	.131	.854**	.882**	.845**	.864**	.692**	1

Note: \*  $p < .05$  \*\*  $p < .01$

with ASD participating in domestic and community settings. As such, this finding of a lack of a relationship merits investigation in future studies.

There were remarkable similarities between the findings from this study with those reported from Western contexts, namely the presence of maladaptive behaviors and the low level of adaptive skills. However, there were also differences which this study failed to account for such as the relatively lower levels of reported maladaptive behavior, higher levels of adaptive behavior, and the lack of relationship between the two remains unaccounted for. Taken together, these findings suggest that while the findings derived mainly from Western research may be applied, in some cases, to Asian environments, more studies are required to identify the degree to which the findings may differ.

#### *Implications for Special Education*

Although this study raised many questions for future investigation, the findings shed light on how adolescents with ASD may be supported. At one level, the low level of adaptive skills suggests that there is a need for programs in special education to target these areas. The difficulties in social interaction and communication, which are consistent with the core impairments of ASD, merit early and continued support in special education. These two domains are pivotal in meeting the basic and social needs of all individuals. In addition, the low levels of daily living skills, while not directly measuring community participation, were suggestive of poor participation in the community. This too, would be a domain that merits further attention in special education programs especially in the light of the difficulties in the generalization of skills among individuals with ASD (Rincover & Koegel, 1975).

Similarly, there is a need for the challenging behaviors among individuals with ASD to be addressed. Apart from the issues of social relatedness and communication discussed earlier, of particular significance is the elevated level of reported anxiety among the adolescents with ASD. MacNeil, Lopesa and Minnsea (2009) pointed out that disorders and symptoms associated with anxiety are considerably widespread among individuals with ASD in their early stages of their lives (e.g. during childhood or teenage years). Although not traditionally addressed by special educators, anxiety is likely to hinder learning as well as participation in the wider community. Teaching approaches such as structured teaching, which creates a meaningful and calm environment for learning, are helpful in reducing the levels of anxiety and in increasing active engagement (Mesibov, Shea, & Schopler, 2004).

#### *Limitations and Directions for Future Research*

A major contribution of this study was the presentation of some findings from an Asian context that has traditionally received less attention in international research. However, it is also important to note that this study was limited by many

methodological constraints. In terms of sampling, this study was limited by a small sample size, the overrepresentation of males and an under-representation of participants from the lower socioeconomic groups. In terms of participant description, all the study participants were diagnosed in clinics employing both clinical impression and psychological testing. However, the exact criteria employed in the diagnostic process were unclear and the use of an instrument to document autism symptomology was not used. Furthermore, there was a lack of comparison groups in the study. As such, these constraints would limit the extent to which this study may be generalized. It is hoped that future research will address the questions that this study raised.

#### **References**

- Bailey, A., Phillips, W., & Rutter, M. (1996). Autism: Towards an integration of clinical, genetic, neuropsychological, and neurobiological perspectives. *Journal of Child Psychology and Psychiatry*, 37(1), 80-126.
- Bertrand, J., Mars, A., Boyle, C., Bove, F., Yeargin-Allsopp, M., & Decoufle, P. (2001). Prevalence of autism in a United States population: The Brick Township, New Jersey, Investigation. *Pediatrics*, 108(5), 1155-1161.
- Carnie, I. H., & Orelove, E. P. (1988). Implementing transition programs for community participation. In B. L. Ludlow, A. P. Turnbull, & R. Luckasson (Eds.), *Transitions to adult life for people with mental retardation: Principles and practices* (pp. 137-158). Baltimore, MD: Brookes.
- Carter, A. S., Volkmar F. R., Sparrow S. S., Wang, J-J, Lord, C., Dawson, G., ... Schopler, E. (1998). The vineland adaptive behavior scales: Supplementary norms for individuals with autism. *Journal of Autism and Developmental Disorders*, 28(4), 287-302.
- Chakrabarti, S., & Fombonne, E. (2001). Pervasive developmental disorders in preschool children. *Journal of the American Medical Association*, 285(24), 3093-3099.
- Chakrabarti, S., & Fombonne, E. (2005). Pervasive developmental disorders in preschool children: Confirmation of high prevalence. *American Journal of Psychiatry*, 162(6), 1133-1141.
- Doll, E. A. (1953). Vineland social maturity scale. *American Journal of Orthopsychiatry*, 5, 80-188.
- Einfeld, S. L., & Tonge, B. (1995). The developmental behavior checklist: The development and validation of an instrument to assess behavioral and emotional disturbance in children and adolescents with mental retardation. *Journal of Autism and Developmental Disabilities*, 25(2), 81-104
- Einfeld, S. L., & Tonge, B. J. (2002). *Manual for the developmental behavior checklist* (2nd ed.) [Primary carer version (DBC-P) & Teacher version (DBC-T)]. School of Psychiatry, University of NSW, and Center for Developmental Psychiatry and Psychology, Monash University, Australia.
- Fisch G. S., Simensen, R. J., & Schroer, R. J. (2002). Longitudinal changes in cognitive and adaptive behavior scores in children and adolescents with the fragile X mutation or autism. *Journal of Autism and Developmental Disorders*, 32(2), 107-114.
- Holden, B., & Gitlesen, J. P. (2006). A total population study of challenging behavior in the county of Hedmark, Norway: Prevalence and risk markers. *Research in Developmental Disabilities*, 27(4), 456-465.

- Holroyd, E. E. (2003). Chinese cultural influences on parental caregiving obligations towards children with disabilities. *Qualitative Health Research, 13*(1), 4-19.
- Howlin, P., Goode, S., Hutton, J., & Rutter, M. (2004). Adult outcome for children with autism. *Journal of Child Psychology and Psychiatry, 45*(2), 212-229.
- Loveland, K. A., & Kelly, M. L. (1991). Development of adaptive behavior in preschoolers with autism or Down syndrome. *American Journal on Mental Retardation, 96*(1), 13-20.
- MacNeil, B. M., Lopesa, V. A. & Minnesa, P. M. (2009). Anxiety in children and adolescents with autism spectrum disorders. *Research in Autism Spectrum Disorders, 3*(1), 1-21.
- Matson, J. L., Minshawi, N. F., Gonzalez, M. L., & Mayville, S. B. (2006). The relationship of comorbid problem behaviors to social skills in persons with profound mental retardation. *Behavior Modification, 30*(4), 496-506.
- Matson, J. L., & Nebel-Schwalm, M. (2007). Assessing challenging behaviors in children with autism spectrum disorders: A review. *Research in Developmental Disabilities, 28*(6), 567-579.
- Matson, J. L., & Shoemaker, M. (2009). Intellectual disabilities and its relationship to autism spectrum disorders. *Research in Developmental Disabilities, 30*(6), 1107-1114.
- McCarthy, J. Hemmings, C., Kravariti, E., Dworzynski, K., Holt, G., Bouras, N., & Tsakanikos, E. (2010). Challenging behavior and co-morbid psychopathology in adults with intellectual disability and autism spectrum disorders. *Research in Developmental Disabilities, 31*(2), 362-366.
- Mesibov, G. B., Shea, V., & Schopler, E. (2004). *The TEACCH approach to autism spectrum disorders*. New York: Springer.
- Minshawi, N. F. (2007). *Relationship between problem behaviors, function, and adaptive behaviors in individuals with intellectual disability*. Unpublished doctoral dissertation, Louisiana State University.
- Poon, K. K. (submitted). *Parental aspirations regarding post-school social attainments of adolescents with autism spectrum disorders in Singapore*. Manuscript submitted for publication.
- Rincover, A., & Koegel, R. L. (1975). Setting generality and stimulus control in autistic children. *Journal of Applied Behavior Analysis, 8*(3), 235-246.
- Seltzer, M. M., Shattuck, P. T., Abbeduto, L., & Greenberg, J. S. (2004). Trajectory of development in adolescents and adults with autism. *Mental Retardation and Developmental Disabilities Research Reviews, 10*(4), 234-247.
- Sparrow, S. S., Balla, D. A., & Cicchetti, D. V. (1984). *Vineland adaptive behavior scales*. Circle Pines, MN: American Guidance Service.
- Sparrow, S. S., Cicchetti, D. V., & Balla, D. A. (2005). *Vineland adaptive behavior scales: Survey forms manual* (2<sup>nd</sup> ed.). Circle Pines, MN: AGS.
- Wing, L. & Gould, J. (1979). Severe impairments of social interaction and associated abnormalities in children: Epidemiology and classification. *Journal of Autism and Developmental Disorders, 9*(1), 11-29.



# Stress Faced By Pakistani Mothers of Children with Intellectual Disabilities and its Impact on Their Family Life

Shahida Sajjad

Department of Special Education  
University of Karachi, Pakistan  
shahida\_sajjad@hotmail.com

## Abstract

*This exploratory study was designed to examine the stress faced by mothers of children with intellectual disabilities in Pakistan and the impact of the stress on their family life. One hundred mothers of children with intellectual disabilities in Karachi city, which is in Sindh region of Pakistan, were invited and interviewed. The results indicate that mothers having children with intellectual disabilities face high level of stress due to financial constraints, the inappropriate behavior of the children with intellectual disabilities and lack of resources and therapy facilities for their children. The mothers had symptoms of depression and negative emotional feelings which caused a negative impact on their family life. However, the social support system in Pakistan, because of joint family system, results in less stress among parents having children with intellectual disabilities. Offering prayers, watching television and chatting with friends on the telephone are the most common strategies used by these mothers.*

## Introduction

The birth of a baby is usually anticipated with great excitement and expectations of a future filled with happiness and success. Cohen (2010) reported that having a child with a disability born into a family and grow into adulthood could be one of the most stressful experiences a family can endure. Cohen further stated that parental reactions to the realization that their child has a disability usually include shock, depression, guilt, anger, sadness, and anxiety. Finally, it is understood that individuals handle each of these feelings differently and may stay in certain stages longer than others; for example, some parents perceive their child as an extension of themselves and may feel shame, social rejection, ridicule or embarrassment given the presence of a disability (Cohen, 2010).

A child with mental retardation in a family is usually a serious stress factor for the parents (Majumdar, Pereira & Fernandes, 2005). Parents having a child with mental retardation experience a variety of psychological stress related to the child's disability (Venkatesh, 2008). Parents of children with disabilities may go through a grieving process characterized by six stages; shock, despair, guilt, withdrawal, acceptance and adjustment (Begum, 2008). Though reactions to the birth or diagnosis of a child with disability may vary from parent to parent, or family to family, people seem to share common elements. Frequently, the parents' initial feelings are shock and numbness; parents may experience periods of panic, anxiety and helplessness, as well as periods of indifference and anger, they also experience nearly overwhelming depression, apathy and bitterness (Vijesh & Sukumaran, 2007).

Stress refers to any environmental demand that creates a state of tension or threat and requires change or adaptation (Morris & Maisto, 2001). Brinchmann (1999) as well as Larson (1999) confirmed the importance of assessing familial

stress in situations of childhood developmental disabilities. They note that assessment of parenting stress is important not only to assist mothers and fathers with their own psychological distress but also to guide the provision of needed psychosocial, educational, and health services that can strengthen family coping and positive adjustment. They further suggested that the reduction of parenting stress is paramount in the enhancement of a child's family life and in the child's ultimate integration within society. The adequacy of social support and the extent of the child's problem behaviors have been suggested to account for much of the distress observed (Gray & Holden, 1992; Weiss, 2002; White & Hastings, 2004). Social support has generally been found to be inversely related to depression and anxiety in such parents whereas the child's problem behaviors are positively associated with these symptoms (Gallagher, Phillips, Oliver & Carroll, 2008). Sleep quality and caregiver burden have been identified as significant predictors of psychological morbidity. However, sleep quality and care-giving burden have rarely been examined as possible predictors of depression and anxiety in parents caring for children with intellectual disabilities (Gallagher et al., 2008).

In comparison, mothers of children with intellectual disabilities face relatively more stress compared to their peers because they have to spend most of their time with the child with intellectual disability at home besides doing all household work and taking care of other children without any disabilities. Marika (1999) reported that parents, especially mothers of children with disabilities, have significantly more negative emotional states and also significantly more depressive symptoms than parents of children without any disabilities. Kumar and Akhtar (2001) found that mothers of children with intellectual disabilities had a higher level of anxiety as compared to mothers of typically developing children.

In Pakistan, there is scarcity of research conducted on

problems faced by parents of children with disabilities. This study was designed to investigate the stress faced by mothers of children with intellectual disabilities and the impact that such stress has on family life as a whole. Specifically, the study aimed to address the following as they relate to Pakistani families: (a) examine the different causes of stress among mothers of children with intellectual disability, (b) examine the various common emotional symptoms of stress faced by mothers of children with intellectual disability, (c) examine the social support system provided to the mothers of children with intellectual disabilities, (d) investigate the impact of stress faced by mothers of children with intellectual disability on their family life, and (e) explore the common therapies/strategies available and used to overcome the stress faced by mothers of children with intellectual disability in order to improve the quality of their life.

## Method

### *Participants and Procedure*

One hundred mothers of children with intellectual disabilities in Karachi city, which is in Sindh region of Pakistan, were invited to participate in the study. Sixty nine percent (n=60) of the mothers were under 30 years of age and 60% (n=60) of them had high school education. All mothers were housewives; they were not professionally employed. Sixty percent (n=60) of the mothers had up to four children and 77% (n=77) of them were living in a joint family system (grandparents living with their children and grandchildren as one family). The monthly household income of almost half of the families (46%, n=46) was up to 20 thousand Pakistani Rupees. Detailed demographic information is provided in Table 1.

Survey and interview methods were used in the data collection. A majority of the mothers were interviewed during their visit to school to pick/drop their children; some of them were interviewed at their home as they did not come to school to pick their children. The investigator requested them to give a time convenient for them. The participating mothers were approached through the administrators of four special schools, serving children with intellectual disabilities, where the children of these mothers were enrolled. These schools included one public and three private schools, located in Karachi city.

### *Instrument and Data Analysis*

A questionnaire comprising of close-ended questions was developed by the investigator on the basis of literature review on stress among mothers of children with intellectual disabilities. The questionnaire was field tested by this author on five mothers having children with intellectual disabilities. These mothers did not participate in the main study. The questionnaire was reviewed by three experts in the field of special education and psychology. After minor grammatical corrections and rephrasing, a revised questionnaire was

Table 1

### *Participants' Demographic Information*

Categories	Classification	Number	%
Age	Up to 20 years	2	2
	Up to 30 years	69	69
	Up to 40 years	28	28
	Up to 50 years	1	1
Education	High School	60	60
	Bachelors' degree	30	30
	Masters' degree	10	10
Currently Employed	Yes	0	0
	No	100	100
No. of Children	Up to 2	2	2
	Up to 4	60	60
	Up to 6	37	37
	Up to 8	1	1
Family System	Joint family system	77	77
	Living with in-laws		
	Living independently	21	21
	Living without in-laws		
Monthly Household Income	In-laws expired	2	2
	Up to Rs. 10,000	2	2
	Up to Rs. 20,000	46	46
	Up to Rs. 30,000	37	37
	Up to Rs. 40,000	10	10
above	Up to Rs. 50,000 or above	5	5

Note: Monthly Household income is given in Pakistani Rupees.

designed. The questionnaire included two sections. Section one included; demographic information like; age, education, number of children, current employment, family system and monthly household income of the respondents. Section two was designed to explore; (a) various causes of stress faced by mothers and measured on a scale of low, medium, and high, (b) different symptoms of stress measured on a scale of low, medium, and high, (c) social supporting system provided to mothers by their in-laws, family members, friends, neighbor, friends, etc. and measured on a scale of mostly, sometimes, and never, (e) the impact of stress faced by mothers of children with intellectual disabilities on their family life, and measured on a scale of low, medium, and high, (f) strategies and therapies used by mothers to overcome their stress and measured on a scale of mostly, sometimes, and never.

Data from the questionnaire was analyzed using descriptive statistics. The results were compiled in the form of tables and graphs. The Statistical Package for Social Sciences (SPSS), computer software was used to analyze data.

## Results

### *Different Causes of Stress among Mothers of Children with Intellectual Disability*

Figure 1 indicates the causes of the stress faced by

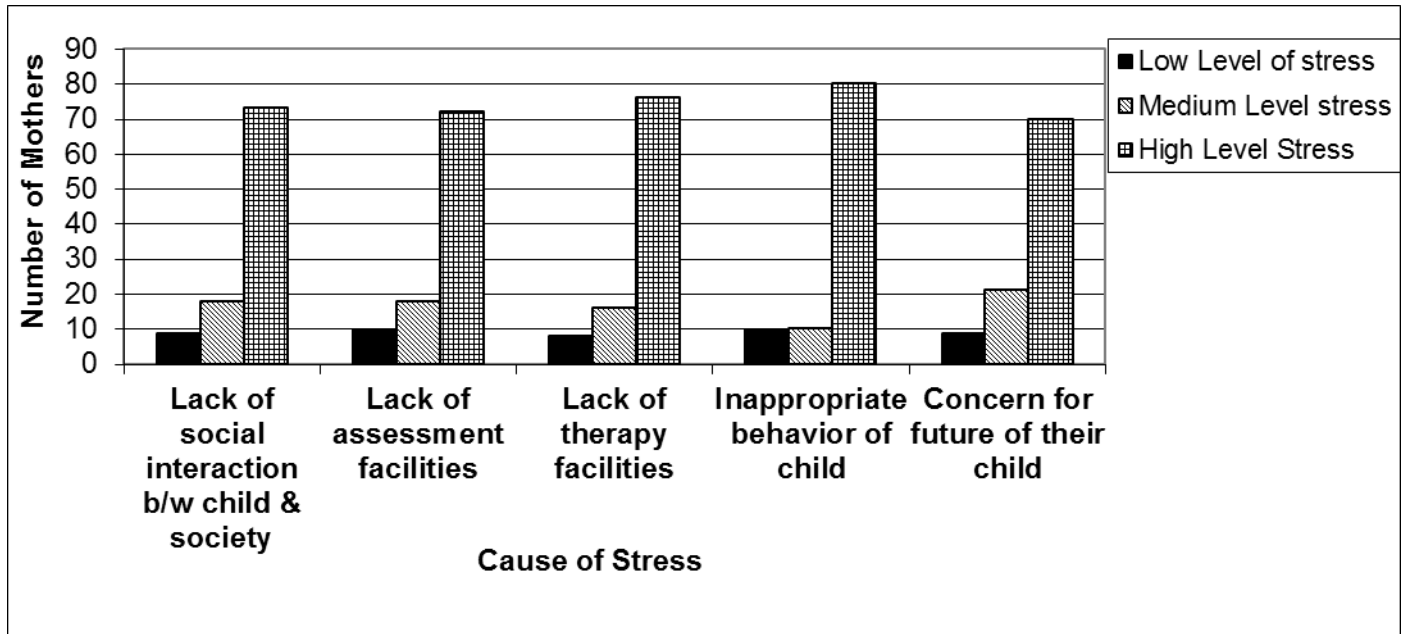


Figure 1. Causes of stress among mothers of children with intellectual disabilities

mothers of children with intellectual disabilities. In Pakistani culture, the major cause of high level of stress faced by mothers of children with intellectual disabilities is the inappropriate behavior of children with intellectual disabilities. Other causes include lack of assessment and therapy facilities and lack of social interaction of their children.

*Various Common Emotional Symptoms of Stress Faced By Mothers of Children with Intellectual Disability*

Figure 2 indicates various symptoms of stress faced by mothers of children with intellectual disabilities. Stress caused the feeling of anger and depression in most of the mothers of children with intellectual disabilities.

*The Social Support System for Mothers of Children with Intellectual Disabilities*

Figure 3 shows the social support system for the mothers of children with intellectual disabilities. The social support system in Pakistan, because of joint family system where grandparents live with their children and grandchildren as one family, results in less stress among parents having children with intellectual disabilities.

*The Impact of Stress Faced By Mothers of Children with Intellectual Disability*

Figure 4 indicates the impact of mothers' stress on their family life. As shown in Figure 4, anger and sense of loneliness and depression faced by mothers of children with

intellectual disabilities have a negative impact on their family life.

*Common Therapies/Strategies Available and Used To Overcome the Stress Faced By Mothers of Children with Intellectual Disability*

Figure 5 highlights common strategies and various therapies used by mothers of children with intellectual disabilities, to cope with the stress; offering prayers, watching television and chatting with friends on the telephone are the most common strategies used by these mothers.

**Discussion**

*Causes of Stress*

There are many causes of stress faced by parents and specially mothers of children with intellectual disabilities. Previous research reported that the extent of the child's problem behaviors seems to account for much of the distress observed (Gray & Holden, 1992; Weiss, 2002; White & Hastings, 2004). This current study revealed that the primary cause of stress faced by mothers of children with intellectual disabilities was related to the inappropriate behavior of such children. Other reasons included lack of assessment and therapy facilities, lack of social interaction of their children and the concern of mothers for the future of the children. In Pakistan it was generally observed that when parents go to professionals for help about the diagnosis or treatment of a child with intellectually disabilities, they were disappointed and frustrated.

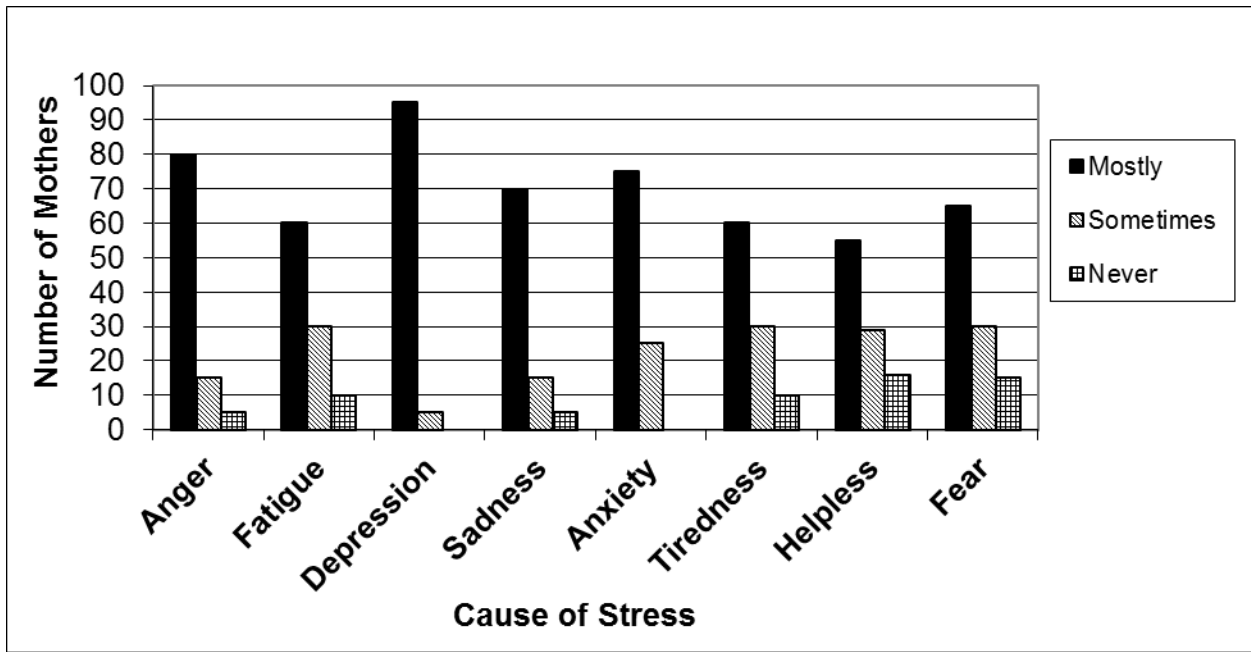


Figure 2. Symptoms of Stress Faced by Mothers of Children with Intellectual Disabilities

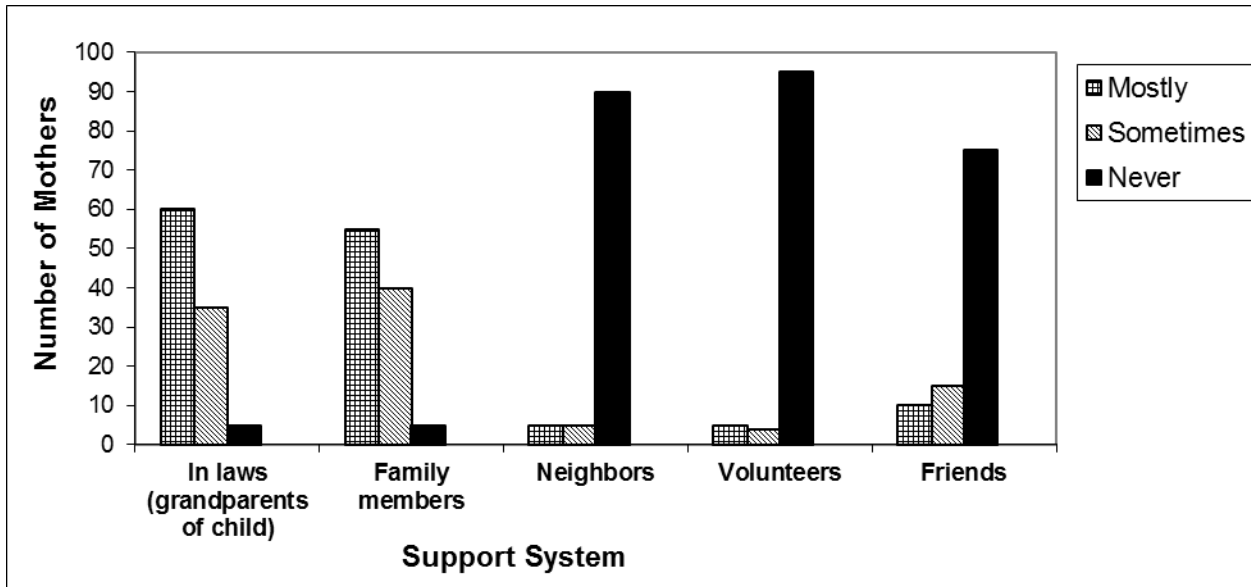


Figure 3. The Social Support System for the Mothers of Children

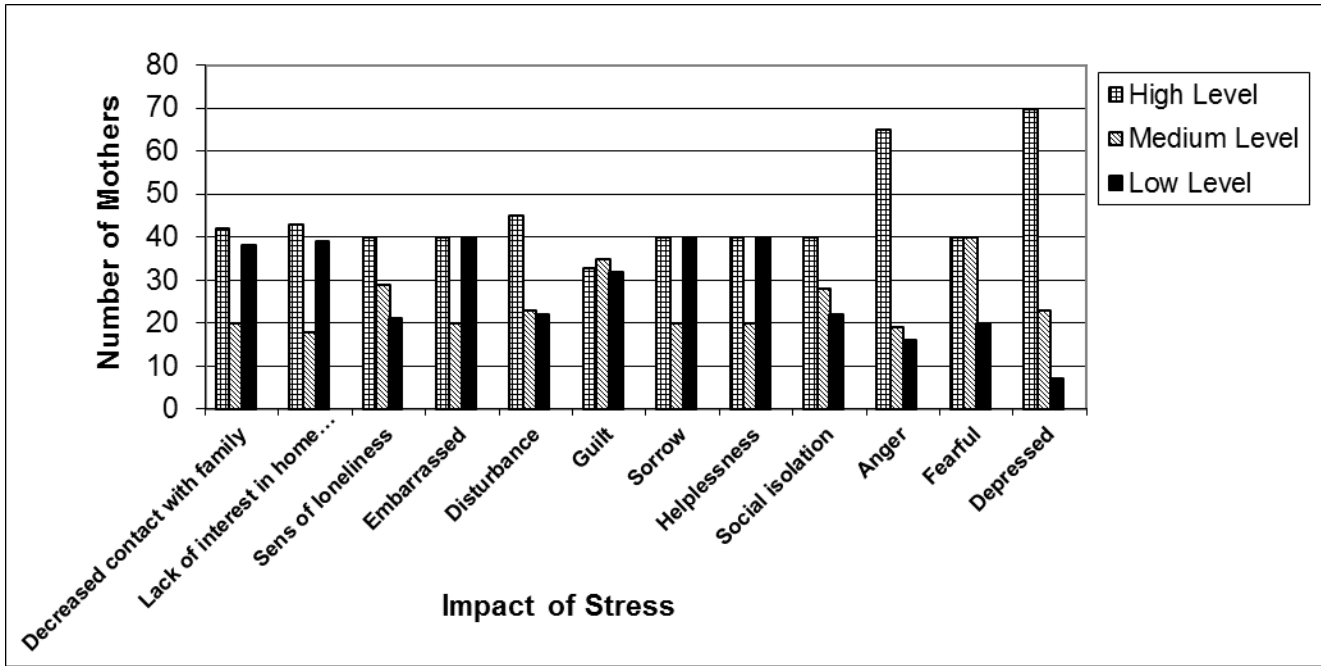


Figure 4. Impact of Mother's Stress on their Family Life

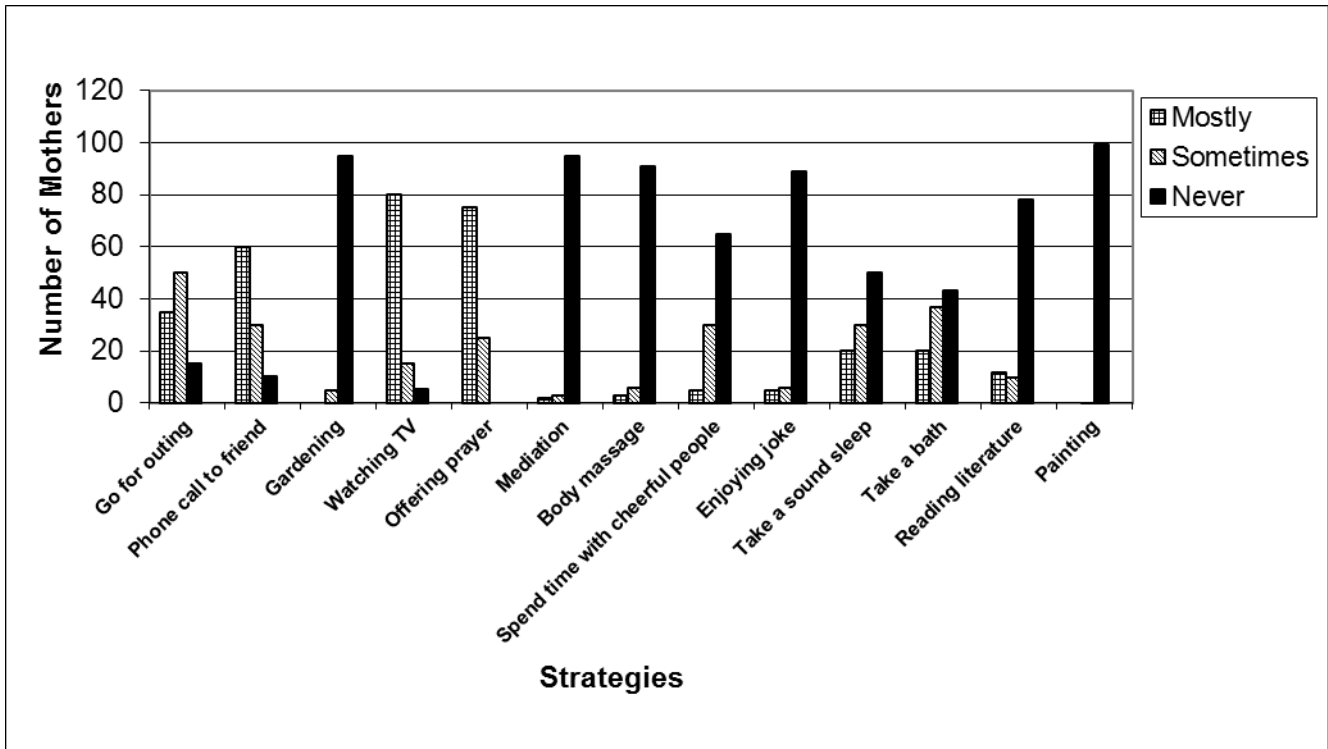


Figure 5. Common Strategies/Therapies used by Mothers

A number of studies (e.g. Baker et al., 2003; Blacher & McIntyre, 2006; Floyd & Gallagher, 1997; Maes, Broekman, Dosen, & Nauts, 2003; Aman, Richmond, Stewart, Bell & Kissel, 1987) also reveal that the child's behavioral problems appear to be a major source of psychological distress in parents of children with intellectual disabilities. Marika (1999) found that the parents of children with disabilities felt significantly more under pressure, were sorry for their child, and were worried about the child's future. This study also revealed that the mothers of children with disabilities had the highest scores in negative emotional states; they were also worried about the child's future, were more sad, tired, helpless, depressed, and nervous than fathers and had higher total scores in negative feelings.

For any parent of a child with disabilities, the most stress producing factor is the child's dependence for daily living activities and once the child attains independence in these activities, the dependence on the mother is reduced, and that naturally reduces the stress level (Vijesh & Sukumaran, 2007). This raises an important point for those taking care of children with disability, where the emphasis has to be on attaining independence in daily activities (Vijesh & Sukumaran, 2007). Families living with a child with disability want more choices when it comes to where their child should live, how they should live and options as to what will happen to their child as the parents grow older and experience difficulties in caring for their child (Evans, 2005). Mothers of children with intellectual disabilities experience greater levels of both general stress and parental role stress than their spouses, which is most likely due to their primary responsibility in child rearing (Koo, 1995).

#### *Symptoms of Stress*

Many studies reveal that parents of children with intellectual disabilities face stress, anxiety, depression and other symptoms. Some studies report that parents of children with intellectual disabilities frequently report symptoms of depression and anxiety (Dunn, Burbine, Bowers, & Tantleff-Dunn, 2001; Hastings et al., 2005; Yirmiya & Shaked, 2005). But there are also findings to the contrary. According to Andersson (1993) there were no differences between the mean values for parents of children with intellectual disabilities and their peers without disabilities, neither concerning anxiety nor depression.

This current study revealed that the feelings of anger and fatigue were the most common symptoms identified by the mothers of children with intellectual disabilities. This is in agreement with results from other studies conducted in this area. Gallagher et al. (2008) reported that parents of children with intellectual disabilities registered high depression and anxiety and the majority met the criteria for possible clinical depression and/or anxiety. They were also more tired, desperate, and more displeased, sad, depressed, helpless, and embittered. Analyses of its component dimensions indicated that feelings of guilt held the greatest consequence for depression and anxiety. Carpiniello, Piras, Pariente and Carta (1995) also revealed that parents of children with disabilities had significantly higher levels of psychiatric symptoms and

were more likely to meet the criteria for depressive disorders, compared with parents having typically developing children.

#### *Social Support System*

Social support is important for health and stress relief; it increases resilience, multiplies joy, and softens sorrow (Scott, 2007). The magnitude of reaction to stress is considerably less for individuals with good social support from close friends and family members than for individuals with inadequate social support (Lahey, 2002). Social support has long been regarded to mitigate distress (Bailey, Wolfe, & Wolfe, 1994; Dunn et al., 2001). Marika (1999) conducted a study in Estonia, North Europe, and reported that the perception of the social network as inadequate was related to feelings of anxiety. A particularly strong correlation was found between anxiety and low number of friends. Individuals with good social support were less likely to react to negative life events with depression, anxiety, and health problems (Lahey, 2002). Venkatesh (2008) argued that the support and help from extended family members like grandparents also act as a significant facilitator to coping. Another study revealed that the tendency towards social isolation often encountered in families with a child with disability may affect the mother in the form of a real or threatening exclusion from the social environment and may be an important factor in anxiety (Baumeister & Tice, 1990). Gallagher, et al. (2008) reported that social support has generally been found to be inversely related to depression and anxiety in such parents whereas the child's problem behaviors are positively associated with these symptoms. This current study revealed that stress caused the feeling of anger and depression in most of the mothers of children with intellectual disabilities.

Research also supports the adequacy of social support as a key factor of distress (Gray & Holden, 1992; Weiss, 2002; White & Hastings, 2004). Social support has generally been found to be inversely related to depression and anxiety in such parents. Some studies report that the child's problem behaviors are positively associated with depression and anxiety (Baker et al., 2003; Blacher & McIntyre, 2006).

In Pakistan, where the joint family system (grand parents live with their children and grandchildren as one family) is very strong, the importance and effects of grandparents as a support cannot be neglected. Upadhyaya and Havalappanavar (2008) also highlighted that the effect of grandparental support is more evident in the areas of care stress and emotional stress. In Pakistan, the volunteers' support system is very rare, so the caring support by the grandparents could be considered an alternative to give some free time to mothers of children with disabilities.

#### *The Impact of Mothers' Stress on Family Life*

This study revealed that the sense of loneliness faced by mothers of children with intellectual disabilities had a negative impact on their family life although the mothers had considerable support from other family members to deal with the child with disability. They also did not have enough time for any entertainment as they were busy most of the time with

their child with disability. The results are supported by Hill, Newmark, and Le Grange (2003) who found that the mothers had little time for themselves, either because of the demands of childcare or because they chose to spend much of their time with their child with an intellectual disability. Hill and colleagues also noted the isolation that mothers with a child with an intellectual disability tend to experience because of such difficulties as finding an appropriate babysitter when social occasions arise. Bumin, Gunal, and Tukul (2008) stated that the mother has to undergo too much stress because they are alone with their children in daily life. Coping is generally defined as the cognitive and behavioral efforts made to ameliorate demands that tax or overwhelm a person's resources (Trute & Hiebert-Murphy, 2002). Coping can be seen as the role the individual or social system plays in utilizing physical, social, and psychological resources to manage a stressful situation in the environment (Trute & Hiebert-Murphy, 2002).

### *Overcoming Stress*

More and more families have to face the stressors that disability brings along and, in consequence, have to be able to mediate the stress and cope in a better way (Farheen, Dixit, Bansal & Yesikar, 2008). While unchecked stress is undeniably damaging, there are many things that can be done to reduce the impact of stress and cope with its symptoms. In our study, offering prayers, watching television and chatting with friends on the telephone were the most common therapies and strategies used by mothers of children with intellectual disabilities to cope with stress. Morris and Maisto (2001) reported that people who attended religious services regularly enjoyed better health and had markedly lower rates of depression than those who did not. Uchino, Cacioppo, and Kiecolt-Glaser (1996) stated that having a strong network of friends and family who provide social support is associated to good health. Edgar (2006) stated that the ability of the parents to cope with the psychological stress situation is related to the available supporting internal resources like faith in God, self-determination and external resources like support from the family members, relatives, friends, neighbors, and professionals for internal and external coping

Barbara, Chaud, and Gomes (2008) mentioned that the mother overcomes the obstacles that emerge with the disability of the child; sadness and grief are replaced with the feeling of joy and happiness. She intensely lives the successes for her personal and family achievements and growth.

### **Recommendations**

Mothers of children with intellectual disability need to have awareness as to how they can overcome their stress. They need to learn to accept their children with intellectual disability with positive adaptation strategies to confront reality with appropriate action. Mothers of children with intellectual disabilities need some time for recreation e.g. outing, watching movie etc., and during this time the responsibility of their child with intellectual disability can be shared by some family member, or neighbors, or volunteers. Siblings and other family members should be encouraged and equipped to participate in

the training and educational process of children with intellectual disability, thus helping the mothers to relax and to reduce their anxiety about the future of children with intellectual disability.

Parents and families of children with intellectual disability need counseling to create a friendly and optimistic home environment. Formulation of small mothers' groups in the special schools, can provide the mothers a needed platform for expressing their difficulties, sharing their experiences, solving their problems and more importantly, to develop a mutual help system (Vijesh & Sukumaran, 2007). The media can play an important role for the social acceptance of these children. Also, Government institutes/hospitals need to provide assessment and therapy facilities for children with intellectual disability.

### **Conclusion**

In Pakistan, mothers having children with intellectual disabilities face stress due to financial constraints, the inappropriate behavior of the children with intellectual disabilities and lack of resources and therapy facilities for their children. These mothers have symptoms of depression and negative emotional feelings and need counseling to overcome these stressors to live a healthy and good family life by creating a positive and stress-free home environment.

### **References**

- Aman, M. G., Richmond, G., Stewart, A. W., Bell, J. C., Kissel, R. C. (1987). The Aberrant Behavior Checklist: Factor structure and the effect of subject variables in American and New Zealand facilities. *American Journal of Mental Deficiency, 91*(6), 570–578.
- Andersson, E. (1993). Depression and anxiety in families with a mental handicapped child. *International Journal of Rehabilitation Research, 16*(3), 165-169.
- Bailey D, Wolfe, D. M., & Wolfe, C. R. (1994). With a little help from our friends: Social support as a source of well-being and of coping with stress. *Journal of Sociology and Social Welfare, 21*, 127–152.
- Baker, B. L., McIntyre, L. L., Blacher, J., Crnic, K., Edelbrock, C., & Low, C. (2003). Pre-school children with and without developmental delay: Behavior problems and parenting stress over time. *Journal of Intellectual Disability Research, 47*, 217–230. Retrieved April, 04, 2010, from <http://jpepsy.oxfordjournals.org>
- Barbara, M. A., Chaud, M. N. & Gomes, M. M. F. (2008). Experiences of mothers of disabled children: A phenomenological study. *Acta Paul enferm, 2* (1). Retrieved December, 28, 2009, from <http://www.scielo.br/scielo.php>
- Baumeister, R. F. & Tice, D. M. (1990). Anxiety and social exclusion. *Journal of Social and Clinical Psychology, 9*, 165-195.
- Begum, Z. (2008). Child with disability and family dynamics. *Pakistan Journal of Special Education, 9*, 127-132.
- Blacher, J., & McIntyre, L. L. (2006). Syndrome specificity and behavioral disorders in young adults with intellectual disability: Cultural differences in family impact. *Journal of Intellectual Disability Research, 50*, 184–198.
- Brinchmann, B. S. (1999). When the home becomes a prison: Living with a severely disabled child. *Nursing Ethics, 6*, 137-143.

- Bumin, G., Gunal, A., & Tukul, D. (2008). Anxiety, depression and quality of life in mothers of disabled children. Retrieved December, 28, 2009, from [med.sdu.edu.tr/tipdergisi/2008/2008\\_mart\\_pdf/2bumin.pdf](http://med.sdu.edu.tr/tipdergisi/2008/2008_mart_pdf/2bumin.pdf)
- Carpiniello, B., Piras, A., Pariente, C. M., Carta, M. G. et al. (1995). Psychiatric morbidity and family burden among parents of disabled children. *Psychiatric Services*, 46(9), 940-942.
- Cohen, M. A. (2010). *Impact of a handicapped child on the family*, Yale-New Haven Teachers Institute. Retrieved April, 04, 2010, from <http://www.yale.edu/ynhti/curriculum/guides/1982/6/82.06.08.x.html>.
- Dunn, M. E., Burbine, T., Bowers, C. A., & Tantleff-Dunn, S. (2001). Moderators of stress in parents of children with autism. *Community Mental Health Journal*, 37, 39-52. Retrieved April 04, 2010, from <http://jpepsy.oxfordjournals.org>.
- Edgar, A. Doll. (2006). Counseling the mentally retarded and their parents. *Journal of Clinical Psychology*, 9, 114-117.
- Ehly, S., Conoley, J. C., & Rosenthal, D. (1985). *Working with parents of exceptional children*. Columbus, OH: Merrill.
- Evans, K. (2005). *Family quality of life when living with children with disability*. Retrieved March, 2010, from <http://www.abc.net.au/rn/talks/lm/stories/s1351374.htm>
- Farheen, A., Dixit, S., Bansal, S. A., & Yesikar, V. (2008). Coping strategies in families with mentally retarded children. *Indian Journal for the Practicing Doctors*, 5(5).
- Floyd, F. J., & Gallagher, E. M. (1997). Parental stress, care demands, and use of support services for school-age children with disabilities and behavior problems. *Family Relations*, 46, 359-371. Retrieved April, 04 2010, from <http://jpepsy.oxfordjournals.org>
- Gallagher, S., Phillips, A. C., Oliver, C., & Carroll, D. (2008). Predictors of psychological morbidity in parents of children with intellectual disabilities. *Journal of Pediatric Psychology*, 33(10), 1129-1136. Retrieved March 2010, from <http://jpepsy.oxfordjournals.org/cgi/content/full/33/10/1129>
- Gray, D. E., & Holden, W. J. (1992). Psycho-social well-being among the parents of children with autism. *Journal of Intellectual and Developmental Disability*, 18, 83-93.
- Hastings, R. P., Kovshoff, H., Brown, T., Ward, N. J., Espinosa, F. D., & Remington, B. (2005). Coping strategies in mothers and fathers of preschool and school-age children with autism. *Autism*, 9, 377-391
- Hill, F., Newmark, R., & Le Grange, L. (2003). Subjective perceptions of stress and coping by mothers of children with an intellectual disability: A needs assessment. *International Journal of Special Education*, 18(1), 36-43.
- Koo, H K. (1995). Stress and coping among parents of mentally retarded children in the Kyoung-in area. *Journal of Korean Academy of Nursing*, 25(4), 668-680. Retrieved March, 2010, from <http://www.koreamed.org>
- Kumar, I., Akhtar, S. (2001). Rate of anxiety in mothers of mentally retarded children. *Indian Journal of Psychiatry*, 43, 27.
- Lahey, B. B. (2002). *Essentials of psychology*. New York: McGraw-Hill.
- Larson, E. (1998). Reframing the meaning of disability to families: The embrace of paradox. *Social Science and Medicine*, 47, 865-875.
- Majumdar, M., Pereira, Y. D. S., & Fernandes, J. (2005). Stress and anxiety in parents of mentally retarded children. *Indian Journal of Psychiatry*, 47:3. Retrieved March, 2011 from: <http://www.indianjpsychiatry.org/text.asp?2005/47/3/144/55937>
- Marika, V. (1999). *Depression symptoms and emotional states in parents of disabled and non-disabled children*. Social Behavior and Personality. Health Publications. Retrieved March, 2010, from [http://findarticles.com/p/articles/mi\\_qa3852/is\\_199901/ai\\_n8851290/](http://findarticles.com/p/articles/mi_qa3852/is_199901/ai_n8851290/)
- Maes, B., Broekman, T. G., Dosen, A., & Nauts, J. (2003). Care giving burden of families looking after persons with intellectual disability and behavioral or psychiatric problems. *Journal of Intellectual Disability Research*, 47, 447-455. Retrieved April, 04, 2010, from <http://jpepsy.oxfordjournals.org>
- Morris, C. G., & Maisto, A. A. (2001). *Understanding psychology* (5<sup>th</sup> ed.), New Jersey: Prentice Hall.
- Scott, E. (2007). *Mother friends: How mothers can use friends to relieve stress*. Article retrieved March, 2010, from About.com guide.
- Trute, B. & Hiebert-Murphy, D. (2002). Family adjustment to childhood developmental disability: A measure of parent appraisal of family impacts. *Journal of Pediatric Psychology*, 27(3), 271-280.
- Uchino, B. N., Cacioppo, J. T., & Kiecolt-Glaser, J. K. (1996). The relationship between social support and physiological processes: A review with emphasis on underlying mechanisms and implications for health, *Psychological Bulletin*, 119 (3).
- Upadhyaya, G. R., & Havalappanavar, N. B. (2008). Grandparental Support for Parents of Mentally Retarded Children. *Journal of the Indian Academy of Applied Psychology*, 34(1), 137-141. Retrieved from [www.jiaap.org/index.php](http://www.jiaap.org/index.php).
- Venkatesh, K. G. (2008). Psychological stress and coping strategies of the parents of mentally challenged children. *Journal of the Indian Academy of Applied Psychology*, 34 (2), 227-231.
- Vijesh, P. V., & Sukumaran, P. S. (2007). Stress among mothers of children with cerebral palsy attending special schools. *Asia Pacific Disability Rehabilitation Journal*, 18 (1), 76- 92.
- Weiss, M. J. (2002). Hardiness and social support as predictors of stress in mothers of typical children, children with autism, and children with mental retardation. *Autism*, 6, 115-130.
- White, N, & Hastings, R. P. (2004). Social and professional support for parents of adolescents with severe intellectual disabilities. *Journal of Applied Research in Intellectual Disabilities*, 17, 181-190.
- Yirmiya, N. & Shaked, M. (2005). Psychiatric disorders in parents of children with autism: A meta-analysis. *Journal of Child Psychology & Psychiatry*, 46, 69-83.



# Peer-Collaboration: An Effective Teaching Strategy for Inclusive Classrooms

Sitembiso Ncube

San Bernadino City Unified School District, California  
sit\_madu@yahoo.com or sitembiso.ncube@sbcusd.k12.ca.us

With the growing need to make the curriculum accessible to students with special needs, there has been an increase in the inclusion of special education students with learning disabilities in general education classroom. The major challenge that has faced teachers in inclusive classrooms is using instructional strategies that will accommodate the social and academic needs of special education students. This paper describes how peer-collaboration is an effective teaching strategy for students in inclusive classrooms in terms of their social and academic development. In this paper, inclusion refers to a classroom setting in which both general education students and special education students with mild to moderate learning disabilities receive instruction together in the same classroom. Inclusion teachers refer to a general education teacher and a special education teacher working together to service a class comprising both general and special needs students. Peer-collaboration can be an effective teaching strategy in middle school settings.

The inclusion of special education students in general education has been a growing trend in many countries, and research has been towards the implications of inclusion on teaching strategies to make inclusion a positive experience for both general education and special education students. Allport's (1954) contact theory suggests that there is a positive effect of interaction between groups. Interaction between groups may reduce inter-group prejudice and stereotyping if the contact situation meets four conditions: equal status between the groups in the contact situation, common goals, no competition between groups, and authority's sanction of the contact (Marom, Cohen & Naon, 2007). As an inclusion teacher, this author has seen collaboration among students as an effective way of facilitating different aspects of learning, including life skills and academic skills, among both special education and general education students. Turner and Dipinto (1997) use the term collaboration to describe peer interactions that support mutual learning. The following is a description of how inclusion teachers can use student collaboration to support mutual learning.

## Lesson materials

1. Six different playing cards (see Figure 1) taped on each table (depending on the number of students in each group); one card in front of each student. Use of card numbers will help encourage all students to participate and engage in the learning process as they will be unsure which card the teacher will draw to give the answer.  
Explicit explanations on how the cards must be used should be given. Students must be aware that tables

gain points for keeping their cards clean. This will overcome the problem of students tearing the cards or defacing them so that it would be difficult for the teacher to know which number has been called on. Using card numbers will also eliminate bias in terms of the teacher tending to call on the same students to answer questions.

2. Explicitly written questions that address the objective of the lesson must be provided to all tables. This accommodates students who have auditory processing deficits.



Figure 1. Playing Cards

## Method

1. Group students, preferably by mixed abilities and inter-groups, special education and general education students together.
2. Give each group the essential questions that help meet the lesson objective.
3. Explain your expectations: the group works together to answer each question at a time. Each group is responsible for guiding each other on the phrasing of the answer. Students must discuss the answer as a group and make sure each group member is able to repeat the answer because the person to give the answer will be picked randomly using the card

system. All tables must work on the same question at the same time since tables will be picked on randomly to answer the question. This usually encourages student engagement in the lesson.

4. Give students a set time for them to work on each problem and agree on the answer.
5. Randomly pick on a table to answer the question and then randomly draw a card that will answer the question from that table.
6. The teacher gives class points if all tables adhere to the instructions and gives her/himself points if there is a table that does not adhere to the rules of the game at any one point. This will encourage cooperation among all class members as they do not want the teacher to gain more points than the whole class. The points system can be used for class rewards.
7. After group work students can then be given homework to extend learning. Homework must be differentiated to accommodate students' learning needs. It has been very effective and productive to give low achieving students homework that stems from work covered in cooperative group learning. Experience in group learning will serve as a point of reference when students do their homework.

### Conclusion

After direct teaching and the guided instruction part of the lesson, co-operative group learning can be used as a *checking for understanding* component of the lesson. However, it can also be used as an exploratory method of learning where students are given essential questions to explore new learning material. This type of cooperative group learning is most effective in mixed group abilities where special education students are grouped with general education students and where there is combination of high achieving and low achieving students. Mixed ability grouping has the advantage of high achievers facilitating learning for low achievers, and at the same time high achievers get the opportunity to self-examine as they explain concepts to low achievers. Peer collaboration is a useful tool in helping students perform at their best (Swenson & Strough, 2008). Another advantage of grouping together special education students with general education students is that students with disabilities learn academic and social skills from general education students while general education students develop the social skills of tolerance and acceptance of others who are different. Peer-

collaboration therefore, helps students build within-class reciprocal friendships (Rojas-Drummond, 2009). Teachers as facilitators of peer collaboration, reduce student dependency on adults for knowledge. Reliance on group discussions and exploration of material learned contributes to an understanding of the problem and the ability to solve it independently (Rojas-Drummond, 2009). Another advantage of grouping together special education with general education students is that students' self-esteem increases as students learn to value and perceive each other positively. Involvement in the learning process from both groups of learners occurs. Another advantage of this grouping is that learners accept positive interdependence and individual responsibility. The disadvantages of peer-collaboration include culture shock for students used to traditional teaching (Poellhuber, Chomienne & Karsenti, 2008) and does not take into consideration the different learning styles of students including individual learning styles. Group rewarding strategy can be challenging in that it is time consuming if it is not well planned and rules thoroughly explained. However, the advantages far outweigh the disadvantages.

### References

- Bandura, A. (1977). *Self-efficacy: The exercise of control*. New York: W. H. Freeman.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. New Jersey: Englewood Cliff.
- Bandura, A. (1977). *Social learning theory*. New York: General Learning Press.
- Estell, D. B., Jones, M. H., Pearl, R., Van Acker, R., Farmer, T. W., & Rodkin, P.C. (2008). Peer groups, popularity, and social preference: Trajectories of social functioning among students with and without learning disabilities. *Journal of Learning Disabilities, 41*(1), 5-14.
- Maron, M., Cohen, D., & Naon, D. (2007). Peer-collaboration in a hypermedia learning environment. *Journal of Research on Computing in Education, 29*(4), 392.
- Poellhuber, B., Chomienne, M., & Karsenti, T. (2008). The effect of peer-collaboration and collaborative learning on self-efficacy and persistence in a learner-paced continuous mode intake. *Journal of Distance Learning, 22*(3), 41-62.
- Rojas-Drummond, S., (2009) Rethinking the role of peer-collaboration in enhancing cognitive growth. *Human Development, 52*, 240-245.
- Swenson, L. M., & Strough, J. (2008). Adolescents' collaboration in the classroom: Do peer relationships or gender matter. *Psychology in the Schools, 45*(8), 715-728.

# SUBMISSION GUIDELINES

## The Journal of the International Association of Special Education

*Articles that have not been previously published are not under review by any other publication and meet the IASE mission statement aims are invited for review. Both research articles and articles for practitioners will be given equal preference. Please indicate if this is a PRAXIS article.*

### **Mission Statement**

#### **International Association of Special Education**

The aims of the IASE are to promote professional exchange among special educators all over the world, to develop special education as a discipline and profession, to encourage international cooperation and collaborative international research, to promote continuing education of its members by organizing conferences, and to foster international communication in special education through The Journal of the International Association of Special Education.

### **Style**

Total length of the manuscript is not to exceed 20 pages and should include all references, charts, figures, and tables. Articles submitted should follow the guidelines of the Publication Manual of the American Psychological Association, sixth edition.

### **Word Processing**

Using American English, manuscripts are to be typed in Microsoft Word using 12 point Times regular face (no bold or italics). The entire document should be doubled spaced with .75 margins all around. (*top, bottom, left, and right*). However, only put one space in between sentences. Tables, charts, figures, and or illustrations should fit in a 3 ¼ width column and are to be on separate pages at the end of the manuscript. Additionally, a copy of any photos, illustrations or other graphics must be attached electronically in jpeg format. This aids in the printing process for compatibility with the Macintosh computers that printers use. References are to be in APA style with hanging indents. (*If you do not have access to Microsoft Word please contact us*)

### **Cover Page**

Include this information on a separate sheet

- Title of the manuscript
- Date of submission
- Author's name, complete mailing address, business and home telephone numbers
- Institutional affiliation, address, e-mail address, and fax number.

### **Abstract**

On a separate sheet of paper at the beginning of the manuscript describe the essence of the manuscript in 100 – 150 words.

### **Form**

**E-mail** – Attach as one document in the following order: Abstract, Cover Page, Manuscript and e-mail to [mchitiyo@siu.edu](mailto:mchitiyo@siu.edu). Any jpeg graphics will of course be attached separately. You will receive an e-mail confirming that we received your attachment.

*If the article cannot be electronically sent then please:*

**Mail** – Send two (2) hard copies of the manuscript, abstract, and cover page along with this information on a CD to the mailing address listed below. Include a self-addressed postcard (*we will provide postage*) so we can notify you we have received your manuscript.

### **Mailing Address**

Manuscripts, editorial correspondence, and questions should be sent to:

Morgan Chitiyo

Southern Illinois University Carbondale

Carbondale IL 62901-4618

Phone: 618 453 2524 • Fax: 618 453 7110

E-mail: [mchitiyo@siu.edu](mailto:mchitiyo@siu.edu)

*Authors will be notified of the receipt of their manuscripts by the return postcard and/or e-mail as noted above. After an initial review by the editors, those manuscripts that meet established specifications will be sent to members of the Professional Journal Committee for further editing and reviewing. The journal editors reserve the right to make editorial changes. It is the responsibility of the author(s) to ensure the accuracy of the content in their articles. Also, it is the responsibility of the author(s) to obtain appropriate permission and ensure the ethical treatment of research participants. Points of view and opinions are those of the individual authors and are not necessarily those of the International Association of Special Education.*

## PRAXIS

### Submission Guidelines

The PRAXIS section of this journal is intended for readers to be able to immediately apply the methods/strategies described in the articles in their classrooms. These methods/strategies may be new and unique ideas or they can be effective methods/strategies that some teachers have been using and believe that by publishing them, many more teachers could implement them in their classrooms. The articles should be approximately three to six pages and describe in detail a specific teaching strategy or informal assessment method. The articles should include specific instructions on how to develop and implement the methods/strategies. The methods/strategies should require no unique materials for development. These articles are to be submitted following the same submission guidelines and will go through the same review process as all *The Journal of the International Association of Special Education* articles with the exception of including an abstract. (*See submission guidelines*) The format for these articles should include an introduction, step-by-step directions, materials/examples of charts or graphs if needed, conclusions and references.

We encourage you to consider submitting methods/strategies that you have used with students with disabilities and think would be of interest to our readers. Teachers, teacher trainers, professors, students, speech clinicians, psychologists, health care providers, social workers, counselors, family members and those associated with related disciplines are welcome to submit articles for consideration for publication in the PRAXIS section of the journal.

# Educating Every Learner, Every Day: A Global Responsibility



University of Namibia



## Twelfth Biennial Conference of the International Association of Special Education

July 10-14, 2011

Windhoek, Namibia

**Conference held in collaboration with:**

The University of Namibia

Pacific Lutheran University

# CONFERENCE SCHEDULE

## *Highlights of the 12<sup>th</sup> Biennial IASE Conference, Windhoek, Namibia, July 10<sup>th</sup>-14<sup>th</sup>, 2011*

**Sunday, July 10<sup>th</sup>:** 2pm-5pm Registration and 5:30pm Vice-Chancellor's reception on the University of Namibia campus.

**Monday, July 11<sup>th</sup> to Wednesday, July 13<sup>th</sup>:** there are over 160 lectures, workshops, panels, poster sessions and roundtable discussions.

### Keynote Speakers

**Monday, July 11<sup>th</sup>:** Keynoters, At 8:30am the Honorable Dr. Abraham Iyambo  
*"A Welcome to the International Delegates of the 12th Biennial IASE Conference"*. Dr. Abraham Iyambo is the current Minister of Education for the Republic of Namibia and at **9:15**, Dr. Inaani Lisony Kahikuata-Kariko, "Special and Inclusive Education in Namibia". Dr. Kahikuata-Kariko is the Chief Educational Officer for Special Programs and Schools in the Ministry of Education.

**Tuesday, July 12<sup>th</sup>:** **9:15 am**, Keynoters, Dr. Richard Villa and Dr. Jacqueline Thousand  
"Restructuring for Caring and Effective Education: The Inclusive School Together". Dr. Villa and Dr. Thousand have co-edited ten books and developed three multimedia kits for teachers, administrators, and parents." and at 6:30 pm, the **Gala Dinner and Live Auction** at Hotel Safari.

**Wednesday, July 13<sup>th</sup>:** **8:15 am**, Keynoter, Edward Khanya Ndopu  
*"Guaranteeing the Right to Education for the Most Disenfranchised Segments of Society"*. Edward Ndopu is a 20-year-old youth activist born in Namibia and raised in South Africa.

**Wednesday July 13<sup>th</sup>:** **11:15 am**, Keynoter, Dr. Stephen Shore  
*"Life on and Slightly to the Right of the Autism Spectrum: An Inside View Towards Success"*. Diagnosed with "Atypical Development with strong autistic tendencies".

### IASE Tours

[Ombaue Tours and Safaris](#) will coordinate the following tours for IASE delegates before, during and after the conference. Listed below are descriptions of these *Optional Tours*. Unless stated otherwise, **Reservations for these tours must be made directly with Ombaue Tours and Safaris** by contacting [Uanee Karuombe](#) at: [uaneek@gmail.com](mailto:uaneek@gmail.com).

**Tour #1, July 9, 10am-3pm:** Windhoek, Katutura Township and Penduka Women's Co-op. Light lunch included.

**Tour #2, July 10, 9am-2pm:** Okapuka Game Reserve. Includes lunch and game drive.

**Tour #3, July 13, 8pm-9pm:** Namibia National Theater, "Happy Beat", a play about a Namibian boy who is deaf. Includes tickets and transportation (sold at registration).

**Tour #4, July 14, 8:30am-12pm:** School Visits.

**Tour #6A, July 6-8 or #6B, July 15-17:** Etosha National Game Park. Includes specified meals, transport, park entrance fees, accommodations.

**Tour #7 A, July 4-8 or #7B, July 15-19:** Namib-Naukluft National Park, Sossusvlei Dunes & Swakopmund. Includes specified