

In-Service Primary School Teachers' Knowledge of Inclusive Pedagogy in Ethiopia

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Abstract

This study focuses on investigation of the general education primary schools in-service teachers' level of knowledge of inclusive pedagogy (IP) and factors that affect this variable. To achieve the above objectives, the researcher used embedded concurrent mixed methods research design: cross-sectional survey and case study methods. Moreover, knowledge of IP questionnaire (KIPQ), document analysis and interview guides were used to collect the data. To collect the quantitative data, 146 participants were selected through stratified simple random sampling from four purposely selected primary schools which were found in South Wollo Zone, Ethiopia. Additionally, eight teachers and two principals were selected purposely from these schools for in-depth interview. The data were also collected from a module used in training of in-service teachers for inclusive education. The result of the study indicated that the study participants had marginal level of knowledge of IP ($M = 2.44, SD = 0.85$). This result mainly attributed to the participants' inadequate training on knowledge of IP and lack of teaching materials and facilities that foster the development of the IP. The study result implies that these teachers could not meet diverse students' needs because of their lack of knowledge IP which in turn may lead them to use traditional teaching method that marginalizes students with special educational needs. Finally, implications for in-service teachers' training for quality IP are discussed based on the findings of the study.


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INTRODUCTION

Inclusive education has gained significant place in the current education system because it is supposed to help to overcome the 21st century great challenges that have been created in the world due to complex social, political, economic and educational changes which are in turn related with ever changing global situations (Hegarty, 1994). In other words, global acceptance of inclusive education is related with its contributions, such as exercising educational rights to all citizens; and promoting provision of quality education for students with diverse needs and abilities in regular classrooms (Mitchel, 2010). Besides, inclusive education is important to build democratic society (Federal Ministry of Education, 2012a), to promote positive attitude among people regarding acceptance of differences in human beings (Chopra, 2008); and to enhance students with and without special educational needs (SENs') development in psychosocial, academic and other aspects (Loreman, Deppeler and Harvey, 2005; Tirussew, 2005). In addition, inclusive education is believed to increase people with SENs' playing significant role in economic development (Federal Ministry of Education, 2006). It is also supposed to serve as an instrument to break down the barriers that separate general and special education delivery systems and make the students with diverse needs and abilities valued and respected as members of a society (Chopra, 2008).

Inclusive pedagogy (IP) is one of the crucial instruments for teachers to make their teaching and learning meaningful by providing suitable learning opportunities, "taking multiple pathways of learning into account, establishing cooperative learning, creating attractive learning settings and using continuous assessment procedures" (UNICEF, 2014 p.43). Moreover, using IP helps schools to reduce inequality in students learning that arise from demystification of students learning is based on bell curve distribution; attention of that students need additional support during their learning; and consideration of students diverse needs and meeting these needs (Florian, 2010; Florian, 2015). Florian (2010) also says that IP considers student differences as strengths and resources or learning and utilizing each student's potential to learn.

IP is different from inclusive education and inclusive practice. According to Florian and Black-Hawkins (2011) inclusive education refers to the method of increasing students' participation and reducing exclusion in education. Inclusive pedagogy, on the other hand, is concerned with the teachers understanding of the notion of inclusion and how to deliver the education to their students with diverse needs in inclusive schools. Finally, inclusive practice involves in what teachers in reality perform in inclusive schools by applying inclusive education concepts, principles and practices.

IP in this study context refers to teaching and learning strategies that focuses on meeting diverse students' needs by differentiating instructions and giving appropriate support services to the students so that they can actively participate in their lessons (Florian, 2015). Additionally, IP deals with using of different approaches in which teaching-learning methods which are "meaningful, relevant and accessible to all" students regardless of differences among them (Hockings, 2010, p.1). In specific terms, it includes inclusive education teaching-learning strategies that help teachers meet students' diverse needs and abilities through differentiation of curriculum. Differentiation means modification and/ or accommodation teaching and learning components that are aimed to meet diverse students' needs and ability differences. This means, in the process of teaching and learning, the inclusive education teachers may be involved in either modification or accommodation, or both activities at the same time (Wright, 2003). Specifically, accommodation refers to conducting changes on a given curriculum without fundamentally altering complexity or difficulty level of learning contents and other issues to fit students' diverse needs and ability differences leaning in an inclusive classroom. On the other hand, modification means making differentiations of curriculum elements by basically varying complexity of a given curriculum to meet students' diverse needs and ability differences in regular classrooms (Wright, 2003).

Ethiopia is one of the countries that accepted international conventions, declarations and legislations/policies of inclusive education to get the benefits of inclusive education. Thus, the country has started to conduct

teacher training for special/inclusive education since 1990s. Moreover, by strengthening such teacher training activities, the country is committed to achieve the Universal Primary Education Consortium (UPEC) and Education for All (EFA) goals (Federal Ministry of Education, 2012a; MoE, 2006). To this end, the country has been using special needs education/inclusive education teacher training system based on “provision of the service within the existing structure and in the framework of inclusive education” (Federal Ministry of Education, 2010, p.75).

To meet the above goals in Ethiopia, the general education teachers (including primary school teachers) are expected to have knowledge and skills about equity/inclusive pedagogy and positive attitude towards acceptance of philosophy, policy and practices of inclusive education. Moreover, general education teachers (including in-service primary school teachers) need to have knowledge and skills that help them:

support students with special needs in their classroom; consult special needs education professionals/itinerant teachers when they are encountered with the problems she/he cannot handle by her/himself; work in close collaboration with parents of students with special educational needs on the progress of their learning; conduct action research to mitigate barriers to learning in classroom situation; identify and assess students individual abilities, learning and environmental barriers so that they can plan to remove the barriers and assist their students; and use innovative instructional strategies, for example, cooperative and collaborative learning, peer tutoring heterogeneous grouping (ability grouping, mixed grouping, interest based grouping), to meet the needs of all children in the classroom. (Federal Ministry of Education, 2012a, pp.38-39)

It is obvious that classrooms are not homogenous because of diverse students’ background, needs and ability differences; teachers need to be prepared to meet these diverse needs and ability differences. Meeting of these diverse needs and ability differences can be possible when the teachers have IP knowledge and skills and positive attitude towards inclusive education of these students (Rehabilitation Council of India, 2009). Moreover, teachers can implement inclusive education when they are equipped with “necessary”, for example, knowledge of IP and positive attitude towards inclusive education. This is because teachers’ adequate knowledge and skills about IP (Dapudong, 2014) is one of the most important ingredients to meet diverse students’ needs and ability differences in regular classrooms. For example, Ahsan and Sharma (2013) reviewed different studies in this area. They argue that if teachers graduate with “adequate” knowledge and skills about IP, they could have better knowledge of teaching-learning methods that meet students’ diverse needs and abilities in inclusive classrooms. Moreover, Nketsia (2011) asserts that when teachers have “adequate” knowledge of IP, they may identify students’ with educational need (SwSENs) and provide intervention activities and instructional strategies to meet their students’ individual needs and abilities differences. In addition, New Brunswick Association for Community Living/Association (2007) pointed out that well trained teachers may develop confidence regarding their ability to effectively include and teach students with diverse needs and abilities in regular classrooms. On the contrary, when teachers have lack of this knowledge, this can be one of the sources for their negative attitude towards inclusive education and their inability to meet students’ diverse needs and abilities in inclusive classrooms (Gaad and Khan, 2007).

Modification and/or accommodation differentiation of a curriculum should be concocted based on “cognitive, affective, communicative and physical demands of the formal curriculum to the capabilities, strengths and needs of individual learners” (Federal Ministry of Education, 2012a, p.12). These practices also require the teachers’ engagement in adjusting instructional strategies, teaching methods, teaching materials and assessment methods of students learning. Adaptation and/or accommodation also encompass using individualized educational plan IEP (UNESCO, 2009). Additionally, adaptation and/or accommodation includes making physical classroom environment accessible to students with special educational needs. For example, it may incorporate arrangement of seats, creating space for free movement, minimizing distraction and so on. Besides, adaptation and/or accommodation involve adjusting psychosocial classroom environment to value and respect differences and

work collaboratively. For instance, it may include making students develop self-regulation, valuing and respecting differences, develop social interaction and friendship skills, etc. are essential (Loreman et al., 2005). This issue also includes teamwork with others such as parents, colleagues, special needs education teachers and other relevant professionals (Ahsan, Sharma & Deppeler 2012).

Moreover, differentiation for IP involves two types of differentiations: common practices which are done every day and “specialized” practices that are made based on special considerations that make the diverse students’ actively participate in their learning. The specialized differentiation in teaching and learning processes may comprise modification of: content of an instruction, instructional strategies, techniques about assessment of students learning, teaching materials (aids); managing of classroom behavior; IEP development and implementation; and so on (Maryland Coalition for Inclusive Education, 2010).

Teachers should also have knowledge about how to identify students with diverse needs. Students with diverse needs include differences in: gender, religion, learning style, ethnic background, culture, socio-economic, learning ability differences and other differences (Tomilson 2000b). Tomilson (2000b) also states that students can also have unique needs that may include emotional need, communication need, health need, sensory need, readiness to learn need, etc.

In the application of IP, teachers are required to plan a lesson that meets diverse students’ needs without planning pre-determined lesson learning outcome. This is because since students are diverse in their learning needs that cannot be determined before addressing students different needs (Florian, 2015).

Generally, IP helps the teachers to make all students participate actively in their learning regardless of the students’ differences in their needs and ability (Florian, 2015). The can be done when the students have opportunity to “choose how, where, when and with whom they learn”; the teachers create conditions for students to consult the teachers about suitable learning conditions and ask needed support services; and working with relevant stakeholders that help to meet the students’ needs and ability differences (Florian and Black-Hawkins, 2011, p.821).

Statement of the Problem

Teachers’ lack of IP is one of the major factors that negatively affect implementation of inclusive education. For instance, when teachers have lack of knowledge of IP, this can be one of the sources for their negative attitude towards inclusive education and their inability to meet students’ diverse needs and abilities in inclusive classrooms (Gaad & Khan, 2007). Besides, the teachers may be capable to find solutions to meet students’ diverse needs and ability differences in inclusive schools (Gafoor & Asaraf, 2009). Furthermore, Ahsan and Sharma (2013) have recommended that there is a need to assess teachers’ knowledge of, attitudes and concerns towards inclusive education before and after their training for inclusive education. Moreover, it is argued that implementation and conducting research on inclusive education of pre-primary and primary schools are very crucial to expand and develop new breed of inclusive education teachers and build inclusive society (Catholic Relief Services Vietnam, 2010).

With regard to the study about in-service teachers’ knowledge of IP and factors that affect these teachers’ knowledge of IP in Ethiopia, in general and south Wollo Zone in particular, there was little or no study about it. The researcher believed that primary schools in-service teachers’ knowledge of IP, among other variables, needs to be researched well to take appropriate intervention on the issue. Thus, this gap initiated the researcher to conduct the study in order to address the following research questions:

- What is the level of the study participants’ knowledge of inclusive pedagogy?
- What are the major factors that affect the study participants’ knowledge of inclusive pedagogy?

METHOD

Research Design

The researcher used embedded concurrent mixed methods research design to conduct the study. Survey research design (specifically cross-sectional survey type) and case study was used for the study. Cross-sectional survey research design is important to study several issues, such as attitudes, practices and beliefs at one point in time (Creswell, 2012), whereas case study is used to study a case in an in-depth way (Gay, Miller & Airasian, 2009).

The rationale for the researcher's using of the mixed methods research design provides a better understanding of the research problems than either forms of research by itself (Creswell & Plano Clark, 2007). Thus, in the current study, the researcher used quantitative method to find out the level of the study participants' knowledge of IP. Moreover, the researcher utilized qualitative method of the study to explore factors that affect the participants' knowledge of IP. The quantitative research method was used as dominate research method, whereas the qualitative method was used to support the quantitative research method.

Research Sites

The researcher conducted this study in four primary schools, that is, schools that were found in two towns and two rural "Kebeles" which were found in South Wollo Zone. These included: *Kombolcha* Number Two Comprehensive Primary School (in *Kombolcha* Town Administration), *Aba Kolva* Primary School (in *qalu woreda*), *Hiak* Number One Full Cycle Primary School (in *Haik* Town Administration) and *Sulula* General Primary School (in *Tehuledere Woreda*). *Aba Kolva* and *Sulula* Primary schools were found in rural "kebeles" of South Wollo Zone where the other primary schools were found in town administrations of South Wollo Zone.

Target Population for Study Participants

The target population for this research was general education primary school in-service teachers' who were teaching in four primary schools found in two urban areas and two rural areas of South Wollo Zone. These teachers had teaching experience for more than one year and had taken training in Special Needs / Inclusive Education. These target population participants included: Male=31 and female=44 (from *Kombolcha* Number 2 General Primary School); Male=16, females 14 (*Aba Kolva* Primary School); male= 17 and female=9 (from *Sulula* Primary Schools); males= 28 and females=33 (from *Hiak* Number 1 Primary School). The total target population for the study included: males=92 and females = 100. Generally, the total target population was 192.

Sampling Method of Study Setting and Participants

The study sites were selected purposely. This selection was mad based on the schools including of some students with special needs education into regular classrooms and better experiences in including students with special needs.

The study participants were selected for quantitative and qualitative data collection. The study participants for quantitative data were chosen by using stratified random sampling method. The stratification was conducted based on gender. Table of random numbers was used to select them randomly. Regarding inclusion and exclusion criteria, the participants' below five years teaching experience were not selected. This inclusion and exclusion criteria worked for both male and female participants.

Sample size determination was done based on sample size determination rule of thumb developed by Krejcie and Morgan in 1970. It is used to determine sample size of the patricians for the quantitative part of the research. Based on this rule of thumb, 146 participants out of 192 were selected.

The number of participants with their demographic characteristics is indicated in Table 1 below.

Table 1. Distribution of the Study Participants by Schools, Educational Qualification and Field of Study

Demographic Variables in number and percentage	Gender		Teaching experience			Target Schools			
	Male	Female	6-10 years	11-15 yeas	16-20 years	S 1	S2	S 3	S 4
<i>n</i>	70	76	115	26	5	50	20	54	22
%	47.9	52.1	84.2	15.8	3.4	34.25	13.70	36.99	15.07
Total (n/%)	n=146/100%		n=146/100%			n=146/100%			

Table 1 indicated that the majority of the participants were females (76/52.10%). Additionally, more than 50 percent (54.10%) were first degree graduates. Moreover, majority of the participants were selected from 6 to 10 teaching experience group (84.2. %). Besides, the majority of the participants were selected from urban schools (S1 and S3) than rural schools (S2 and S4).

Regarding the selection of the study participants for qualitative research part, eight (four males and four females) were purposely selected for the in-depth interview data. The purposive selection was done based on the justification that the interviewees could give better information concerning the study under discussion. The purposive selection was made based on information given by the respective school principals where the study focused on.

Instrumentation

The researcher used knowledge of IP questionnaire (KIPQ), Document analysis and interview and document analysis guides to collect the data. The Knowledge of Inclusive pedagogy questionnaire (FKIPQ) was developed from literature reviews especially from the works of Loreman et al. (2005), Raymond (1995, cited in The Roehrer Institute, 2004), Mitchell (2015) and other related literature review sources. The KIPQ development from these sources was done based on Passmore and Parchman's (2002) recommendation on "guidelines for constructing a survey." KEPQ has 18 items to measure the participants' inclusive pedagogy knowledge. The items have four choices: Not Knowledgeable, Marginally /a little bit Knowledgeable; Knowledgeable and Very knowledgeable.

The other instruments, that is, document analysis and interview guides focused on identifying the factors that affect the study participants' knowledge of inclusive pedagogy. These guides were developed by the researcher through the process of item development mentioned above which is recommended by Passmore and Parchman (2002).

Validity and reliability of the above research tools were checked for the current study. The pilot test was made by using 20 teachers from one of the primary schools that could have similar to the final data collection participants of the study. The developed instruments were tested for their validity and reliability based on suggestions given by Nektsia, (2011). As a result of the validity test, poorly worded items, items with ambiguous meaning and non-representative of the content were identified and corrected. The pilot test result also indicated that that KIPQ had the Cronbach alpha reliability coefficient of 0.79.

Procedures

Both quantitative and qualitative data were collected based on the permission given from the research review committee of Wollo University and the primary schools administrative staff personnel and consent obtained from the study participants. The data were collected by the researcher and his two assistants who were trained in collecting quantitative and qualitative data. The participants completed the survey instrument items within average of 10 minutes.

One- to- one interview was also conducted with each participant to collect the interview data. The one-to-one interview with each interviewee took on average an hour. Moreover, qualitative data was collected through the document analysis guide; the data was collected mainly from module used for training on the course "inclusive education" and practicum guideline.

During the process of data collection and analysis, research ethical issues were considered. For instance, the participants were made to respond to questionnaires and interview based on their full consent. Moreover, the participants' names and personal identities were not disclosed by using codes. For this reason, Codes like "T" for teachers and "SL" for school leaders were used.

Data Analysis

The researcher used rule of thumb to determine the participants' level of knowledge of inclusive pedagogy. Thus, the researcher employed the concept used by Kessell, Wingenbach and Lawver (2009). The authors used the following cut off points: not knowledgeable=1, marginally knowledgeable=2, knowledgeable =3 and very knowledgeable= 4. Thus, the level of knowledge was interpreted as: Below 1.5 =not knowledgeable; 1.5-2.4 =marginally knowledgeable; 2.5-3.4=knowledgeable and 3.5-4.0 very knowledgeable.

Descriptive statistical techniques like frequencies, percentages, means and standard deviation were used to analyze quantitative data. The researcher used version 20 SPSS to analyze the data. Additionally, the qualitative data were analyzed by applying thematic content analysis method. The researcher used thematic content analysis method that is suggested by Braun and Clarke (2006).

The qualitative data was analyzed based on content analysis method. Thus, the researcher used the following steps: reading and re-reading transcribed data, observing for similarities and differences to make themes and categories, production of codes and demarcation of them, development of themes, and finally creation of explanations and meanings to the themes. Trustworthiness of data was ensured through different strategies. These included reflexivity, triangulation of sources of data, peer debriefing, and member checking and extended stay in the field during the process of data collection.

FINDINGS AND DISCUSSION

The In-service Teachers' Knowledge of Inclusive Pedagogy

This sub-section deals with knowledge of equity pedagogy that is different inclusive education teaching-learning methods that help teachers meet students' diverse needs and ability differences in inclusive classrooms.

Table 2. The Study Participants' Knowledge of Equity Pedagogy

Q.n	Item	M	SD
1	Identification of students diverse needs	2.30	.76
2	Identification of students diverse abilities	2.42	.79
3	Identification of students different learning styles	2.52	.94
4	Accommodation and/or modification of contents of teaching	2.43	.90
5	Accommodation and /or modification of teaching methods	2.74	.89
6	Accommodation and/or modification of teaching aids	2.56	.89
7	Accommodation and/or modification of teaching materials	2.60	.88
8	Accommodation and /or modification of assessment methods	2.51	.84
9	Accommodation and/or modification of PCRE	2.32	.72
10	Accommodation and/or modification of PSCRE	2.36	.83
11	Using assistive technologies	2.28	.80
12	Using individualized educational program (IEP)	2.30	.84
13	Collaboratively working with colleagues	2.59	.82
14	Collaboratively working with parents	2.56	.84
15	Collaboratively working with special education teachers	2.32	.80
16	Collaboratively working with specialists/professionals	2.03	.80
17	Collaboratively working with NGOs and GOs	2.51	1.10
18	Using an inclusive lesson plan	2.62	.82
Grand M & SD		2.44	0.85

Note: PCRE - Physical classroom environment; PSCRE -psychosocial classroom environment, NGOs-Nongovernmental Organizations; GOs-Governmental Organizations

Table 3 demonstrated that the participants' knowledge of IP mean scores ranges from $M=2.74$, $SD= 0.89$ to $M=2.03$, $SD=0.80$. Moreover, the participants were knowledgeable to items 3, 5, 6, 7 8, 13, 14 17 and 18. Besides, they were not very knowledgeable to all of the items. However, they had little or marginal knowledge to the rest of the items. Generally, the study participants knowledge of IP score indicates that they were marginally knowledgeable about the issue under discussion ($M = 2.44$, $SD= 0.85$).

As stated above the study participants' average score showed that they had marginal knowledgeable about IP. This marginally knowledgeable resulted from the participants' inadequate training opportunities on practical areas of inclusive education. For instance, the interview results which were obtained from the teachers showed that they had lack of inclusive pedagogy knowledge. For example, all of the interviewees reported that they had limitation in training in how to identify students with diverse needs. When they were asked to name students with diverse needs, all of them said that students with special needs include students with disability and gifted and talented students. However, they did not have knowledge about students' diversity differences in terms of economy, language, culture learning style, gender, minority, religion, ability, experience, etc. For example, the following quotation represents the participants' response:

I know about students with special educational needs. They are students with different types of disability and students who are gifted and talented. Students with disability includes students with visual impairment, students with hearing impairment, students with behavior disorder, students with intellectual disability, students with language and speech disorder, students with learning disability and students with physical and health impairment. (T2)

The interview result is supported by document analysis. The documents that were used as training instrument indicated that these teachers had taken training on students with special educational needs that included: students with hearing impairment, students with behavior disorder, students with intellectual disability, students with language and speech disorder, students with learning disability, students with visual impairment, physical and health impairment and gifted and talented students.

The above results revealed that the teachers' lack of knowledge about identification of students' needs and ability differences resulted from limitations in their training on diverse students' needs and ability differences other than mentioned above. This also implies that teachers could not try to meet diverse students' needs and ability differences because of lack of knowledge about students with diverse needs.

The present study supports studies results conducted in different countries of the world, for example, Simi's (2008) in the Solomon Islands and Mousoli, Kokaridas, Angelopoulou-Sakadami, and Aristotelous (2009) in Greece. In these studies, the study participants' had low level of knowledge of diversity among students which attributed to their lack of training on the area under discussion.

The lack of knowledge to identify students' diverse needs was not the study participant teachers' problem. This is the problem of the training program that focused on only the students with special educational needs mentioned above. In relation to this notion, Mitchell (2010) and UNESCO (2009) argue that there is a worldwide problem of classifying students who need special educational needs. This has happened due to lack of universally accepted agreement in the area. As a result, in some countries of the world, teachers are made to be trained only on students with disabilities as students with special educational needs (UNESCO, 2009) and in most cases, teacher training institutions give little attention or ignore training on diversity among students (Tobias et al., 2008) which in turn will make the teachers ignore meeting students' diverse needs and ability differences in regular classrooms.

The current study also revealed that the teachers had marginally low level of IP in relation to modification and/or accommodation of teaching and learning components. When they were asked about how they teach their students to meet all students needs regardless of the students differences in needs and ability, all of them agreed

that they were trying to support students with special educational needs by using teaching and learning methods like economic support, peer helping, tutorial, note giving and other teaching materials supports. For example, one of the interviewee teachers stated inclusive education pedagogy as follows:

Our school is in the process of implementing inclusive education. Some students with disability like students with physical disability and hearing and visual impairments get financial support. Teachers also encourage the students in their lessons to make them participate actively. Teachers also sometimes give tutorial and materials like notes. Additionally, the school makes the students with special needs to get support from peers and teachers in individual bases. (T5).

From the above quotation, one can infer that teachers had lack of IP knowledge regarding meeting of the students with diverse needs and ability differences through: accommodation and/or modification of different teaching-learning elements and working collaboratively with relevant stakeholders. When they were asked about accommodation and /or modification of teaching and learning methods, they did not get training on the issues under discussion. They also reported that they did not get practical training on IEP development and implementation; and collaborative work with others such as special needs education teachers, parents; other relevant professionals and organizations.

Regarding assistive devices, they had conceptual knowledge of assistive devices for mathematics (such as abacus), writing and writing aids like Braille, and other devices such as aids for movement, as well as hearing and vision aids. However, they had no knowledge about how to make the students use such assistive devices. For example, the following quotation may show their lack of training on these issues:

I did not get training on inclusive education pedagogy specifically on accommodation and modification, collaborative work and inclusive education lesson planning. I did not practically train on how to meet needs of students with special educational needs. In fact, I have got training on how to teach students with special needs in regular classes. But I did not have knowledge and skills on modification and accommodation of teaching and learning processes. (T2).

I do not know about many of the issues you raised. For example, individualized educational program, modification and accommodation and teamwork and so on. They are difficult to implement. I think I need theoretical and practical training on these issues. Regarding assistive technology, students use visual aids hearing aids, movement aids reading and writing aids, mathematics aids. But I have no knowledge about how to make the students to use these devices. (T7)

The interviewees' response partially agrees with the document analysis result. The document analysis result revealed that there are concepts related with accommodation and modifications during the processes of teaching and learning. Additionally, there are conceptual issues in their training material regarding assistive technologies for students with special educational needs learning. There is also theoretical training on IEP and assistive technology use. However, the teachers were not trained practically on how to modify, accommodate, and use IEP and assistive devices during their practicum.

The above results suggest that the teachers could not meet students' diverse needs and ability differences by accommodation and modification of teaching and learning components, using IEP, collaboration with stakeholders, using assistive devices and other related issues. In connection with this Awang-Hashim, Kaur and Valdez (2019) assert that unless teachers use ranges of accommodations and modifications and assistive technologies, it is difficult to implement inclusive pedagogy to meet the students' diverse needs and ability differences in inclusive classrooms. Moreover, unless teachers get necessary resources and facilities, they will not be motivated to identify the students learning needs. Thus, they will try to use 'traditional' (teacher -centered) teaching and learning methods that marginalize students with special educational needs (Goree, 1996).

The current study result supports studies conducted by Gök and Erbaş, (2011) in which teachers had low knowledge of inclusive pedagogy strategies and principles. Moreover, the current study agrees with Mafa and Makuba's (2012) study results in which teachers had lack of knowledge about using of flexible instructional strategies. This also confirms to Federal Ministry of Education (2012a) study result which states that teachers had lack of practical skills to be effective at school level and do not consider students' needs and ability differences. These results attribute to the teachers lack of getting practical training on inclusive education in general and inclusive pedagogy in particular, as well as, lack of necessary assistive devices and resources.

However, other study result partially contradicts the current study. For example, studies conducted by Nketsia (2011) and Kirk (1998) revealed that the study participant teachers had high level of knowledge about arranging classrooms to make them conducive for active participation of students with special educational needs. This result happened due to the teachers training on the inclusive education pedagogy and availability of resources for inclusive education.

The above discussion suggests that to equip the teachers with necessary inclusive education pedagogy knowledge and skills, it is necessary to make them get balanced theoretical and practical training on inclusive education pedagogy. This also needs furnishing the schools with necessary assistive technology and other necessary resources and facilities. In line with this, UNESCO (2009) stated that teachers for inclusive education should get adequate theoretical and practical training on differentiation of teaching methods, assessment strategies and collaborative teaching and learning strategies.

The present study result also suggests that the general education primary school teachers' in Ethiopia could not use the teaching-learning methods that meet students' diverse needs and abilities in inclusive classrooms. Consistent with this, Kaplan (2012, p.17), as cited in UNESCO (2009) argues that when teachers have lack of practical training on IP, they cannot link what they learned in theory to practical activities to meet students diverse needs and ability differences in inclusive settings. This also suggests that these teachers use teacher-centered teaching methodology which disregards meeting of students' diverse needs and abilities learning in inclusive classrooms and provide low quality education to citizens (Tomlinson et al., 1995).

CONCLUSIONS AND IMPLICATIONS

Conclusions

The result of the study indicated that the study participant teachers' had marginal level of knowledge of IP. Inadequate practical training on inclusive teaching and learning strategies, collaborative work methods, diverse students' needs, characteristics and potentials and assistive materials and facilities use were the main problems for their lack of knowledge about IP.

It is possible to infer from the current study result that the study participant teachers could not implement inclusive education because of inadequate knowledge of IP. This also implies that teachers with lack of knowledge of IP cannot link theory and practice in their teaching-learning processes to meet students' diverse needs and ability differences in inclusive classrooms (UNESCO, 2009). Finally, this leads them to use teacher-centered teaching methodology (Tomlinson et al., 1995) and marginalizing and excluding students with special educational needs from full participation in their education in regular classrooms (Lewis & Bagree, 2013).

Implications for Training on Quality Inclusive Pedagogy

As indicated above, the study participants had lack of IP due to limitations in their training in inclusive education. In line with this, Wingenbach and Lawver (2009) argue that "well-prepared, considerate, qualified teachers who meet the needs of all students, regardless of capability or capacity, are not a coincidence of high quality teacher education programs; they are the results of such programs" (p.60). On the other hand, many study results indicated that pre-service teacher training programs for inclusive education could not prepare teachers for effective inclusive education implementation (Das, Gichuru, & Singh, 2013). Thus, in-service teachers training on

inclusive pedagogy and related issues should be conducted through workshops, continued professional development (CPD) and other means to train them adequately in a way they can meet students' needs and ability differences (Cohen & Hill, 2001). This can be achieved specially through CPD strategies (May & Bridger, 2010). Therefore, the researcher recommends the following issues to be done to promote the primary school general education teachers inclusive pedagogy knowledge:

- The teachers should get in-service adequate theoretical and practical training on inclusive education pedagogy that includes: identification of students' diverse needs and ability differences; inclusive lesson planning; modification and accommodation of content, teaching methods, assessment strategies, teaching aids and materials, physical and psychosocial classroom environments; identifying and using assistive technologies; developing and using individualized educational program; and collaborative working with relevant stakeholders.
- The inclusive schools should be furnished with necessary materials and facilities as well as IE support centers in schools to motivate and support teachers to meet students diverse needs and ability difference.
- Further research should be conducted by concerned and interested bodies in the area under discussion. This will help generalize the findings of the current research and identify other factors that affect the issues under discussion.

Limitations of the Study

The current study has some limitations. For example, it was conducted in one regional state zone of Ethiopia which could not represent the whole primary school general education teachers in Ethiopia. It has also limitations in showing the participants' differences in IP due to demographic variables such as age, sex, teaching experience, training and other factors that affect the participants' knowledge of IP. Thus, this necessitates further research by including the variables mentioned above and related variables.

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