Students' Attitudes toward Inclusive Education in Oman

Jalal Haj Hussien, Ph.D, Psychologist,
Madison Metropolitan School District, Wisconsin, USA
jhajhussien@madison.k12.wi.us
And Ibrahim Al-Qaryouti, PhD, Associate Professor
College of Education, Sultan Qaboos University, Sultanate Oman
ibrahimq@squ.edu.om

Abstract: The objective of the study was to develop a scale that measure students' attitudes toward inclusion. In addition, the students' cognitive, affective, and behavior attitudes toward inclusion; the differences in the three attitudes' components; and the impact of students' gender and age on their attitudes toward inclusion were examined. Four hundred four Omani students without disabilities participated in this study. The findings revealed that the Omani students held positive behavior, cognitive, and affective attitudes toward inclusion. Students also reported more positive cognitive attitudes than affective or behavior attitudes, as well as more positive behavior attitudes than affective attitudes toward inclusion. Finally, the results indicated that students' gender and age impacted their attitudes toward inclusion significantly.
Keywords: attitudes, inclusion, students, Oman

اتجاهات ألطلبة نحو التعليم الشامل في سلطنة عُمان

جلال حاج حسين
jhajhussien@madison.k12.wi.us
منطقة مادسن التعليمية – ولاية وسكانسن – الولايات المتحدة الامريكية
و إبراهيم القريوتي
ibrahimq@squ.edu.om
كلية التربية – جامعة السلطان قابوس – سلطنة عُمان

خلاصة: استهدفت الدراسة الحاليّة تطوير مقياس اتجاهات الطلبة نحوَ التعليم الشامل، والتعرف على اتجاهاتِهم نحوَه، وأثرُ متغير عمر الطالب ونوعه على إتجاهاته. وتكونت عينة الدراسة من (404)

طالبا وطالبة من طلبة المدارس ألحكومية بسلطنة عمان. وأظهرت النتائجُ أنَّ اتجاهاتِ الطلبة نحوَ التعليمِ الشامل إيجابية بشكل عام في الجانبِ السلوكيِّ والمعرفيِّ والانفعاليِّ، وكانت إتجاهاتهم في الجانبِ المعرفيّ أكثر إيجابية من إتجاهاتهمِ في الجانبِ السلوكيِّ والانفعاليِّ، وفي الجانبِ السلوكيِّ أكثر إيجابية من إتجاهاتهمِ في الجانبِ الانفعاليِّ. وأظهرت نتائجُ الدراسة أيضاً وجودِ أثر ذي دلالة احصائية لعمر الطالب ونوعِه على إتجاهاته نحوَ التعليمِ الشامل، التعليم الشامل

الكلمات المفتاحية: اتجاهاتِ، عُمان، ألطلبة

Introduction

Laws and legislations in most nations around the world (United Nations, 2006) including Oman (Royal Decree No. 63/2008, & Royal Decree No. 121/2008) mandate the rights of students with disabilities to inclusive education. Inclusive education refers to teaching students with disabilities in their neighborhood school within the regular classroom with their peers without disabilities (Rafferty, Boettcher, & Griffin, 2001).

The aim of the Ministry of Education in Oman is to implement inclusive education (Ministry of Education, 2008). Successful inclusive education requires restructuring the education system, Oman has been in the process of reforming its educational system and significant efforts have been made towards achieving this goal. Currently the Ministry of Education provides educational services for students with disabilities in special education classes in many public schools (Al-Balushi, Al-Badi, and Ali, 2011; Weber, 2012).

The attitudes of students toward their peers with disabilities play a critical role in the successful implementation of inclusive education (Gannon & McGilloway, 2009; Georiadi, Kalyva, Kourkoutas, & Tskiris, 2012; Morin, Crocker, Beaulieu-Bergeron, & Caron, 2013; Panagiotou et al., 2008; Papaioannou, Evaggelinou, & Block, 2014). Students' attitudes determine the acceptance or the rejection of their peers with disabilities, which impacts their social participation in school (Bebetsos, Derri, Zafeiradis, & Kyrgiridis, 2013; De Boer, Pijl, Minnaert, & Post, 2014; Laws & Kelly, 2005; Kalyva & Agaliotis, 2009). Furthermore, negative attitudes are a major obstacle for inclusive education (De Boer, Pijl, & Minnaert, 2012; Horner-Johnson et al., 2002; McDougall et al., 2004; Vignes et al., 2008). Thus addressing the attitudes of students without disabilities is vital (e.g. Dunst, 2012; Patel & Rose, 2014; Vignes et al., 2009).

The attitudes of students without disabilities toward their peers with disabilities have been the focus of many studies. Nowicki and Sandieson (2002) investigated school-age children's attitudes towards individuals with physical and intellectual disabilities by conducting a meta-analysis on 20 studies (published between 1990 and 2000). The findings suggested that school-age children often held negative attitudes towards persons with disabilities. In addition, girls showed more positive attitudes than boys in general. However, the findings were not inclusive with regard to the impact of children's age on their attitudes. Finally, the lack of evidence of the validity and reliability of instrument used to measure the attitudes was a concern.

De Boer, Pijl, and Minnaert, (2012) reviewed studies relevant to students' attitudes towards peers with disabilities (published between 1998 and 2011). The authors found 472 articles; only 22 articles met the criteria set forth in their study. Six of these studies measured the three attitudes components, and sixteen of the studies examined one or two of the attitudes components. Among the six studies, three studies found that the students expressed positive, two studies neutral, and one study negative global attitudes towards peers with disabilities. In addition, the authors reported that fourteen studies investigated students' cognitive attitudes; the findings of three were positive, ten were neutral, and the findings of only one study were negative. They also reported that three studies investigated students' affective attitudes; the findings of the three indicated that the students held positive affective attitudes. Furthermore, the authors reported that 12 studies investigated students' behavior attitudes; the findings of five were positive, seven were neutral. This review also revealed that eight studies investigated gender differences in students' attitudes; the findings indicated that female students showed more positive attitudes than male students in the eight studies. Finally, four studies investigated the impact of student's age on their attitudes; the findings of three studies indicated that older students reported more positive attitudes, while one study found that younger students held more positive attitudes.

Recently Papaioannou, Evaggelinou, and Block (2014) found that Greek students (N=387) held positive attitudes toward inclusion of peers with disabilities in regular physical education. Another study conducted by Georgiadi, Kalyva, Kourkoutas, and Tsakiris (2012) found that Greek students (N=256) held neutral attitudes toward inclusion of peers with intellectual disabilities. In addition, their findings indicated that female students held more positive attitudes than male students. Moreover, Olaleye et al., (2012) found that Nigerian students (N=118) held positive attitudes toward their peers with disabilities. The results also indicated that Nigerian female students held more positive attitudes than Nigerian male students. Finally, De Boer, Pijl, Minnaert, and Post (2014) found that 53% of elementary students (N=218) from Netherlands held positive attitudes, 45% neutral

attitudes, and 2% negative attitudes toward inclusion of peers with disabilities. In addition, their findings indicated that male students held more negative attitudes than female attitudes. The results also indicated that student's age did not have significant impact on their attitudes.

Despite the numerous studies, the psychometric properties of the instruments used to measure students' attitudes toward their peers with disabilities have been a concern (De Boer, Pijl, and Minnaert, 2012; Nowicki & Sandieson, 2002). Vignes et al. (2008) examined the psychometric properties of self-completion instruments used to measure children's attitudes towards peers with disabilities. Their review involved 176 studies in which 33 measures of children's attitudes towards peers with disabilities were used. Fourteen instruments were eliminated because they did not meet the criteria set forth by the authors. The remaining 19 instruments were analyzed and the findings indicated the following: a) sixteen instruments measured one attitude component, one measured cognitive and behaviour components, and two measured the three components; b) the process of developing and validating of the instruments was described only for three instruments; c) evidence of construct validity was reported for two studies; d) content or face validity were examined only for six studies; e) evidence of internal consistency were reported for fourteen instruments, and f) test retest reliability was reported only for six instruments.

In conclusion, the attitudes of students toward their peers with disabilities play a major role in the successful implementation of inclusive education. The findings of the previous studies suggest that female students held more positive attitudes than male students. However, the findings with regard to the students' attitudes and the impact of their age on their attitudes were not conclusive. Therefore, investigation of the students' cognitive, affective and behavior attitudes and the impact of student's gender and age on their attitudes are still needed. In addition, measuring attitudes remains a concern. Developing a scale that measures students' attitudes towards inclusive education with acceptable levels of validity and reliability also is needed. Furthermore, the current study is the first to address the attitudes of school-age children toward inclusion of their peers with disabilities in Oman.

The main objective of the current study was to investigate the students' cognitive, affective, and behavior attitudes towards inclusive education in Oman. To achieve this objective the study was conducted in two phases. The objective of phase one was to develop a scale that measures student's attitudes towards inclusive education with acceptable levels of content validity, structure validity, internal consistency, and levels of temporal stability.

The aims of phase two were the following: a) to determine students' cognitive, affective, and behavior attitudes towards inclusive education in Oman; b) to investigate whether students' attitudes towards inclusive education differ according to the attitudes components (cognitive, affective & behavior); and c) to explore the relationship between the students' gender and age and their attitudes toward inclusive education.

Phase one: Developing the students' attitudes scale toward inclusion

The objective of phase one was to develop a scale that measure students' attitudes towards inclusion with acceptable levels of content validity, structure validity, internal consistency, and levels of temporal stability. The student's attitudes scale toward inclusion (SASTI) was designed to measure student's attitudes' towards inclusion based on the definition of inclusion as teaching students with disabilities in regular neighborhood schools within the regular classrooms with their peers. Also, the scale was designed based on the conceptualization of attitudes as a tri-component evaluation consisting of cognitive, affective, and behavioral intentions.

Eagly & Chaiken (1993) define attitude as tendencies to evaluate an entity with some degree of favor or disfavor, generally expressed in cognitive, affective, and behavioral responses. The cognitive response consists of thoughts and beliefs about the attitude object. The affective response includes moods, feelings, or emotions in relation to the attitude object. The behavioral response involves intentions or overt actions towards the attitude object.

Item pool: based on the conceptualization of attitude as a tri-component evaluation consisting of cognitive, affective, and behavioral intention, attitude toward inclusive education literature, and the inclusive education literature, a total of (32) items were developed to measure the three components.

Content validity: further investigation of the items' content validity was examined by four experts, among them two experts in measurement and psychometric theory and two experts in special education. Based on the experts' responses, four items were eliminated and three items rephrased, either because the items were ambiguous or redundant. All the experts agreed that the 28 items were written in clear and precise language and measured the component intended to measure.

Factor analysis: The factor analysis was used to examine the factor structure of the SASTI. The principal components analysis (PCA), eigenvalues greater than 1, and orthogonal rotation using Varimax method were performed on 213 students' (104 boys & 109 girls) without disabilities in 3rd grade to 12th grade raw scores on the 28 items of the SASTI. The participant's extent of the agreement with each item was measured by the 3- point Likert scale (1 disagree, 2 agree, and 3 strongly agree). The

results of the PAC indicated that five items loaded significantly in two factors and the difference between the two loadings was less than .10 (Guilford, 1954). The five items were eliminated and the PCA re-performed on the remaining 23 items of the SASTI.

The results of the Kaiser-Meyer-Olkin measure of sampling adequacy (KMO =. 94) indicated that the sample size was suitable for factor analysis (Field, 2005). The results of the PCA revealed three eigenvalues greater than one. The three factors after rotation accounted for 54.01% of the total variance: 20.20%, 18.30%, and 15.51%, respectively, as shown in table 1. The first factor consisted of eight items reflecting affective response, the second factor consisted of eight items reflecting behavioral response, and the third factor consisted of seven items reflecting cognitive beliefs.

Table 1
Total Variance Explained

Component	Initial Eigen values			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	9.952	43.271	43.271	9.952	43.271	43.271	4.646	20.201	20.201
2	1.391	6.049	49.320	1.391	6.049	49.320	4.209	18.300	38.501
3	1.079	4.692	54.012	1.079	4.692	54.012	3.568	15.511	54.012

With regard to the item loadings, the items with a loading greater than .30 on a factor were considered significant and used in defining that factor (Russell, 2002; Costello & Osborne, 2005). Table 2 shows the rotated component matrix. The 23 items loaded significantly in the three factors they were intended to measure. All values of the items loading were higher than .4, which exceeds the recommended cutoff value .30 (Costello & Osborne, 2005; Ford, MacCallum &Tait, 1986).

Table 2
Rotated Component Matrix

Items	Component		
	1	2	3
12A	**.710**	.251	.210
9A	**.708**	.240	.321
3A	**.705**	.230	.213
1A	**.694**	.144	.208
6A	**.680**	.300	.266
20A	**.633**	.209	.261
18A	**.599**	.349	.252
15A	**.597**	.332	.348

7B	.251	**.725**	.127
4B	.258	**.716**	.168
19B	.297	**.662**	.266
23B	.151	**.624**	.244
16B	.155	**.615**	.255
22B	.182	**.581**	.109
10B	.373	**.574**	.256
13B	.182	**.520**	.325
5C	.202	.196	**.759**
8C	.199	.216	**.695**
2C	.327	.175	**.650**
21C	.281	.228	**.558**
11C	.353	.294	**.551**
17C	.316	.354	**.538**
14C	.350	.296	**.449**

Reliability: Test-retest stability was examined by administering the SASTI twice to 61 students without disabilities. The interval between test-retest was ten days. Test-retest reliability coefficients for each factor were .81 for affective, .77 for behavior, and .76 for cognitive.

Internal consistency was established by computing the Cronbach's alpha for 213 students' scores on the items. Cronbach's alpha coefficients for each factor were .90 for affective, and .86 for behavior, and .84 for cognitive. All the coefficients values exceed the conventional minimum of .7 (Clark & Watson, 1995; Nunnally & Bernstein 1994) and demonstrate high internal consistency and levels of temporal stability. These results indicate that the students' attitudes scale has adequate levels of internal consistency and temporal stability.

Phase two

The aims of phase two were the following: a) to determine students' cognitive, affective, and behavior attitudes towards inclusion in Oman; b) to investigate whether students' attitudes towards inclusive education differ according to the attitudes components (cognitive, affective & behavior); and c) to explore the relationship between the students' gender and age and their attitudes towards inclusion.

Method

Participants

A total of 500 questionnaires were sent to the administrators of the public schools in Sultanate Oman in various provinces; 404 students (ages 9 to 18 years) volunteered to complete the questionnaires. The distribution of the sample according to province and gender is presented in table 3.

Table 3
Sample Distribution According to Province and Gender

Province	Gender		Total
	Male	Female	
Muscat	28	65	93
Al Batinah Janoob	37	9	46
Al Batinah Shamal	31	54	85
Al Dakhiliyah	15	16	31
Ash Sharqiyah Janoob	1	4	5
Ash Sharqiyah Shamal	15	10	25
Al Burimi	6	6	12
Al Dhirah	7	8	15
Dhofar	36	24	60
AL Wusta	11	3	14
Musandam	9	9	18
Total	196	208	404

Variables

Students' attitudes toward inclusion: This continuous variable was defined as participants' scores on each component of attitudes (cognitive, affective, and behavioral intentions) in the Students' Attitudes Scale towards Inclusion (SASTI).
Age: Students' chronological ages from 9 through 18 years old.
Gender: This categorical variable involved two levels: male and female.

Data Analysis

Data was analyzed using IBM SPSS Statistics 20 and IBM Amos 20. Descriptive statistics, multivariate analysis of variance, paired sample t-test, and multiple regressions were performed to analyze the data. The data relevant to attitudes was analyzed based on the three components of attitudes; these were behavior, cognitive, and affective rather than overall attitudes composite.

Results

Descriptive statistics

Mean, standard deviation of students' attitudes on the three components were calculated to determine students' attitudes toward inclusion and presented in table 4. The total score for each component was computed by adding the students' extent of the agreement with each item (1 disagree, 2 agree, and 3 strongly agree) in each item and then dividing the total by the number of items in that component. The criterion used by De Boer, Pijlb, and Minnaerta (2011) was utilized to determine if the attitudes are positive, negative, or neutral. The mean score (on a 3-point Likert scale) above 2 reflects positive attitudes, mean score between 1.5 and 2 reflects neutral attitudes and

mean score below 1.5 reflects negative attitudes. In addition, the results of the percentage of students in each attitudes category for each attitudes component were calculated and presented in table 5.

Table 4
Mean Standard Deviation on the Attitudes Components

Components	Gender	Mean	Std. Deviation	N
Affective	Male	2.1	.56	196
	Female	2.1	.54	208
	Total	2.1	.55	404
Cognitive	Male	2.4	.48	196
	Female	2.5	.50	208
	Total	2.4	.49	404
Behavior	Male	2.2	.50	196
	Female	2.4	.49	208
	Total	2.3	.50	404

Table 5
Percentage of Students in each Attitudes Category for each Attitudes Component

Category	Affective	Behavior	Cognitive
	Percent	Percent	Percent
Negative	16.1	6.4	4.6
Neutral	20.5	23.8	15.7
Positive	63.4	69.8	79.7

Paired sample t-test

The paired sample t-test was used to examine the differences in students' attitudes toward inclusion in the three components (cognitive, affective, and behavioral intentions) and the results presented in table 6. These results indicate that students expressed significantly (P = 0.000) more positive cognitive attitudes toward inclusion than affective or behavior attitudes. The results also revealed that students expressed significantly (P = 0.000) more positive behavior attitudes toward inclusion than affective attitudes.

Table 6
Mean Score Differences for each Pair of Attitudes Components

Components		Paired Differences			t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean			
Pair 1	Affective - Cognitive	-.28227	.37236	.01853	-15.237	403	.000
Pair 2	Affective - Behavior	-.16089	.41447	.02062	-7.802	403	.000
Pair 3	Cognitive - Behavior	.12138	.38853	.01933	6.279	403	.000

Multiple Regression

The effect of students' gender and age on attitudes towards inclusion was examined. A multiple regression was performed using gender (male = 0, female = 1) and age (9 years to 18 years) as independent variables (predictors) and students' attitudes toward inclusion for each attitudes' component as the dependent variable. The results of the three analyses using IBM Amos 20 are presented in table 7. These results indicate that female students held significantly more positive attitudes in the cognitive and behavior than male students. However, the results indicate that students' gender had no significant ($p > .05$) relationship with their affective attitudes. Furthermore, students' positive affective, cognitive, and behavior attitudes increased with increasing age.

Table 7
Results of the Multiple Regression Analysis: Gender and Age (Predictors) and each Attitudes Component (Dependent Variable)

Variables	Predictors	Estimate	S.E.	C.R.	P
Affective	Gender	.058	.056	1.026	.305
	Age	.029	.011	2.650	.008
Cognitive	Gender	.148	.050	2.965	.003
	Age	.029	.010	2.888	.004
Behavior	Gender	.190	.049	3.852	.000
	Age	.043	.010	4.430	.000

Discussion

The current study aimed to determine students' cognitive, affective, and behavior attitudes toward inclusion and the differences in the three attitudes components. This study also examined the impact of students' gender and age on their attitudes towards inclusion. The findings are discussed below.

First, the findings of this study indicate that male and female students held positive behavior, cognitive, and affective attitudes toward inclusion based on the students' mean scores on the three attitudes components. These findings are consistence with the findings of Olaleye et al., (2012) and Papaioannou, Evaggelinou, & Block (2014); and contradict the findings of Nowicki and Sandieson (2002), who suggested that school-age children often held negative attitudes towards persons with disabilities.

Moreover, the findings revealed that the percentage of Omani students that held negative, neutral, and positive affective attitudes were 16.1%, 20.5%, and 63.4%, respectively. The percentage of Omani students that held negative, neutral, and positive behavior attitudes were 6.4%, 23.8%, and 69.8%, respectively. The percentage of Omani students that held negative, neutral, and positive cognitive attitudes were 4.6%, 15.7%, and 79.7%, respectively. Despite the fact that a higher percentage of students held positive attitudes, there still are a considerable number of students in need of improved attitudes toward inclusion of peers with disabilities.

Second, the results revealed that students expressed significantly more positive cognitive attitudes toward inclusion than affective or behavior attitudes. The students also expressed significantly more positive behavior attitudes toward inclusion than affective attitudes. These results emphasized the importance of measuring and analyzing attitudes based on the conceptualization of attitudes as a tri component consisting of cognitive, affective, and behavioral intentions rather than an overall attitude composite (De Boer, A., Timmerman, M., Pijl, S., & Minnaert, A., 2012; & Eagly, A., & Chaiken, S., 1993).

Third, the results indicate female students held significantly more positive attitudes in the cognitive, and behavior than male students. However, there was no significant ($p > .05$) difference between male and female students in affective attitudes. In general these findings are consistent with previous studies (Georgiadi, Kalyva, Kourkoutas & Tsakiris, 2012; Nowicki & Sandieson, 2002; & Olaleye et al., 2012).

Fourth, the findings indicated that students' positive affective, cognitive and behavior attitudes increased with their age. These findings are consistent with the findings of Nabors and Larson (2002); and Nowicki (2006) (cited in De Boer, Pijl, and Minnaert, 2012). In contrast,

Vignes et al., (2009); and De Boer, Pijl, Minnaert, and Post (2014) reported that students' age (9 & 13 years; 8-12 years) had no significant impact on their attitudes. The insignificant impact of age in these two studies may be due the narrow age range of students.

Implications: The current study developed students' attitudes scale toward inclusion based on the conceptualization of attitudes as a tri-component evaluation consisting of cognitive, affective, and behavioral intentions. The student's attitudes scale toward inclusion has acceptable levels of content validity, structure validity, internal consistency, and levels of temporal stability. This scale provides researchers and administrators in the educational agencies in Oman with an instrument they may use to determine students' attitudes and their needs for attitudes improvement, monitoring the change in attitudes, and evaluating the effectiveness of the intervention programs. In addition, the findings of this study provided evidence that students' attitudes in the three components differ significantly. These findings emphasized the importance of measuring and analyzing attitudes based on the conceptualization of attitudes as a tri-component. Finally, the findings with regard to the Omani students' attitudes toward inclusive education of peers with disabilities and the impact of student's age and gender on their attitudes are beneficiary for policy makers in planning and implementing inclusive education.

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