Effects of Intervention on Self-concept Development of Hearing and Hard-of-Hearing Children

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Received: 06 September 2017; Accepted: 19 July 2019

Abstract: The main purpose of this study was to investigate the effect of school-based intervention on grade one children's self concept. This study tested the hypothesis that hearing and hard-of-hearing children receiving teacher-mediated-intervention would make significant progress in their self-concept. The participants of this study were 200 children - equally distributed for experimental and control group and matched. Two government schools, where children with low socio-economic status, culturally and linguistically homogenous enrolled, were purposefully selected for quasi-experiment. The instruments used for assessment included audiometric hearing test and Self-Concept Scale. A two-way repeated measure ANOVA was used to measure the controlled effects. The relationship between hearing level and self-concept was measured for this major dependent variable. The results of this study showed that many of the children in the sample in this study suffered from unilateral and bilateral borderline hearing losses. Both schools had a total of 13.5% children who had bilateral hard-of-hearing loss. However, the hearing level did not have a significant main effect on their self-concept. On the other hand, there was a significant main effect of time on the children's self-concept. There was also a significant interaction effect between the time of measurement and the group, indicating that the intervention had a significant effect on the variable, self-concept. Besides, the effects were not dependent on the level of hearing. Therefore, hard-of-hearing children equally benefited from the intervention as much as the hearing children.

Keywords: hard-of-hearing, mediated learning experiences (mle), self concept, academic achievement.

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Background

Some studies indicate that parents' lack of communication with their hearing-impaired child usually experience stress, anxiety, confusion, depression, and grief (Adams, 1997; Alemayehu, 2000), and this behavior in turn affects the child's social and emotional development. Social and emotional deprivation is not only the result of the hearing disability of the children, but also the result of the unfavorable attitudes communities have towards such children. Such negative attitudes of people towards the hearing-impaired may force them to face rejection, isolation, and deprivation of their rights. These negative interactions with others, including parents, teachers, siblings, and friends, may lead to self-imposed social isolations and restrictions. Such self-imposition may stem from low self-concept or low self-esteem. Furthermore, in the absence of appropriate positive attitudes and intervention, the unique needs of hearing-impaired children are not met and these lead to social emotional disadvantages, social isolation, low self-concept and self-esteem (Ayodele, 2002; Mertens, 1989; Newcomb and Bagwell, 1995; Taylor et al. 1995; Tensay, 1998; Slemto, 1997).

The great majority of the hearing-impaired people living in Ethiopia are marginalized; therefore, they comprise a socially discriminated group with a limited share of even the most basic human and civil rights within their communities. Among other things that limit their development, hearing-impaired people are commonly labeled with disparaging and superstitious beliefs that can exclude them from socialization, education, work, and other equal opportunities that would make them self-supportive and full-fledged members of the society (Alemayehu, 2000). The negative attitudes of hearing people toward the hearing-impaired could negatively affect their level of self-concept, self-esteem, social competence, academic competence, motivation, behavior development, and the exercising of their rights in Ethiopia (Alemayheu, 2000; Tensay, 1998; Tesfaye, 2002).

According to some findings, the number of hard-of-hearing children in regular classrooms is unexpectedly high in Ethiopia; for example, 30% of children in the primary regular school in Hawassa, Southern Ethiopia, were found to be hearing impaired (Fransua, 1998), as compared to the 20% in the USA (Shea and Bauer, 1997). A number of studies in this area indicate that the psychosocial needs of many hard-of-hearing children are not met at home, in the school, or in the community, due to their disability and the lack of satisfactory social communication skills (Ayodele, 2000; Fransua, 1998; Levine, 1981; Meadow, 1984; Shea and Bauer, 1997) with the community they live in. When the unique needs of these children are not met, problems pertaining to low self-concept and self-esteem, social isolation, poor motivation, behavior problems, and low academic achievement may occur (Tesfaye, 2002; Shea and Bauer, 1997). For example, as argued by Fransua (1998), a number of hard-of-hearing children in regular classrooms of Ethiopian schools may have the highest risk of repetitions, dropout, and psychological problems. In his study, Fransua (1998) identified that 77% of children, among those repeating class were hard-of-hearing children. This implies that hearing impairment affect academic achievement. Several studies also demonstrated that hard-of-hearing children's social emotional developments are disturbed (Ayodele, 2000; Fransua, 1998; Goldstein, 1989; Meadow, 1980; Shea and Bauer, 1997; Slemto, 1997; Taylor et al., 1995) that this requires Mediated Learning Experiences.

Feuerstein's and Vygotsky's approach of the Mediated Learning Experiences (MLE) affects the educational understanding of teaching, learning, and students' holistic development. The interaction between the individual and the social and physical environment is never immediate; it is always mediated by meanings which originate "outside" the individual, in the world of social interaction. According to Feuerstein (1991), MLE is the interaction of the organism with its environment via a human mediator, using language. Language facilitates the learning experiences of children. The development of social skills, emotional well-being, and cognition can be attributed to the individual's interaction

within the environment (Vygotsky, 1981), through language. According to Vygotsky (1978), behavior is transformed from external to internal. That is, in relation to the variable of this study, self-concept must exist and be reinforced socially through mediation, before it can become part of the internal behavior of the individual. MLE is expected to yield positive outcomes through positive social environment and positive interaction for all children in regular classes. As it is indicated above, in order to enhance children's positive self-concept, teachers are required to behave positively with competence, commitment, and by modeling desirable behavior (Bandura, 1989).

The present experimental study consists of a major variable in relation to children's development of self-concept, with MLE as the basic theoretical framework. There are no adequate similar studies in this area to show theoretical and methodological gaps. There is only a study conducted by the Department of Special Needs Education of Addis Ababa University in collaboration with the University of Oslo (Tirussew and Alemayehu, 2007.) that seems to have relevance to this study. However, this study focused on all children with disabilities unlike the present study where exclusive focus is on hearing and hard-of-hearing children and their self-concept. Theories pertaining to MLE are important in the present study to explain the research and conduct the experiment.

What is Self-Concept?

Piers-Harris and Herzberg, (2002:3) defined self-concept as *… a relatively stable set of attitudes reflecting both description and evaluation of one's own behavior* that consist of the objective and subjective self. The objective self includes individual qualities, knowledge, and skill; the subjective self is an individual as an agent, evaluating her or himself, either positively or negatively (James, 1908). The more negative ratings the person has, the lower is his/her self-worth (Harter 1999). This means that self-concept includes a person's observations about the self, (Shavelson and Bolus, 1982) his/her own

conception of the self (Rogers, 1965), or the personal evaluation of dignity (Coopersmith, 1967). This conception of the self may include the person's observations about the self in social interaction, personal targets, personal values and personal ideals that have all the necessary means for a successful existence in the environment, in developmental processes.

Although the self-concept is stable, it is also developmental. In other words, the self-concept develops into a more complicated system through the years when the person is growing from a child into an adult (Byrne 1984; Marsh and Shavelson, 1985; Shavelson and Bolus, 1982; Shavelson, Hubner and Stanton, 1976), and become more established and stable. As stated by Marsh, (1989, 1990), once the self-concept is established, it tends to be persistent over the life of the children and can be learned from a person's observations about self, which is important for various purposes.

Self-concept is perceived as a crucial factor in motivational, social and emotional development and found to be important to be established early in life. Researchers and practitioners in the areas of early childhood education have emphasized the importance of the multidimensional, early development of self-concepts.

Recent research has emphasized the multidimensional nature of self-concept (Marsh, 1989, 1990). Young children are able to differentiate between multiple dimensions of self-concept with well-organized procedures. From these, Kalliopuska (1984) separates three major components of self-concept, which are instrumental in its development. First, the cognitive component develops connotations of self-concept, which are connected with the qualities and functions of self-evaluation and social interaction. Second, the affective component illustrates the person's feelings toward her or himself. It is rather difficult to characterize this component, because the individual does not often reveal his/her feelings towards himself or herself to other people. Comments like "I'm able to get my work done," are affective

characterization. Finally, the behavioral component refers to those connotations with which the individual behaves in ways, which may either underestimate or appreciate himself or herself.

In addition to the above, the physical component is also important for primary school children. The formation of the body image is a basis for development of the self-concept. Physical characteristics and physical achievements are especially connected to self-concept among children at school age (Cratty, 1967; Sarbin, 1962). It is also documented that three domains (physical appearance, peer popularity, and athletic competence) are linked to peer-approval, and two domains (scholastic competence and behavioral conduct) to parental approval (Harter, 1999), which may affect self-esteem and self-worth. Self-esteem includes a person's understanding of himself or herself as a performer (Harter, 1985). Through self-evaluation a person approves or abandons him or her-self (Coopersmith, 1967

Changes in self-concept

As self-concept is developed during the relationships with the environment, home, and school, when the direction of action and behavior in learning and social relationships may be affected. Children learn at an early age to compare themselves and their achievements with those of their peers. They are aware of this comparison, especially at the beginning of primary school; in grade one (Ruble, Feldma and, Boggiano 1976). During the development of the self-concept, earlier learning experiences influences the experiences that are preferred by the individual (Beatty and Clark, 1968), which may determine the direction of individual's self concept. Del Polito (1980) noted that the development of the self-concept coincides with the learning constructs, where self-concept affects experiences, and experiences affect self-concept. Learning is a process which forms active and holistic schemes. These schemes consist of perceptions of the outside world and the person's own action (Neisser, 1976), and such actions and reactions will continue to change the self-concept throughout life.

Argyle (1978) reported that the development of self-concept is dependent on the reactions of others, comparison with others, persons' roles as mediators (mother, father, brother, sister, schoolmate, teachers, etc.), and identification to models in the social environment. As the child grows, observations are absorbed into the self-concept of the child. These observations are differentiated, the value of each observation being positive, negative, or neutral.

The following empirical research provides evidence, which supports the existence of these structures throughout the development of the self-concept. According to Gallup (1977, 1979) the first stage is self-identification–knowledge or knowledge of existence, which consists of two distinct phases. First, at ten weeks, a baby will have basic knowledge of self; and secondly, at twelve weeks, a baby can separate him or herself from others. The second stage is described as the classification of the self. The child will classify social roles and gender as well as ethnic status. Other scholars also noted that after this stage, the child will form the psychological self (Flavell, 1977; Harter, 1983) in which the child will be able to distinguish the physical self from the thinking self. The child will have the thought of self-esteem between the ages 7 and 10. Erikson (1962) mentioned that the child in the period of adolescence would have an identity crisis through which the general self will develop. Body image is a significant factor during this developmental stage.

The final stage of self-concept development is the awareness of the global self or general self (Rogers, 1965). The theory of Bowlby's attachment models postulates that the child develops a series of attachment models for himself or herself and others. This theory underlines the developmental meaning of the child's environment and explains why people intend to create strong, selective and long-lasting interactions. It also explains how the breakdown of interaction causes oppression (Bowlby, 1973; Bretherton 1993; Cicchetti 1991). On the other hand, Fogel (1993) presents the concept of the dialogic self, a developing identity that has a rational relationship with culture and

communication. According to anthropological and sociological theory, the self-concept or identity has the following two forms: sociological self or sociological identity, and personal self or personal identity (Goffman 1990). It seems that the real self can be found at the balance of these two identities. However, Purkey (1970) maintains that self-concept will not change as long as the child's observations about self and the world are balanced. In this view, changes in the self-concept require appropriate mediation at home and school, where all these developmental stages are difficult for hard-of-hearing children. Particularly, when the degree of hearing increases the vulnerability for low self-concept may increase. Hard-of-hearing may be defined as the ability to hear spoken language with or without hearing aids. It includes Borderline: 16 to 25dB; Mild: 26 to 40dB; Moderate: 41 to 55dB and Moderate severe which is 56 to 70dB. The less the decibel the more the children can hear without hearing aid and the more the decibel the more difficult to hear spoken language without hearing aid (Adams, and Pamela 2004 and Hallahan, Kauffman and Pullen, 2009).

The integration of personality and mental health is one of the most important aims of school education. It is far more meaningful to consider the child's capacity to learn about himself or herself than the child's capacity to learn the curriculum. This means that parents and other caregivers must give attention to establishing a desirable self-concept, which is crucial before they rush into teaching the school curriculum. Thus, both the home and school have great significance to the development of self-concept. There is also evidence to suggest that children with higher social-economic status may have a more positive self-concept (McLoyd, 1990; Lipman et al., 1994). Individuals around the child have a great influence on their self-image; parents, teachers, and peers will teach values to the child by providing examples of reinforcement for acceptable self-concept behaviors. However, due to hearing loses children with hard-of-hearing may not get similar opportunities with hearing children, which is the major focus of this study.

Statement of the Problem

Many hard-of-hearing children seem to be unrecognized and are not well supported in their self-concept development by parents, teachers, peers and society in Ethiopia. Parents lack awareness, while teachers in the mainstream schools often lack the knowledge and skills to identify, assess, support, and enhance the self-concept of both hearing and hard-of-hearing children. From experience, little effort is made to identify, assess, investigate, and intervene in the self-concept development of hearing and hard-of-hearing children. Ethiopian schools have no strategy to identify, assess, and support hard-of-hearing children with the exception of few schools for the deaf where audio-logical assessment is conducted. Audio-logical assessment for regular school children has never taken place in schools in Ethiopia except Fransua's (1998) attempt with his Master's thesis which was only a survey, and did not include any intervention. After audiometric assessment, I have not come across any research that has focused on intervention on self-concept development with MLE, in the regular schools of Ethiopia as per the requirements of the policy documents of the Ministry of Education.

Thus, there is a need to improve teachers' mediation quality so that they could improve the situations of children by processing better knowledge and skills, directly intervening in their difficulties, and by empowering their parents and peers. In this study, the teachers in the experimental group applied a very intensive intervention integrated with the school curriculum in the classroom and outside the classroom to enhance the children's self-concept. This study tested the hypothesis that both hearing and hard-of-hearing children receiving teachers-mediated intervention would make significant progress in their self-concepts. It is based on an experimental investigation. The experiment was conducted with the theory of Mediated Learning Experiences (MLE) to test whether intervention has an effect on self-concept and whether the effect depends on the hearing level of the sampled children. The following two hypotheses are formulated:

- The intervention with MLE has a significant effect on the development of self-concept
- The effect of the intervention is for both hearing and hard-of-hearing children

Methodology

The main aim of this research was to identify and assess the hearing status and self-concept of the first grade children in two selected schools of Addis Ababa; conduct intervention using teachers' mediation in the problems; investigate further into these challenges and describe the situation of pre- and post-intervention. In order to meet these objectives a quasi experimental design was employed.

Settings and Sampling Participants

The best place to investigate the development of the self-concept of several children in Ethiopia is at the school. Particularly an experimental design such as this one that is related to self-concept and education may be inconvenient to study outside the context of the school. For Vygotsky, the most appropriate setting for studying how children's thinking develops is the school and classrooms within the context of instruction (Moll, 1990)**.** Based on such assumptions, this research was carried out in two primary schools of Addis Ababa selected based on the criterion of purposeful sampling.

Many of the communities in this sub-city depend on small-scale handcrafts and daily labor. The experimental school is found in this community. The comparison school was another primary school in the same sub-city, located to the west of the experimental school. Both schools were selected from the government schools, where children from low socio-economic status (deprived) are enrolled and are relatively culturally homogenous, living in the most deprived sub-city. Furthermore, it is assumed that poverty may inhibit the natural

traditional mediation of parents, and this new school based-mediation (MLE) could reverse such a trend.

The selection of children was done by matching, quasi-experiment. The criteria for children included low socio-economic status, culturally homogenous, seven to eleven age group, hearing status, enroll in grade one and equal number of males and females. The selections for experimental and control group were matched to each other. The total number of the population in grade one in ten sections considered for the hearing screening from the two schools was 480. All the 480 children were tested for hearing ability using the audiometer to identify 100 children from each school for this study.

The main aim of considering hearing and hard-of-hearing children in the experiment is to measure the impact of hearing level on the self-concept of children and to measure effects of the intervention dependent on the hearing level. Then, teachers teaching grade one in self-contained classes in both schools were automatically considered for the study, considering the similarities in their year of services and qualifications, to conduct the intervention.

Self-concepts scale: Instruments for the Assessment

The study was school-based and data were gathered in relation to the sampled children's self-concept. The data gathering instrument was adapted from a standardized test. The Variable for self-concept was primarily focus on the image of the children themselves (Piers Harris et al., 2002). Sixty items of self-concepts and their sub-variables were measured. The instrument measures intellectual and school status, physical appearance and attributes, anxiety, popularity and happiness and satisfaction, with a Yes/No scale. Previous report of reliability ranges from.96 to .42 with a test-retest interval. It is designed for administration to children who are at least seven years old and can be used with adolescents up to 18 years of age. The test needs to be

responded to by the children themselves. However, during the new academic year, where children were yet to learn to read, they were supported by assistant researchers and teachers in reading and marking the responses of the children on Yes/No questions. The instrument was originally found in English. Considering the children and the teachers' weak English reading skills, the instruments were carefully translated into Amharic by language expert and checked (edited) by another person with the same qualification. In the pilot study, it was found that the translated material was more convenient for the teachers and children to understand during the pretest, read and understand during posttest in the case of the self-concept scale, and respond accurately with understanding.

The Experimental Design

The research consisted of pretest-posttest control group and experimental group. Of the various quantitative research methods, experiments provide the most rigorous test of hypotheses (Gall, Borg and Gall, 2006). The hypothesis of this experimental design was that hearing and hard-of-hearing children receiving teacher-mediated-intervention would make significant positive progress in their self-concept. Following the pretest, teachers in the experimental group received training to enable them to conduct the intervention. Another school was selected for the control group and matched with the experimental group. The control group received the usual methods of teaching. Children who were assigned to the control group were tested with the same instrument and at the same time as the experimental group tests, pretests, and post-tests. The main difference was that the control group children received no intervention in order to assess the effects of the intervention. At the end of the post-test data collection, the control group had been given an opportunity to participate in the same intervention program that was provided to the experimental group following the conclusion of this study.

Observation of sampled teachers' behavior

Besides the above self-concept tests, the behaviors of teachers in implementing the experiment were observed in natural settings. In this scheme, teachers' behavior was observed with the adapted instrument of MLE (Mentis, Dunn-Bernstein, and Mentis, 2008) and unstructured observations were also conducted. The content of the observation mainly comprised of how teachers mediate in children's feeling of competence, self-regulation and control of behavior and sense of belonging, and the effect of teachers' behavior on the children's classroom behavior. The observation instruments were used during pre- and post-intervention periods. In both cases the class rooms were observed for 10 periods each, where one period lasted 45 minutes. This means during the pretest observation was conducted for series of 450 minutes. During post-test similar time was committed for observation. For the behavior of teachers, all data were recorded in the notebook.

Procedure of the experiment

An appropriate intervention program that should match the problem was specifically worked out and analyzed. The training manual was initially developed by the researcher in English and then translated into Amharic, the language that teachers understand best, to ease the training for the teachers. Then, the material was given to professionals in the area, for validation, discussed, amended and ready for use. It was validated, revised and adapted to the situation and given to the teachers in the experimental group. Teachers' experience, attitude, and knowledge in the area under investigation were re-assessed through observations and interviews, to further stabilize their knowledge and skill in relation to MLE through questions and answers.

The experiment had the following three phases: pre-intervention, intervention, and post-intervention. Initially, the pretest was conducted

before the beginning of the intervention program for both control and experimental groups, at the beginning of the new academic year. Both pre- and post-intervention assessments were conducted by research assistants (MA degree in Special Needs Education) who were trained by the researcher. A specific schedule for the intervention was developed. The post-test was conducted at the end of the eight months intervention program in both control and experimental groups. The main procedures were as follows: conducting hearing screening for 480 first grade children in ten sections of the experimental and control schools. The test was conducted by a practitioner in educational audiology; selecting hearing and hard-of-hearing children from each school and matching the sampled children after taking into account their homogeneities. The one-to-one matching was conducted, experimental sample participants with a sample in the control group; administrating pretest to both groups using adapted instruments at the same time; training teachers for 84 hours and monitoring through observation, until the final posttest; administering of intervention program to the experimental group only; administering posttest to both groups after eight months and data analysis and presentation. Similar training was given to the teachers in the control group in condensed days but similar duration. This delayed intervention was given after all the posttest data collection was finished. The delayed intervention was planed and implemented for the benefit of children in the control group.

More specifically, twenty teachers in the experimental group were trained by the researcher, lecturers at Addis Ababa University, and others, who were very familiar with the intervention on language teaching skills, Social Learning Theories and MLE, and were able to effectively implement the intervention program. The teachers were expected to have a basic knowledge of general principles and land marks of children's development, and a deep understanding of the cultural and socioeconomic reality of the children they were teaching. They were expected to be capable of forming an empathic relation with the children. They were expected to encourage rather than criticize or

negatively evaluate, convey enthusiasm and hope in children, and promote the holistic development of the children.

Independent and Dependent Variables

Several theoretical approaches have been applied in the Ethiopian education system so far with the dominant application of the behavioral approach. For example, many educators have advocated "stimulation." However, visual, auditory, or tactile exposure to the children may not sufficiently contribute for the holistic development of children. According to Klein (1996), bombarding children with such sensory stimulation cannot contribute to their development; in fact, it may hurt them and they may develop dislike and boredom in learning through the approach. The behaviorists viewed development as the individual's passive responses to the environment. As commented by Dixon-Krauss (1996), behaviorists abandoned the study of consciousness completely in their attempt to explain all psychological functioning through behavioral reflexes.

For Vygostsky (1978), consciousness is created through socially mediated activity and cognitive development was due to the individual's social interaction with the environment. Hence, this study made a shift from the behaviorist view toward MLE, with a focus on the individual's development, learning, and cognition. Mediation presents a sound alternative to stimulation. Unlike direct exposure to an organized and complex stimulation, MLE matches the intention of the mediator with that of the children's response, intention, communication, needs, initiative, and preferences. It is learners' reactions that regulate the amount of "stimulation". Klein (1996:5) further postulated that *through mediation the complex world is organized for the child, channeled by a network of cultural transmission into a world in which things have meaning, importance, and relevance to future as well as past experiences.* Furthermore, Klein (1996) elaborated that mediated learning, as distinct from direct learning through the senses, occurs when the environment is interpreted for the individual by teachers who

understand children's needs, interests, and potential, and who make the components of that environment as well as past and future experiences, compatible with children. Mediation affects the individuals' present level of learning and may improve their opportunity to learn from future experiences.

Besides, as was described by Dixon-Krauss (1996), it is well known that Piaget's approach focuses primarily on the cognitive dimension of learning and growth, and Vygotsky's approach encompasses the social and affective dimension as well as cognitive development. As a result, Vygotsky's theory portrays the bigger picture of teaching and learning, captures the collective wisdom of thought and actions, and more closely represents reality and its complexity. Rye (2001b) pointed out that MLE programs are well known to support development of self-confidence, motivation for learning, and positive social-emotional development.

This implies that, compared to other theoretical approaches as such the behaviorist approach, MLE makes a significant difference in the lives of children mediated by the teacher trained in the approach. It is well known that early intervention can have lasting and valuable effects, but unless experimented, there is no guarantee that the intervention is successful with children in various contexts. It is reported in Ethiopia (Tirussew, and Lakew, 1996) that MLE is successful at the early childhood level when mediated by sensitized parents but not in the primary school for hearing and hard-of-hearing children when mediated by teachers.

The main content of the intervention is based mainly on the MLE and other subjects which include a general introductory course in psychosocial development of human beings; effects of hearing impairment on psychosocial development; the importance of positive interaction and care to children; special needs education; environmental barriers affecting self-concept, dynamic assessment,

mediated learning experiences and self-concept development, a hearing and acoustic environment.

The main contents are selected from the theoretical principles of MLE that includes intentionality and reciprocity, meaning, transcendence, feeling of competence, self-regulation and control of behavior, sharing, individuation, goal planning, self-change, search for the optimistic alternatives and ease of belonging (Feuerstein, 1988). Each of these principles and practices were given sufficient time and practiced by the teachers.

On the other hand, the dependent variable is the main psychosocial variable that is the intent of the intervention was self-concept**.** The variable for self-concept of children was mainly focused on the image of themselves. Intellectual and school status, physical appearance and attributes, anxiety, popularity, happiness, and satisfaction are sub variables. Teachers conducted the intervention in the classroom through direct teaching and through hidden curriculum for eight months.

Controlling Extraneous Variables

There is a need to control any variable other than the intervention variable that can affect the experimental out-come. Diffusion was prevented by creating appropriate distance between experimental and control group. Teachers in the experimental group were oriented not to defuse the intervention program until the final post-test. The level of training of teachers was also the same. The sampled children in the experimental and control group were from the same grade and the same age level that is 7- 11 years old. The observers were trained during pretest and post-test to avoid bias and did not know which school was the experimental or control group. The teachers' experimental behavior was observed, trained, and monitored until the final posttests were completed, to secure the quality of the experiment,

and maximize treatment fidelity for the researcher. Both experimental and control groups' classrooms and school social context were frequently observed while the experiment was going on, to evaluate if there were some unexpected phenomenon affecting the result. At the end of the posttest, both sites were evaluated to check if they had some similar intervention, either through the community, mass media, or any other means, and the result was included in the body of the report.

Data Collection Procedures

Prior to data collection, permission to conduct the research was secured from the sub-city education office and the school principals. Besides, parents and teachers were requested through a written letter to be informed about data required from them, such as the teachers and the children's socioeconomic status, self-concept, hearing level, and teachers' professional competence. Data collection was permitted by all bodies without any single disregard. Both teachers and research assistants were oriented on the data collection techniques and procedures. The assistants were familiar with the quantitative instruments during the pilot data collection phase. The same experiences were shared with the teachers to avoid any possible ambiguities concerning the instruments. Finally, the data collection was started by the researcher, the teachers, and the field research assistants.

The pilot study was carried out with grade one children of a selected primary school; with single section, out of which 20 children were sampled; this sample was different from that used in the main study. The aim of conducting the pilot was to test the instruments and procedures of data collection to be used in the main study. Only standardized instrument was used in the pilot program, Piers Harries self-concept scales (2002). This helped to investigate and map out the existing self concept problems of the children, and to revise and adapt the procedures and the instruments based on what the testing reveals.

The self-concept rating scale was tested on 20 children, before the main study. The results of the pilot study were statistically analyzed, summarized, and concluded; from these results, the reliability of the adapted instrument was checked and the procedures and approaches were improved, readjusted, or changed. The statistical analysis was more or less similar to that of the main study. The result of the pilot study is not included in the body of this report. The findings are used only to amend the instruments and prepare them for the main study.

Hearing and acoustic environment were tested only in the environment of the main study. The tests of hearing were conducted to evaluate the reliability of the electronic equipment used to measure the hearing status, before the actual data collection. The data collection for the study was conducted in the following three stages: one pilot study, one pretest, and a posttest. The posttest data was collected after eight months of the launching of the intervention.

Data Collection in the Main Study

1. Hearing test. All the 480 population of the study were tested by two audiologists using PTA, to identify the hearing level and select 200 sample participants for the study. The test results of both ears were recorded and entered into the SPSS program for analysis**.** Hearing was measured for all sampled children only during the pre-intervention period with frequencies that ranged from 250Hz to 8000Hz and with the audiometer that ranged from -10 to 120dB of intensity of sound. The hearing tests were conducted in the teachers' rooms, which had better acoustic sound level (54.5dB), compared to the classrooms. The hearing level was calculated for each child on 500Hz, 1000Hz, 2000Hz, and 4000 Hz, which is appropriate to predict the language acquisition capacity of the children. The hearing level was recorded in the format prepared for this purpose. The format comprises of right ear and left ear registration columns. Unilateral and bilateral hearing level was also calculated and used in the data analysis. Unilateral analysis was done directly, considering the results parallel to each ear.

2. Pretest. Data on self concept were collected by reading out all items for the children while they responded orally. All the pretest data were collected from 200 children. The collected data were entered into the SPSS program for analysis because SPSS is convenient for the researcher for data analysis.

*3. Posttest***.** During the posttest, data were recollected using the same instruments and procedures, and by the same pretest data collectors, for variables of self-concepts. Data were collected from 177 children toward the end of eight months of the intervention. Again, to measure reliability, data were recollected fifteen days after the first posttest data collection. There was an attrition rate of 10 children from experimental group and 13 from the control group. At all stages, the data collection was assisted by the trained data collectors with close supervision of the researcher.

Data Analysis Procedure

Once the data collection was completed, the data obtained from the participants were coded and entered into a database for analysis. The SPSS for the windows program was used in this study. Statistical tests of significance were examined at the alpha .05 or 95% confidence interval level. The data collected through the tests were analyzed using descriptive and inferential statistical techniques. Self-concept has a total of five sub scales. The purpose of the study was to analyze the total score and investigate the overall self-concept of the children. Hence, for the aforementioned reasons, this statistical data analysis is based only on the total scores of the data.

Various ways of descriptive and inferential statistics were used to present the quantitative analysis. Percentages and chi-square were used to describe socioeconomic status, hearing test, and their differences. Mean and standard deviation of the total scores for both experimental and control groups were compared with the pretest and posttest. A two-way analysis of variance, (ANOVA) was used to

analyze the effects of hearing on psychosocial functioning. Repeated measurement of ANOVA was used to measure the controlled effects of the intervention and the effects of the intervention dependent on the level of hearing. Qualitative observation of the implementation of the intervention was also included in the result and discussion parts. Finally, the findings were presented systematically and discussed with attention given to reliability and validity.

Results

Hearing status of the children

Hearing status	Measurement	Experimental group	Control group	Total
Normal Hearing	N	28	37	65
	Mean (SD)	54.50 (16.94)	60.41 (18.51)	57.86 (17.95)
Borderline Hearing	N	57	51	108
	Mean (SD)	58.95 (14.05)	57.75 (19.29)	58.37 (16.66)
Hard-of-hearing	N	15	12	27
	Mean (SD)	54.93 (12.41)	49.03 (19.34)	52.33 (15.81)
Total	N	100	100	200
	Mean (SD)	57.10 (14.79)	57.69 (19.12)	59.39 (17.02)

The result of the test in both groups shows that the majority of sampled children in this study have unilateral borderline hearing loss, 112 (56%) in the right ear and 106 (53%) in their left ear. Mild hearing loss was found in 15 (7.5%) children in the right ear and 19 (9.5%) children in the left ear; moderate hearing loss was found in 3 (1.5%) children in the right ear and 6 (3%) children in the left ear, while severe loss was 1 (.5%) child in each ear. There was no statistically significant difference in unilateral hearing loss ($X^2 = 1.193$ $df = 2$, $p > .05$) between the group. Bilateral hearing impairment refers to relatively equal loss of hearing in ears, border-line, mild, or moderate hearing losses. The majority (54%) of the children tested were found to be in the category of bilateral border-line hearing loss, whereas hard-of-hearing children were found

to be 13.5%. Children in the normal hearing category were found to be 32.5%, in both experimental and control groups.

Hard-of-hearing children were found to be 15% in the experimental and 12% in the control group. However, there was no statistically significant difference in bilateral hearing level (X^2 = 2.207, *df* = 2, *p* >.05) between the groups.

Hearing Status on Self-concept during Pre-Test

The two-way ANOVA revealed that the hearing level did not have statistically significant main effect on self-concept (F [1, 194] = .292, p>0.05). The main effect of the group (experimental and control) was also not significant (F [2, 194] = 1.663, p>0.05), and there was no interaction effect of the two factors (F [2,194] = 0.68, p>0.05). This shows that the means of the self concept do not differ along with the hearing level, in both the experimental and the control groups, during the pretest assessment.

Effects of the Intervention

This section compares the analysis of effects of intervention on self-concept of the 177 sampled children of the experimental and control groups. In this comparison, the sampled children involved in the pretest and those who dropped out (10 and 13 from experimental and control groups, respectively) during the posttest were not calculated. A repeated-measures ANOVA was calculated to evaluate the effects of MLE on the self-concept of the children. The mean and standard deviation of the total scores for both the experimental and control group were compared with the pretest and posttest assessments.

Effects of Intervention on the Self-concept

The repeated-measures ANOVA indicated that there was a significant main effect of time on self-concept within-subjects (F [1,175] =4.118, $p<.05$, $\eta^2=.023$) with small effect size, indicating a positive increase in the mean level of self-concept. Moreover, there was a significant within-subjects' interaction effect of time of measurement and the group (F [1,175] = 12.02, $p<.05$, $\eta^2 = .064$) with small effect size, indicating that the intervention had a significant positive effect. However, the between subjects' effects of the groups was not significant (F [1,175] =.612, $p>.05$, $\eta^2 = .003$). The effect size is also very small. The within subjects' interaction effect of time and group confirmed that the intervention had a significant effect on the development of self-concept; while there was no real change in the self-concept in the control group, the level of self-concept clearly improved in the experimental group

Effects of Intervention and Hearing Status on Self-Concept

The repeated-measures ANOVA indicated that the within-subject main effect of time on the development of self-concept was not statistically significant (F [1,171] =.451, $p>.05$, $\eta^2 =.005$), but there was a statistically significant interaction effect of time of measurement and the group (F [1,171] = 11.243, $p<05$, $\eta^2 = .062$) with small effects size. Interaction effect of time of measurement and hearing level was not significant, (F [2,171] = .451, $p>.05$, $\eta^2 = .005$), and neither was the three-way interaction effect of time of measurement, hearing level, and group are significant (F [2,171] = .696, p>. 05, $\eta^{2\,=}$ .008) with very small effect size.

The between subject effect group (F [1,171] =1.279, $p>.05$, $\eta^2=.007$) and hearing level (F, [2,171] =.778, $p>.05$, $\eta^{2\,=}$ .009) were not significant, nor was their interaction (F [2,171] =.594, $p>.05$, $\eta^{2\,=}$ .007) with small and similar effect size. This indicates that the change of self-

concept as a result of the intervention does not depend on the hearing level of the children. All children equally benefited from the intervention.

Teachers' Improved Competence

The results from observation revealed that, the sampled teachers in the intervention created conducive environment, provided verbal and written feed-back to the children's work, and explain the concepts beyond the present subject matter. Unlike the teachers in the comparison school, the teachers in the experimental school praised the children on their tasks and rewarded them for participation in individual and group activities and discuss with the children on how to be assertive. It was also observed that the teachers in the intervention group applied effective group teaching methods, encouraged children to share their work experiences and listen to each other, develop tolerance, share feelings, and mutual support and as well as tutor each other to enhance their self-concept development. They also encouraged the children to perceive the benefit of completing a task, at the same time, deemphasizing the labeling of the children on account of their diversity. They supported the right of the children to be different and strove to meet their need and potential. The teachers in the intervention group encouraged independent and original thinking and provided opportunities for innovative work through goal setting in children. It was repeatedly observed that unlike the comparison group, the teachers eliminated any incoming barriers and enhanced the self-concept of the children. The above descriptions indicated that there was a clear change in teachers' attitude, performances, and relationship with the children after intervention.

Discussion and conclusion

Effects of Hearing Impairment on self concept during pre-test

Families, teachers, and peers of children communicate in the spoken language which is not heard and understood by the children with hard-

of-hearing and this may isolate them from the social environment and the continuum of classroom interaction. Particularly in the presence of back-ground classroom noises, understanding language could be difficult (Taylor, et al. 1995). Antia (1982) reported that hearing-impaired children were less likely to interact with their social environment and were deprived of language and communication development, which play a crucial role in their self-concept development. Communication problems could contribute to peers' rejections, poor social skills, and self-concept difficulties. One of the previous studies, Meadow (1980) described some characteristics of hearing-impaired children as rigid, demonstrating uncooperative behavior, egocentricity, absence of inner controls and impulsivity due to poor language and social communication skills. A previous study in Ethiopia (Fransua, 1998) reported that hard-of-hearing children's behavior in the classroom was found to be disturbed, such as not paying attention, lack of motivation, lying on the desk, being sleepy, getting bored and tired, and asking teachers for permission to go out of the classroom for false reasons. In contrast to this and other international findings, the result of the present study showed no significant difference in the effects of hearing loss on the self-concept development.

One reason for this could be that home and school environment were full of problems, and these were disregarded by parents and teachers in the case of both hearing children and those with hearing problems. If the environment is equally disregarding for both hearing and hard-of-hearing children in social interaction, care and mediating children with normal hearing may not receive sufficient social input and stimulation for their development like the children with hearing difficulties who lack sufficient amount of input due to their impairment. The poor socioeconomic status of the parents of the children and the negligence might have deprived hearing children as much as hard-of-hearing children who partially use their auditory system to interact with their social environment. Normal hearing children were at risk and could be equally deprived of their self-concept development.

Effects of Intervention on Self-concept

This study considered the sub-variables of the Piers-Harris Children's Self-concepts Scale, 2nd edition (2002), which includes the following sub-scales: behavioral adjustment, intellectual and school status, physical appearance and attributes, anxiety, popularity, and happiness. However, this study calculated and analyzed only the total score of the self-concepts. In this study, there were positive changes in self-concept for all sampled children regardless of their hearing impairment as a result of intervention with MLE.

Self-concept can be viewed as a dynamic and active aspect of the self. It can be made positive through interaction of MLE. Children need to develop positive self-concept to properly function in their environment, independently and successfully. The teachers in this study reorganized the nature of learning environment and eliminated barriers to ensure opportunities for success. By removing barriers, teachers attempted to enhance the self-concept of the sampled children. In the process of enhancing positive self-concept, the teachers were frequently discussing with the children how to be assertive and the reasons for successes and failures. They also encouraged and rewarded the children for their attempts to master the situation and cope effectively with the current problem, as reported in the result section. In the process of enhancing positive self-concepts of the children in this study, the teachers provided feed-back not only to those who offered successful answers but also those children who were partially successful and those who made an attempt.

Teachers' and parents' encouragements and care can enhance children's positive self-concept. The self-concept may be affected through interaction of an individual with his environment, mediation, and modeling. Hearing impairment is one of the factors that may negatively affect effective communication with the social environment. Such a lack of communication or distorted communication in turn may affect the positive development of self-concept and other related

variables such as motivation, desirable behavior, academic achievement, and the like.

It is strongly believed that the process of MLE is aimed at eliminating negative self worth and enhancing positive ones. Essentially, the positive self-concept has all the means necessary for a successful existence in the environment. Children, who are economically deprived, such as the ones used as a sample in this study, may develop undesirable self-concept. Such undesirable self-concept development may lead the child toward negative direction of action and behavior in learning and social relationships. Del Polito (1980) noted that self-concept affects experiences, and experiences affect self-concept, either negatively or positively.

Changes of self-concept will happen throughout life. Many authors argue that at the beginning of the elementary school, children have high self-perceptions of competence and intrinsic motivation (Coster and Jaffe, 1990; Dweck, 1988; Flink*et al*., 1992; Harter, 1981, 1992; Paris and Byrnes, 1989; Stipek, 1992). However, the result of the present interventional study clearly indicated that the MLE had a major effect on the overall self-concept of grade one hearing and hard-of-hearing children in the experimental groups. The change was achieved with mediation efforts of the teachers, peers, and parents, in the school and at home. Argyle (1978) noted that the development of self-concept is dependent on the reactions of others, comparison with others, and person's roles as mediator (mother, father, brother, sister, schoolmate, teachers, etc.) and identification to models. Confirming this, Bronfenbrenner (1979) pointed out that in the educational system, ecological mediation may include individual, class, school, community, and society. Focus on the individual level is as important as the focus on other levels in the system.

Furthermore, according to the constructivist perspective, children's perceptions of competence are not innate but rather the result of development and construction over time through learning experiences

(Bouffard and Vezeau, 1998), including MLE, of parents, peers, and teachers. Contrary to this, if children negatively appraised their capacities, they may not take interest in what they are learning and, consequently, will be passive in their work. Since they have considered that they have poor capacities, they will be likelier to abandon on being confronted with difficulties and thus fail. On the other hand, students having a positive view of their capacities, when confronted with difficulties, will be prone to persevere and eventually succeed (Bandura, 1986; Berry and West, 1993; Harter, 1990, 1992).

Self-concept need to be positive at an early age for the desirable functioning of other psychosocial variables – such as motivation, behavior, and learning achievements. As pointed out by Harter (1988*),* self-concept is central to the psychosocial functioning and well-being of the individual child. Self-concept is perceived as a crucial factor in motivational, academic, social, and emotional development. It is widely recognized by some authors such as Harter (1986, 1988) and Piers Harris (2002) that self-concept influences academic achievement and predict future behaviors in educational settings. Through MLE, social support, positive regard, and helping the children to develop feelings of competence are important in shaping the self on the part of the children (Harter, 1986). With MLE-based intervention young children can develop their self-concept very early in life. It is learned from this research that once the self-concept is established, it tends to be persistent over their life and significantly contributes to other developments.

Hence, the self-concept of children needs to be made positive because the way individuals see themselves inevitably influences their attitude toward themselves, either negatively or positively. The self-concept also influences their motivation for change and consequently for various developmental strategies. As revealed in this research, a positive self-concept is valued as a desirable outcome and as a potential of mediating influence leading to other desired outcomes discussed above, such as academic achievement, for all children

regardless of their age differences, with better outcomes in younger children. The earlier the problem is identified, assessed, and intervened, the better the result would be than the delayed intervention.

This research was conducted with children between ages 7 and 11. Unfortunately, to the best of my knowledge, there was no similar research findings conducted with the same age category. Despite the thousands of self-concept studies conducted with older students in various parts of the world, there has been little research conducted with children younger than 10 years old. This is one of the limitations of the measurement of self-concept in this study. This lack of research stems apparently from the dearth of instruments appropriate for measuring self-concepts in children at this young age. These limitations of the findings clearly indicated the need for more research on the development of self-perceptions of competence during elementary school years. In addition, because little research has been conducted with young children, the study of how self-perceptions of competence evolve across the early schooling years is necessary.

Validity and Reliability of the Results

The validity of the study was considered in organizing the theoretical construct, defining concepts, and selecting and employing appropriate methodological approaches, including sampling, instrumentation, and statistical procedures. Besides, the intervention, follow-up, and evaluation of the experiment were carefully conducted with highly trained professionals in the area. Research findings and theories were read and reviewed corresponding to the hypothesis, and research questions and instruments adapted to collect the data. Data were collected at various times, at pre-intervention and during the post intervention. The teachers' training sessions also gave insights about the seriousness of the self-concept of the sampled children. During the training, teachers with sufficient understanding discussed the problems of the children in relation to self-concept and the positive effects of intervention during the pre-intervention period. The reliability of self-

concept ranges from .96 to .42 with test-retest interval, in the previous studies. In the present study, reliability was tested using the Cronbach alpha. The scores for pretest self-concept scale was .88 while the scores of posttests for self-concept were .86.

Conclusion

The within subjects' interaction effect of time and group confirmed that the intervention had a significant effect on the development of self-concept; while there was no real change in the self-concept in the control group, the level of self-concept clearly improved in the experimental group. On the other hand, the change of self-concept as a result of the intervention does not depend on the hearing level of the children. Both hearing and hard-of-hearing children equally benefited from the intervention.

This indicates that enhancing teachers' competence helps the positive self-concept and better functioning of all children in regular school settings, which paves the way to inclusion. Hence, it is advisable to adapt the MLE to the school system of Ethiopia to enhance quality education and thus quality life. Children who are not able to appropriately manage their school behavior and their own learning process may often develop low self-concept. Self-concept may have a powerful impact on motivation and individual cognitive and social developments. Low self-concept may inhibit the children's learning process and development unless cared and mediated by parents, peers, and teachers. The sources of poor self-concept could be poverty, poorly trained teachers, and schools' social and physical environment. However, focusing on teachers' education could bring about a significant change in the development of self-concept. The findings of this study are good indicators that mediation of teachers' in solving day-to-day problems is vital for the well-being of the children. To do their job effectively and efficiently, teachers need the best pre-service education and continuous professional development that focuses on the study of children's needs, dynamic assessment, and

mediation within the zone of proximal development of the children. Generally, unless we give serious attention to quality teachers' education, we cannot change the flexible brain of children toward desirable development. If this cannot be achieved, the nation's development could go astray, and poverty would continue to rule.

The present intervention study, which shows significant change in the self-concept of the sampled hearing and hard-of-hearing children in the experimental group, was not without difficulties. The intervention was conducted without changing the socioeconomic status and the noisy school environment. If the intervention had included the change of socioeconomic background and physical school environment, the effect of the intervention would have shown more and high-level outcomes. This research may not have answered many questions that come to people's mind regarding the self-concept of primary school children. In fact, it is important to conduct further study on the same variables under this study and other broadly related issues, both at home and in schools**,** considering heterogeneous culture, settings, schools and children with various back-grounds.

References

Adams, J. W. and Rohring P. S. (2004). **Handbook to Service the Deaf and Hard-of-hearing: A Bridge to Accessibility**. London: Elservier Inc

Anderws, J. (1990). *Partial Hearing.* In M.E. Veron and J. Anderws. **The Psychology of Deafness: Understanding Deaf and Hard-of-hearing People**. New York: Longman Publishing (pp. 250-266).

Alemayehu, Teklemariam. (2000). Communication Experiences of Deaf Students: A Case Study of Four Pre-lingual Deaf Adolescents in Oromia Region, Ethiopia. Unpublished M.Phil. Thesis. DSNE, University of Oslo.

Allport, G.W. (1961). **Pattern and Growth in Personality**. New York: Holt, Rinehart and Winston, Inc.

Antia, S. D. (1982). *Social Interaction of Particular Mainstreamed Hearing Impaired Children*. **American Annals of the Deaf**. 127, 18-25.

Argyle, M. (1978). **The Psychology of Interpersonal Behaviour** (3rd ed.). Harmondsworth, Middlesex: Penquin.

Ayodele, O. (2002). *The Psychosocial Adjustment Difficulties of Students with Hearing Impairment in School Setting in Oyo State, Nigeria.* **African Journal of Special Needs Education**. 5, 2, 60-65.

Bandura, A. (1986). **Social Foundations of Thought and Action: A Social Cognitive Theory.** Englewood Cliffs, NJ: Prentice Hall.

Beatty, W.H. and Clark, R.A. (1968). *A Self-Concept Theory of Learning: A Learning Theory for Teachers*. In H.C. Lindgren (ed.) **Readings in Educational Psychology**. 158–180. New York: John Wiley and Sons.

Berry, J. M., and West, R. L. (1993). *Cognitive Self-Efficacy in Relation to Personal Mastery and Goal Setting Across the Life Span*. **International Journal of Behavioral Development**, 16, 351–379.

Bess, F. H., Dodd, J.D., and Parker, R. A. (1998). *Children with Minimal Sensor Neural Hearing Loss: Prevalence, Educational Performance and Functional Health Status.* **Ear and Hearing**, 19, 339-354.

Bowlby, J. (1973). **Attachment and Loss: Volume 2. Separation** . New York: Basic Books.

Bouffard, T., and Vezeau, C. (1998). *The Development of the Self-System and Self-Regulation among Primary School Children*. In M. Ferrari and R.J. Sternberg (eds.) **Self-awareness: Its Nature and Development, 246–272**. New York: Guilford Press.

Bretherton, I. (1993). *From Dialogue to Internal Working Models: the Co-Construction of Self in Relationships*. In C.A. Nelson (ed.), **Memory and Affect: the Minnesota Symposia on Child Psychology. 26, 237–263**. Hillsdale, NJ: Erlbaum.

Bronfenbrenner, U. (1979). **The Ecology of Human Development.** Cambridge MA: Harvard University Press.

Byrne, B. M. (1984). *The General/Academic Self-Concept. Network: A Review of Construct Validation Research.* **Review of Education Research.** 54(3), 427–456.

Cicchetti, D. (1991). *Fractures in the Crystal: Development Psychopathology and the Emergence of Self.* **Developmental Review**. 11, 271–287.

Coopersmith, S. A. (1967). **The Antecedents of Self-Esteem**. San Francisco: Freeman.

Coster, W.J., and Jaffe, L.E. (1990). *Current Concepts of Children's Perceptions of Control.* **American Journal of Occupational Therapy**, 45, 19–25.

Cratty, B. (1967). **Social Dimensions of Physical Activity.** Englewood Cliffs, New Jersey: Prentice-Hall.

Del Polito, C. M. (1980). *Teacher Communication in the Classroom: Effects on Student Self-Concept*. **ERIC Document Reproduction Service** No ED 1841489.

Dixon-Krauss, Lisbeth. (1996). **Vygotsky in the Classroom: Mediated Literacy Instruction and Assessment***.* New York: Longman.

Erikson, E. H. (1962). Lapsuus ja yhteiskunta. Jyväskylä: K.J. Gummerus Oy.

Feuerstein, R., Klein, P. S., and Tannenbaum, A.J. (eds.). (1991). **Mediated Learning Experience: Theoretical, psycho-social and learning implications.** London: Freund Publishing House. LTD.

Flavell, J.B. (1977). *Stage-related Properties of Cognitive Development.* **Cognitive Psychology**, 2, 421–453.

Flink, C., Boggiano, A. K., Main, D. S., Barrett, M., and Katz, P. H. (1992). Children's achievementrelated behaviors: The role of extrinsic and intrinsic motivational orientations.

Fogel, A. (1993). **Developing Through Relationships. Origins of Communication, Self and Culture***.* London: Harvester Wheat Sheaf.

Fransua, D. (1998). Hard-of-hearing and Classroom Interaction: Their Effects on Social and Academic Performance: A Case Study of the Selected Classroom in Awassa Town. Unpublished MA Thesis. University of Joensuu, Finland.

Gall, M. D., Borg, Walter R., and Gall J. P. (2006). **Educational Research: An Introduction** (6th edition). New York: Longman USA.

Gallup, G.G. (1977). *Self-recognition in primates*. **American Psychologist**, 32, 329–338.

Gallup, G.G. (1979). *Self-recognition in chimpanzees and man: A developmental and comparative perspective*. In M. Lewis and M. Rosenblum (eds.), **Genesis of Behavior**. Vol 2. New York: Plenum Press.

Goldstein, D. (1989). **The Hearing Impaired Child**. England: NFER – NELSON.

Goffman, E. (1990). **The Presentation of Self in Everyday Life**. St Ives: Clays Ltd.

Hallhan, D. P., Kauffman, J. M. and Pullen, P. C. (2009). **Exceptional Learners: An Introduction to Special Education.** Boston: Pearson.

Harter, S. (1981). *A New Self-Report Scale of Intrinsic Versus Extrinsic Orientation in the Classroom: Motivational and Informational Components.* **Developmental Psychology**, 17, 300–312.

Harter, S. (1983). *Developmental Perspectives on the Self-System*. In P. Mussen and E.M. Hetherington (eds.), **Handbook of Child Psychology: Vol 4 Socialization, Personality and Social Development** (4th ed., pp. 275–385). New York:Wiley.

Harter, S. (1985). **Manual for the Self-Perception Profile for Children**. Denver, CO: University of Denver

Harter, S. (1986). *Processes Underlying the Construct, Maintenance and Enhancement of the Self-Concept in Children.* In J. Suls and A. Greenwald (eds.), **Psychological Perspectives on the Self***,* Vol. 3. Hillsdale, NJ: Erlbaum.

Harter, S. (1988). *Causes, Correlates and the Functional Role of Global Self-Worth: A Life-Span Perspective*. In J. Kolligian and R. Stemberg (eds.), **Integrative Processes and Socialization: Early to Middle Childhood**. Hillsdale, NJ: Erlbaum.

Harter, S. (1992). *The Relationship Between Perceived Competence, Affect, and Motivational Orientation within the Classroom: Processes and Patterns of Change*. In A. K. Boggiano and T. S. Pittman (eds.), **Achievement and Motivation: A Social Developmental Perspective** (pp. 77– 114). New York: Cambridge University Press.

Harter, S. (1990). *Causes, Correlates, and the Functional Role of Global Self-Worth: A Life-Span Perspective.* In R. J. Sternberg and J. K. Kolligian (eds.), **Competence Considered** (pp.67–97). New Haven, CT: Yale University Press.

Harter, S. (1999). **The Construction of the Self**. New York: The Guilford Press.

James, W. (1908). **Psychology**. London: Mac Millan and Co., Ltd.

Kalliopuska, M. (1984). *Relation Between Children's and Parents' Empathy.* **Psychological Report**, 54,295-299

Klein, P. S. (1996). **Early Intervention: Cross-Cultural Experiences With a Mediation Approach.** New York: Garland Publishing, INC.

Levine, E.S. (1981). **The Ecology of Early Deafness.** New York: Columbia Ubiversity Press.

Lipman, E. L., Offord D.R., and Boyle M. H. (1994). Relation Between Economic Disadvantage and Psychosocial Morbidity In Children. Can Med Assoc., 151:431-437.

Marsh, H. W. (1990). *Causal Ordering of Academic Self-Concept and Academic Achievement: A Multiwave, Longitudinal Panel Analysis.* **Journal of Educational Psychology***,* 82, 646-656.

Marsh, H. W. (1991). *The Failure of High-Ability High Schools to Deliver Academic Benefits: The Importance of Academic Self-Concept and Educational Aspirations*. **American Educational Research Journal**, 28, 445– 480.

McLoyd, J. (1990). *Educational Underachievement: Toward a Defensible Psychometric Definition*. **Journal of Learning Disabilities**, 12, 322-330.

Meadow, K. P. (1980). **Social Emotional Assessment Inventory for Deaf Students.** Washington, DC: Gallaudet University.

Meadow, K. P. (1984). *Social Adjustment of Pre-school Children: Deaf and Hearing with or without Other Handicaps*. **Topics in Early Childhood and Special Education**, 3, 27-40.

Mertens, D. (1989). *Social Experiences of Hearing Impaired High School Youth*. **American Annals of the Deaf***,* 134, 15-19.

Mentis, Mandia, Dunn-Bernstein and Mentis, Martenet (2008). **Mediated Learning: Tasks and Tools to Unlock Cognitive Potential**. California: Corwin Press

Ministry of Education of Ethiopia. (2012). **Special Needs Education program Strategy: Emphasizing Inclusive Education to Meet the UPEC and EFA Goals**. Addis Ababa: Master Printing Press.

Moll, L. C. (1990). Introduction. In L.C. Moll (ed.), **Vygotsky and Education: Instructional Implication and Application of Socio-Historical Psychology, pp. 1-27.** New York: Cambridge University Press.

Neisser, U. (1976). **Cognition and Reality: Principles and Implications of Cognitive Psychology.** San Francisco: Freeman.

Newcomb, A. F., and Bagwell, C. L. (1995). *Children's Friendship Relations. A Meta-analytic Review.* **Psychological Bulletin**, 117, 306-347.

Paris, S. G., and Byrnes, J. P. (1989). *The Constructivist Approach to Self-Regulation and Learning in the Classroom.* In B. J. Zimmerman and D. H. Schunk (eds.), **Self-regulated Learning and Academic Achievement (pp. 169–200).** New York: Springer-Verlag.

Piers-Harris, V. and Herzberg, D. S. (2002). **Piers-Harris Children's Self-Concept Scale** (2nd edition). Los Angless: WPS

Purkey, W. W. (1970). **Self Concept and School Achievement**. New Jersey: Prentice-Hall.

Rogers, C. R. (1965). **Client-centred Therapy. Its' Current Practice, Implications, and Theory**. Boston: Houghton Mifflin.

Ruble, D. N., Feldman, N. S. and Boggiano, A. K. (1976). *Social Comparison between Young Children in Achievement Situations.* **Developmental Psychology**, 12, 3, 192–197.

Rye, H. (2001). *Twelve Years of Early Intervention Studies in Ethiopia: Phases of Implementation and Summary of Findings*. In Klein, P. S. (ed.), **Seeds of Hope: Twelve Years of Early Intervention in Africa***.* Oslo: Academic Press University of Oslo.

Sarbin, T. R. (1962). A Preface to Psychological Analysis of Self. Rev. 59, 11–22.

Shavelson, R. J., Hubner, J. J., and Stanton, G. C. (1976). *Validation of Construct Interpretations.* **Review of Educational Research**, 46, 407–441.

Shavelson, R. J., and Bolus, R. (1982). *Self-concept: The Interplay of Theory and Methods.* **Journal of Educational Psychology**, 74, 3-17.

Shea, Thomas M. and Bauer, Anne Marie. (1997)*.* **Special Education: A Social System Perspective** (2nd edition). Madison: Brown and Bench: Mark Publishers.

Slemto, E. (1997). Hearing and Hearing Impairment, DSNE, UoO. Unpublished.

Stipek, D. J. (1992). *The Child at School*. In M.C. Bronstein and M.E. Lamb (eds.), **Developmental Psychology: An Advanced Textbook** (3rd ed., pp. 579–625). Hillsdale, NJ: Lawrence Erlbaum Associates.

Taylor, R. L., Sternberg, L., and Richards, S.B. (1995). **Exceptional Children: Integrating Research and Teaching** (2nd ed.) London: Singular Publishing Company.

Tensay, T. (1998). Social Relationship and Paricipation of the Deaf Adult in Voluntary Social Activities. University of Joensuu, MA Thesis, Finland. Unpublished.

Tesfaye, W. (2002). Social Opportunities and Challenges of the Deaf: A Case Study of the Adigrat School for the Deaf in Eastern Zone of Tigray, Ethiopia. Addis Ababa University, MA Thesis. *Unpublished.*

Tirussew Teferra, Sovolainen, H., Agedew Redy and Daniel Desta. (1995). Baseline Survey on Disability in Ethiopia. IER, Addis Ababa University.

Tirussew Teferra and Lakew Woldetekle. (1996). *Mediational Intervention for Sensitizing Caregivers: Ethiopia.* In Klein, P.S. (ed.) **Early Intervention. Cross-Cultural Experiences with a Mediational Approach***.* New York: Carland Publishing, INC.

Tirussew Teferra and Alemayehu Teklemariam (2007). **Proceedings of International Conference on Inclusive Education and Competence Building. In Special Needs Education.** CPP: Addis Ababa

Transitional Government of Ethiopia. (1994). **Training and Education Policy.** Addis Ababa: EMPDA.

Vygotsky, L. S. (1978). *Mind in Society: The Development of Higher Psychological Process*. Cambridge, MA: Harvard University Press.