

Influence of teachers' demographic factors on their attitude towards inclusion of visually impaired students in government secondary schools of Wolaita Zone, Southern Ethiopia

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Abstract

The aim of this study was to examine the influence of teachers' demographic factors on their attitude towards inclusion of visually impaired students in the government secondary schools of Wolayta Zone in Ethiopia. A mixed method with triangulation design was employed. Purposive and multistage sampling techniques were used to select 420 sample participants. Data were collected through questionnaire and focus group discussion (FGD). Frequencies, percentages, means, standard deviation and independent t-test were used to analyse the quantitative data, while thematic analysis was used to manage the qualitative data. The result revealed that teachers' demographic factors namely age, educational qualification, in-service training and experience in teaching visually impaired students had statistically significant influence on those teachers' attitude towards inclusion of visually impaired students. Thus, the study concluded that general education teachers with more in-service training, with first degree qualifications and having more experience in teaching visually impaired students had more positive attitude towards inclusion of those students in classroom than their counter parts. Furthermore, aged teachers had more positive attitude towards the philosophical issues of inclusion and advantages and disadvantages of inclusion while younger teachers had more positive attitude towards the professional issues of inclusion for visually impaired students than their counter parts.

Keywords: Attitude, Demographic Factor, Inclusive Education, Visual Impairment,

Introduction

In Ethiopia, inclusion of students with disabilities, visually impaired students a case a point, has become a common practice in most school systems in general and government secondary school systems in particular. To make a successful inclusion's practices, the influence of teachers' demographic factors towards their attitudes on the inclusion of students with disabilities in general and students with visual impairments in particular, must be taken into account.

As many previous research findings indicated that when teachers have negative attitude towards the inclusion's practices, they are not likely to actively put forth efforts to implement the inclusion strategies of students with disabilities (Charley, 2015; Malinen et al., 2012). In addition, Malinen et al. (2012) found that, negative attitude of teachers towards special needs' consideration can affect their attitudes toward the inclusion. This scenario prevents teachers from actively putting forward efforts to implement the inclusive strategies in their classrooms. According to Walker (2012), when teachers do not actively implement the strategies to ensure that students with disabilities receive proper support, they are not likely to be successful. This condition is problematic. Thus, it demands attention.

According to the earlier researcher, in order to affect teachers' attitudes in a positive manner towards students' inclusion with special needs, teachers need to participate in on-going professional development that focuses on inclusion (Charley, 2015). Moreover, teachers should have experiences with a successful inclusion setting. Edmunds (2000) also found that, the three highest ranked variables for a successful inclusion program were in-service sessions regarding inclusion, experience in teaching students with disabilities, and educational qualifications. However, the previous researches were conducted by using a single quantitative methodology considering general disability conditions. However, the needs of students are different based on the types of disability. For instance, students with visual impairments may need a different methodology compared to other impairments. Moreover, the prior studies focused on primary school levels even though inclusion is also practiced at secondary schools. Above all, the studies were conducted out of Ethiopia and there is lack of research with regard to the influence of demographic factors on teachers' attitudes towards inclusion of SVI at secondary school level in the country level in general and this study area in particular. Thus, this study was intended to examine the influence of teachers' demographic factors on their attitudes towards the inclusion of SVI in the government secondary schools of Wolaita Zone.

Materials and methods

Research design

A mixed triangulation design was employed in the current research. Accordingly, an attempt was made to merge the two data sets, typically by bringing the separate results together in the analysis and interpretation of the results. In view of that, a combination of quantitative and

qualitative techniques was used in various stages (during data collection, analysis and interpretation) of the study.

The use of mixed triangulation design is appropriate since the researchers collected and analysed both quantitative and qualitative data concurrently with equal weight. According to Gall et al. (2007), a mixed triangulation design is a one-phase design in which researchers implement the quantitative and qualitative methods at the same time and with equal weight. The single-phase timing of this design is the reason it has also been referred to as the triangulation design (Creswell et al., 2003).

Participants

The target population of this study was teachers. The study used purposive and multistage sampling techniques to select the schools and respondents. Wolaita zone has 15 districts and 58 government secondary schools. Among them, six districts and ten government secondary schools, constituting five general secondary and five preparatory schools, were included using cluster and purposive sampling techniques.

Out of 776 teachers in the ten government secondary schools (excluding those participated in FGD), 388 were selected using a simple random sampling technique and a questionnaire was administered face-to-face by the researchers. The response rate for the questionnaire was 350 (about 90%). A simple random sampling technique was used to select representative sample from the target population of the general education teachers. Purposive sampling technique was used to select seventy teachers for FGD to generate qualitative data. Purposive sampling technique was used as more appropriate for this study since it enabled the researchers to select teachers who could share relevant information related to their experience in the inclusion process of SVI. Thus, in combination, 420 individuals were participated in this study.

Instruments

Two instruments, namely questionnaire and focus group discussion were used for data collection. A Likert scale type questionnaire ranging from 'strongly agree' to 'strongly disagree' with 20 items were used. They had clustered under four thematic areas for attitudes: teachers' attitudes towards professional issues of inclusion, philosophical issues of inclusion, logistical issues of inclusion and advantages and disadvantages of inclusion with reliability value of $\alpha=.89$.

Internal-reliability coefficients were computed by the researchers for the items in the sub-scales

based on the pilot data from 30 general education teachers which were not included in the main study. The overall pilot study result showed for items of teachers' attitude ($\alpha = .83$). Content validity of the items was checked by the subject experts. Finally, all the 20 items that fulfilled the reliability and validity criteria were administered to 388 (with the response rate of 90%) randomly selected teachers in the ten sampled schools. In addition to the 20 items, four demographic items namely teachers' age, educational qualification, in-service training on inclusive education and experience in teaching SVI were included in the questionnaire and used for the study.

FGD was also held with a group of seven teachers in each session and 70 teachers were participated in all ten sessions. FGD was an essential data gathering tool in this mixed methods design as it enabled to acquire in-depth information from purposively selected teachers about their attitude and the demographic factors affecting their attitude towards inclusion of SVI in the sampled government secondary schools.

Data analysis

Frequencies, percentages, means, standard deviation and One-way ANOVA were used to examine the study variables. Accordingly, frequencies and percentages were used to describe the data from demographic factors. Mean, standard deviation and One-way ANOVA were used to examine the influence of demographic factors on the teachers' attitude towards inclusion of students with visual impairments. Moreover, thematic analysis was used to analyse the qualitative data from FGD.

Results

Demographic characteristics of respondents

Table (1) reveals the demographic characteristics of teacher respondents. Regarding the academic qualification of teachers, only 67 (19.1%) respondents had MA/MSc degree, whereas the majority 273 (78%) of the respondents were first degree holders. There were 10 (2.9%) teachers with diploma.

The data in Table 1 indicated that the majority of teacher respondents in the sampled schools were degree holders and above indicating that they were qualified to teach secondary and preparatory school students including SVI. However, contrary to the policy of the country, still

there were some few diploma holders teaching in the selected schools. Moreover, the number of teachers with MA/MSC was not as many as the required number at preparatory level (MoE, 2012).

Table 1. Demographic characteristic of teachers

Categories	of	Value labels	No. of respondents	Percentage
Qualification		Diploma	10	2.9
		First degree	273	78.0
		Master's Degree	67	19.1
In-service training on inclusive education		0 hrs	134	38.3
		1-7hrs	143	40.9
		8-15hrs	51	14.6
		>15hrs	22	6.2
Age		<36 yrs	171	48.9
		36-45 yrs	111	31.7

In relation to the teachers age, 171 (48.9%) were below 36 years, 111 (31.7%) were from 36-45 years and 68 (19.4%) were above 45 years; indicating most of the teachers were at productive age to effectively perform their teaching task. In relation to their previous experience of teaching students with visual impairments, 199 (56.9%), 74 (21.1%), 46 (13.1%) and 31 (8.9%) respondents responded that they had experience of 0-5, 6-10, 11-15 and above 15 years respectively. This shows the majority (n=273, 78%) of teachers had experience of ten or below in teaching these students.

In relation to the in-service training on inclusive education, 134 (38.3%) teacher respondents were found to have no training, whereas 143 (40.9%), 51 (14.6%) and 22 (6.2%) were found to acquire 1-7hrs, 8-15hrs and above 15hrs training respectively. This implies that significant number of teachers was found to have shortage of in-service training on inclusive education in general and inclusion of students with visual impairment in particular.

Teachers' attitude towards inclusion and demographic variables

Teacher's attitude by age

One way ANOVA was computed to compare the teachers' attitudes across their age categories (Table 2). Accordingly, statistically significant mean difference was found for teachers' attitude towards professional issues of inclusion ($F(2, 347) = 4.02, P = 0.019$) and their attitude towards philosophical issues of inclusion ($F(2, 347) = 11.78, p = 0.000$). This reveals that there was statistically sound evidence that teachers' attitude towards professional and philosophical issues of inclusion for SVI was different based on their age.

Table 2. One way ANOVA for comparing teachers' attitudes by age

Dependent Variable	Group	N	Mean	SD	EM	df	F	Sig.
Attitude towards professional issues of inclusion	<36	171	17.66	3.52		2	4.02	0.019
	36-45	111	16.32	4.19		347		
	>45	68	16.75	4.64	15	349		
	Total	350	17.06	4.01				
Attitude towards philosophical issues of inclusion	<36	171	14.42	3.41			11.78	0.000
	36-45	111	13.67	3.23	12	2		
	>45	68	16.06	2.63		347		
	Total	350	14.50	3.31		349		
Attitude towards logistical issues of inclusion	<36	171	13.26	3.19			3.003	0.051
	36-45	111	12.55	3.51	12	2		
	>45	68	12.22	3.21		347		
	Total	350	12.83	3.31		349		

*0.05 Expected mean (M): the expected average middle value in the scale for each item and sum of items

As indicated in Table (2), however, statistically significant mean difference was not found for teachers' attitude towards logistical issues of inclusion ($F(2, 347) = 3.00, P = 0.051$). This indicates that there was no statistically sound evidence that teachers' attitude towards logistical issues of inclusion for SVI was influenced by their age.

Table 3. Post hoc multiple comparisons across age groups for teachers' attitudes

Dependent Variable	(I) Age	(J) Age	Mean difference (I-J)	Sig.
Attitude towards professional issues of inclusion	<36	36-45	1.33065*	0.006
	>45		.90497	0.113
	36-45	<36	-1.33065*	0.006
	>45		-.42568	0.487
Attitude towards philosophical issues of inclusion	>45	<36	-.90497	0.113
		36-45	0.42568	0.487
	<36	36-45	0.74854	0.057
	>45	-1.64362*	0.000	
	36-45	<36	-0.74854	0.057

*0.05 Expected mean (M): the expected average middle value in the scale for each item and sum of items

The post hoc multiple comparison analysis was conducted to identify the specific age groups for statistically significant mean differences of professional and philosophical issues of inclusion for SVI (Table 3). Accordingly, a statistically significant mean difference was found between <36 and 36-45 age groups (MD=1.33, P=0.006) for teachers' attitude towards professional issues of inclusion for SVI. This implies that young teachers were found to have more positive attitude towards the professional issues of inclusion for SVI than relatively old teachers (36-45 years). This also indicates that young teachers were found to have more confidence in their ability, adequate training and less anxiety in meeting the needs of SVI.

Furthermore, a statistically significant mean difference was found between >45 and <36 age groups (MD=1.64, P=0.000) and >45 and 36-45 age groups (MD=2.39, P=0.000) for teachers' attitude towards philosophical issues of inclusion for SVI. This implies that aged teachers were found to have more positive attitude towards the philosophical issues of inclusion for SVI than relatively young teachers. This also indicates that aged teachers were found to more positively believe that SVI can learn and make academic progress in an inclusive classroom than young teachers.

Teacher's attitude by educational qualifications

This study intended to analyse the observed mean differences for teachers' attitude towards

inclusion of SVI across the levels of educational qualifications. Accordingly, statistically significant mean differences was found for the teachers attitude towards professional issues of inclusion ($F(2, 347) = 7.42, P = 0.001$), philosophical issues of inclusion ($F(2, 347) = 3.08, P = 0.047$) and logistical issues of inclusion ($F(2, 347) = 3.46, P = 0.033$) (Table 4). This reveals that there was statistically sound evidence to justify that teachers' attitude towards professional, philosophical, and logistical issues of inclusion for SVI was affected by their level of educational qualifications.

Table 4. One way ANOVA for comparing teachers' attitudes by educational qualifications

Dependent Variable	Group	N	Mean	SD	EM	df	F	Sig.
Attitude towards professional Issues of Inclusion	Diploma	10	14.40	1,07	15		7.42	0.001
	Bachelor	273	17.47	3.68		2		
	Degree							
	Master's Degree	67	15.76	5.05		347		
	Total	350	17.06	4.01		349		
Attitude towards philosophical issues of inclusion	Diploma	10	12.20	4.92			3.08	0.047
	Bachelor	273	14.66	3.15	12	2		
	Degree							
	Master's Degree	67	14.18	3.58		347		
	Total	350	14.50	3.31		349		
Attitude towards logistical issues of inclusion	Diploma	10	10.40	4.84		2	3.46	0.033
	Bachelor	273	13.00	3.15	12	347		
	Degree							
	Master's Degree	67	12.49	3.59		349		
	Total	350	12.83	3.31				

The post hoc multiple comparison analysis was conducted to identify the specific groups of educational qualifications for statistically significant mean differences for these attitude spectrum. Accordingly, a statistically significant mean difference was found between Bachelor degree and diploma holders ($MD = 3.07, P = 0.016$) and between Bachelor degree and MA/MSC holders ($MD = 1.71, P = 0.002$) for the teachers' attitude towards professional issues of inclusion for the SVI. This implies that teachers with the Bachelor degree were found to have more

positive attitude towards the professional issues of inclusion for the SVI than teachers with diploma and MA/MSc. This indicates that teachers with Bachelor degrees were found to have more professional preparations and readiness or confidence to teach SVI in the classroom than teachers with diploma and MA/MSc.

As indicated in Table (5), there was also statistically significant mean differences (MD=2.46, P=0.021) between teachers of Bachelor degree and Diploma holders for the teachers' attitude towards philosophical issues of inclusion for SVI. This implies that teachers with Bachelor degree qualifications were found to report more positive attitude in the philosophy of inclusion for SVI than teachers with Diploma.

Table 5. Post hoc multiple comparisons across educational qualifications for teachers' attitudes

Dependent Variable	(I) Qualification	(J) Qualification	Mean difference (I-J)	Sig.
Attitude towards professional issues of inclusion	Diploma	Bachelor degree	-3.07253*	0.016
	Master's degree		-1.36119	0.309
	Bachelor degree	Diploma	3.07253*	0.016
	Master's degree		1.71133*	0.002
Attitude towards philosophical issues of inclusion	Master's Degree	Diploma	1.36119	0.309
	Diploma	Bachelor degree	-1.71133*	0.002
	Bachelor degree		-2.45934*	0.021
	Master's degree		-1.97910	0.077
Attitude towards logistical issues of inclusion	Diploma	Bachelor degree	-2.60366*	0.014
	Master's Degree		-2.09254	0.062
	Bachelor Degree	Diploma	2.60366*	0.014
	Master's Degree		0.51113	0.255

The observed mean score of Bachelor degree holders (m=13, SD=3.15) was greater than that of Diploma holders (m=10.4, SD=4.84) with regards to the logistical issues of inclusion for SVI. This difference was found to be statistically significant (MD=2.60, P=0.014). This means that compared to teachers with Diploma holders, those with Bachelor degree qualification were found to report more positive attitude towards teaching SVI, making physical arrangements, availability of adaptive materials and the supportive role of principals for the inclusion of SVI (Table 5).

FGD responses show that some teachers had more opportunity to take the special need courses at the BA/BSc degree level particularly in the new curriculum. However, teachers who held their degree during the old curriculum had less opportunity to attend the special need courses at all levels of their education ladder. Teachers also reported that these courses were more of general in their content and they need to be specific to each of the disability issues with the specific teaching strategies. The following described by a teachers:

“I started my teaching profession by attending the diploma program. At that level, I did not take any course regarding the special needs education courses. Even at the degree level, I did not take any special needs course. I attended both the diploma and degree program in the old curriculum. However, most of the general education teachers have got the opportunity to take the special needs and inclusive education courses in the new curriculum (FGDT9)”.

Teacher’s attitude by in-service training

As shown in Table 6, statistically significant mean differences was found for the teacher' attitude towards the logistical issues of inclusion for SVI ($F(3, 346) = 6.43, P = 0.000$). That is, there was statistically sound evidence to justify that teachers' attitude towards the logistical issues of inclusion for SVI was affected by their level of in-service training. On the other hand, statistically significant mean difference was not found for the teachers attitudes towards professional issues of inclusion ($F(3, 346) = 2.04, P = 0.108$) and philosophical issues of inclusion ($F(3, 346) = 2.59, P = 0.053$).

Table 6. One way ANOVA for comparing teachers' attitudes by in-service training

Dependent Variable	Group	N	Mean	SD	EM	df	F	Sig.
Attitude towards professional Issues of Inclusion	0 hours	134	16.62	4.41	15	3	2.04	0.108
	1-7 hours	143	17.13	3.82		346		
	8-15 hours	51	18.20	3.28		349		
	15+ hours	22	16.59	3.87				
	Total	350	17.06	4.01				
Attitude towards philosophical issues of inclusion	0 hours	134	13.98	3.88	12	3	2.59	0.053
	1-7 hours	143	14.61	2.74		346		
	8-15 hours	51	15.43	3.15		349		
	15+ hours	22	14.77	2.91				
	Total	350	14.50	3.31				
Attitude towards logistical issues of inclusion	0 hours	134	11.92	3.58	12	3	6.43	0.000
	1-7 hours	143	13.39	3.10		346		
	8-15 hours	51	13.76	2.79		349		
	15+ hours	22	12.59	2.87				
	Total	350	12.83	3.31				

*P < 0.05 Expected mean (M): the expected average middle value in the scale for each item and sum of items

The post hoc multiple comparison analysis was carried out to identify the particular groups of in-service training hours for statistically significant mean differences of teachers' attitude towards the logistical issues of inclusion for SVI. In the view of that, a statistically significant mean difference was found between teachers of no in-service training and 1-7 in-service training hours (MD=-1.47, P=0.000); and between those of no in-service training and 8-15 in-service training hours (MD=-1.85, P=0.001) for the teachers' attitude towards logistical issues of inclusion for the SVI (Table 7).

This implies that teachers with the 1-7 and 8-15 in-service training hours were found to have more positive attitude towards the logistical issues of inclusion for the SVI than teachers of no in-service training hours in inclusive or special needs for SVI. In addition, this indicates that teachers with relatively more in-service training hours were found to be more comfortable in

teaching SVI and making special physical arrangements to meet the needs of SVI in the classrooms. Furthermore, teachers with more in-service training hours were found to have more positive attitude towards the acquirement of adaptive materials and equipment and the support of principals in making the needed accommodations for SVI than those with no in-service training.

Table 7. Post hoc multiple comparisons across in-service training hours for teachers' attitudes

Dependent variable	(I) In-service training	(J) In-service training	Mean difference (I-J)	Sig.
Attitude towards Logistical Issues of Inclusion	0 hour	1-7 hours	-1.47370*	0.000
		8-15 hours	-1.84680*	0.001
		>15 hours	-0.67300	0.367
	1-7 hours	0 hour	1.47370*	0.000
		8-15 hours	-0.37310	0.481
		>15 hours	0.80070	0.281
	8-15 hours	0 hour	1.84680*	0.001
		1-7 hours	0.37310	0.481
		>15 hours	1.17380	0.156
	>15 hours	0 hour	.67300	0.367
		1-7 hours	-0.80070	0.281
		8-15 hours	-1.17380	0.156

* The mean difference is significant at the 0.05 level

In the FGD sessions, teachers reflected that in-service training for teachers' could change their attitude towards the inclusion of SVI. According to the teachers' explanations most teachers had positive view regarding the SVI. This could be acquired naturally as teachers recognized themselves as having moral obligations to counsel and support SVI in the general education classroom.

Teacher's attitude by teaching students with visual impairment

In Table (8), one way ANOVA was computed to compare the teachers' attitudes crosswise their experience of teaching students with visual impairment. Accordingly, statistically significant mean difference was found for teachers' attitude towards the logistical issues of inclusion for SVI

($F(3, 346) = 3.48, P = 0.016$). This shows that there was statistically sound evidence to rationalize that teachers' attitude towards the logistical issues of inclusion for SVI was different based on their experience of teaching SVI.

On the other hand, statistically significant mean difference was not found for the teachers attitude towards the professional issues of inclusion ($F(3, 346) = 0.55, P = 0.651$), and philosophical issues of inclusion ($F(3, 346) = 1.15, P = 0.327$) (Table 8). These indicate that there was no statistically sound evidence to defend that teachers' attitude towards professional and philosophical issues of inclusion for SVI was affected by their experience of teaching students with visual impairment.

Table 8. One way ANOVA for comparing teachers' attitudes by teaching students with visual impairment

Dependent Variable	Group	N	Mean	SD	EM	df	F	Sig.
Attitude towards professional issues of inclusion	0-5 yrs	199	16.86	4.05	15	3	0.55	0.651
	6-10 yrs	74	17.38	4.45		346		
	11-15 yrs	46	17.52	3.64		349		
	15+ yrs	31	16.87	3.13				
	Total	350	17.06	4.01				
Attitude towards philosophical issues of inclusion	0-5 yrs	199	14.23	3.37	12	3	1.15	0.327
	6-10 yrs	74	14.73	3.25		346		
	11-15 yrs	46	14.85	3.67		349		
	15+ yrs	31	15.16	2.35				
	Total	350	14.50	3.31				
Attitude towards logistical issues of inclusion	0-5 yrs	199	12.51	3.40	12	3	3.48	0.016
	6-10 yrs	74	13.27	2.82		346		
	11-15 yrs	46	12.50	3.64		349		
	15+ yrs	31	14.35	2.88				
	Total	350	12.83	3.31				

* $P < 0.05$ Expected mean (M): the expected average middle value in the scale for each item and sum of items

The post hoc multiple comparison analysis was carried out to identify the particular groups of

experience teaching SVI for statistically significant mean differences of teachers' attitude towards the logistical issues of inclusion for SVI (Table 9). As a result, a statistically significant mean difference was found between the experience of teaching SVI of 11-15 years and 15+ years (MD=-1.85, P=0.015); and between those of 15+ years and 0-5 years (MD=1.85, P=0.004) for the teachers' attitude towards logistical issues of inclusion for SVI. This indicates that teachers with the more experience of teaching SVI (15+ years) were found to have more positive attitude towards the logistical issues of inclusion for the SVI than teachers of less experience (0-5 years & 11-15 years) of teaching SVI in the general education classrooms. In addition, this indicates that teachers with relatively more experience of teaching SVI were found to be more comfortable in teaching them and making special physical arrangements to meet the needs of SVI in the general education classroom.

Table 9. Post hoc multiple comparisons across experience of teaching students with visual impairment for teachers' attitudes

Dependent variable	(I) Teaching SVI	(J) Teaching SVI	Mean difference (I-J)	Sig.
Attitude towards Logistical Issues of Inclusion	0-5 years	6-10 years	-0.76273	0.088
		11-15 years	0.00754	0.989
		15 + years	-1.84730*	0.004
	6-10 years	0-5 years	0.76273	0.088
		11-15 years	0.77027	0.212
		15 + years	-1.08457	0.123
	11-15 years	0-5 years	-0.00754	0.989
		6-10 years	-0.77027	0.212
		15 + years	-1.85484*	0.015
	15 + years	0-5 years	1.84730*	0.004
		6-10 years	1.08457	0.123
		11-15 years	1.85484*	0.015

* The mean difference is significant at the 0.05 level

Teachers in focus group discussions also stated that having adequate experience in teaching students with visual impairment could create a positive attitude on teachers towards the inclusion

of these students. Teachers reported that due to experience in teaching SVI, they could understand these students' behaviour and adapt the appropriate teaching strategies based on the learning needs of the students. One teacher in the FGD had provided the following evidence: "Familiarity with students with visual impairment was good. When teachers become familiar with students with visual impairment, they would adapt and design their teaching strategies based on the learning needs of these students. The experience of teaching students with visual impairment by itself was good because teachers learn from it about how to design lessons for these students. (FGDT3)".

Discussion

The present study had come out with a combination of findings regarding age. To spell it out, in one hand, the teachers' age had a statistically significant impact on their attitude towards the inclusion of SVI, in another hand, the teachers' age indicated statistically no significant impact on their attitude towards the inclusion of SVI. Similarly, previous studies on the impact of age towards the attitudes of teachers lying on the inclusion of SVI found mixed results. In this regard, some studies indicated that younger teachers had more positive attitude towards the inclusion (Berry, 2010; Hwang and Evans, 2011) while some other studies had found that the older teachers held more positive attitude towards inclusive education than the younger teachers (Hofman and Kilimo, 2014; Avramidis and Kalyva, 2007).

This study also found that teachers, anchored in their level of educational qualifications, have mixed attitudes towards the inclusion of students with visual impairment. As a result, teachers with first degree were found to report more positive attitude towards professional, philosophical and logistical issues of inclusion for SVI compared to those who held Diploma and Master's Degree. The data also imply that most teachers, held their degree during the old curriculum in which the provision of special need course was not adequate in both quality and quantity, had lack awareness on inclusion of SVI. This was particularly recognized at Diploma and Masters Level teachers. This was also confirmed by previous studies (Leatherman and Niemyer, 2005; Austin, 2001).

Regarding the influence of in-service training on teachers' attitude towards inclusion of SVI, this study found that there was a statistically significant difference across the levels of in-service training for the teachers' attitude towards the logistical issues of inclusion for SVI. Thus, it was found that as teachers had participated in more professional development hours on inclusion,

they had more positive attitude towards the logistical issues of inclusion for SVI. In agreement to this study, many previous studies found that teachers who participated in in-service training about inclusion had a more positive attitude about inclusion than those who had not participated in in-service programs (Allison, 2012; Forlin and Chambers, 2011; Ernst and Rogers, 2009; Ross-Hill, 2009).

The present study also found that in-service training had no statistically significant influence on teachers' attitude towards the professional and philosophical issues. Many previous studies found the consistent results in relation to this finding. They indicated that since most teachers are not adequately trained, the ability to understand their roles and responsibilities in an inclusive school poses a key challenge to the implementation of inclusive education (Malinen et al., 2013; Walker, 2012; Dodge-Quick, 2011; Edmunds, 2000).

This study also found that teachers who had experience working in an inclusion environment had a more positive attitude towards the logistical issues of inclusion for students with visual impairment than teachers who do not have experience in an inclusion classroom. Similar to this result, previous studies found that teachers with more experience in teaching special education had a more positive attitude about inclusion (de Boer et al., 2011; Oyler, 2011; Van Reusen, 2001). However, teachers' experience with visual impairment students was not an influential factor on the teachers' attitude towards the professional and philosophical issues of inclusion for SVI and this was uniform with the earlier finding of one study (Hastings and Oakford, 2003).

Conclusions

The age category had statistically significant influence on the general education teachers' attitude towards the professional and philosophical issues of inclusion for SVI in the general education classroom. Accordingly, general education teachers with young age had more positive attitude towards the professional issues of inclusion for SVI than those with the relatively aged teachers. Whereas aged teachers had more positive attitude towards the philosophical issues of inclusion for SVI in the general education classroom than those of relatively young teachers. However, there was no evidence to conclude that the teachers' age category had significant influence on the teachers' attitude towards the logistical issues of inclusion for SVI in the classrooms.

The study found that qualifications of general education teachers had statistically significant influence on their attitude towards the professional, philosophical and logistical issues of inclusion for SVI in the classrooms. Thus, compared to those teachers with first Degree

qualifications to those with Diploma and Master's Degree qualifications, the later appeared to have less positive attitude towards the professional, philosophical and logistical issues of inclusion for SVI.

The study found that in-service training in inclusive/special needs education had a tendency to significantly influence teachers' attitude towards the logistical issues of inclusion for SVI. Therefore, general education teachers who had more in-service training in inclusive/special needs education had more positive attitude towards the logistical issues of inclusion for SVI. However, there was no statistically significant evidence for the influence of in-service training on the general education teachers' attitude towards the professional issues and philosophical issues of inclusion for SVI.

Years of experience in teaching SVI also likely to influence teachers' attitude towards the logistical issues of inclusion for SVI in the general education classroom. Thus, compared to less experienced teachers, those with relatively more experience in teaching SVI had more positive attitude towards the logistical issues of inclusion for SVI. On the other hand, there was no evidence to infer that years of experience in teaching SVI had significant influence on teachers' attitude towards the professional and philosophical issues of inclusion for SVI classrooms.

Recommendation

In this study, age, educational qualifications, in-service training and years of experience in teaching SVI had significant influence on teachers' attitude towards SVI in classrooms. Thus, it was suggested that:

The school management should provide an opportunity where the younger teachers share their experience to and work with the relatively aged teachers on the professional and philosophical issues of inclusion for students with visual impairment. Furthermore, the special need educators should provide continuous support, training and follow-up services for aged general education teachers on the professional issues of inclusion and for young teachers on the philosophical issues of inclusion for SVI.

The Ministry of Education should revise the Diploma and Masters Level's pre-service training courses if the courses are relevant in content and adequacy for the general education teachers' attitude towards the professional, philosophical and logistical issues of inclusion for SVI. Furthermore, in-service training, for teachers who have had in-sufficient pre-service training on how to design individualized instruction for SVI at the school level, should be organized by the

school management in collaborations with the District Education Bureau and Zone Education Department.

Regarding the years of experience in teaching SVI, the school management should provide the opportunity to teachers who have more experience in teaching SVI to support and collaboratively work with those who have less experience in teaching these students. The school management in collaboration with the special need educators should also arrange and provide the in-service training programs for teachers with less experience in teaching SVI, focusing on the logistical issues of inclusion.

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