IDENTIFICATION OF SLOW LEARNERS IN MAINSTREAM SCHOOLS: ASSESSMENT OF THEIR DEVELOPMENTAL SKILLS AND ACADEMIC INTERVENTIONS

By

NAJMA IQBAL MALIK

Dr. Muhammad Ajmal
National Institute of Psychology
Centre of Excellence
Quaid-i-Azam University
Islamabad-Pakistan

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Approved by

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Supervisor

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Co-Supervisor

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Director, NIP

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External Examiner

_____

External Examiner

CERTIFICATE

Certified that Ph.D. dissertation titled, "**Identification of Slow Learners in Mainstream Schools: Assessment of their Developmental Skills and Academic Interventions**" prepared by **Ms. Najma Iqbal Malik** has been approved for submission to Quaid-i-Azam University, Islamabad.

(Dr. Ghazala Rehman)
Supervisor

(Dr. Rubina Hanif)
Co-Supervisor

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ABSTRACT

The present study was conducted to identify slow learners enrolled in mainstream classrooms, to assess their developmental skills and to see the effectiveness of academic interventions on their below average developmental skills. Shaw's model (2000a) of mental health issues of slow learners provided the theoretical frame work for present study. The research was carried out in three parts. In the first part a sample of 114 slow learners was identified through subjective screening (teachers appraisal and attained achievement scores in their respective grades) and objective screening (their attained scores and corresponding percentile ranks i.e., 10th to below 25th on Ravens Colored Progressive Matrices (RCPM; Raven, 1977). These children (age ranged from 5 years to 7 years and 11 months) were identified from main stream classrooms of both urban / rural areas and public / private sectors schools of District and Tehsil Sargodha (Punjab), Pakistan. The psychometric properties revealed that RCPM was a reliable and valid measure for identification of current sample of slow learners. Part II of research was carried out to assess level of developmental skills (Adaptive, Personal-Social, Communication, Motor and Cognitive) of identified slow learner through Battelle Developmental Inventory-2 {(BDI-2) (Newborg, 2005)}. Another objective of this part of study was to analyze the possible differentiation in developmental skills with reference to demographic variables i.e., gender (boy/girl), area (urban/rural), sector (govt. /private), age (5, 6, 7yr), grade (kindergarten, 1st and 2nd grade), and socio economic status (high/ middle/ low). Consistent with the hypotheses the results showed that slow learners had below average adaptive, personal-social, communication, motor and cognitive developmental skills and they differ significantly in terms of their demographic

characteristic. These differences were found to be significant in terms of gender where girls showed significant lead over boys in all domains of developmental skills, same was found to be true for urban area and private schools slow learners as they were more developed in comparison to rural area and public schools' slow learners respectively. Over all comparisons of age grade and socio economic status revealed that slow learners who were in higher age 7-7.11 ranges, studying in higher academic group (2nd grade) and belonged to higher socioeconomic status (SES) had more advanced level of developmental skills compared to groups of medium or low level age (5-5.11 & 6-6.11 years) grade (grade KG & 1st grade) and SES. In part III, a small scale research was carried out to see the effectiveness of academic interventional teaching plan (Shaw, 2005) on developmental skills of slow learners (N = 10) through single group pre-test post-test design. Quantitative analyses of this part revealed that academic interventional teaching plan was highly effective in enhancing the overall developmental skills of slow learners which in-turns helped them to accommodate in the mainstream class rooms. Slow learners' developmental skills of adaptive, communication and cognitive domains and their respective sub-domains were significantly improved by specifically developed interventional teaching plan whereas, these interventions remained silent and failed to show any positive effect on the domains and sub-domains of personal-social and motor skills with the exception of sub-domains of peer interaction and perceptual motor skills of personal-social and motor domains respectively. The findings were also confirmed by the qualitative analysis based upon content analysis of daily feedback reports prepared by class teachers about the child's behavior (relevance to cultural context); information gathered through the class room observations and through the meeting with concerned

parents and teachers of the slow learners. It was found that slow learners got maximum benefit of Academic Interventional Teaching Plan and about 90% students benefited from the review of concepts on weekly basis in a fun manner with the help of drama, role play, rhymes and storytelling. The present study may be concluded as slow learners enrolled in mainstream class rooms have borderline intelligence and below average developmental skills which can only be accommodated through a specifically designed academic interventions. The study had many and varied implications that have been discussed under the umbrella of Developmental and Educational Psychology frameworks.

Chapter-I

INTRODUCTION

The challenge of identifying slow learners has been a topic of increasing concern of researchers from last few decades (Khan, 2005; Shaw, 2003; Sing, 2004; Warnemuende, 2009). Diminutive research has been published on the issues related to identification of slow learners, their specific characteristics and interventions plan to incorporate in schools. Generally, slow learners, by nature have limited intellectual capabilities along with deficit developmental skills and are described as those children who are somewhat below average in school achievement and general mental ability (Malik, 2009) and are unable to cope with the tasks normally expected of their age level. Slow learners pose significant educational and behavioral difficulties in the schools because of their deficiencies in intellect and psycho-social skills (Eva, 2003; Haskvitz, 2007; King, 2009). Research had found that slow learner tend to appear normal in physical liveliness and function normally in many situations. There is also growing consensus that overall mental faculties of slow learners are not that impaired; as that they have physical agility and adeptness, demonstrate common sense, and appear to have adequate memory but lack sufficient amount of skills to face the challenges of the outer world (Danielle, 2007; Lowenstein, 2003; Mroczka, 2003; University of Antwrep, 2008). As slow learners are described in terms of their attained scores on intelligence tests, educational placement at grade levels and methods of instruction i.e., they differ from average students in the rate of learning and need much external stimulation/encouragement to do the simple type of work (Stenhouse, 2005). This is also well documented that slow learners do work at their ability level but below their grade level, which in turn leads to the adjustment

problems in mainstream class rooms (Krishnakumar, Geeta, & Palat, 2006). Their deficit in skills (e.g. inadequate coping mechanisms, poor self image, immature interpersonal relationships, troubled communications, and inappropriate social role ideology) made them vulnerable or at risk of several psycho-social problems, which could only be addressed by incorporating interventional teaching strategies in the inclusive class rooms for their accommodation and to enhance the rate of their adequate psycho-social development (Anastasia, Elein, & Effi, 2006).

School psychologists continue to develop strategies to help/assist students with borderline intelligence or slow learners, who are enrolled in mainstream classrooms and facing extreme difficulties in adjusting to the class environment. The Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision (DSM-IV TR) describes 'slow learners' as persons whom intelligence test scores ranges between 71 to85 and to be plotted on Axis II V-code (V62.89 Borderline Intellectual Functioning). V-codes are actually for problems that may be a focus of clinical treatment, but are not considered as mental disorders (American Psychiatric Association, 2000; Mercer, 1996; Shaw, Grimes, & Bulman, 2005). Whereas, under the American legislation of Individuals with Disabilities Education Act (IDEA) (1997) there is no category of special/specialized educational services for the population of children with borderline mental retardation in regular school setup (Mercer, 1996; Stuebing & Shaywitz, 1998). Students who are classified as slow learners/borderline intelligence are not frequently eligible to receive any particular form of special education programs or community services, yet they frequently do not have the skills to be successful in school or general society because of high demands of vigor and transition movement of educational setup and traditions. These students

are believed to rarely progress in their educational goals and an ultimate failure to achieve a high school diploma is a major contributing factor in their future poverty, unemployment, and mental health problems. Slow learners make up approximately 14.1% of the population in west, larger than the combined group of children having Learning Disabilities, Mental Retardation and Autism (Shaw, 2010).

This ironic situation was not always like that throughout the history. Prior to 1973, the IQ range of 70-85 i.e., between -2 and -1 standard deviations (SD) was considered to be eligible for having special education services (Luick & Senf, 1979) as a student with "borderline mental retardation". But today it is not the case because of some political, social and economic reasons, the student fall through the cracks of educational system (Kaznowski, 2004). The main reason was basically a shift in definition as a set standard by American Association on Mental Deficiency (AAMD; now the American Association on Mental Retardation), which described that all the persons with IQ of 70 and 85 have borderline mental retardation. In 1973, the definition of AAMD changed the upper intelligence test score limits for mental retardation to two standard deviations below the mean, which altogether changed the picture and now a person previously having the diagnoses of mental retardation is no longer consider to be handicap. Two years later the Education for All Handicapped Children Act (1975) codified this range of IQ as an indicator of mental retardation and the students of 75-85 IQ range were left out of the special education services (Kaznowski, 2004; MacMillan, Gresham, Siperstein, & Bocian, 1996; Scheerenberger, 1987; Shaw, 1999a). This process subsequently left the greater number of population, who is in desperate need of extra educational assistance along with lots of motivation and encouragement (Pujar & Gaonkar, 2008). In this scenario,

slow learners are neither considered as learning disabled nor mentally retarded, and they also do not meet the criteria for any of the other special education eligibility categories at present by IDEA. Therefore, in theoretical construct of educational policy paradigm, slow learners have to remain in traditional educational programs where they must compete with other students of various abilities and struggle to maintain the set standards generally established for the average students of their own grade level (Kaznowski, 2004).

In extensive literature review, the specified significance of research on slow learners in Western community and its dire need in Pakistani settings lead this research to focus on identifying slow learners in mainstream classrooms, to assess the developmental skills of slow learners, and to explore the effectiveness of academic intervention plan based on the model of Shaw (1999) in Pakistani settings.

Characteristics of Slow Learners with Borderline Intelligence: A Theoretical Perspective

Generally it is believed that slow learners are normal variants of ability but reside on the wrong side of the bell curve. They are the students who have below average intellectual abilities and struggle to cope with the traditional academic demands of the mainstream class room (Fernell & Ek, 2010). In literature they have been variously labeled as “kids who fall between the cracks”, “gray area children”, or “slow learners.” They typically learn at a rate 4 out of 5 to 9 out of 10 of normal developing child and their maximum mental age ranges from 11 years to 13 ½ year (Lowenstein, 2003; Mehra, Mishra, & Khare, 2002; Mohanasundaram &

Dharmasekar, 2001). According to research findings they are neither average nor mentally sub normal, often termed as dull normal, border line, below average, sub average or partially mentally subnormal (Carroll, 2002; Mroczka, 2003; Shaw, 1999a, 1999b, 2000a, 2000b, 2005; Shaw & Gouwens, 2002). Statistically, every teacher experiences 4 to 5 slow learners in class during his/her teaching career. It is also evident that most elementary school classes in an average community can be expected to include 3 to 5 slow learners in the class (Balado, 2003).

A single comprehensive definition of slow learner was not available previously as a standardized measure to refer towards below average intelligence theoretical perspective; rather it was a summary of various definitions given by multiple experts, researchers, policy makers and organizations. For example Kirk (1940) believed that the term slow learner "should refer to children of relatively low intelligence..." and having an IQ of approximately 75 to 90. A measurable IQ "somewhere between 75 and 90" is also used by Madison (1971). The Texas Education Agency (1989) defines slow learners as "students who have traditionally met with failure in the schools and their below average IQ (70-89) has affected their ability to keep up with the pace of educational demands." The National Association of School Psychologists (NASP, 2004) defines slow learners as "students with below average cognitive abilities who are not disabled, but who struggle to cope with the traditional academic demands of the mainstream classroom" (Carroll, as cited in Kaznowski, 2004). So that we can say that “slow learner” is a general term for someone with depressed abilities and an IQ under the 25th percentile. Hence, Shaw (2008) defines slow learners in this way: **“**The gap between reality and bureaucracy is where slow learners fall.”

Contemporary work impetus on slow learners also highlights the significance of their access to special needs advocacy services. However, a lack of consistent terminology use for slow learners still remains an issue; hence this seems to contribute to difficulties in their adequate identification and awareness about them. Also the fact is that majority of these children do not differ much in their physical appearance and very seldom exhibit difficulties in performing everyday chores. They possess moderate memory, and common sense. These features somehow make it uneasy and very difficult for parents to believe that despite having all these qualities their child is a slow learner. Another issue is related with 'labeling' and 'inadequate placement' of these children (slow learners) in various academic settings and grades equivalence; as in many situations (e.g., failing to enroll mainstream school in regular setup, etc.) they are unfortunately mixed up with 'special needs students, which does not appear to be helpful at all. Like, a nongovernmental organization (NGO) in India named Sitagita (2003) found out that when slow learners are put with handicapped children, it was noted that this group of slow learners started imitating behavior oddities of their peers, which, ultimately resulted in deterioration of their own behavior / temperament and personality features. Parents need to realize that although their child possesses these qualities but this does not assure his/her ability to compete with the school/educational demands as he/she desire special needs advocacy (Flannigan & Groth, 2003).

Today, a socially and educationally acceptable term "slow learner" appears most frequently in comparison to various other terminologies e.g. dull-normal, dull-average, low achievers, children with developmental delays, mildly mentally handicapped, marginal learners, and at-risk, which has been used in educational

history for referring to students of borderline intelligence and now considered outdated. This inconsistency in terminology over the years has made the term slow learner ambiguous at best (Kaznowski, 2004; Shaw, 2000a), which served as a major reason that many devotee schools and educational academies used this term even for referring to the children having Learning Disability (LD), Attention Deficit Hyperactivity Disorder (ADHD), Mental Retardation (MR), and Dyslexia; whereas, they all differ greatly from each other which has been described in detail as below:

National Joint Committee on Learning Disabilities (2008) reports that Children with specific learning disabilities demonstrate normal intellectual ability. These children manage to develop normally in some respects despite learning disabilities but their development and skill attainment is markedly uneven. They show learning abilities as well as learning disabilities. Thus, the slow learning child, incorrectly diagnosed as learning disabled, may be exposed to a highly specialized form of remedial instruction whereas, the real need is for systematic developmental instruction paced at a rate consistent with learning ability.

Similarly, slow learners are different from ADHD, as Attention Deficit Hyperactivity Disorder (ADHD) is a condition that becomes apparent in some children in the preschool and early school years. It is hard for these children to control their hyperactive behavior and to pay attention (National Institute of Mental Health, 2006), whereas slow learners don't have these kinds of features. They are not hyperactive and they can control and pay attention; though there are attending problems but not due to Attention Deficit Disorder. They can attend but usually not to academic material. Their attention span is short but not as nil.

Slow learners are not the dyslexic children also, as International Dyslexia Association (2007) defines that dyslexia is a language based learning disability and refers to a cluster of symptoms, which result in people having difficulties with specific language skills, particularly reading. Students with dyslexia usually experience difficulties with other language skills such as spelling, writing, and pronouncing words. Dyslexia influence individuals throughout their lives; however, its impact can change at different stages in a person's life. It is referred to as a learning disability because dyslexia can make it very difficult for a student to succeed academically in the typical instructional environment, and in its more severe forms, will qualify a student for special education, special accommodations, or extra support services. Contrary to that slow learners are not like this, yet they have certain difficulties generally in all areas of life. They need special attention and remedial interventions in inclusive class room for all their collaborative functioning because of their low or borderline intellectual functioning.

Slow learning children also differs from Mentally Retarded (MR) because of their IQ range of 70-90 where as children having less than 70 IQ are mentally retarded. Moreover, MR manifests significant delays in both cognitive and adaptive behavior, consistent slow learning, and reading retarded. So for slow learners' grade retention is not effective, as they accept directions but need over learning and new experiences, and had consistently depressed educational profile. And the myth that slow learners are genetically slow due to neurological problems; no research is available to support this view. They have mental abilities with reduced rate of cognitive growth and development (Eastmead & Eastmead, 2004).

Various researchers (Balado, 2003; Carroll, 2002; Flannignan & Groth, 2003; Kathleen & Carol, 2001; Kaznowski, 2004; Lowenstein, 2003; Shaw, 1999a, 1999b, 2000a, 2000b, 2005; Shaw & Gouwens, 2002) have attempted to differentiate slow learners from the above mentioned special population. Usually the slow learner is enrolled in the mainstream classroom and is not identified as needing interventional education. As a fact due to their below average intellectual functioning they learn to read one year later than other students and could be one year behind entering 1st grade. Not only that they have below average mental ability, they are also found to be skills deficit in many areas due to their borderline intellectual functioning. These deficit skills makes them handicapped in the normal living world and as the time pass over and they grew older their deficits increase also and many psycho-social problems arise. They were found to be at risk of several mental health risks because of their limited/depressed cognitive abilities and their diverse learning needs require certain level of encouragement and support for resolving these mental health issues. Types of "slow learners" or term for labeling them includes: underachiever; mentally handicapped; culturally disadvantaged; learning disabled; emotionally disabled and sensory impaired. However, some common problems with these particular definitions are need of concern. One of them is the definition of slow learners vs. slow learning: not necessarily synonymous.

Slow learners are a substantial population that tends to fail academically and socially. It is very unfortunate that reasons for these failures are ignored in the field of educational research and advocacy (Lynam, Moffitt, & Stouthmer-Loeber, 1993; Shaw, 2000a). According to Shaw (1999a), "perception about slow learners or student of borderline intelligence as a cause of societal difficulties, is a man-made problem

created by this neglect and educationist are facing difficulties to deal with challenges of slow learners due to lack of advocacy principles. If proper policies along with practical outbreak are given to this particular group then the nation can have the benefit of their unique abilities as they have the strength to come up with the societal demands but in a slow and steady way. They demand some special need of supportive programs by responsive general education system, whereas, there are only few educational or mental health programs dedicated to slow learners and result is that an increasingly large percentage of slow learners does not graduate high school."

Literature revealed that since past 4-5 decades, research and innovative clinical practice have improved the ability to assess and intervene for children of Attention Deficit Hyperactivity Disorder (ADHD), Autism, along with other pervasive developmental disorders and learning disabilities as they had developed many successful standardized testing procedure and rehabilitation programs for their accommodations. Now a day's children with these developmental disorders are living in better condition and enjoying the colors of life more than children with such disabilities did 4-5 decades ago. Main reason was the continued effort for awareness campaigns, which gave tremendous boost towards these disorders treatments and funding for intervention programs (Cooter, 2004; Shaw, 1999a). Unfortunately this is not true for the group of children often called as slow learners. There is empirical evidence that these "children with below average intellectual abilities" are more at vulnerability risk to develop poor academic performance and become a part of disproportionate number of school drop outs, unwed teen mothers, illicit drug users, functionally illiterate persons, imprisoned persons, unemployed / underemployed, violent offenders / juvenile delinquents, alcohol abusers, school failures, low scorers

on group tests and gang and hate group members. It is a concept that slow learners are exceptionally held responsible for every major problem within educational setup and society. Though, few large scale innovative educational or mental health programs are available to resolve slow learners issues, yet limited or insufficient amount of research is available to comprehend the issues of slow learners in various part of world (Shaw, 1999a).

Xhaferri and Iqbal, (2008) described that academics and policy makers have ignored slow learners in Pakistan as similar the case in West (as Pakistani educational policy makers tend to adopt Western educational policies). Though, research in medical settings has revealed the presence of mild mental retardation in Pakistan and its vulnerability risk cautions. Reports of World Bank (2006, 2007a, 2007b) revealed that Pakistan has one of the lowest ten budgets of the world for its education sector and is one of the only 12 countries that spend less than two percent of their GDP on education (as cited in Xhaferri & Iqbal, 2008). Pakistan's political stability is shaky at best and like India, the young nation seems unwilling to invest the funds needed to achieve Education For All (EFA) (Pakistan MDG Reports, 2005) a famous slogan raised by government from the day of independence, specifically up to primary level but still executive summaries of World Bank (WB) and Asian Development Bank (ADB) shows that government is far behind in economy and implementations of policies to achieve the set target of 100% literacy till 2015 (a fostering goal set in association with UN Millennium Development Goal (MDG) of Universal Primary Education (UPE)). Multiple surveys and action aid programs done by World Bank (2007), Asian Developmental Bank (2005), UNESCO EFA (2000, 2007), and UNICEF (2007) found that primary education in Pakistan is facing tremendous

hazards which includes: low budget, outdated curriculum, marginal training of teachers and their absenteeism ration specially in public/government sector, insufficient infrastructure plus Ghost schools, poor performance and learning outcomes of public/government sector schools in comparison to private schools (Ghuman & Loyed, 2007).

In that way when regular education of normal developing child is experiencing many setback then attention on the below average and borderline intelligent is vey mere. Though, in a study conducted in Pakistan in 2002, prevalence of borderline and mild mental retardation among 6-10 year –old children was found to be 6.2% with additional impairments and delays in 75%; this phenomena ultimately serves as a barrier in their mainstream education (Aly, Taj, & Ibrahim, 2009) yet it is not as much of an eye opening symbol still so far on a national reform and a lot more research is needed in this scenario. This may be due to the available social and educational services which are also rudimentary and tend to alienate rather than integrate these children who are "at risk" and have special needs as when a child fails to progress like his peers in academic settings, then he/she is labeled as a slow learner, and this is assumed 'automatically', that not much effort is to be made to help/assist that child to provide any 'remedial support' (Bashir et al., 2002; Haider, 2008; Hussein, 2009; Samad, Hollis, Prince, & Goodman, 2005; Tan & Yadav, 2008).

Special Needs Advocacy and Empirical Research: A Tiring Need for Slow Learners

In most cases slow learners are unattended in the educational policy paradigm. They are not accounted as average or in the handicapped category and ultimately falls between the gap of normality and abnormality. As a result they are

neglected in schools and this pain tends to increase when their peers having average development refuse to accept them as their group members. Hence, they are in desperate need of specific training and education in connection to their limited intellectual level and behavior problems, if any. Moreover, awareness among people specially parents is desired about these harsh facts (King, 2009; Warnemuende, 2008).

Ironically, the attitude of parents in this respect is denying and it is very much difficult for them to accept their child as borderline intelligent or slow learner in comparison to his/her age mates. They not only deny this harsh reality, yet, complain that he/she seems to do well at home but not up to our expectation in school task for which, they blame the mode of education delivery. They refuse to accept that their child is below average in comparison to his/her counterparts i.e., average children. In some cases it becomes also very brutal as they resist getting some expert help just to avoid the labeling of psychological problems. Especially, in a country like Pakistan where awareness regarding psychological problems and certain arenas is yet to be spread (Wheeler, 1998). At the same time it is much difficult for parents to spare so much of time as to understand that their child's comprehension is poor. They used to deal the problems by their own limited knowledge / home remedies and afraid to be at public (Aly, Taj, & Ibrahim, 2009). In general, parents are busy in their own business and unless there is some specific problem they hardly have time for their child (Warnemuende, 2008).

Moreover, very few empirical research data is available to target issues related to slow learners i.e., problems of developmental skills and their related interventions. In result lack of consistent terminology, conflicting definitions, and varying prevalence rates jointly leave the students in an uncertain position in school and no

special attention can be bestowed on them (Kaznowski, 2004; Malik, 2009). For many years very few researches focused on slow learners all over the world for example United States of America revealed that published studies of slow learners were once an important part of the educational and psychological literature. Meta analysis of the pattern of articles published in professional journals in the U.S. illustrates the growing disinterest in slow learners: from 1919 to 1959 there were 102 published papers using the search headings of "slow learners", "borderline intelligence", "borderline mental retardation", "low achievers", and "low IQ." From 1960 to 1979 there were 141 published papers; from 1980 to 1999 there were 39 published papers. Here the important point to keep in one's mind is that their research literature reveals that about one out of every six American children is a slow learner (Lowenstein, 2003), which was quite alarming. And to find current substantive research on comparative profile of slow learners and normal children, scholars must examine European and Australian education and psychology journals, which continue to publish important research on slow learners (Shaw, 2010). In Europe and Australia, slow learners are recognized as a population with special needs and a legitimate area of research (Shaw, 1999b), which gives more space and insight to school psychologist for in-depth study of this particular phenomenon.

Compared to the work done in West; few preliminary research studies have been carried out in India and Pakistan; which specifically deal with identification of slow learners in school settings (Khan, 2008; Malik, 2009; Pujar & Gaonkar, 2008) and some of these dealt with assessment of their developmental skills (Chintamani, 1992; Karande, Kanchan, & Kulkarni, 2008; Sing, 2004) whereas, some of these researches focused to identify problems of slow learners and explore possible

intervention strategies to be implemented in regular class rooms (Lidho & Khan, 1990; Maheady, Kotherine, Sacca, & Harper, 1998; Malik, 2009; Pandey, Guta, & Gupta, 2000; Ponnusamy & Natarajan, 2002; Rawat, 1977; Sindelar, 1991).

The current emphasis on maintaining high quality educational standards, testing, and accountability have made the situation of slow learners more dilemmatic in nature. This movement of educational quality enhancement may result in forcing teachers to suspend innovative instruction and richer forms of teaching in order to prepare students for the tests. The trend will no doubt leave school administrations no choice but to spend less and less time and opportunity devoted to vocational training. Although raising academic standards and high expectations about academic motivation and success are worthy goals, but the concern is that where does it leave the slow learners? Will they become even more disenchanted with school? Will their education become even less appropriate and meaningful? Will the dropout rate increase? In the entire scenario the focus should not be shifted away from the mission statement that "goal of education is not just about keeping kids in school rather it is that "what students leave school with (as cited in Kaznowski, 2004)."

In educational field setup of Pakistan, standard national system of primary education [pre-school education is designed for 3-5 years old and usually comprises of three stages: Play Group, Nursery and Kindergarten (also called 'KG' or 'Prep')] is mainly inspired from one of the British system (Saeed, 2007). Similar to U.S. model of Education i.e., a single comprehensive high school for all students is applied widely in Pakistan instead of European model of education, which offers a variety of secondary schools for academic and vocational education and also proved to be very helpful in slow learners' special needs advocacy. In schools, applying European

model of education, students are “directed” toward vocational, technical, or academically oriented schooling as early as in age of 11, which ultimately gives them the opportunity to receive an education appropriately tailored to their abilities and interests. Alternatively, educators might consider restructuring secondary programs to allow for opportunities for experiential learning and apprenticeship programs that exist outside the classroom. In this way, students can enhance their vocational and adult-living competencies, which are essential for a productive and contributing member of society. In addition, educators may want to take a closer look at self-designed and self-paced curriculum that integrates vocational and academic subjects with work experience as this may enable the struggling slow learner to acquire appropriate skills and to perceive that his or her schooling is relevant to the workplace. Finally, a post-secondary follow-up study on slow learners' successful transition into society (work, further schooling, etc.) may provide educators with insight and direction for implementing meaningful changes in educational environment (Hussein, 2009; Kaznowski, 2004; Rehman, 2005).

Though, slow learners need different kind of education programs and environment (one of more expressive in forms of collaborative and repetitive course content and more of concrete and relevant syllabus for learning)**.** However, non-availability of adequate funding to support any innovative programs for slow learners; has remained persistent issue (Gottlieb, Alter, Gottlieb, & Wishner, 1994; MacMillan, Gresham, & Bocain, 1998; MacMillan, Gresham, Siperstein, & Bocian, 1996; Shepard & Smith, 1983). Considerable work has been done to improve the quality of life, learning skills and level of attainment of slow learners (Kaznowski, 2004). Yet, it has been evident that in most of the countries; though in every budget, government

sanctions millions of rupees for educational setup specifically for the education of special children, ironically there is no category defined as the financial educational support for slow learners. The deprivation of special type of interventional teaching style, works as a barrier for them to get along with the other members of society.

Along with other problems (e.g., socio-emotional, behavioral, communication and mental health issues) a major problem seen in slow learners is their lack of academic motivation. One possible explanation is the wide spread emphasis on retention and use of standardized academic achievement tests, which could serve as a barrier to develop academic motivation in slow learners (Lane & Menzies, 2003). In educational setup usually academic motivation is directly linked with academic achievement and lack of academic motivation is best viewed as the first step in a downward spiral of low self-esteem, helplessness/hopelessness, certain behavioral, social and emotional problems among slow learners (Shaw, 2006, 2005, 2000c). To enhance academic motivation and academic success in non-graded class rooms' social skills training should be infused in all aspects of curricula, starting from preschool years. According to Carnine (1994) academic motivation can be endorsed by direct instruction of material and regular systematic review of the children's progress. She found that academically successful children are likely to become academically motivated children and they are immunized against the real risk factors of low intelligence and challenging environments. Increasing barriers by increasing grade retention margin criteria and increasing the minimum score required on a test can reduce academic motivation and increases the feelings of academic hopelessness (as cited in Shaw, 2000b). However, studies support that in many cases it is also evident that grade retention, high stakes testing along with ability grouping does prove to be

beneficial towards slow learners (Balado, 2003; Warnemuende, John & Samson, 1991).

Unique characteristics of the slow learners include their below average mental abilities due to which they are at reduced rate of cognitive growth and development, they face difficulty in associating one event to the next, cannot move from concrete to abstract (Singh, 2004). Their attention span is short when younger with significant regression as they get older and they cannot generalize from one setting / task to the next (Alessi, 1987). Because of low assimilation rate slow learners are constantly working at the frustration level. Therefore, instruction must be at their ability level. They exhibit curiosity, but only for those things in which they have interest and they are at mercy of literate bias held by schools that if you do not have a command of the language, written and spoken, you will not succeed in school (Mroczka, 2003). Their personal adjustment is disturbed as they have low self concept and self esteem, low level of initiative, they are rigid and resistant, have poor interpersonal skills and truancy begins 3 years earlier than the "normal" kid (Rossman, 2009).

According to Lowenstein (2003), the slow learners in the mainstream classroom usually have many behavioral problems e.g. abstract or deep thinking is laborious for them as he/she needs to think in relation to his/her experiences in concrete ways. Child often has a short attention span and may find it difficult to concentrate as long as other children. Their expression of self is awkward as they are not skillful with the use of words and their meanings, and their speech may not be as fluent as other children of normal IQ. It is harder for slow learners to figure out things for themselves and require more direction and supervision, but should not be overprotected. The slow learner reacts and learns more slowly than other youngsters

and may not be as quick to grasp what the teacher and/or parent is saying, that is why things should be explained more simply, repeated in different ways, and reviewed from time to time to incorporate maximum understanding of teaching material. Slow learners view of the world tends to be narrower than that of his / her friends of average IQ. The teacher can counteract this by tying in the child's daily life to what he/she is teaching. Simple reading revisions for these slow learners seem to be more difficult and subject matter is often mastered more easily when extensive reading is not required and replaced by more practical and applied exposures.

Given these characteristics a tentative definition of slow learner child might emerge i.e., they are the children of below average intellectual ability (IQ ranges between 75 to 90) and their achievement rate is slow i.e., one and half year behind the normal developing child and this gap will increase with age but will remain close to ability, which means the further they grow older the further behind they get (Kaznowski, 2004; Sing, 2004). They almost exhibit normal range of behavioral patterns along with certain indicating clusters of school failure syndrome (i.e., low academic motivation, emotional and behavioral disturbances, low self-esteem, lack of initiative, and resistance to accept multiple directions, etc), which may become more evident as they get older (Bhatt, 2009). Possible causes of this slowness may include the environmental factors along with many other associated features (maternal health, family background, and low socioeconomic status, etc) as they account for the highest percentage of slow learners (El-Hazmi, Al-Swailem, Al-Mosa, & Al-Jarallah, 2003). School readiness is often lagging behind what is expected for children of their age especially in rural areas (Cooter, 2004b; Sing, 2004). Their distinct characteristic of socio-pathology, as they sometimes are the students who are not there to accept the

school environment served to label them as slow learners because of their neglect towards studies (Institute of Behavioral Psychology, 2003). Emotional overlay due to the possibly disruptive home environment can also be the cause; these students are not emotionally connected to the educational experience.

Developmental psychologists also confirm the importance and relation of IQ with developmental skills acquisition. A firm view is that there is strong interplay between environmental factors and person's normal functioning which determine his/her successful social life. Erickson (1950) has given importance to cultural and social aspects of life and describes the impact of social experience across the whole lifespan. According to him one's life is a series of lessons and challenges, which help us to grow in multiple stages of life. Every stage is composed of specific tasks, which are perceived as crises and one exerts all his/her abilities to master theses tasks in order to move ahead on the next upcoming stage. Here shortage of abilities whether intellectual or developmental cause failure in conquering these challenges and this failure to master these stages can lead to various forms of psychopathology. If the learning aid to furnish these abilities would be made possible in the early years of child life then the chances of future indulgence in psychopathology can be controlled or minimized. Another famous developmental psychologist Vygotsky (1978) contributes that if these learning aids are give in a manner that they relate with the cultural context of the child then profound impact on the developmental skills becomes more visible. According to him child construct knowledge and learning of this knowledge lead to development, which cannot be understood separately from his/her cultural context. He described this cultural context as zone of proximal developmental i.e., are between the levels of independent performance to the assisted

performance; it is here where the parent and teachers must focus their attention. He also asserts that social context influence more than just attitudes and beliefs. It has a profound influence on how we think than what we think. That is the prime reason that if we construct the environment differently then learning become more meaningful and this is the necessary process to regulate his/her internal/external behavior for independent learning. While dealing with children of borderline intelligence the theories of Erickson and Vygotsky were found to be more valuable specially in imparting interventions (Tudge, 1990; Wood, 1998). It had been found that encouraging children to draw with their experiences, to talk to each other about it, to write about it or even to talk to themselves about it enables them to move towards independent learning and these experiences gave them sense of worth, belongingness and acceptance. These accomplishments are necessary for them and if foster by an adult supervision then risk of failure ad psychopathology became minored.

In literature various models of slow learners and their related risks have emerged but among them Shaw's model of slow learners and mental health issues is best as it described the slow learners' borderline intellectual functioning in relation to their developmental tasks which is somewhat similar to the developmental theories of Erickson and Vygotsky. It also elaborates how deficiencies in these task completions can lead to various kinds of mental health risks among slow learners.

Shaw's Model of Slow Learners (2000b)

As school psychologist Steven Shaw found that teachers sometimes complained about the students of low motivation who failed to come up with the educational demands, showed disruptive behaviors and had problems in personal-social communication. These children were not eligible for special schools as they scored higher on intelligence tests in comparison to the set criteria for mentally retarded but not in accordance to set standards of average intellectual child. Their scores lie between the mental retarded and normal persons, and fall between the gaps of normal and special education. They have become a real challenge for teachers as they have to sit in the regular inclusive classrooms and demand advocacy for their special needs. These children with low mental ability have diverse learning needs requiring differentiated instructions. This theoretical construct of slow learners, their developmental skills, mental health risk and proposed academic interventions given by Shaw (2000b) are in the following as a model:

Developmental skills and mental health risks for slow learners

Physical Characteristics

- Difficult to identify as appeared to be just normal and can function normally in most situations.
- Have adequate memory and possess common sense.

Therefore, they are likely to get admission into the schools for normal children where the curriculum is design to meet the needs of average developing children. So they find it extremely difficult to cope with the education imparted in

these schools, unless special provision is made for them and the curriculum is oriented towards practical and real life activities.

Adaptive Characteristics

- Have ability to assume responsibility for their actions, but rather have difficulty of foresight vision for the consequences of their actions and the actions of others.

However, parents and teacher have the same expectations from them as from other average children because of their appearance and actions in general.

Personal-Social Characteristics

- Low self-concept & self-esteem
- Poor interpersonal skills
- Lack of motivation
- Poor social decision making skills
- Poor coping skills

They tend to act without deep thinking, and while communicating with others they shout and show aggression towards peers. During task performance they try to complete the work too quickly and forfeit the accuracy. They are also proving to be easily distracted due to lack of motivation.

Communication Characteristics

- Low level of initiative
- Rigid & resistant
- Poor language & conversational skills

They have difficulty in taking initiatives such as they cannot get started on physical activities i.e., walking, talking etc., as early as their age mates. They also

make few friends and have difficulty in calling friends or going out with friends. This initiative problem also troubles them in getting started on home work and assignments also. Usually when children overcome their initiative problems, they can have significant success academically and socio-personally. They show rigidness towards the adaptation of change and often have poor language skills as they find it difficult to use simple rules of grammar to produce phrases and sentences.

Motor Characteristics

- Age relevant gross, fine and perceptual motor skills are there but at slow pace, as some times they face limitations in rapid motor decision making speed because of limited intelligence.

They are usually late in development of their locomotion skills such walking, running, jumping and coordinated movement such as throwing etc. They also feel difficulty in tying simple knots, cut paper in a straight line with scissors and integrating task of putting pegs on the rings and so on.

Cognitive Characteristics

- Reduced rate of cognitive growth
- Difficulty in associating one event to the next
- Cannot move from concrete to abstract
- Generalization of problem solving skills is difficult

Slow learners' depressed cognitive skills push them behind and they feel difficulty in following the directions with more than one step, have poor written, math and reading skills. Cognitively, it is hard for them to come up with new ideas and generating plans altogether.

All these characteristics made them vulnerable at risk of various mental health issues i.e., they are more likely to address social conflict with aggression; have inadequate coping mechanisms when faced with personal crises due to developmental skill deficits and they are not fully functioning in the society. (Cooter & Cooter, 2004a; Shaw, 2000a, 2000b, 2004; Warnemuende, John, & Samson, 1991). This notion relates with Erik Erikson (1950) theory of human development with specific task and crises at different stages of the life cycle. Failure to master these stages can lead to various forms of psychopathology.

Generally, school education focuses on responsibility for providing / polishing skills, or at the least, not to take away a child's motivation to acquire needed skills as this is the mission statement of most schools in general. It can also be explain in a way that theses skills are very much needed to live successfully and absence of these skills has been found to be related with overall mental health issues. The preponderance of the evidence suggests that most cases of slow learners with low self-esteem, lack of motivation and mental health issues are due to lack of skills (e.g., poor social decision making, poor coping skills and lack of life opportunities). Although schools cannot address home environment issues, schools are in a position to furnish some basic skills for social interaction and academic achievement (Carnine, 1994; Houston, 2004; Rossman, 2009) as they are one of the contributing factors in development of a child's mental health (Hussein, 2009). Jensen (1981) cites in his book that slow learners fall on the third of the four IQ thresholds i.e., an IQ between 75 and 85. Children in this IQ range are not generally able to complete a college prep course in high school that is why their major educability ranges from 8th-Grade to 12th-Grade and they get employment options as assembler, food services, and nurse's

aide. Someone with an IQ of 80 or below is considered marginally able to cope with the adult world. People with IQ's of 80 or below typically work as unskilled laborers such as lawn maintenance and trash pickup. They generally need help from friends or family to manage life's complications. According to Jensen (1981), "people with IQs between 75 and 90 are 88 times more likely to drop out of high school, seven times more likely to be jailed, and five times more likely as adults to live in poverty than people with IQs between 110 and 125. The 75-to-90 IQ woman is eight times more likely to become a chronic welfare recipient, and four times more likely to bear an illegitimate child than the 110-to-125-IQ woman."

Research on children with mental health needs has also highlighted the phenomenon of diagnostic overshadowing, which attributes all behavioral, social and emotional problems to mental retardation. For slow learners, there is the reverse case of diagnostic overshadowing i.e., professionals ignore the real world influences of low intelligence such as poor coping skills, poor social skills, repeated failure experiences and the risk factors associated with poverty and attribute all behavioral, social and emotional problems to psychopathology (Shaw, 2000a).

A report published by the National Association of School Psychologist (Shaw, 2005) revealed that for five years (longitudinal study design), the Department of Developmental Pediatrics of Children's Hospital, Greenville, SC had followed 142 (average age 9 years and 2 months) children referred for academic problems who earned intelligence test scores between 70 and 85. Although most of data collected was concerned with the cognitive and academic issues, there were significant amount of information on mental health concerns as well i.e., 97% of the children were reported to be unmotivated by their teachers among which 76% were found to have

impulsivity in high ranges. 74% were found to be guilty of discipline violation (mostly for fighting, aggression, attention problems, and conduct disorders), which was also confirmed by their parent's evaluation. Among them 42% received no documented educational experience and 47% were retained at least once in the three-year period. It was also found that 15-19% were eventually diagnosed with Oppositional Defiant Disorder and ADHD respectively.

In different parts of the world other than USA, UK, Australia and Europe the attention on slow learners has instigated a series of activities among education sector stakeholders to focus on the issues related to them and its effects on the general societal outlook. Like in Nigeria studies have reported that relative feature of slow learners i.e., illiteracy and low academic achievement contribute to rise of criminal activity rates. It is a fact that no child aspires to become a criminal, drug addict or prostitute but frustration and low self-esteem, resulting from school dropout phenomena, poor academic profile and lack of significant skills; compel them to take up these damaging vices (Oyekanmi, n.d).

Currently, few educational and mental health programs are available for slow learners but they lack governmental support; in contrast to the programs advocating for the learning disabled, autistic, or mentally retarded. These few available remedial or support services are also under pressure by the current accountability and high stakes testing movement to ensure quality education. Without programs or responsive general education, the number of slow learners failing to graduate from high school will increase in near future. It is a critical issue that research should be directly focused towards low intelligence, their effective teaching methods in educational setup. The national education system needs to contribute to educational reform for

slow learners with borderline intellectual functioning (Kaznowski, 2004), which is not possible unless or until school psychologist play their vital role in that.

Academic Interventions for Slow Learners

According to Merchant (2008), slow learning students are the struggling students of the class, continue striving to achieve the said goals. Unfortunately, they possess the below grade level ability, which functions as a setback for them and leads towards their immature interpersonal skills, poor self esteem, poor self image and disturbed communication styles. The most important aim of any school is to develop sufficient academic skills and abilities so that the child can be reintegrated into a mainstream school and have a sound mental health. All these are not possible without the implementation of specific intervention plan for these children having diverse needs so that the basic working of sub-skills of academic tasks becomes automatic in nature. The goal of helping slow learners is not to get them performing at grade level, but to get them performing at their highest possible level (Flanningan & Groth, 2003). In this regard, teachers, school administrators', educational policy makers and school psychologists can play a key role to designing interventions for slow learners studying in mainstream class rooms. Researches support the notion that three major types of social and educational factors influenced child's mental health; they include child's home environment, child's schooling and the society at large (Hussein, 2009). This confirms the critical and helpful role of parents and teachers in giving prime attention, vigilance and care to ensure sound mental health particularly in developing countries due to their protective alliance (Rahman, Mubbashar, Harrington, & Gatter, 2000).

Researches supports that keen vigilance by both parents and teachers about slow learners' living, habits and developmental rate proved to be helpful in early identification, and proper satisfaction of diverse needs of the said population. This proper and early identification of their strengths and weaknesses also help school psychologist in addressing slow learners' issues through academic interventions. This collaborative venture will help slow learners to work at their maximum potential in mainstream class rooms.

Slow learners have wide range of abilities and variety of characteristics depending on their background but not in-accordance to the developmental milestones. As an initial step their concrete identification is critical and various assessments measures of intelligence are available which have been found to be reliable measure by various researches for assessment of the IQ level of slow learners i.e., Stanford Binet Intelligence Scale (Khan, 2008), Wechsler Intelligence Scale for Children (Kaznowski, 2004), Ravens Standard Progressive matrices (Arbitman-Smith & Haywood, 1980), and Ravens Colored Progressive Matrices (Lynn, 2009).. Similarly, many standardized tests of developmental skills assessment were used to assess the slow learners for their attained developmental level by various researches e.g., Peabody Picture Vocabulary Test (Colarusso, Mathis, & Shessel, 1979; Colarusso, McLeskey, & Gill, 1977), Peabody Developmental Motor Scale (Vohr, & Msall, 1997), Vineland Adaptive Behavior Scale (Cabrera, Gaa, & Thyer, 1999; Harrison, 1987), Battelle Developmental Inventory (Glascoe & Byrne, 1993) and Child Behavior Checklist (Ackerman, Dykman , Oglesby, & Newton, 1994).

Though, all these tests are standardized measures for the assessment of various characteristics, yet, often schools don't have resources / expert person available to

identify the slow learners or the open access to utilize these tests due to lack of awareness, funds and certain other policy matters (Shaw, 2010). Moreover, when the schools administration is striving for the excellence through competition here the rising standards of high stakes testing and privatization of educational unit pushed teachers hard to cover maximum amount of study material in a short span of time. This situation made it more difficult not only for schools but also for this particular population of slow learners to maintain the standard of success altogether (Shaw, 2007a, 2007b, 2001, 2000c).

However, providing early intervention services in schools may be the key means of ameliorating mental health problems of slow learners (Shaw, 2005). This early identification helps them to get fostering for their diverse and special needs through implementation of interventions. There can be various identification cues, which can help teachers and school administration to see whether the child is giving some indications of slowness in developmental milestones or not. As a first step, child's developmental history is one of important things; though it is often difficult to obtain but it gives helpful hints to rule out the medical and language problems and sensory impairments at first place. At the second step, teachers have to review the child's current profile of academic achievement by using samples from their own work to do an error analysis. While ding this task main focus is to find where the discrepancy lies as compared to the highest and lowest group of respective class. At a third step, cultural milieu is an important issue, which can enrich the answer of the question i.e., to what extent the child's culture is consistent with the values of school. And at fourth step, adaptive behavior would be the best measure to assess and compare slow learners social adjustment, which is slightly worse than normal as they

have fewer social contacts due to limited educational activities. After doing all these assessments, as a last step, intellectual ability should be assessed by IQ test for clear cut identification (Cootor & Cootor, 2004a).

In literature, there are various methods are described to maximize the learning potential of slow learning students through interventions (Shaw, 2000a; Sing, 2004); but generally there are four broader themes for developing interventions, which will serve as a guideline for teachers, facing challenges with borderline intelligence children in main stream classroom (Shaw, William, & McKnight, 2005):

1. ***Making all instructions concrete and relevant*:** Students with borderline intellectual functioning have difficulty with abstract concept such as those learned through books and lecture as they demand lots of practical implication and pictorial or modular presentation of the taught material but off course the relevance of the presented martial with the academic work is crucial in nature. If they can see it, touch it, or do it, then learning will be easier.
2. ***Designing all instructions to help the students generalize the skills*:** Students of low abilities or slow learners usually have good rote memories, but they only learn what is taught. The actual desire of learning process i.e., the generalized application of the taught material is still lacking and it can be introduced by the practical approach to show them how, where, when and why these problem solving skills can be beneficial.
3. ***Increasing academic engaged time*:** Students in the gray area needed to be taught at a faster pace than their average or gifted peers. This does not mean that all the material has to be taught to them in one setting. Instead, the teaching material is divided in small chunks and at a time small portion of

material is taught. In comparison to average child 10-15% extra deadlines are given and the revision is excessive as repetition of the concepts / practices of skills give them more understating of the taught material. So, increase in academic engaged time is desired to have the academic success.

4. ***Preventing behavioral and inattention issues*:** Slow learners have certain behavior problems in class, which in turns disturb the academic atmosphere. They don't know how to sit, to take turn in conversations, to have a moderate tone while talking, how to take permission or ask questions etc. All that could be taught through social skills training by addressing them how to speak, take permission, pay gratitude, accept apologies and co-operate with others.

Providing slow learners with an appropriate education is a difficult proposition. In contrast to special educators, regular education teachers typically do not receive specialized training in teaching children with learning challenges (Shaw, 2000a, 2000b). Different researchers also found following certain methods and techniques successful and effective in class room management as stimulating agents in order to motivate slow learners to get education:

According to Groth and Flanningan (2003), these methods include: use of volunteers, peer tutoring and reducing the amount of work, required to enhance the performance of slow learners in the class room. Volunteers are a must as teachers do not have the time to give students the one on one help that many need. Peer tutors are great to use in addition to volunteers and sometimes by simply placing the right students together in pairs or group situations benefits a lot. At last, reduce the number of spelling words or math problems as this has proven to be effective and reduces the level of stress and is less likely to overwhelm the student. They also acknowledge the

use of computer technology in the class rooms in an effective and fun manner. They found personal attention to be very important while giving instruction i.e., say the child's name or touch them before giving the direction; write the directions on the board followed by immediate feedback. The hardest, and probably the most important, strategy is to provide more lenient deadlines to keep pace. So in order to effectively meet their needs educationist have to educate teachers (through regular teachers training programs and refresher courses) and keep the lines of communication open with the parents (through regular parent teachers meetings and parents workshops).

Reading skills to slow learners can also be best taught through a combination of direct and systematic instruction with phonics (e.g., Science Research Associate's Direct Instruction System Teaching Arithmetic and Reading) and heavy use of concrete reading material. Examples of concrete reading materials are directions for assembling models, how-to-do books of games and puzzles. Field trips to various fun places (e.g., zoo, toy land, puppets shows, circus, carnivals, etc.), internet projects, and the like are often the domain of special needs advocacy programs. It is also evident that slow learners benefit from the hand on type material; i.e., touching, seeing and doing curricula at least as much as high intelligence children (Shaw, 2000b).

Mroczka (2003) found that teachers can employ some basic class room management techniques as helpful for addressing the issues related to slow learners in mainstream classrooms: such as direct contact, immediate feedback, providing built-in success opportunities, and writing directions. These serve the purpose of reinforcement to keep the slow learner on-task and encourage their continued

participation and success. Parental involvement is also critical. Parents should be encouraged to support their child by demonstrating positive attitudes i.e., attending school functions, keeping open lines of communication with the teacher, supporting homework, and just talking with the child helps to enhance the child's performance in the school. She also found that seating arrangement (i.e., where they are sitting, accompanied by who they are sitting next to) in the classroom effects the attention level and has a tremendous impact on a student's performance. Repetition of teaching material by the teacher while presenting a lesson or giving directions can benefit the entire class, not just the slow learner. Conducting more tactile hands-on lessons provide a more interactive learning environment and encourage cooperative learning.

These types of lessons encourage participation and have a tendency to be "more interesting" (as the students would say). It is absolutely essential for the parents to be aware of these activities in the classroom so they can reinforce the same things at home.

Palan (1998) also asserts that, it is the key role of a teacher to maintain a good balance between attitudes, skills and knowledge, which will make student's learning a 'Fun'. For these purposes, programming of the educational framework design is an important issue if one wishes to make training FUN. A compressed and concise curriculum focusing on a moderate level of content and critical learning areas is a powerful design.

Hence, it can be concluded that various helping measures and academic interventional techniques proved to be fruitful in enhancing the developmental skills of slow learners by giving opportunities to flourish their limited talent in order to gain academic and socio-personal gains. It not only helped them academically but also

save them from becoming the victims of several mental health risks. Balado (2003) found that while working with slow learners certain conditions in class room environment produced to be beneficial in learning enhancement e.g., reducing distractions by providing a quiet, private place to work, frequent use of praise and reinforcement to emphasize the strengths, relaxation in target deadlines, use of fun-educational games, hand on material and software's which are to some extent challenging but allows success, a combination of meaningful, concrete activities followed by repetitive instructions and specific direction improves the rate of learning rather than abstract and critical tasks. Giving them freedom to explore their own interests accompanied by a role model helps to maintain their attention strengthen their weaknesses.

Most slow learners function below grade level in all subject areas and generally score consistently low on achievement tests. It may appear that slow learners are not capable of learning. However, Carroll (2002) wrote, "Slow learners are handicapped in the mainstream classroom to approximately the same degree as students with average abilities when competing with gifted students." They are able to learn although the mastery of skills becomes much slower (Flannigan & Groth, 2003). Despite these limitations, the slow learner will learn, but only if the teaching and materials are directed to his/her level of learning (Foundationosa, 2002; Mroczka, 2003).

Shaw (2005, 2001, 2000b) found counseling sessions and joint ventures of parent and teachers to be most effective measures for correcting slow learners' behaviors and mental health problems . However, modeling of socially appropriate behaviors and coping skills, as well as the opportunity to engage in guided practice of

the recently learned skills, have been most efficiently used in a group therapy situation. Yet, parent's involvement played key role in pulling out slow learner from the catastrophe of borderline intellectual functioning problems. They are advised to behave as normal with slow learners as they do with their other children and try not to involve both in competitive activities to get comparison. The golden principle while dealing with slow learner is that one step at a time is more than enough for these children as they do not have distance sense, yet, they live in the present with a color of life.

Hence, the most important policy while teaching the slow learners is maintenance! Yet, review of concepts on a weekly basis, utilization of peer tutorial system, use of elder slow learner tutors for younger slow learners and the priority set i.e., what is most needed for them to learn as they cannot participate or profit from the full curriculum is crucial.

Along with many other interventional modalities ability grouping is also found to be an essential technique if a teacher strives to implement collaborative learning strategies (e.g. modern technologies, group activities, role playing, etc.) and to meet the needs of diverse learners (Zhenhui, 2001). Ability grouping is different from tracking which is the practice of sorting students into different classes based on their grades, test scores, and perceived abilities; however, ability grouping refers to groups organized by the teacher within heterogeneous classrooms (Oakes, 2005).

The ability-grouping issue has generated a great deal of research, much of it inconclusive, about the benefits or weaknesses of heterogeneous and homogeneous grouping. The meta-analysis studies found that ability grouping has essentially no

effect on students' achievement across all ability levels including slow learners / borderline intellectual functioning (Kulik & Kulik, 1992; Slavin, 1990).

However, some researches on grouping the students in terms of their abilities do indicate that when instruction and materials are tailored to student ability; grouping has a positive effect on student's achievement. It was also found that instructional strategies used by teachers with groups have more profound effect on achievement than the actual grouping placement (Bluman-Pardo, 2002; Pallas, Entwisle, Alexander, & Stluka, 1996; Rogers, 1998). Similarly, quite a good body of research on schools with inclusive classrooms highlights that differentiated instructions are an essential ingredient for initiating success among slow learners. In a study of "de-tracked" schools, Gamoran and Weinstein (1998) found that heterogeneous classes were most effective when teachers used differentiated instruction. "High quality instruction relied on individualization, varied expectations (but at a high level for all students), and complex authentic assignments."

The benefits or problems relating to ability grouping may depend on the subjects taught, the student's grade level or year, the basis for these groupings (for example, some groupings may be based on IQ or aptitude), the type of tests teachers use to assess the effectiveness of ability grouping (Allan, 1991) or the student ability.

Reid, Clunies, Goacher, and Vile (1982) found student performances in the various types of ability grouping to depend on the subjects taught. They found that students in mixed ability settings tend to perform better in subjects of humanities while this approach appears to be inefficient for subjects such as Mathematics and Modern Foreign Languages. Riaz (1989) also found that below average students in science classes were low in academic achievement, were less creative and less filed

independent. They require more directive and concrete instructions, lack fluency in generating novel ideas and have limited fluency in thinking creative tasks.

The decision, whether slow learners should be inducted in the ability grouping (keeping in mind the ability level and cultural context of the child) or not is still controversial and dependent upon the schools' administrations and educationist.

Relationship of Borderline Intelligence and Demographic Characteristics

Substantial research evidence suggests that certain demographic characteristics e.g., gender (Costello, 2008; Matthys, Cohen-Kittenis, & Berkhout, 1994), geographical or cultural belonging (Cooter, 2004; Karr-Morse & Wiley, 1997; Williams, 2006), school type (Chaudhari, 2008; Dagnan, 2007), socioeconomic status (Chaudhari, Kulkarni, Pandit, & Deshmukh, 2000; Gouwens, 2004; Warnemuende, 2009), etc. significantly effects slow learners' borderline intelligence.

Psychologists have studied gender differences in terms of intelligence since the beginning of intelligence testing and found that intelligence tests may not show gender differences at large because they tend to be small and hard to detect (Deary, Thorpe, Wilson, Starr, & Whalley, 2003). However, many previous studies on gender differences and intellectual development demonstrated better competence scores for boys and sometimes in favor of girls. For example, Jones, Garrison, and Morgan (1985) found that on intelligence tests girls' score range was better than the boys. The explanation they put forward was according to the notion that girls do slightly better on intelligence tests because girls as compared to boys of the same age advance more rapidly in their intelligence.

Maccoby and Jaklin (1974) suggested that up to the age of 7, girls on the average do show superior test scores, but this early superiority may be attributed to girls' advanced physical maturation during this period.

On the contrary, the study of Libsen and Goldbeck (1980) showed better competence scores for boys than girls on Piagetian Special Tasks. However, no differences were found in students of grade 6 to 8 on Ravens Progressive Matrices.

Bartlett (2002) found that boys and girls certainly do tend to learn in different ways. There certainly are commonalities, but there certainly are differences. Boys, generally, require a more structured approach, more challenging tasks, more of a short-term orientation. They are better at mathematical, visual and physical activities but they are not as good as girls at verbal approaches, linguistic approaches, group activities that involve articulation and relating.

Benbow and Stanley (1980) demonstrated in their study that boys and girls do not differ in their general intellectual abilities. However, differences in the specific intellectual abilities of both genders were found that at grades 7 and 8, boys performed better than girls on mathematical reasoning ability test. It is very much important indication of gender differences that wherever they exist; represent average differences between boys and girls as groups, not as individuals. Knowing whether an individual is female or male reveals little about the person's intellectual abilities (Flynn, 1998).

Differences in IQ between genders are not of practical importance. The study conducted by Cahan and Ganor (2005) investigated gender differences among 11,000 Israeli children in Grades 4–6 with respect to verbal, spatial, and mathematical ability, as measured by 12 intelligence tests. Consistent differences in score variance were

found across grades for 11 of the 12 sub-sets of WISC. In each of these sub-sets the variance for boys exceeded that of girls by 10%–20%. With respect to mean achievement, consistent cross-grade differences were found only for mathematical ability, where boys had the edge (about 0.20 SD). These findings diverge from those of recent studies, which found no gender differences in any of these realms. Furthermore, they differ from the results of earlier Israeli studies in that the gender gap is limited to mathematical ability, and its size is much smaller.

Though, no substantial differences between boys and girls in their overall average IQ are visible (Furnham, 2008) but the distribution of IQ scores is slightly different for boys than for girls. McNulty (2007) found that on IQ tests boys tend to be more heavily represented at the extremes of the IQ distribution and are more susceptible to be effected by mental retardation in comparison to girls as their scores are more frequently clustered around the mean. Girls, there do seem to be differences in some more specialized abilities. Boys, on average, perform better on tests of spatial ability than do girls. The reason for this difference is unknown. Some psychologists speculate that spatial ability evolved more in boys, because boys were historically hunters and required spatial ability to track prey and find their way back from hunting forays. Others believe that the differences result from parents' different expectations of boys' and girls' abilities with relevance to their cultural context (McNulty, 2007).

It is also important to find out that difference in intellectual abilities between boys and girls are biologically based or culturally based as both biological and cultural features play dominant role in persons' performance. Biological researchers have studied androgenized females, individuals who are genetically female but were exposed to high levels of testosterone (a male hormone), during their gestation. As

these individuals grow up, they are culturally identified as female, but they tend to play with "boys' toys," like blocks and trucks, and have higher levels of spatial ability than females who were not exposed to high levels of testerone. Further evidence for a biological basis for spatial gender differences comes from comparisons of the brains of boys and girls. Even when correlated for body size, males tend to have slightly larger brains than females. Some scientists speculate that this extra brain volume in males may be devoted to spatial ability (Golledge, Lovelace, Montello, & Self, 1999).

From the cultural perspective many social scientists argue that differences in abilities between boys and girls arise from the different expectations of society from them and partly it is because of their varied experiences which ultimately effects on the development of spatial visualization and mathematical abilities (Bishop, 2008; Noraini, 2005). Vygostky (1988) defined intelligence as an identifiable characteristic of human which organize his/her activities and social thought. In his point of view one's intelligence cannot be separately understood from his/her cultural context as all mental processes involves in social interactions. Similarly, Triarchic theory of intelligence (Stenberg, 1985) asserts that intelligence is a purposeful and goal oriented behavior consisted of two general skills i.e., one's ability to deal with novel tasks and to learn from experiences. In that way intelligence is dependent upon acquiring information processing skills and problem solving strategies which cannot be done without understanding the social context. That is why cultural demand and requirements affect the practical intelligence which can be observed in one's pursuits for life and social competence (Ford, 1986). In that way from very early stage of life to later in adolescence boy and girls behave and lived differently just as, during adolescence, girls take fewer math and science courses than boys, perhaps because of

stereotypes of math and science as masculine subjects and because of less encouragement from teachers, peers, and parents (Kittler, Krinsky-McHale, & Devenny, 2004; Summers, 2005).

Overall gender differences in IQ and developmental level are also somewhat visible in children with various mental health needs e.g., Autism, Attention Deficit Hyperactivity Disorder, Mental Retardation (Niklasson, Rasmussen, Oskarsdottir, & Gillberg, 2009), Mild Mental Retardation, and Dyslexia (Mash & Wolfe, 2010). In a study (Arbitman-Smith & Haywood, 1980) 27 girls and 75 boys were examined on measures of psychological, academic, and cognitive-styles developmental skills with reference to their gender differences. All students were enrolled in a program for severely learning disabled (LD) children. Findings of the study indicate that LD girls were found to be verbally inferior, less capable of abstract thinking, more field-dependent, and more impulsive than boys. Yet, non significant differences were obtained on measures of academic or perceptual-motor skills. It was suggested that socio-emotional factors may be considered as possible explanation for the above differences. However, it has also been found by various other studies that girls are better in reading performance even having dyslexia (Blonk & Bosman, 2004; Delis, Kramer, Kaplan, & Ober, 1987; Hanlon, Thatcher, & Cline, 1999; Kramer, Delis, Kaplan, Donnell, & Prifitera, 1997; Ryckman, 1981).

Research review has also revealed that along with gender, geographical locality or area: urban/rural also contributes to the development of borderline intelligence (Wesserman et al., 2006), depressed developmental skills (Alderman, Behrman, Ross & Sabot, 2001; Behrman, Khan, Ross, & Sabot, 1997) and in some cases delays in certain areas of psychomotor development (Aly, Taj, & Ibrahim,

2009). The health and nutritional conditions deteriorate in rural setup in comparison to the urban area that is why the children belonging to the rural setup had more chances to bear borderline intellectual functioning (Karr-Morse & Wiley, 1997). There are very much chances of babies in rural areas to be born with low birth weight and severe psycho-motor developmental delays due to prenatal poor maternal nutrition, mother's exposure to low quality food, polluted environment, filthy water resources (Tauxe, 2008), low or nil sanitation conditions and lack of proper medical assistance during pregnancy, which ultimately contributes in damaging the intellectual functioning of children (Wesserman et al., 2006). These grounds not only made them prone to developmental delays; yet initial level assessment of certain developmental disorders or identification of intellectual or developmental deficiencies is also sparse in that particular environment, which is also associated with sub-standard medical facilities in these areas. Along with the poor medical conditions, schools' type and education system also play contributing role. The schools in the rural areas do not meet the standards of quality education so far and teaching staff is not much trained in tackling/managing the diverse need of students, which results in the worse conditions of slow learners / borderline intelligence children as they are pushed to remain in the same classes (Hussein, 2009). This, in turn, lowers the academic motivation which leads them to drop out from the schools (Shaw, 2010). Population of slow learners demand special needs advocacy in the form of well planned actions and it is evident from the literature that well-trained teachers and use of modern technology equipped with diverse educational styles helped slow learners to become more active, having good academic achievement and a sound socio-personal profile (Behrman, Khan, Ross, & Sabot, 1997; Eikeseth, 2009; Patterson & Edwards, 2009).

These differences and problems also prevail in the types of the schools (private/public) and schooling process. Impact of schooling has considered as a profound factor on IQ. Basically, it seems more than transmission of cultural knowledge; schooling process helps the child to develop conceptual formulation and perspective thinking patterns which eventually trains the child to become more reflective in daily life (Mehmood, 1991). In regular schools specifically public one, teaching staff restricts themselves from coming forward or taking initiative in introducing the modern techniques or new modalities to enrich the learning of children with normal or diverse needs (World Bank, 2007). Reasons are the lack of policy making body's interest and insufficient funding for the arrangement of certain modalities for accommodation of slow learners or borderline intellectual functioning children in the mainstream classrooms, can lead this population to various mental health risks (Karande, Kanchan, & Kulkarni, 2008; Farhadifar, Ghotbi, Yari, Haydarpur, Mohammadzadeh, Afkhamzadeh, & Delpisheh, 2011; Shaw, 2010).

Similarly, socio economic status / poverty are another major contributor or related factors, in borderline intellectual functioning and depressed developmental skills. Children belonging to low Socio Economic Status (SES) are vulnerable to develop certain developmental delays and psychopathologies due to their developmental skills deficiencies (Chaudhari, Kulkarni, Pandit, & Deshmukh, 2000). It is also seen that children who belong to low SES not only develop borderline intellectual functioning but also show less responsiveness in communication and motor skills as they start walking late, running, jumping and co-ordinate muscular movements (Aly, Taj, & Ibrahim, 2009; Liddle & Long, 1958; Swanson, 2006). Studies carried out in Pakistan by Yaqoob, Ferngren, Jalil, Nazir, and Karlberg (2008)

found children belonging to poorer families with significant delays and deficiencies in psychomotor development, which contribute to their future risk of developing certain psychopathologies and mental health problems. They are little bit late in developing certain other age related skills in comparison to their other age mates on middle or high SES (Gouwens, 2004; Warnemuende, 2009). Research evidence supported that sufficient amount of nutritional supplements, exposure of healthy environment and high SES also facilitates the cognitive and motor development of children which in turn boost up their skills enhancement and personal-social functioning in general (Chawala & Sharma, 2007; Whaley et al., 2003).

Rationale of the Study

In the last few decades, children of borderline intelligence often called slow learners received less attention in comparison to other high cognitive dysfunctions or mental retardation issues. The review of literature has suggested that early identification of these slow learners and their special needs advocacy has become the prime concern of researchers especially with reference to developmental, educational and economic potential of these children living in third world / developing countries (Bashir, et. al, 2002; Engle, et. al, 2007; Fernell & Ek, 2010; Shaw, 2010; Yaqoob, et. al, 2004).

At present, schools are charged with the task to serve group of diverse range learners' who significantly vary in their academic achievement, social and behavioral competence. To achieve the goal of learning; is the mission of most schools and they work very hard to achieve that mission statement. Yet, large number of students of different ages encounter difficulty learning in school, despite adequate intelligence,

social adjustment, and exposure to school work because of their slow academic / scholastic achievements (Cosby, 2002; Khan, 2005; Ninivaggi, 2001). They are the students who are labeled as slow learners and deviate from normal domains in academic, behavioral and social competencies, which put them not only at the risk of educational failure but also at risk of various behavioral and mental health issues (Bhatt, 2009). These school children are identified as possessing borderline IQ range because of their depressed intellectual abilities. In the school and class room these children are segregated from others children of average IQ and development as they are considered to be dull and lazy who find it difficult to cope with educational and social demands of his/her surroundings (Shaw, 2010). As a matter of fact, children with these experiences tend to show marked feelings of helplessness, associated with low self esteem, poor self concept, poor coping and poor motivational level. These children in their later stages of life are identified as being at risk of antisocial behavior, pejorative behavioral problems i.e., conduct disorders and anti-social personality disorder or at many times in criminal activities at large (Lame & Menzies, 2003).

Empirical evidence (Mental Health Atlas, 2005; Simeonsson, 2008) supports the notion that due to numerous reasons (e.g., mother-child health, health and medical facilities, malnutrition, poverty, home and neighborhood environment, etc.), it's of imminent importance to safeguard slow learners for indulging in mental health risks, which requires early identification of slow learners; assessment of their attained developmental skills level in association to their demographic characteristics and geographical settings; and effective structured interventions both at home and in schools, especially in formative years of child development. With specific reference

to developing countries, researchers (Hussein, 2009; Vellutino, Scanlon, Zhang, Schatschneider, 2008) have identified that if specific interventions are provided for slow learners before the age of 8, there is strong likelihood that this will prevent the child from having risks of many mental health and cognitive deficiencies (Engle et al., 2007).

A bulk of literature (Bakare, Ubochi, Ebigbo, & Orowigho, 2010; Bhatti & Ashfaq, 2008; Karande, Kanchan, & Kulkarni, 2008; Yaqoob, et. al, 2004) also yielded that a slow learning child normally present the history of developmental delays; in the areas of psychomotor development related with learning to walk, talk and managing their self-care needs and skills acquisition. It's a fact that most of these children developed communication skills, but face difficulties in receptive and expressive language to convey their thoughts in an assertive manner. Mostly they exhibit late motor decision making skills and their depressed cognitive skills push them to stay behind in the goals achievement marathon. No doubt, in a traditional and challenging educational world they are the ones who demand special needs advocacy and a proper program framework, inclusive of some interventions to give them a push for the desired goals attainments. For this, Shaw's model of slow learners and mental health issues (1999a) and academic intervention is one of the best. Cross cultural utility of this model and proposed academic intervention has also been established in United States of America (Warnemuende, John, & Samson, 1991) and India (Malik, 2009).

According to the previous cited literature, the education field of Pakistan had many setbacks in term of regular education as well as special education. The reports of WB (2006, 2007a, 2007b), ADB (2005), UNESCO EFA (2000, 2007), and

UNICEF (2007) revealed that various action aid programs had been taken into account on national and provincial level specifically in Punjab (as it is the largest province with more than half the population of the country) by the name of The Punjab Education Sector Reform Program (PERSP). It was implemented with the support of the World Bank and has set up a workable model of expanding access, and improving governance and quality of education (World Bank, 2007) for upgrading the regular education setup but still the 100% target is awaited so far.

In this scenario where regular education for a normal developing child shaken out the identification of slow learners in mainstream classrooms, their adjustment and assessment of below average developmental skills level, demographical characteristics, mental health issues related to them and their need of separate teaching style interventions, are most neglected areas in education field of Pakistan. It is due to the lack of awareness and un-availability of sufficient educational and treatment policy, identification, and assessment tools (Aly, Taj, & Ibrahim, 2009; Haider, 2008; Hussein, 2009). In the result we have deep educational and societal problems with no real solutions in sight. While policy makers and academics discuss factors such as high expectations, self-esteem, learning styles, poverty and other causes of educational problems that either do not lead to practical solutions or have decades-long histories of failure; low / borderline intelligence is ignored. Although the educational policy (Government of Pakistan: Compulsory Primary Education Ordinance, 2009) for slow learners had been drafted, but the policy implementation requires approval from the Parliament; that is still awaited. Moreover, with reference to Pakistan, it is noted that on the national level not much empirical work is carried out which could help/assist these children to accommodate in a suitable educational

setup; preferably in the mainstream schools (Hussein, 2009; Syed, Hussein, & Haidry, 2009). Large scale research on effective teaching of slow learners, prevention of mental health problems and better advocacy for slow learners is vital and the prime need of time. Working for slow learners may be the most valuable contribution to educational reforms that school psychologists can provide and is the ultimate safeguard for their future mental health (Khan, 2008).

Although some schools in private sector have taken this initiative to provide structured interventions to slow learners in an inclusive setup; but that is not enough due to the lack of policy measure and appropriate guidance; they deal with slow learners under one large umbrella of special education. Annual reports of Learning and Education Achievement in Punjab Schools (LEAPS) released by WB (2008) revealed that from 2001 to onward private schools increased a lot about 10% -18% even in the rural area of Punjab, where teacher's performance (as they are working on "hire or fire" basis) and learning outcome of the students from these schools are far better than public/government sector. They are more economic even for low income families and run with the goal to excel in the field of education. The infrastructure, text, teaching methods and other learning initiative modalities are far better in these schools as compared to public sector primary schools. Moreover, many gender equality programs also instigate parents and schools administration to enroll girls in schools and it has been noticed that girls' performance weather they are part of regular/special education is better from their counterpart boys of the same class and it increased the enrollment for primary education as almost 30 percent of primary school children go to private schools in Pakistan (Xhaferri & Iqbal, 2008).

By keeping in view the context of general education in Pakistan one can realize that the impediments in regular reforms of education for normally developing/special disabilities children also served as a barrier to inclusive education of slow learners. Hence, a realization is desired that still a lot needs to be done for slow learners' special needs advocacy. Moreover, one cannot assume that outcomes of interventions given to all disabilities can be generalized for slow learners' population as most of the special schools, in Pakistan, ignore individual learning needs by setting fix syllabus, time tables and teaching methodologies, which put slow learner's learning and adjustment on stake. This dilemma clearly generates the need of extensive research not only to identify slow learners, their related problems but also implementations of certain safeguard measures to prevent their mental health risks.

Keeping in view the importance of borderline intelligence, related mental health risks and developmental delays, present study is unique in terms that it aims to draw attention on the group of students with borderline intellectual functioning studying in mainstream class rooms; called slow learners with respect to their deficit skills and school situation. Here, the identification of slow learners served as an initial step in order to empirically assess the developmental skills (adaptive, personal-social, communication, motor, and cognitive) of slow learners. It also aims to find out the differences in developmental skills assessment with reference to demographic variables i.e., gender, area, sector, age, grade, and socio economic status. Furthermore, present study aims to implement academic interventional teaching plan in mainstream classroom for slow learners and to explore the effects of intervention as an outcome measure for enhancing the developmental skills on a small scale.

This research would be beneficial in providing structured and concrete support for teachers of primary school, to address the academic challenges faced by slow learners. Study would also be helpful in emphasizing the vital and substantial role of school psychologists in identifying, and dealing with the problems of slow learners in mainstream classrooms. Analysis of the study is likely to generate a fairly good body of scientific knowledge and essential data about growing problems of slow learners in regular schools and it is expected that the outcome of the study would possibly provide a guidelines for policy makers to make adjustments in the existing setup of mainstream schools; rather than creating more special school for these children. This study will also be helpful for future researches to be done by professionals of education, mental health and development as this issue has not been properly highlighted (unlike the other cognitive and mental disabilities) in the past. This research would provide standardized and applied criteria for the identification of slow learners in mainstream school, assessment of their developmental delays and the guidelines for academic intervention in local setting with a notion that these children can achieve any success in learning only if they are comfortable with surrounding and space.

Chapter-II

OBJECTIVES, HYPOTHESES, OPERATIONAL DEFINITIONS AND RESEARCH DESIGN

The present study was conducted to identify the slow learners enrolled in schools of Punjab, Pakistan with reference to their below average developmental skills and demographic differentiations. Furthermore interventions effectiveness on the developmental skills was also explored. Specifically, present study was designed to fulfill the following objectives:

1. To identify slow learners enrolled in mainstream class rooms.
2. To assess the level of existing developmental skills, acquired by slow learners.
3. To explore the effectiveness of academic interventions on the developmental skills of slow learners.

To achieve the above mention objectives the research was carried out into three parts. The details are as follows:

Part-I: Identification of Slow Learners Enrolled in Mainstream Classrooms

In order to empirically assess the developmental skills of slow learners and effects of intervention as an outcome measure for enhancing the developmental skills, initial step is the identification of slow learners.

Objectives

This part of the research was conducted with the following objectives:

1. To identify the slow learners enrolled in mainstream classrooms of in schools in Punjab, Pakistan.
2. To assess ratio of slow learners in mainstream classrooms.
3. To find out the psychometric properties of the tool used for identification of slow learners.

Operational Definitions of the Variables

Slow-learner: is a general term for persons with depressed intellectual abilities. They are those who fail in school because of their low / borderline intellectual abilities and a variety of characteristics depending on their background. Their depressed cognitive skills limit their success in the regular education environment, but are not eligible for special education services (Kaznowski, 2004; Shaw, 2010, 2008, 2007).

However, in present research slow learners were identified with the help of their obtained raw scores and corresponding percentile ranks (10^{th} to below 25^{th} percentile) on Ravens Colored Progressive Matrices (RCPM). it is internationally recognized as a culture fair, non verbal IQ test, to measure the 'g' factor. It is specially designed for use with children between ages of 5 ½ and 11 ½ years. This easily administered, paper and pencil test is comprises of three sets of twelve problems; arranged to "assess mental development up to a stage where a person is sufficiently able to reason by analogy to adopt this way of thinking as a consistent methods of inference (Raven, Court & Raven, 1990)." In the present study children

having the raw scores and corresponding percentiles i.e., 10^{th} to below 25^{th} percentile were identified as slow learners.

***Mainstream classroom*:** ordinary classrooms inclusive of all abilities children were considered as the mainstream class room in present study.

For the identifications of slow learners; following criteria was employed:

1. Subjective screening (teacher's appraisal & the student's academic achievement test scores)
2. Objective screening (RCPM scores & relevant percentile ranks)

Research Design

In order to identify slow learners or children with borderline intelligence children from a local sample of regular mainstream schools in Pakistan the exploratory research design (a type of research design use in the conditions when a problem has not been clearly defined and assess previously in the present study sample) was used (Babbie, 1989).

Hence the researcher was aware and sensitive about the fact that before starting the main study a preliminary research was conducted as pilot testing on a small sample was completed, which helped to improve the understanding of the processes for the identifications of slow learners; the nature of their acquired developmental skills level and related problems, which requires interventions. It also aimed at identifying and developing academic interventional strategies to help/assist slow learners in Pakistani schools.

Part-II: Assessment of Developmental Skills Level Acquired by Slow Learners

The study focused to assess the developmental skills level acquired (i.e., adaptive, personal social, communication, motor and cognitive) by slow learners through Battelle Developmental Inventory-2 (BDI-2).

The study also aimed at studying the differentiation in scores of slow learners on BDI-2 as an impact of various demographic variables (i.e., age, grade, sector, area, gender, and socio economic status).

Objectives

The aim of the present study was to identify slow learners in mainstream class rooms with reference to their level of borderline intellectual functioning and depressed developmental skills level.

The specific objectives were as follows:

1. To find out the level of developmental skills (adaptive, personal-social, communication, motor, and cognitive) among slow learners.
2. To see the role of demographic variables (gender: boy/girl, area: urban/rural, sector: public/private, age: 5-5.11/6-6.11/7-7.11 years, grade level; kindergarten / 1stGrade / 2nd Grade, socio economic status: high / medium / low) on developmental skills of slow learners.
3. To find out the psychometric properties of Battelle Developmental Inventory-2.

Hypotheses of the study

The following hypotheses were formulated to study the above mentioned objectives:

1. Slow learners will have deficits in their developmental skills of adaptive, personal-social, communication, motor and cognitive domains.
2. Slow learner girls will be more developed in domains of adaptive, personal-social, communication, motor and cognitive skills than slow learner boys.
3. Slow learners from rural areas will have substantially low developmental skills as compared to slow learners belonging to urban areas.
4. Slow learners of private school will have high level of developmental skills as compared to slow learners of public schools.
5. Slow learners of 7-7.11 years of age will have high level of adaptive, personal-social, communication, motor and cognitive developmental skills in comparison to their 6-6.11 and 5-5.11 years age slow learners.
6. Grade 2nd slow learners will be superior in developmental skills of adaptive, personal-social, communication, motor and cognitive as compared to the kindergarten and 1st grade slow learners.
7. Slow learners belonging to lower socio economic status will have low level of developmental skills as compared to slow learners of medium and high socio economic status.

Operational Definitions of the Variables

Developmental Skills: is based on the concept of milestones with reference to ongoing age development. That is, a child typically develops by attaining critical

skills or behaviors in a certain sequence, and the acquisition of each skill generally depends upon the acquisition of the preceding skills. For present study Battelle Developmental Inventory-2 (BDI-2) was used to assess developmental skills of slow learners. It assesses key developmental skills in children on five domains: adaptive, personal-social, communication, motor, and cognitive followed by 13 sub-domains: self care, personal responsibility, adult interaction, peer interaction, self concept and social role, receptive communication, expressive communication, gross motor skills, fine motor skills, perceptual motor skills, attention and memory, reasoning and academic skills, and perception and concepts. It has also been used successfully in Pakistan in researches for the measurement of developmental delays (HOPE, 2009a, 2000b) and psychological development of children (Aly, Taj, & Ibrahim, 2009).

Mental Health: A state of emotional and psychological well-being in which individual is able to use his/her cognitive and emotional capabilities, functions in society, and meet the ordinary demands of everyday life. Concept of mental health include subjective well-being, perceived self efficacy, autonomy, competence, and self actualization of one's intellectual and emotional potential among others (WHO, 1998).

The assumption clearly is that slow learners are at risk for mental health issues due to limited cognitive and emotional capabilities / skill deficits. This notion relates with Erik Erikson (1902-1994) theory of human development with specific task and crises at different stages of the life cycle. Failure to master these stages can lead to various forms of psychopathology.

For the present study mental health model of World Health Organization (WHO, 1998) and Erikson's theory of Psycho-social development (1950) were used

as an criterion measure and for this purpose sample of slow learners were analyzed on their corresponding scores of Battelle Developmental Inventory-2 as this model of mental health was also adapted by previous researchers of educational field as well (Balado, 2003; Lowenstein, 2003; Shaw, 2000a & b) and results revealed that insufficient developmental skills according to age lead to poor mental health and problems like deficit social skills, inadequate coping mechanisms, poor self image, and immature interpersonal relationships arise.

Demographic Variables

Gender: refers to culturally constructed distinctions between masculinity and femininity. Individuals are born female or male; however, they become feminine and masculine through complex developmental processes that take years to unfold (WHO, 2010). For this study students were identified as boys (n = 54) and girls (n = 60).

***Area*:** for present study area was divided into two groups depending upon the geographical settings i.e., urban (consisted of the area surrounding cities and well populated areas) and rural (consisted of sparsely populated areas, usually country areas and farmlands). Schools and children were included in the study with reference to their respective geographical belonging from both urban (n = 56) and rural (n = 58) areas.

Schools: Public and private schools were included in the study as two distinctive types. Respectively 114 students form 32 primary schools of private (n = 60) and public (n = 54) sector were included in the study.

***Age*:** Age is reported as age at last birthday, i.e., age in completed years, often calculated by subtracting date of birth from the reference date (date of the examination, interview, or other contact with an individual). For this study age is constant and it ranges from 5 years to 7 years and 11 months. Three different age groups were formulated according to their current school grade levels for achieving the objectives of study:

- 5.1-5.11 Yrs (*n* = 38)
- 6.1-6.11 Yrs *(n* = 38)
- 7.1-7.11 Yrs (*n* = 38)

Grade: In accordance to the objectives of study three grades described by school were included in the study:

- Kindergarten Grade (*n* = 38)
- 1st Grade (*n* = 38)
- 2nd Grade (*n* = 38)

Socio Economic Status (SES): Socio economic groups were categorized according to the monthly income range of student's parents with reference to the report of Pakistan Institute of Developmental Economics (2005):

- High socio economic status group: Rs.31,000/- and above per month (*n* = 40)
- Medium socio economic status group: Rs. 20,000/- to Rs. 30,000/- per month (*n* = 44)
- Low socio economic status group: below Rs.19,000/- per month (*n* = 30)

Research Design

For the assessment of developmental skills of slow learners' descriptive research design which describes the present status of people attitudes and progress over the time) was used.

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Part-III: Implementation of Interventional Teaching Plan: Pre-test and Post-Test of BDI-2 for Assessment of Developmental Skills

Slow learners are not the special students but they are the students desiring some special needs for which, some interventions in mainstream classrooms are needed to be incorporated so that they can be accommodated in these mainstream classrooms.

Part III of this research consisted of a study to explore the effectiveness of academic interventional teaching plan as a predictor of enhancement in developmental skills of slow learners. In present research, an interventional teaching plan was introduced to examine its effectiveness on developmental skills of slow learners in the context of mainstream class rooms of Pakistani schools.

It is worth mentioning here that empirical and practical support for this academic interventional plan was taken from literature review (Balado, 2003; Carroll, 2002; Derevensky, 2000; Flannignan & Groth, 2003; Kathleen & Carol, 2001; Malik, 2009; Mroczka, 2003; Shaw, 2000a, 2000b; Slow Learners: The Leaky Bucket, 2008).

In this part after obtaining the baseline assessment (pre-test of BDI-2) of developmental skills, interventional teaching style was introduced. Afterwards second

base line measurement of developmental skills (post-test of BDI-2) was taken to see the effectiveness of intervention.

Objectives

The objective of this part of research was as follows:

1. Slow learner who will be exposed to academic interventional teaching plan will improve their developmental skills by improving their mental health (deficit social skills, inadequate coping mechanisms poor self image, and immature interpersonal relationships).

Hypotheses

The following hypotheses were formulated to study the above mentioned objectives:

1. Slow learners will score higher on BDI-2 after exposure of intervention.
2. Compared to pre-test assessment, slow learners will show higher level of cognitive, personal social and communication skills in the post test assessment.

Operational definition of variables

Academic Interventional Teaching Plan (AITP): Academic interventional teaching plan was devised for the present study on the bases of four broader themes given by Shaw (2000). Following is the design used in present research:

1. Modification in the curriculum and study material
2. Modification in classroom environment

3. Modification in time demands
4. Peer tutoring and use of groups in learning
5. Daily good behavior exercise
6. Provision of encouragement and immediate feedback as reward of every desirable behavior
7. Review of concepts on weekly basis

Research design

This part of research was conducted to explore the effectiveness of academic interventional teaching plan. It was performed through a single-condition, pretest-posttest design. Although study's single condition design does not control potential threats to internal validity (i.e., extraneous factors). However, it is appropriate for development work of any large scale advance research as it allows for the evaluation of practicability of in-hand program without the added overhead required for conducting a randomized trial. The pre-post single-group study is been considered to be helpful in the beginning phases of a project to assess need of that project within a community, or to get an idea of what type of program might be helpful or not (Shadish, Cook, & Campbell, 2002). It allows for evaluation of each component and offers the most cost-effective method for evaluating program practicability. This has also been widely used in various researches done in the field of clinical settings (Denne, Langdowm, Pring, & Roy, 2005), and academic settings (Lovitt, & Hansen, 1976; Moseley, 1993; Patterson & Edwards, 2009; Roth, Troia, Worthington, & Handy, 2006; Sutton, 1991) as a criterion method for initial evaluation of

interventions effectiveness on a small scale which, served as a basis to move for larger scale program implementations.

Chapter-III

PART I: IDENTIFICATION OF SLOW LEARNERS ENROLLED IN MAINSTREAM CLASS ROOMS

The aim of the present study was to identify slow learners in mainstream class rooms with reference to their level of borderline intellectual functioning. Due to their below average cognitive abilities, these children struggle a lot to cope with the demands of traditional educational curriculum and the technical demands of the mainstream class room (Alloway, 2010; Balado, 2003; Fernell & Ek, 2010).

This part of research was carried out the in following steps which in turn served as criteria for identification of slow learners:

Step-I: Subjective screening (teacher appraisal and achievement scores).

The purpose of this part of research was to identify slow learners in the mainstream class rooms. In order to achieve the purpose subjective screening was carried out with the help of teacher's appraisal and relative achievement scores of low graders.

Sample

A random selection of 32 English medium registered schools from District and Tehsil of Sargodha, Punjab Urban/Rural and Private / Public was done. The schools were selected from the list provided by the Directorate of Education Office, Sargodha District. Three classes (KG, 1st & 2nd) from each school were selected. In each class

students' strength ranged from 25 to 30 making an average of 28.12 student / class and a total of 2700 from all 32 schools (i.e., 28.12*3classes = 84.375*32 = 2700) in the ratio of 45-55 of girls and boys respectively. Written consent and permission from the parents of the children participating in the research and the school administration were sought out; for collecting data and they were briefed about the objectives and possible outcomes of the present study. It was also ensured to parents and teachers that though participating in study do not bring any harm of social/psychological nature yet, they have the freedom to refuse to participate or withdraw their data at any stage during the study in case of any discomfort.

The initial criteria for identification of low learners was teacher's appraisal and scores of children in last attended exams (academic achievement scores); thus those children who were classified as bottom ten in terms of their academic achievement scores and were also rated as below average by their respective class teachers were selected for inclusion in the study. More specifically following inclusion criteria was employed:

Instrument

Teacher's Appraisal/Comments: For reporting a child success level, performance in curricular, recreational interest and overall performance in the given cultural context were index of his/her practical problem solving skills, adaptive behavior and social competence regarding his/her pro-social skills (sensitivity to feelings of others), social instrumentation skills (to know how to get things done), social ease in situations adaptability and self efficacy (having good sense of self concept and own self identity). The children, found to be dull or below average in

their overall comparison to class mates; and also reported to be below average in their class behavior assessment (mentioned in their progress report cards) by teachers (see Appendix A for sample questions of child assessment), were identified as slow learner.

Academic Performance: Students own performance in their annual examinations, which was below 40% of total marks and corresponding to letter grade C^- and D^+ consistently for previous two years was used as a criterion to identify slow learners. The students who got below average scores in their annual examination and respectively receive the appraisal of below average class student were selected. In this way bottom ten students of all these classes i.e., Kindergarten, Grade-1 and Grade-2 were selected as part of sample.

Procedure

In accordance to the APA ethical considerations, the sample was approached directly by the researcher after having (verbal and written) consent for participation and permission from school administration. The participants i.e., students, teachers and parents, were briefed about the purpose and utility of the research and ensured about the privacy and confidentiality. They were also informed that if they feel uncomfortable then they can leave the study at any time without any fear of adverse consequences (assurance of their voluntary participation freedom). Those schools, teachers and parents who were willing to participate were included in the study. Teaching staff of all three selected classes was involved and related information of

student's academic performance and their appraisals from teachers were gathered with the verification of school administration record.

Bottom ten students of each class were selected on the basis of their achievement scores in the last attended examination and appraisals from their teachers. Only those students were made part of the study who's below average achievement scores corresponded with his/her teachers appraisal denoting him/her as a below average dull or below normal class student.

Results

The data of this step comprised of subjective screening, total 960 students (bottom 10 students of each grade level i.e., Kindergarten, Grade-1 and Grade-2) were selected from 32 schools.

Step-II: Objective screening (Ravens Colored Progressive Matrices attained scores and their relative percentile rank)

The basic aim of this step was to objectify the screening of slow learners who were selected through subjective screening method in step one.

Sample

A sample of slow learners (N = 960) selected through subjective screening method in step-I was included in this step-II for objective screening. The age range of the sample was 5-7.11 years. Gender wise ratio was 48-52 of boys and girls. None of these were reported to have any medical or grade retention history (exclusion criteria).

Instrument

Raven Colored Progressive Matrices (RCPM): Originally developed by Raven (1977) was used to assess the intellectual level of slow learners. The test consists of 36 matrices divided equally into three sets (A, AB, B). In each matrix, there are six choices (answer alternatives), which are printed in a brightly colored background, to attract and hold attention of young children. This makes the nature of problem to be solved more obvious without contributing to its solution any way. Ravens Colored Progressive Matrices (RCPM) can be used to assess the degree to which a person can think clearly, or the level to which his intellectual functions have deteriorated. The matrices in set A assess the child's ability to complete the missing parts. The matrices in set AB assess the child's ability to perceive the relationships between the matrices and the six answer alternatives. The matrices in set B assess on the development of the child's ability in abstract thinking. All three sets together provide opportunities for a person to develop a consistent theme of thought. The full scale of thirty-six problems as a whole is designed to assess, as accurately as possible, mental development up to intellectual maturity. The correct answer is given one score whereas the wrong answer is given zero. Thus, the raw score on the colored progressive matrices test ranges between "0 to 36". The psychometric properties of the test were found to be significant in most of the studies (Raven, Court & Raven 1990). All around the world, the test has been standardized in many countries including: the United Arab Emirates (Eid, 1999), Sudan (Al-Ani, 1989; Al-Khateeb, Mustafa, & Hussein, 2006), Iraq (Abu Hatab, 1979), Kuwait (Al-Qurashi, 1987), and Yemen (Al-Heeti et al., 1995), and its psychometric properties were acceptable, too.

Cultural utility of RCPM in Pakistan has been also proved to be successful in assessing the IQ level of children (Kousar, 1998). Sabot (1992) also reported that RCPM was an excellent IQ assessment measure.

For present study slow learners were identified by their obtained raw scores and corresponding percentile rank on RCPM i.e., 10^{th} to below 25^{th} percentile.

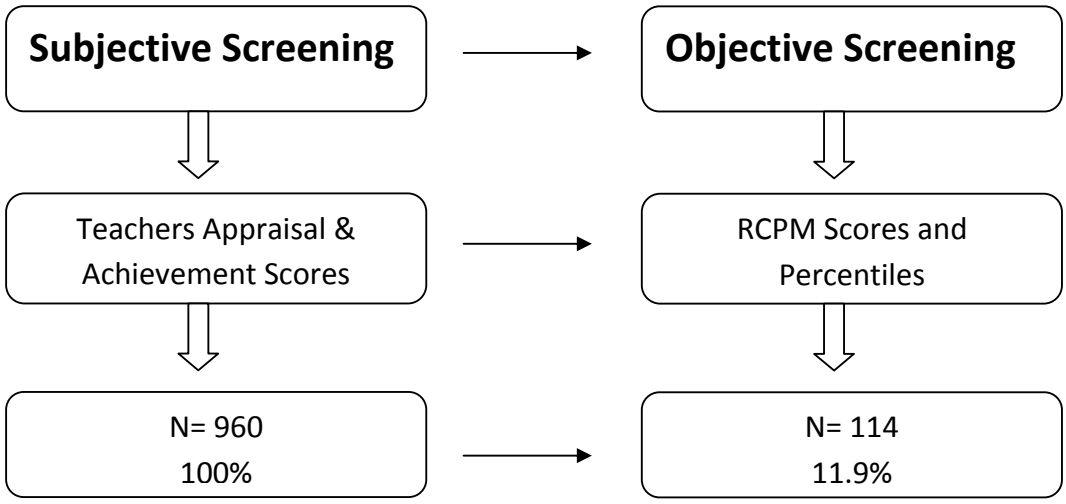
Procedure

Selected sample of 960 students through subjective screening was approached directly after obtaining the informed consent from school administration and responses of slow learners were recorded and noted down individually on the answer sheet corresponding to the selected options of each RCPM sub-sets A, Ab and B (12 items each, total 36 items). The average time calculated was 20 minutes for this test completion by slow learner, which is greater than the time required by normal child i.e., 12 to 15 minutes.

Results

After the data collection of RCPM the responses were analyzed to check the correction of selected options of sub-sets A, Ab and B. Raw scores were converted into culturally specific validated percentile ranks served as Pakistani cultural norms of RCPM (Kausar, 1998).

Results of this phase of study revealed that out of 960 subjectively screened slow learning students only 114 turned out to be as true slow learners by their attained percentile ranks on RCPM corresponding to their raw scores (objective screening).



Note: Identified sample 114 slow learners make up to 4.2% of 2700 school children.

Total of 114 students were screened out to be as true slow learners in terms of their intelligence scores on intelligence test of RCPM and their corresponding percentiles i.e., 10^{th} – below 25^{th} percentile rank. It gives the clear cut notion that from the subjectively screened students being labeled as slow learner; only 11.9% students were the true and actual slow learners whereas it makes them 4.2% of the total population of 2700 school children. They are nearly the one fourth the ratio of total labeled population and it makes them the actual study sample to be assessed for their deficit developmental skills and mental health. Demographic characteristics of this sample are as following:

Table 1

Demographics of Sample (N = 114)

Gender	Sector		Area		Age			Grade			SES		
	Public	Private	Urban	Rural	5-5.11	6-6.11	7-7.11	KG	1st	2nd	Low	Medium	High
Boys	28	28	32	22	16	16	22	17	18	19	6	18	30
Girls	28	32	24	36	22	22	16	21	20	19	24	26	10
Total	54	60	58	38	38	38	38	38	38	38	30	44	40
	Total *N*=114		Total *N*=114		Total *N*=114			Total *N*=114			Total *N*=114		

Step-III: Psychometric Properties of RCPM

Scores of Ravens Colored Progressive Matrices were analyzed to assess its psychometric properties on the sample and results are following:

Reliability Estimates of Scale

Alpha reliability co-efficient of Ravens Colored Progressive Matrices was computed to see the internal consistency of RCPM.

Table 2

Alpha Reliability Co-Efficient of RCPM and its Sub-Sets (N = 114)

RCPM Total and Sub-Sets	No. of Items	Reliability Co-efficient
A	12	.65
Ab	12	.65
B	12	.57
RCPM Total	36	.91

Note. A, Ab and B are the sub-sets of RCPM.

Table 2 shows that scores of three sub-sets and total test RCPM yield high reliability co-efficient ranging from .57 to .91 for the sample of the study, which suggests that RCPM is a reliable instrument for identifying slow learners on a selected sample of Pakistani students.

Table 3

Spearman Brown Rank Correlation of RCPM with its Sub-sets (N = 114)

	A	Ab	B	RCPM Total
A	1	.40**	.29**	.09**
Ab		1	.25**	.27**
B			1	.24**
RCPM Total				1

Note. A, Ab, and B are subsets of RCPM

**$p < .01$

Table 3 reveals that all the three sub-sets are significantly positively correlated with the total of RCPM ranged .09 to .40 ($p < .01$), which is indicative of its satisfactory internal consistency reliability and indicated that it is a valid measure to assess the intelligence level for identifying the slow learners in Pakistan.

Discussion

This part of the study deals with preliminary stage of present research. It was conducted to identify slow learners in average mainstream classroom with reference to their borderline intellectual functioning / below average intellectual ability in a

three step process. First of all, a sample of 2700 children from 32 English medium schools (both public and private) studying in District and Tehsil Sargodha (Punjab, Pakistan) were screened out, with the help of their class teacher's appraisal (subjective screening) about their students' academic performance profile (subjective screening) and the academic test scores of last attended exams obtained from the school administration record. The procedure led to a short-listed sample of 960 students, identified as slow learners. In the second step of this research, these selected students were assessed on an objective screening measure; the RCPM (Raven, 1977) and then these attained test scores were plotted against corresponding percentile ranks. Process of objective and subjective screening helped in identifying the sample of slow learner students; who had borderline intelligence scores this method was also found o be authentic by Pujar and Gaonkar (2008) and Shaw (2000, 2008) for identification of slow learners in mainstream schools. Thus a final screened out sample of 114 students who had the IQ score range between 10^{th} to below 25^{th} percentile rank was identified as the main sample of the present study and was considered for further assessment of their adaptive, personal-social, communication, motor and cognitive developmental skills. The present sample was actual 11.9 percent of the initial subjectively screened sample population. This percentage of slow learners prevailing in mainstream local Pakistani schools is quite alarming as it is near to 14.1 percent of the United States (US) (Lowenstein, 2003; Shaw, 2007). However they become 4.2 percent of the total population of 2700 children which is near to the findings of Aly, Taj and Ibrahim (2009) who found 6.2% children having borderline intelligence among six to ten years old. Finally psychometric properties of RCPM were also computed to determine whether the RCPM is the valid or reliable measure

to identify slow learners. Results revealed that not only RCPM as a whole but also its all three sub-sets yield high reliability and item total correlation which justifies the use of RCPM for identification of slow learners in Pakistan. Results of this part were also in line with the findings of Pujar and Gaonkar (2008), who have recommended RCPM as a reliable source to identify slow learners/intellectually subnormal or have deteriorated cognitive abilities. Li, Gamlin, Jain, and Luther (2001) also found that RCPM is very much useful in the assessment and identification of borderline intelligent children and culturally disadvantage youth. For the assessment of learning disabilities, mental retardation and borderline issues, Gresham, MacMillan, and Bocian, (1996) also considered RCPM as a genuine measure. Similarly, Gatti (2004) also found RCPM to be very useful in identification of at risk students for their referral towards Individualized Educational Program (IEP) services.

Chapter-III

PART II: ASSESSMENT OF DEVELOPMENTAL SKILLS LEVEL ACQUIRED BY SLOW LEARNER

This part of study was carried out to assess the actual acquired level of developmental skills of adaptive, personal-social, communication, motor, and cognitive, by slow learners and focused on the assessment of differences among these developmental skills with reference to their demographical variables i.e., gender, area, sector, age, grade, and socio economic status. It is worth mentioning here that the data of this part of the research was taken from the sample identified/screened out in the earlier part of this research.

Sample

This part of the study was conducted on the selected sample of school children who were identified / screened in the part-I of the research.

Instruments

The following instrument was used in this part of research:

Battelle Developmental Inventory-2 (BDI-2)

The Battelle Development Inventory-2 (Newborg, 2005) is a standardized, individually administrated assessment battery of key developmental skills in children

from birth through 8 years of age. It is primarily designed for use by interventionists; teachers of preschool, kindergarten, and primary school; and special educators. Speech pathologists, school psychologists, adaptive physical education specialists, clinical diagnosticians, and health care professionals also found BDI-2 effective in measuring the functional abilities among young children. In Pakistan it has been successfully used by medical and health professionals for the assessment of psychomotor developmental delays (HOPE, 2009a, 2009b), assessment of disabilities and assessment of typical developmental rate of children in Pakistan (Aly, Taj, & Ibrahim, 2009).

The full BDI-2 battery consists of 450 test items grouped into the following five domains: (i) Adaptive, (ii) Personal- Social, (iii) Communication (iv) Motor and (v) Cognitive.

Description of the BDI-2 Domains and Sub-domains

The following brief descriptions of the BDI-2 domains and sub-domains are designed to provide the user with specific information about the major constructs of the test. In each section, the domain and sub-domains are defined, their abbreviations are presented, the numbers of items are indicated, and, where appropriate, samples of the developmental milestones are also presented.

1. Adaptive Domain (ADP): It measures the child's ability to use the information and skills acquired in the other domains. The Adaptive Domain is divided into two sub-domains, Self-Care (SC) and Personal Responsibility (PR), and consists of 60 items. The primary developmental milestones in the Self-Care sub-domain

begin at birth and generally are completed by the age 6 years. Self-Care milestones consist of a series of activities that move the child from complete dependence on the parent (as an infant) to a self-sufficient, functioning child. The Personal Responsibility milestones are assessed from age of 2 years to 8 years and examine the child's ability to assume responsibility for his or her actions and to move around in his or her environment safely and productively.

Self-Care: The 35 items in this sub-domain assess a child's ability to perform the tasks associated with daily routines with increasing autonomy. The items in the sub-domain measures skills in the following broad areas: eating, dressing, toileting, grooming and preparing for sleep.

Personal Responsibility: The 25 items in this sub-domain assess a child's ability to assume responsibility for performing simple chores such as putting away toys, making a phone call, or making his or her bed. These items also assess the child's ability to: initiate play and other meaningful activities, carry out tasks with minimal prompting, and avoid common dangers and demonstrate care and caution.

2. Personal- Social Domain (P-S): The Personal-Social Domain assesses abilities and characteristics that allow a child to engage in meaningful social interaction with adults and peers and to develop his or her own self-concept and sense of social role. The Personal-Social Domain consists of 100 items. The behaviors measured in the Personal-Social Domain are divided into three sub-domains: Adult Interaction (AI), Peer Interaction (PI), and Self-Concept and Social Role (SR). Self-Concept and Social-Role are assessed over the entire range of the BDI-2. Assessment

of Adult Interaction beings at birth, Peer Interaction begins at age of 2 years. Both of these sub-domains are measured to age of 6 years.

Adult Interaction: The 30 items in this sub-domains measure the quality and frequency of a child's interactions with adults. The milestones assessed include behaviors such as infant attachment and interactions with adults, response to and initiation of social contact with adults, and the use of adults as resources to solve problems. Sample milestones of this developmental stage include: respond physically when hold, is aware of and identifies familiar people, and helps an adult with simple tasks.

Peer Interaction: The 25 items in this sub-domain assess the quality and frequency of a child's interactions with children of a similar age, including the ability to form friendships and personal associations, respond to and initiate social contacts with peers, interact effectively in a small group, and cooperate. Sample milestones include: shares toys or other objects, plays cooperatively with other children, and recognizes basic similarities and differences among all children.

Self-Concept and Social Role: The 45 items in this sub-domain assess a child's development of self-awareness, personal knowledge, self-worth and pride, moral development, sensitivity to other's needs and feelings, and coping skills.

Samples milestones include: he/she is able to express emotions, is aware of differences between males and females, and copes effectively with aggression, criticism, or teasing.

3. Communication Domain (COM): The Communication Domain measures how effectively a child receives and expresses information and ideas through verbal and nonverbal means. The Communication Domain consists of 85 items and is divided into two sub-domains: Receptive Communication (RC) and

Expressive Communication (EC). Both sub-domains measure development form birth to age of 8 years.

Receptive Communication: The 40 items in this sub-domain assess a child's ability to discriminate, recognize, and understand sounds and words as well as information received through gestures and other nonverbal means. These items also assess the child's understanding and use of conversational skills. Sample milestones include: responds to different tones of voice, responds to *who* or *what* questions, identifies initial sounds in words, and associates pictures with word.

Expressive Communication: The 45 items in this sub-domain assess a child's production and use of sounds, words, or gestures to relate information to others. They also assess the child's knowledge of and ability to use simple rules of grammar to produce phrases and sentences. In addition, the items measure how the child uses language as a tool for social contact aside from communicating his or her needs. Samples milestones include: produces vowel sounds, clearly articulates familiar words, uses five-or- six-word sentences, and uses words to relate information.

4. Motor Domain (MOT): The Motor Domain assesses a child's ability to control and use the large and small body muscles. The 100 items in the Motor Domain are divided into three sub-domains: Gross Motor (GM), Fine Motor (FM), and Perceptual Motor (PM). The basic Gross and Fine Motor skills are assessed from birth to age of 6 years. The Perceptual Motor milestones are assessed from age of 2 years to age of 8 years.

Gross Motor: The 45 items in this sub-domain assess the development of the large muscle systems used in locomotion skills such as walking, running, jumping, and coordinated movements such as throwing. Sample milestones include: walks

without support, walks up and down stairs without assistance, throws a ball and hits a target using both dominant and non-dominant hands, and hops forward on one foot.

Fine Motor: The 30 items in this sub-domain assess the development of a child's fine muscle control and coordination, particularly the small muscles in the arms and hands that allow performance of increasingly complicated tasks.

Samples milestones include: picks up a small object, using the thumb and index finger, traces designs with corners or curved edges, ties a simple overhand knot, and cuts paper with scissors on straight line.

Perceptual Motor: The 25 items in this sub-domain measure the child's ability to integrate fine motor and perceptual skills for tasks such as stacking blocks; putting rings on pegs; copying circles and squares; and eventually drawing, painting, and writing. Sample milestones include: puts a small object into a bottle, stacks a series of cubes vertically, copies letters, numbers, and words, and writes in script.

5. Cognitive Domain (COG): The Cognitive Domain measures those skills and abilities most commonly thought as "mental" or "intellectual," with the exception of language and communication skills. The cognitive milestones involve activities such as attending to, perceiving, and processing information; remembering; thinking; and knowing. The 105 items in the Cognitive Domain are divided into three sub-domains: Attention and Memory, Reasoning and Academic Skills, and Perception and Concepts. The skills measured by each of these sub-domains are interrelated, with the acquisition of earlier skills providing the foundation for the development of increasingly complex and higher-level cognitive abilities. Achievement of these milestones is related to early success in school-related activities such as reading and

mathematics. Attention and Memory milestones are assessed from birth to age of 6 years. Reasoning and Academic skills are measured from age of 2 years, and skills in Perception and Concepts are measured across the full BDI-2 age range.

Attention and Memory: The 30 items in this sub-domain assess a child's ability to visually and auditory attend to environmental stimuli for varying lengths of time and to retrieve information when given relevant clues to do so, in both the short term and long term. Sample milestones include: follows auditory and visual stimuli, recites poems, stories, or songs from memory, and locates hidden items in a complex picture.

Reasoning and Academic Skills: The 35 items in this sub-domain assess the critical thinking skills a child needs to perceive, identify, solve problems; analyze and appraise the elements of situations; identify missing components, contradictions, and inconsistencies; and judge and evaluate ideas, processes, and products. These items also measure the scholastic abilities necessary for reading, writing, spelling, enumeration, and mathematics.

Samples milestones include: names and match colors, demonstrates skills in addition, subtraction, multiplication, and division, and uses simple logic to answer questions.

Perception and Concepts: The early items in this 40-items sub-domain assess an infant's active sensory motor interactions with the immediate environment. Several of these interactions are considered social in nature and provide the child with the experiences that contributes to later development of self-concept and interaction skills.

The later items in this sub-domain assess a child's ability to conceptualize and discriminate object features such as size and shape, draw relationships among them, and selectively respond to them. Sample activities for the various milestones include: compares objects based on their physical features, such as color, shape, and size, and properties such as weight, relates objects and events based on their position in time or space, then sequences familiar events according to their occurrence in time or relative size, brings together parts of a whole by putting together pieces of a puzzle, groups and sort similar objects and identifies similarities and differences among them based on common characteristics, functions, or attributes, and recognizes properties of objects that remain un-changed in the face of perceptual distortion such as length and area (Newborg, 2005).

Administration Scoring and Interpretation of BDI-2

This version of the original BDI seeks to provide information both for the assessment and classification of students and about student's developmental progress with intervention in terms of meeting developmental milestones by evidencing critical skills or behaviors. The BDI-2 can be administered in its standardized structured or observational formats which are largely a series of activities, but there is also a set of interview items, which the examiner asks of parents/teachers.

In present research the raw scores according to age equivalent percentile ranks were used in determining whether slow learners are at normal rate of developmental skills acquisition or they are below the normal. For this purpose table of age equaling percentiles for age groups of 5-5.11 years, 6-6.11 years and 7-7.11 years accordingly with minimum and maximum range of score on 50^{th} (Mean), 37^{th} (-1 *SD*) and 25^{th} (-2

SD) percentile ranks was used as a benchmark. In the tables (see Appendix A) minimum to maximum range of raw scores on 50th percentile with reference to age equivalent conotates normal development of an average child, whereas 37th (-1 *SD*) and 25th (-2 *SD*) percentile having the range of minimum to maximum score according to age equivalence (5-5.11, 6-6.11 & 7-7.11 years) gradually describes the slow pace of developmental skills acquired by children of these age groups.

Procedure

Since the sample comprised of the slow learners, they were approached individually after obtaining written permission/informed consent from their parents and the schools' administration. They were briefed about the objectives of the study and were assured about the confidentiality of data. They were also assured that the participants have the right to participate/ refuse to take part in the study. At first, the demographic data sheet, comprising of the information regarding student name, age, grade level, gender, sector, area and socio-economic status was filled out with the help of schools' administration and parents (see Appendix C for Demographic Data Sheet).

Afterward, students were tested on BDI-2 items according to their age level in standardized structures or observational formats, which offer a series of hands-on activities. Furthermore some set of interview items were also conducted from children and their respective teachers. Their responses were noted down on the answer booklet and at the end the participants (slow learners), their concerned teachers and parents were acknowledged for their participation and cooperation.

Results

Since the sample of slow learners was carefully screened out in the first part of study, it was necessary to analyze the psychometric properties of BDI-2 for this sample in order to further assess the difference among slow learners on their respective demographics.

Alpha Reliability of Battelle Developmental Inventory-2 total, its Domains and Sub-Domains

The data of the study was analyzed to determine the reliability coefficients of BDI-2 used in the study.

Table 4

Alpha Reliability Coefficient of BDI-2 total its Domains and Sub-Domains (N =114)

Nos.	BDI-2 Domains & Sub-Domain	No. of Items	Alpha Coefficient
1.	Adaptive (ADP)	60	.97
	Self-care (SC)	35	.64
	Personal Responsibility (PR)	25	.82
2.	Personal Social (P-S)	100	.82
	Adult Interaction (AI)	30	.53
	Peer Interaction (PI)	25	.75
	Self concept & social Role (SR)	45	.84
3.	Communication (COM)	85	.83
	Receptive Communication (RC)	40	.86
	Expressive Communication (EC)	50	.85

Continued….

Nos.	BDI-2 Domains & Sub-Domain	No. of Items	Alpha Coefficient
4.	Motor (MOT)	100	.85
	Gross Motor (GM)	45	.81
	Fine Motor (FM)	30	.48
	Perceptual Motor (PM)	25	.68
5.	Cognitive (COG)	105	.79
	Attention & Memory (AM)	30	.92
	Reasoning & Academic Skills (RA)	35	.85
	Perception & Concepts (PC)	40	.83
	BDI-2 Total	450	.97

Table 4 shows an alpha of .97 for BDI-2 total, which is quite high. The table also indicates that all the domains (adaptive, personal social, communication, motor and cognitive) indicate a high alpha reliability i.e., .97, .82, .83, .85 and .79 respectively. Along with this all the sub-domains of the BDI-2 also revealed to have sufficiently high alpha reliability except of two sub-domains adult interaction (.53) and fine motor (.48). It may be due to small size of sample, or geographical set up, or may be due to their borderline intelligence which does not mean that they are mentally retarded rather they can perform some of the task very easily in comparison to the other mentally handicapped ones. Overall results of reliability analysis indicate that the measure is suitable and authentic for this study.

Inter-scale Correlation of BDI-2 Total its Domains and Sub-Domains

To assess the internal consistency of the measure BDI-2, all its domains and sub-domains inter-scale correlations were computed.

Table 5

Inter-scale Spearman Brown Rank Correlation Matrix of BDI-2 and its Domains (N = 114)

BDI-2 Domain	ADP	PS	COM	MOT	COG	BDI-2 total
ADP	-	.84**	.83**	.92**	.69**	.98**
PS	-	-	.66**	.67**	.54**	.85**
COM	-	-	-	.68**	.76**	.77**
MOT	-	-	-	-	.54**	.87**
COG	-	-	-	-	-	.67**
BDI-2 Total	-	-	-	-	-	-

Note. ADP= Adaptive, PS= Personal Social, COM= Communication, MOT= Motor, and COG= Cognitive

**$p < .01$

Table 5 shows that all the domains of the measure BDI-2 are significantly correlated with its total ranging from .54 to .98 ($p < .01$). This means that BDI-2 contains high internal consistency and it's a reliable and valid measure to assess the developmental skills level of slow learners.

All the five domains of BDI-2 were further analyzed independently with their sub-domains to see whether all the sub-domains have significant correlation with their respective domains, which in turn confirms the concreteness of that particular domain in general.

Table 6

Inter-scale Spearman Brown Rank Correlation Matrix of Adaptive Domain with its Sub-Domains (N = 114)

Domain & Sub-Domains	SC	PR	Adaptive
SC	-	.92**	.95**
PR	-	-	.78**
Adaptive	-	-	-

Note. SC= Self Care, and PR= Personal Responsibility.

**$p < .01$

Table 6 shows that all the sub-domains indicate a significantly high positive correlation with their domain ranging from .78 to .95 ($p < .01$), which means that this dimension of the measure BDI-2 is internally consistent and valid.

Table 7

Inter-scale Spearman Brown Rank Correlation Matrix of Personal Social Domain with its Sub-Domains (N = 114)

Domain & Sub-Domains	AI	PI	SR	Personal Social
AI	-	.28**	.59**	.54**
PI	-	-	.42**	.71**
SR	-	-	-	.90**
Personal Social	-	-	-	-

**$p < .01$

Note. AI= Adult Interaction, PI=Peer Interaction, and SR = Self Concept & Social Role

Table 7 reveals that personal social domain has a higher significant and positive correlation ranging from .28 to .90 ($p < .01$) with all its 3 sub-domains, which means that not only the sub-domain has internal consistency but also is a valid measure to assess the developmental skills of one's self-concept, his/her role orientation and interaction with adults and peers in society.

Table 8

Inter-scale Spearman Brown Rank Correlation Matrix of Communication Domain with its Sub-Domains (N= 114)

Domain & Sub-Domains	RC	EC	Communication
RC	-	.55**	.90**
EC	-	-	.83**
Communication	-	-	-

Note. RC= Receptive Communication, EC= Expressive Communication.

**$p < .01$

Table 8 gives a clear depiction that BDI-2 domain communication has high significant correlation with its sub-domains ranging from .55 to .90 ($p < .01$) and possesses the concrete internal consistency as a valid measure for assessment of developmental skills among slow learners.

Table 9

Inter-scale Spearman Brown Rank correlation Matrix of Motor Domain with its Sub-Domains (N = 114)

Domain & Sub-Domains	GM	FM	PM	Motor
GM	-	.69**	.53**	.77**
FM	-	-	.61**	.86**
PM	-	-	-	.87**
Motor	-	-	-	-

Note. GM= Gross Motor, FM= Fine Motor, and PM= Perceptual Motor.

**$p < .01$

Table 9 shows that the motor domain has a very significant correlation with its three sub-domains ranging from .53 to .87 ($p < .01$), which means it is internally consistent and valid component of Battelle Developmental Inventory-2.

Table 10

Inter-scale Spearman Brown Rank Correlation Matrix of Cognitive Domain with its Sub-Domains (N = 114)

Domains & Sub-Domains	AM	RA	PC	Cognitive
AM	-	.74**	.56**	.76**
RA	-	-	.82**	.95**
PC	-	-	-	.93**
Cognitive	-	-	-	-

Note. AM= Attention and Memory, RA= Reasoning and Academic Skills, and PC= Perception and Concepts.

**$p < .01$

Table 10 shows that the 5th domain of BDI-2 cognitive also possess a significantly higher correlation with its sub-domains ranging from .56 to .95 ($p < .01$) and this means a high significant internal consistency of this dimension of BDI-2.

All the tables of alpha reliability and inter-scale correlation revealed that results are highly significant and this gave great confidence plus assurance to the researcher as the measure BDI-2 has concrete validity and reliability to assess the developmental skills of slow learners and there is no question of doubt for that.

In order to analyze the hypotheses of the study various statistical analyses were performed. The purpose of the analyses was to assess the level of developmental skills successfully acquired by slow learners. Some of the demographic variables of slow learners were also explored in relation of developmental skills. By using the measure, BDI-2, the slow learners were compared on their developmental skills of adaptive, personal-social, communication, cognitive and motor skills. They were furthermore compared on behalf of their demographic characteristics i.e., gender, area, sector, age, grade and socio-economic status belongingness. All the analyses were computed after the assessment of normality analyses as the sample was not normally distributed. Afterwards for Gender: Boys/Girls, Sector: Private/Public, Area; Urban / Rural Mann-Whitney U and for Grade: Kindergarten/Grade-1/Grade-2, Age: 5-5.11/6-6.11/7-7.11 and Socio-Economic Status: Low/Medium/High Kruskal-Wallis test was carried out to see the differences.

Normality Analyses to find out the sample representation in the General Population

To find out the sample representation of the general population, test of normality Kolmogorov-Smirnov was run. As the sample was selected/screened out very carefully by purposive sampling technique and for assessment of developmental skills of slow learners it was first of all necessary to find whether the sample in general population is normally distributed or not for which Kolmogorov-Smirnov test of normality was run as the mean and standard deviations of the hypothesized normal distribution were not known (i. e., they all estimated from the sample data), the probability value tabulated by Massey (1951) are not valid. Instead, the so called Lilliefors probabilities (Lilliefors, 1967) should be used in determining whether the KS differences statistic is significant (Field, 2005).

Table 11

Kolmogrov-Smirnov and Shapiro Wilk test of Normality on the Sample (N = 114)

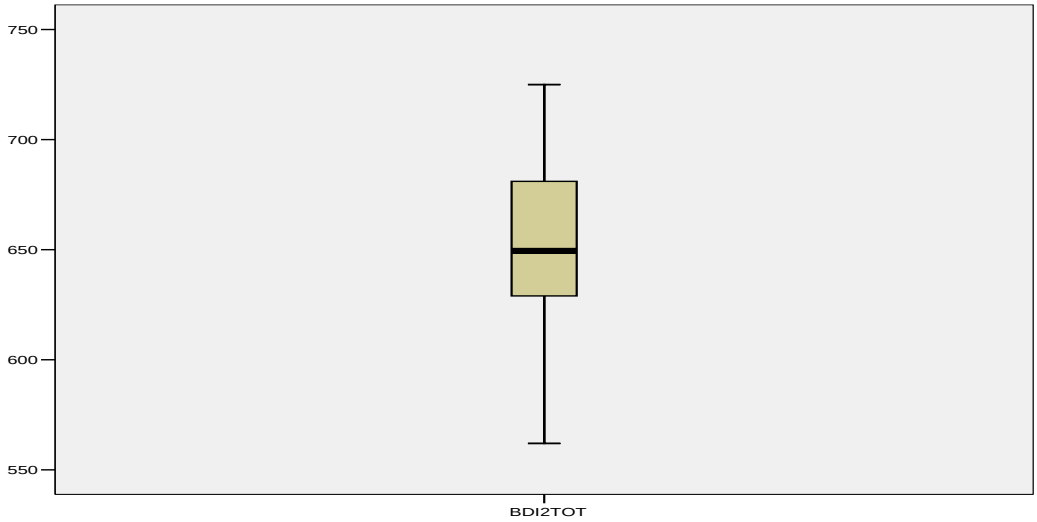
Scale	Kolmogorov-Smirnov			Shaprio-Wilk		
	Statistic	*df*	Sig	Statistic	*Df*	Sig
BDI-2	.08	114	.04	.97	114	.014

α Lilliefors Significance Correction

Table 11 shows that both the test of normality Kolmogorov-Smirnov and Shaprio-Wilk are highly significant i. e., the test statistics of BDI-2, Kolmogorov-Smirnov D (114) = 0.08, p <.05, and Shaprio-Wilk D (114) = 0.97, p <.05. It means that the distribution in question is non-normal and it is also very much clear in the

following box plot that the distribution is negatively skewed i. e., λ = -.36, *SD* = 39.13, *M* = 648.26.

Figure 1. Box Plot of Test of Normality



The image of the box plot clearly indicates that the distribution in question is not normally distributed and further assessment of the slow learners' developmental skills and their demographic variables differentiation can only be done by non parametric statistics.

Prior to move towards doing the differentiation analyses, means, standard deviations and minimum to maximum range of scores by slow learners on BDI-2, domains and relative sub-domains were analyzed. In order to confirm our hypothesis no. 1 that slow learners will have deficits in their developmental skills of adaptive, personal-social, communication, motor and cognitive domains; means, standard deviations, and minimum to maximum range of scores were calculated. Following tables give the total range of scores their means and standard deviations gained by present study sample of slow learners accordingly to the age levels:

Table 12

Means, Standard Deviations and Minimum to Maximum Score Range of Slow Learners of 5-5.11 Years Age on BDI-2 Domains and Sub-domains (N=114)

Domains & Sub-domains of BDI-2	*M*	*SD*	Minimum	Maximum
Adaptive (ADP)	83.4	4.6	76	92
SC	58	2.8	52	62
PR	25.4	3.2	21	33
Personal Social	134.8	8.6	120	149
AI	49.8	1.8	45	52
PI	29.4	2.3	26	33
SR	56	4.8	47	64
Communication	108.4	5.4	98	115
RC	51.4	2.4	46	54
EC	57	3.4	52	62
Motor	154.06	6.2	144	163
GM	77.7	1.99	75	81
FM	50	2.21	45	53
PM	26.4	2.24	23	30
Cognitive	126.9	7.25	115	139
AM	48.3	1.2	46	50
RA	29.8	3.2	24	34
PC	48.8	3.3	44	55
BDI-2 Total	607.6	30.09	562	647

Note. SC= Self Care, PR= Personal Responsibility, AI= Adult Interaction, PI= Peer Interaction, SR = Self Concept & Social Role, RC= Receptive Communication, EC= Expressive Communication, GM= Gross Motor, FM= Fine Motor, PM= Perceptual Motor, AM= Attention and Memory, RA= Reasoning and Academic Skills, and PC= Perception and Concepts.

Table 12 shows the score range of slow learners of 5-5.11 years of age on BDI-2 domains and respective sub-domains along with their mean and standard deviations in the sample. These ranges of minimum to maximum scores on each domain and respective sub-domains are below the cutoff point (50^{th} percentile), which means that slow learners of 5-5.11 years are working below the desired age level of their physical development.

Table 13

Means, Standard Deviations and Minimum to Maximum Score Range of Slow Learners of 6-6.11 Years Age on BDI-2 Domains and Sub-domains (N=114)

Domains & Sub-domains of BDI-2	*M*	*SD*	Minimum	Maximum
Adaptive (ADP)	83.8	5.7	81	96
SC	57.8	2.4	55	62
PR	26	3.7	23	34
Personal Social	142.12	2.8	140	145
AI	50.62	.49	50	51
PI	34.88	1.64	35	37
SR	56.63	2.69	53	60
Communication	124.31	4.97	120	132
RC	59.13	4.4	55	65
EC	65.19	4.15	60	71
Motor	159.8	2.741	158	163
GM	78.13	.34	78	79
FM	51.38	1.23	50	53
PM	30.31	1.75	29	33
Cognitive	136.94	7.8	132	152
AM	50.5	1.76	49	53
RA	35.8	3.26	34	42
PC	50.63	4.8	47	58
BDI-2 Total	647	20.42	639	686

Note. SC= Self Care, PR= Personal Responsibility, AI= Adult Interaction, PI= Peer Interaction, SR = Self Concept & Social Role, RC= Receptive Communication, EC= Expressive Communication, GM= Gross Motor, FM= Fine Motor, PM= Perceptual Motor, AM= Attention and Memory, RA= Reasoning and Academic Skills, and PC= Perception and Concepts.

Table 13 revealed that in the domains and sub-domains of BDI-2 slow learners of 6-6.11 years of age are deficit as their minimum to maximum score range is below the desired age level cutoff point. This suggests that slow learners do not have their desired age levels or show age relevant skills in order to be competitive to an average developing child.

Table 14

Means, Standard Deviations and Minimum to Maximum Score Range of Slow Learners of 7-7.11 Years Age on BDI-2 Domains and Sub-domains (N=114)

Domains & Sub-domains of BDI-2	*M*	*SD*	Minimum	Maximum
Adaptive (ADP)	94.7	4.6	86	98
SC	61.8	.64	60	62
PR	32.4	4.2	25	36
Personal Social	146.4	6.8	125	156
AI	50.93	.32	50	51
PI	35.6	.85	35	37
SR	59.9	6.28	39	68
Communication	132.3	5.33	121	139
RC	64.08	5.74	56	75
EC	68.17	4.95	58	73
Motor	160.8	3.4	156	168
GM	78.2	.513	77	79
FM	51.2	1.27	50	53
PM	31.42	2.02	28	36

Continued…

Domains & Sub-domains of BDI-2	*M*	*SD*	Minimum	Maximum
Cognitive	152.6	7.62	133	164
AM	52.06	.23	52	53
RA	42.33	4.24	34	50
PC	58.17	4.2	47	64
BDI-2 Total	686.6	21.54	641	725

Note. SC= Self Care, PR= Personal Responsibility, AI= Adult Interaction, PI= Peer Interaction, SR = Self Concept & Social Role, RC= Receptive Communication, EC= Expressive Communication, GM= Gross Motor, FM= Fine Motor, PM= Perceptual Motor, AM= Attention and Memory, RA= Reasoning and Academic Skills, and PC= Perception and Concepts.

Table 14 shows that score range of minimum to maximum of slow learners sample does not match the desired cutoff score of BDI-2 domains and sub-domains accordingly to the age specified developmental skills level. That is why they are called the borderline children with subnormal developmental skills and are unable to meet the criteria of normal/average development. These results confirm our hypothesis that slow learners are deficit in developmental skills and do not possess age relevant developmental skills.

Furthermore, these scores are also plotted on the percentile ranks in order to compare them with the scoring range of raw score and age equaling percentile ranks of BDI-2.

Table 15

Percentile Ranks of Slow Learners on BDI-2 (N=114)

Domains & Sub-domains of BDI-2	5-5.11 Years				6-6.11 Years				7-7.11 Years			
	25th	50th	75th	99th	25th	50th	75th	99th	25th	50th	75th	99th
Adaptive (ADP)	80	83	88	92	81	83	87	96	92	97	98	98
SC	56	58	61	62	56	58	60	62	62	62	62	62
PR	23	25	28	33	23	26	27	34	30	35	36	36
Personal Social	129	136	143	149	140	143	145	145	144	145	148	156
AI	50	50	51	52	50	51	51	51	51	51	51	51
PI	27	30	32	33	35	35	37	37	35	35	36	37
SR	52	56	60	64	55	57	58	60	58	59	62	68
Communication	105	110	113	115	120	123	129	132	127	132	136	139
RC	51	52	54	54	55	61	63	65	59	63	67	75
EC	54	58	60	62	60	66	68	71	65	70	71	73
Motor (MOT)	148	154	161	163	158	162	162	163	158	160	163	168
GM	76	77	80	81	78	78	78	79	78	78	78	79
FM	48	50	52	53	50	52	53	53	50	50	52	53
PM	24	26	28	30	29	31	32	33	30	30	33	36
Cognitive	120	128	134	139	132	136	144	152	148	154	158	164
AM	47	48	49	50	49	50	53	53	52	52	52	53
RA	27	32	33	34	34	36	39	42	41	42	44	50
PC	46	49	51	55	47	52	55	58	57	59	60	64
BDI-2 Total	583	609	638	647	639	650	660	686	671	686	701	725

Note. SC= Self Care, PR= Personal Responsibility, AI= Adult Interaction, PI= Peer Interaction, SR = Self Concept & Social Role, RC= Receptive Communication, EC= Expressive Communication, GM= Gross Motor, FM= Fine Motor, PM= Perceptual Motor, AM= Attention and Memory, RA= Reasoning and Academic Skills, and PC= Perception and Concepts.

Table 15 describes a developmental skills level according to each and every domain and sub-domain of BDI-2 for the present study sample called slow learners.

The table shows percentile ranks ranging from 25th, 50th, 75th and 99th percentile with reference to slow learners achieved developmental level in respective domain and sub-domain. 25th percentile shows the least developmental level of that particular developmental skill among slow learners sample. However 50th percentile shows the average scores of slow learners' sample of respective age on that particular developmental skill, whereas on the other hand 75th and 99th percentile means the highest attained level of developmental skills among slow learning sample.

Each domain and their respective sub-domains percentile ranks are categories according to three age groups i.e., 5-5.11, 6-6.11 and 7-7.11 years of age. For further studies it will be helpful in understanding and predicting the lowest and highest level of developmental skills acquired by slow learners. Furthermore it also gives practical and theoretical implications for future researchers, school psychologist and educational psychologist in development of curriculums, classroom management's criteria and dealing with behavior/emotional problems of slow learners. Moreover it gives the understanding that how these students can be accommodated in inclusive classroom setting by dealing with their disturbed mental health and deficit developmental skills.

The non-parametric Mann-Whitney U (in comparison to *t*-test) and Kruskal-Wallis (in comparison to one way ANOVA) were used to see the slow learners' differentiation in acquired developmental skills with reference to their belongingness to different Age/Grade/Socio-Economic Status and Gender/Area/Sector.

Slow Learners Differences with some of the Demographic Variables on Battelle Developmental Inventory-2

Differences between the developmental skills of the slow learners and different demographic variables were explored by computing Mann-Whitney U and Kruskal-Wallis. The participant were divided into two groups on the demographic variables of gender, area and sector to compute Mann Whitney U, while Kruskal Wallis was computed on the demographic variables of Age, Grade and Socio-Economic Status by dividing the sample into three groups on these particular variables.

Gender

In order to find out the differences among boys and girls in developmental skills and to test the hypothesis No. 2 that slow learner girls will be more developed in domains of adaptive, socio-personal, communication, motor and cognitive skills than slow learner boys, Mann-Whitney U test was computed.

Table 16

Median, Effect size and Mann-Whitney U values of Slow Learner Boys and Girls on BDI-2, its Domains and Sub-Domains (N = 114)

Domain & Sub-Domains	Boys (*n* = 54)	Girls (*n* = 60)		
	Mdn	*Mdn*	*r*	*U*
Adaptive (ADP)	85	87.5	-.24	1169**
SC	57	61	-.4	967***
PR	26	27	-.09	1447

Continued…

Domain & Sub-Domains	Boys (*n* = 54)	Girls (*n* = 60)		
	Mdn	*Mdn*	*r*	*U*
Personal Social (PS)	143	143	-.14	1360
AI	51	51	-.04	1560
PI	35	35	-.16	1329
SR	57	58	-.15	1338
Communication (COM)	124	122	-.04	1539
RC	56	61	-.2	1265*
EC	65	61	-.07	1473
Motor (MOT)	158	162	-.45	783.5***
GM	78	78	-.2	1269**
FM	50	52	-.6	558***
PM	29	30	-.22	1201**
Cognitive (COG)	134	137.5	-.2	1251*
AM	50	52	-.15	1346
RA	34	34	-.08	1472
PC	51	53	-.22	1211**
BDI-2 Total	642	651	-.18	1284*

Note. SC= Self Care, PR= Personal Responsibility, AI= Adult Interaction, PI= Peer Interaction, SR = Self Concept & Social Role, RC= Receptive Communication, EC= Expressive Communication, GM= Gross Motor, FM= Fine Motor, PM= Perceptual Motor, AM= Attention and Memory, RA= Reasoning and Academic Skills, and PC= Perception and Concepts.

**p<.05, **p<.01, ***p<.001*

Table 16 indicate that there is a significant difference between boys and girls slow learners with respect to their adaptive skills, specially the effect size on self care sub-domain (r = -.4, U = 967, p < .001, 1 – tailed) is large that shows significant acquisition of self care developmental skill. So it can be concluded that slow learner girls (*Mdn* = 61) possess significantly high level of self care skill. Overall difference on adaptive domain also show significant medium effect size (r = -.24, U = 1169, p < .01, 1 – tailed). But the both groups were found to be neutral in their acquired developmental skill of personal responsibility (r = -.09, U = 1447, p = n. s., 1 – tailed).

Results also show that slow learner boys and girls do not significantly differ in general on their developmental skills of personal social domain along with its respective sub-domains, as the effect size in each domain and sub-domain do not state any medium to large significant difference at all. So it can be said that both gender have neutral difference in their personal social domain developmental skills.

Findings reveal that there is no significant difference between both genders in their scores on communication domain but they significantly differ on their receptive communication; the sub-domain of communication domain. The effect size (r = -.2) is medium and indicates that girls (*Mdn* = 61, U = 1265, p < .05, 1-tailed) as compared to boys (*Mdn* = 56) are more receptive in communication skills. However, both are equal in acquiring developmental skill of expressive communication.

The slow learner girls score high on motor domain and all its sub-domains. The effect size for motor domains (r = -.45) is medium and show that slow learner girls (*Mdn* = 162, U = 783.5, p < .01, 1-tailed) as compared to boys (*Mdn* = 158) hold sound motor developmental skills. The greater and highly significant difference has

been found on fine motor skills where effect size (r = -.6) is quite large and again girls (Mdn = 52, U = 558, p < .01, 1-tailed) as compared to boys (Mdn = 50) are more dominant in their acquisition of fine motor skills. Results of gross motor and perceptual motor sub-domains also indicate the supremacy of girls over boys. Results show that slow learner girls are more cognitively developed and have good perceptual concept skills. The effect size of cognitive domain (r = -.2) is medium and significantly reveals that slow learner girls (Mdn = 137.5) as compared to slow learner boys (Mdn = 134) embrace high cognitive skills (U = 1251, p < .05, 1-tailed). In sub-domains slow learner girls (Mdn = 53) again have high perceptual concept skills as compared to slow learner boys (Mdn = 51) that is the effect size (r = -.22) is medium high on (U = 1211, p < .01, 1-tailed). Whereas sub-domains of attention and memory, and reasoning and academic skills prove to be gender neutral.

In general it has been seen that slow learner girls score high on BDI-2 measure while the slow learner boys comparatively score low on BDI-2 measure. The effect size (r = -.18) is medium that indicates significant effect. So, it can be concluded that slow learner girls (Mdn = 651) have significantly high level of developmental skills than slow learner boys (Mdn = 642), (U = 1284, p < .05, 1-tailed).

The data of present study was also analyzed to see the impact of second demographic variable i.e., area on the developmental skills of slow learners. Results of this dimension are as follows:

Area

For the determination of effect of area of residence on the developmental skills of slow learners, the sample was divided into two group i.e., Urban (n = 56) and Rural

(*n* = 58). In order to find out the significant difference between the slow learners of these two groups and to test the hypothesis No. 3, that slow learners from rural areas will have substantially low developmental skills as compared urban area slow learners, Mann-Whitney U test was carried out.

Table 17

Median, Effect Size and Mann-Whitney U Values of Urban and Rural Slow Learners on BDI-2, its Domains and Sub-Domains (N=114)

Domain & Sub-Domains	Urban (*n* = 56)	Rural (*n* = 58)		
	Mdn	*Mdn*	*r*	*U*
Adaptive (ADP)	88.5	86	-.17	1299-*
SC	62	60	-.2	1275*
PR	28	26	-.15	1341.5
Personal Social (PS)	144	141	-.34	987***
AI	51	51	-.3	1158***
PI	35	35	-.10	1436
SR	59	57	-.32	1032***
Communication (COM)	127	121	-.2	1243.5**
RC	58	56	-.1	1437
EC	67	60.5	-.3	1129**
Motor (MOT)	161	159	-.21	1233*
GM	78	78	-.24	1217**
FM	51	51	-.08	1486
PM	30	30	-.22	1224**

Continued…

Domain & Sub-Domains	Urban (*n* = 56)	Rural (*n* = 58)		
	Mdn	*Mdn*	*r*	*U*
Cognitive (COG)	144	135	-.18	1284*
AM	52	50	-.13	1390
RA	39	34	-.21	1237*
PC	53	52	-.17	1307*
BDI-2 Total	659	647	-.25	1162**

Note. SC= Self Care, PR= Personal Responsibility, AI= Adult Interaction, PI= Peer Interaction, SR = Self Concept & Social Role, RC= Receptive Communication, EC= Expressive Communication, GM= Gross Motor, FM= Fine Motor, PM= Perceptual Motor, AM= Attention and Memory, RA= Reasoning and Academic Skills, and PC= Perception and Concepts.

**p<.05, **p<.01, ***p<.001*

Table 17 reveals that slow learners from both areas are significantly different on their developmental skills level on adaptive domain in general and on its sub-domain of self-care skill specifically. The effect size for adaptive (r = -.17) is medium high and slow learners from urban area (*Mdn* = 88.5) scores significantly high as compared to slow learners from rural area (*Mdn* = 86), (U = 1299, p < .05, 1-tailed). Similarly, medium effect size of self-care (r = -.2) reveals that urban area (*Mdn* = 62) slow learners have moderately high self care skills as compared to slow learners of rural area (*Mdn* = 60), (U = 1275, p < .05, 1-tailed). No significant differences are visible with reference to developmental skill of personal responsibility.

Findings also indicate that there is a significant difference between slow learners of urban and rural with respect to their general personal-social developmental skills. The effect size (r = -.34), which is medium that shows significant effect and it

can be concluded that urban slow learners (*Mdn* = 144) have more personal-social skills than rural slow learners (*Mdn* = 141), (*U* = 987, *p* < .01, 1-tailed). Similarly same trend have been seen in the sub-domain results with reference to developmental skills of adult interaction and self concept and social role where effect sizes (*r* = -.3 and *r* = -.32) are medium respectively and show significant differences. Urban slow learners (*Mdn* = 51, *Mdn* = 59) have high level of both skills than rural slow learner (*Mdn* = 51, *Mdn* = 57), (*U* = 1158, *p* < .001, 1-tailed); (*U* = 1032, *p* < .001, 1-tailed) respectively. Both groups show neutral differences with reference to their developmental skill of peer interaction.

Urban and rural slow learners are also significantly different from each other with respect to their developmental skill of communication in general i. e., effect size (*r* = -.2) is medium and significant. Slow learners of urban area (*Mdn* = 127) are more strong in their communication skills than slow learners of rural area (*Mdn* = 121), (*U* = 1243.5, *p* < .01, 1-tailed). Same trend have been shown in the sub-domains where urban slow learners again shows significant difference from rural slow learners. Results further reveals that urban slow learners are more expressive in their communication (*Mdn* = 67) than rural slow learners (*Mdn* = 60.5), (*U* = 1129, *p* < .01, 1-tailed) and effect size for this difference is medium (*r* = -.3). On the other hand both groups are equally developed in terms of their receptive communication as no difference is visible and the effect size (*r* = -.1) is very much low. It can be concluded the urban slow learner (*Mdn* = 58) are not significantly different from rural slow learners (*Mdn* = 56) with respect to their receptive communication (*U* = 1437, *p* = n. s, 1-tailed).

Findings in Table 17 indicate that urban and rural slow learners significantly differ in their motor skills generally as the effect size (r = -.21) is medium and confirms the supremacy of urban slow learners on motor skills (*Mdn* = 161) than rural slow learners (*Mdn* = 159), (U = 1233, p < .05, 1-tailed). Similarly both groups show significant differences with respect to their grass motor and perceptual motor skills, as urban slow learner have greater gross motor (*Mdn* = 78) and perceptual motor (*Mdn* = 30) than rural slow learners (*Mdn* = 78, *Mdn* = 30), (U = 1217, **p < .01, 1-tailed & U = 1224, p < .01, 1-tailed) respectively. Both group have equal level of fine motor skills as the effect size (r = -.08) is very low near to zero and urban slow learners (*Mdn* = 51) and rural slow learners (*Mdn* = 51) have no significant differences on this particular developmental skill (U = 1486, p = n. s, 1-tailed).

Results also demonstrate significant difference in both groups on cognitive domain in general and on its sub-domains of reasoning and academic skill, and perception and concepts specifically. It reveals that urban slow learners (*Mdn* = 144) are cognitively more strong than rural slow learners (*Mdn* = 135), (U = 1284, p < .05, 1-tailed) and the effect size for this difference is medium (r = -.18). Similarly, urban (*Mdn* = 39) and rural (*Mdn* = 34) slow learners differ significantly in their reasoning and academic skills and effect size for this difference is medium (r = -.21) which states further that urban slow learners are more developed in terms of their reasoning abilities than rural slow learners (U = 1237, p < .05, 1-tailed)). On perception and concept skills effect size (r = -.17) again shows medium significant superiority of urban group (*Mdn* = 53) over rural slow learners (*Mdn* =52) group (U = 1307, p < .05, 1-tailed). Results also indicate that both are neutrally different on their attention and memory skills.

Table also reveals that in overall assessment on BDI-2 the slow learners from urban area score high on BDI-2 measure while the slow learners from rural area comparatively score low. The effect size (r = -.25) is medium that indicates significant effect. So, it can be concluded that urban area slow learners (Mdn = 659) have significantly high level of developmental skills than rural area slow learners (Mdn = 647), (U = 1162, p < .01, 1-tailed).

Public and Private Schools

The difference of belongingness to sectors in their developmental skills was measured by dividing the sample into two groups i.e., Public (n = 54) and Private (n = 60). In order to test the hypothesis that the slow learners of private sector schools have more developmental skills as compared to public (Govt.) sector slow learners, Mann-Whitney U test was carried out. Following are the results of slow learner's differentiation on BDI-2, its domains and sub-domains.

Table 18

Median, Effect Size and Mann-Whitney U Values of Slow Learners of Public and Private Sectors on BDI-2, its Domains and Sub-Domains (N = 114)

Domain & Sub-Domains	Public (n = 54)	Private (n = 60)		
	Mdn	*Mdn*	*r*	*U*
Adaptive (ADP)	83	90	-.41	840***
SC	58	62	-.33	1022***
PR	25	30	-.5	748***
Personal Social (PS)	140	144	-.34	979***
AI	50	51	-.44	902***
PI	35	35	-.10	1436
SR	55	59	-.5	724***
Communication (COM)	120	126	-.15	1338*
RC	56	57	-.09	1460
EC	61	67	-.31	1028***

Continued…

Domain & Sub-Domains	Public (*n* = 54)	Private (*n* = 60)		
	Mdn	*Mdn*	*r*	*U*
Motor (MOT)	157	160	-.5	667***
GM	78	78	-.5	790***
FM	50	52	-.32	1045***
PM	29	30.5	-.5	774***
Cognitive (COG)	133	144	-.4	908***
AM	49	52	-.3	1133**
RA	34	38	-.39	896***
PC	50	55	-.4	929***
BDI-2 Total	637	658	-.4	978***

Note. SC= Self Care, PR= Personal Responsibility, AI= Adult Interaction, PI= Peer Interaction, SR = Self Concept & Social Role, RC= Receptive Communication, EC= Expressive Communication, GM= Gross Motor, FM= Fine Motor, PM= Perceptual Motor, AM= Attention and Memory, RA= Reasoning and Academic Skills, and PC= Perception and Concepts.

**p<.05, **p<.01, ***p<.001*

Table 18 shows that slow learners from public and private schools differ significantly on their developmental skills of adaptive domain and its sub-domains of self care and personal responsibility. The effect size (r = -.41; r = -.33; & r = -.5) on adaptive, self care and personal responsibility respectively shows that slow learners from private schools are more developed in their domains of adaptive, self care and personal responsibility skills (*Mdn* = 83; *Mdn* = 58; & *Mdn* = 25) than slow learners of public schools (*Mdn* =90; *Mdn* = 62; & *Mdn* = 30), (U = 840; U = 1022; & U = 748, p < .001).

Results in the table also demonstrate that a significant difference rely between both groups of slow learners with respect to their personal-social skills as the effect size on personal-social domain, (r = -.34) is medium and highly significant stating that slow learners of private schools are more social (Mdn = 144) than public schools slow learners (Mdn = 140), (U = 979, p < .001, 1-tailed). Further it also demonstrate that in sub-domains of adult interaction, self concept and social role, slow learners from private schools (Mdn = 51, Mdn = 59 respectively) scores higher than slow learners of public schools (Mdn = 50; Mdn = 55 respectively) (U = 902; U = 724, p < .001, 1-tailed respectively).

Both groups are found to have no difference on their peer interaction skill as effect size (r = -.1) is low and non-significant (U = 1436, p = n. s, 1-tailed).

Comparison between public and private schools slow learners on their communication domain reveals that the slow learners of private schools score high on communication skill than slow learners of public schools. The effect size (r = -.15) is medium, which indicates significant effect. So it can be concluded that private schools slow learner have good communication skills (Mdn = 126) than public schools slow learners (Mdn = 120), (U = 1388, p < .05, 1-tailed). Same trend is present in their developmental skill of expressive communication where effect size (r = -.31) which is medium and significantly proves that private schools slow learners are more expressive in their communication (Mdn = 67) as compared to public schools slow learners (Mdn = 61), (U = 1028, p < .001, 1-tailed). However, both groups are neutral on their developmental skill of receptive communication as the effect size (r = -.09) is quite low and non significant (U = 1460, p = n. s, 1-tailed) with reference to differentiation.

Table 18 is indicative of the significant school wise differences among slow learners in regard to developmental skill of motor domain. Values of results are indicative that among public and private schools slow learners significantly differ in their motor skills generally and in its sub-domains specifically. The effect size on motor (r = -.5) is medium and significantly prove that slow learners from private schools (Mdn = 160) are more developed in this domain than slow learners from public schools (Mdn = 157), (U = 667, p < .001, 1-tailed). Same trend is found in sub-domains of gross, fine and perceptual motor skills where effects sizes (r = -.5; r = -.32; & r = -.5) range is medium respectively and private school's slow learners scored high on gross, fine and perceptual motor skills (Mdn = 78; Mdn = 52; & Mdn = 30.5), (U = 790; U = 1045; & U = 774, p < .001, 1-tailed) respectively.

The table shows that private sector slow learners are more developed in cognitive skills than slow learners of public schools. The effect size (r = -.4) is medium and significant which, proves that private schools slow learners (Mdn = 144) have more cognitive abilities than public schools slow learners (Mdn = 133), (U = 908, p < .001, 1-tailed). Same way Private schools slow learners have significantly profound skills of attention and memory (Mdn = 52); reasoning and academic skills (Mdn = 38); and perception concept skills (Mdn = 55) than public schools slow learners (Mdn = 49; Mdn = 34; & Mdn = 50 respectively). The effect size range (r = -.3; r = -.39; & r = -.4 respectively) is also medium and significant (U = 1133; U = 896 & U = 929, p < .01; & p < .001, 1-tailed).

In the overall comparison of the BDI-2 total it is clear that there is a significant difference between slow learners from public and private schools in terms of their acquired developmental skills. The effect size is (r = -.4) medium that shows

highly significant results. So, it can be concluded that private schools slow learners (*Mdn* = 658) have significantly high level of developmental skills than slow learners of public schools (*Mdn* = 637), (*U* = 978, $p < .001$, 1-tailed).

Age

For the determination of effect of age on slow learners developmental skills' acquisition, the sample was divided into three groups i. e., age from 5 years to 5 years and 11 months ($n = 38$); age from 6 years to 6 years and 11 months ($n = 38$); and age from 7 years to 7 years and 11 months ($n = 38$). In order to find out the significant differences between three groups and to test the hypothesis No.5, that acquirement of developmental skills will be significantly different from perspective of age groups of slow learners, Kruskal-Wallis test was carried out along with post Hoc comparison by using Mann-Whitney U test and Jonckeere-Terpstra test for trend check in slow learners developmental skills of three age groups.

Table 19

Kruskal-Wallis, Mann-Whitney U, Jonckheere Trend of Age Group on BDI-2, Its Domains & Sub-Domains (N=114)

Domains & Sub-domains of BDI-2	5-5.11 vs. 6-6.11 Years (n = 76)			5-5.11 vs. 7-7.11 Years (n = 76)			6-6.11 vs. 7-7.11 Years (n = 76)			*Jonckheere Trend*			
	U	*Z*	*r*	*U*	*z*	*R*	*U*	*z*	*r*	*H* (2)	*J*	*z*	*r*
Adaptive (ADP)	701	-.21	-.02	100.5***	-6.49	-.74	111.5***	-6.39	-.73	55.2***	3418.5***	6.54	.6
SC	677	-.47	-.05	154**	-6.39	-.73	146***	-6.52	-.75	51.11***	2967.5***	4.19	.4
PR	665.5	-.59	-.06	155.5***	-5.39	-.7	192.5***	-5.54	-.64	44.07***	3318.5***	6.02	.6
Personal Social (P-S)	314***	-4.27	-.5	199***	-5.45	-.63	332***	-4.01	-.5	41.30***	3487***	6.90	.64
AI	562*	-1.81	-.02	432***	-3.45	-.4	532**	-2.68	-.3	14***	2806***	3.86	.4
PI	28***	-7.31	-.83	.000***	-7.67	-.9	600	-1.45	-.2	78.99***	3704***	8.31	.8
SR	672.5	-.52	-.06	387***	-3.5	-.4	305***	-4.37	-.5	20.68***	2967***	4.2	.4
Communication (COM)	.000***	-7.52	-.9	.000***	-7.52	-.9	227.5***	-5.15	-.6	87.38, ***	4104, ***	10.1	.95
RC	88***	-6.65	-.8	.000***	-7.53	-.86	403***	-3.33	-.4	73.34***	3841***	8.75	.8
EC	140***	-6.06	-.7	81***	-6.69	-.8	360.5***	-3.78	-.43	61.77***	3750.5***	8.27	.2
Motor (MOT)	344.5***	-3.96	-.5	385***	-3.52	-.4	704	-.18	-.02	18.65***	2898***	3.83	.4
GM	596	-1.38	-.16	595	-1.36	-.16	680	-.64.8	-.07	2.88	2461*	1.68	.2
FM	436***	-3.04	-.35	510**	-2.26	-.3	588	-1.47	-.17	10.99**	2530*	1.95	.2
PM	138***	-6.11	-.7	86***	-6.71	-.8	556*	-1.76	-.2	56.83***	3552***	7.3	.6
Cognitive (COG)	259***	-4.84	-.6	30***	-7.21	-.82	139***	-6.06	-.7	71.9***	3904***	9.06	.85
AM	250***	-5.06	-.6	.000***	-7.97	-.9	478**	-2.81	-.32	62.32***	3604***	7.75	.72
RA	136***	-6.15	-.7	12***	-7.41	-.85	192.5***	-5.55	-.64	78.42***	3991.5***	9.55	.9
PC	529*	-2.01	-.23	95***	-6.53	-.75	167***	-5.79	-.7	53.26***	3540.5***	7.17	.7
BDI-2 Total	183***	-5.6	-.64	14***	-7.4	-.84	174.5***	-5.7	-.7	75.5***	3960.5***	9.34	.9

Note. SC= Self Care, PR= Personal Responsibility, AI= Adult Interaction, PI= Peer Interaction, SR = Self Concept & Social Role, RC= Receptive Communication, EC= Expressive Communication, GM= Gross Motor, FM= Fine Motor, PM= Perceptual Motor, AM= Attention and Memory, RA= Reasoning and Academic Skills, and PC= Perception and Concepts.

**p<.05, **p<.01, ***p<.001*

Table 19 reveals that acquisition of overall developmental skills is significantly different from perspective of age groups of slow learners [H (2) = 75.5, $p < .001$]. Mann-Whitney U tests results also show that slow learners are different from age groups of 5-5.11 Years ($U = 183$, $r = -.64$) or 6-6.11 years ($U = 174.5$, $r = -.7$) compared to 7-7.11 years of age. However, when slow learners of 7-7.11 years of age are compared to 5-5.11 years of age slow learners, significant difference is visible in their developmental skills level ($U = 14$, $r = -.85$) as the effect size of the distribution is tremendously huge.

Results of the study further indicate that increase in age is positively related with some improvement in development, yet it is still below average at every age level. Jonckheere test also shows a significant positive trend in the data: as slow learners grew older, their developmental skills also tend to increase with respect to age {$J = 3960.5$, $z = 9.34$, $r = .9$}.

Furthermore, differences on the domains and sub-domains reveal that slow learners are significantly different in their adaptive skills across age groups [H (2) = 55.2, $p < .001$]. Mann-Whitney U value reveals that adaptive skill is not found to be at different level among 5-5.11 and 6-6.11 years age groups ($U = 701$, $r = -.02$) compared to other age group of 7-7.11 years. On the other hand 5-5.11 years age group ($U = 100.5$, $r = -.74$) and 6-6.11 years groups ($U = 111.5$, $r = -.73$) have significantly high level of differentiation on adaptive in comparison to 7-7.11 years age group.

Hence, it can be inferred that slow learners from age range 6 to 6.11 years have the same level of adaptive skills as their counterpart of slow learners of 5 to 5.11 years. Jonckheere trend also support this finding as 7 to 7.11 years age slow learners

are more sound in their adaptive domain skill [J =3418.5, $p < .001$, $z = 6.54$, $r = .6$]. Analysis of the self care sub-domain shows that slow learners are different in their self care developmental skills [H (2) = 51.11, $p < .001$]. Mann-Whitney U values indicate that 5-5.11 years age group of slow learners are not different from slow learners of 6 to 6.11 years age group in their self care skill ($U = 677$, $r = -.05$) but they both differ significantly in comparison to 7-7.11 years age group ($U = 154$, $r = -.73$), ($U = 146$, $r = .75$) respectively. Trend test of Jonckheere also shows a positive trend set in the sample which means that 5-5.11 years age group and 6-6.11years age group slow learners are not superior to their comparison group of 7-7.11 years age slow learners on self care skills [$J = 2967.5$, $p < .001$, $z = 4.19$, $r = .4$]. Similarly, slow learners of different age groups have different level of personal responsibility skills [H (2) = 44.07, $p < .001$]. Mann-Whitney U values show that slow learners of 7-7.11 years of age differ significantly from their counter groups of 5-5.11 years ($U = 155.5$, $r = -.7$) and 6-6.11 years ($U = 192.5$, $r = -.64$) age groups. However, when slow learners of 5-5.11 years are compared to 6-6.11 years age groups no significant is found in their personal responsibility skills ($U = 665.5$, $r = -.06$) as the effect size is very low. Jonckheere test also shows the same trend in the data: when slow learners grew older, they become more sound in their personal responsibility skill [$J = 3318.5$, $p < .001$, $z = 6.02$, $r = .6$] as the effect size is large.

Results also reveal that personal-social skills of slow learners of all three age groups are significantly different [H (2) = 41.30, $p < .001$]. But Mann-Whitney U shows that slow learners of 6-6.11 years of age groups have somewhat same level of personal-social skills when they are compared to 5-5.11 and 7-7.11 years age group slow learners ($U = 314$, $r = -.5$), ($U = 332$, $r = -.5$) respectively. Whereas slow

learners of 7-7.11 years age group are better on their personal-social skills as compared to 5-5.11 years age group of slow learners. Trend test also reveals the same, as the slow learners grew older in age they will have high level of personal-social skills [J = 3487, p < .001, z = 6.90, r = .64] and the effect size is large enough to confirm this trend.

Further more, on the sub-domain analysis of personal social domain, result of Mann Whitney U and effect size reveals that slow learners of 7-7.11 years of age are higher in their adult interaction sub-domain in comparison to 5-5.11 and 6-6.11 years age slow learners (U = 432, r = .4), (U = 532, r = -.3) respectively. But the result shows that slow learners of 5-5.11 years were only different in adult interaction to 6-6.11 years age group slow learners and the effect size is also small to indicate any high significance (U = 562, r = -.02). Jonckheere trend also confirms these results as the effect size was medium high [J = 2806, p < .001, z = 3.86, r = .4]. Whereas, results show that slow learners of 5-5.11 years age are significantly different from slow learners of 6-6.11 years (U = 28, r = -.83) and 7-7.11 years (U = .000, r = -.9) age in their peer interaction skills [H (2) = 78.99, p < .001]. Results further indicate that slow learners of 6-6.11 years age are not much different from slow learners of 7-7.11 year's age group in their peer interaction skill but this difference is very large in 5-5.11 vs. 6-6.11 and 5-5.11 vs. 7-7.11 age group. Jonckheere trend test also reveals that a positive trend of peer interaction skill development is present in this sample with very high effect size [J = 3704, p < .001, z = 8.31, r = .8].

Table also reveals that sub-domain of personal social i.e., self concept and social role of slow learners across age group has significant difference [H (2) = 20.68, p < .001]. However, values of Mann-Whitney show that when slow learners of 5-5.11

years of age are compared to slow learners of 6-6.11 years of age no significant difference was found with reference to their skill of self concept and social role whereas, difference of 5-5.11 years with 7-7.11 years (U = 387, r = -.4) and 6-6.11years in comparison to 7-7.11 (U = 305, r = -.5) is significant. Jonckheere also reveals the same trend in data that younger group show the same level of self concept and social role skills, and as they grew older the difference exists [J = 2967, p < .001, z = 4.2, r = .4] as effect size is medium depicting significant difference.

Results of three age groups on communication domain shows that all the three age groups of slow learners differ significantly in their communication skill [H (2) = 87.38, p <.001]. Mann Whitney U values indicate that difference of communication is very high in 5-5.11 years slow learners when they are in comparison to 6-6.11 years (U = .000, r = -.9) and 7-7.11 years (U = .000, r = -.9) age groups. The effect size is very large, near to 1 which means that communication skill development is on advance level in later two age groups as compared to slow learners of 5-5.11 year. However, slow learners of 6-6.11 and 7-7.11 years age group do differ in their communication developmental skill but this is not a very large difference, as the effect size is r = -.6, (U = 227.5). Trend test also report the same direction in the data [J = 4104, p < .001, z = 10.1, r = .95].

Similarly, results reveal that slow learners of 5-5.11 years age group are significantly different from their comparative group of 6-6.11 years and 7-7.11 years age group slow learners in their receptive communication skills as the effect size is also vey large and highly significant (U = 88, r = .8, p < .001), (U = .000, r = -.86, p < .001) respectively. Although slow learners of 6-6.11 years and 7-7.11 years age group differ in their receptive communication with each other and this difference is

significant but it is not effective on a larger scale (U = 403, r = -.4, p < .001). The effect size indicates a medium effect of age on receptive communication skill of these two groups of slow learners. Jonckheere value also indicate a positive trend of age on receptive communication skill development of slow learners [J = 3841, p < .001, z = 8.75, r = .8].

Table also shows that slow learners differ significantly in sub-domain of expressive communication skill with reference to their age [H (2) = 61.77, p < .001]. This difference is quite large in 5-5.11 years in comparison to 6-6.11 years (U = 140, r = -.7) and 7-7.11 years age group of slow learners (U = 81, r = -.8) as the effect size ranges from .7 to .8 which is very large and shows that expressive communication is very progressive in these age groups. Although this skill develops very rapidly from 5-5.11 years to 7-7.11 years of age but it slows down in 6-6.11 and 7-7.11 years (U = 360.5, r = -.43) as the effect of age is medium in this range of age groups. Jonckheere test also reveals the same trend in the data: as the slow learners grew older their expressive communication decreases with the advancement in age [J = 3750.5, p < .001, z = 8.27, r = .2].

Results in the table reveals that slow learners of all three age group are different in domain of motor skill [H (2) = 18.65, p < .001]. Values of Mann Whitney also show that slow learners have significant development of motor skills in age groups of 5-5.11 years in comparison to age groups of 6-6.11 years (U = 344.5, r = -.5) and 7-7.11 years (U = 385, r = -.4) but this development tends to decrease in the age range of 6-6.11 to 7-7.11 years of age (U = 704, r = -.02) and slow learners are similar in their motor skills as the effect size of age is low near to zero. Jonckheere

test values also reveals the same trend in data [$J = 2898$, $p < .001$, $z = 3.83$, $r = .4$] and effect size is in medium range.

On the sub-domain of motor skill i.e., gross motor skills, results show that all the three age groups of slow learners have no significant difference in their gross motor skills with reference to age [H (2) = 2.88, p = n. s.]. Although the Jonckheere trend test shows significant results but the effect size is very low to yield any high level age effectiveness on gross motor skill development of slow learners [$J = 2461$, $p < .05$, $z = 1.68$, $r = .2$]. However, results reveals that slow learners of 5-5.11 years are significantly different on fine motor skill development in comparison to slow learners of 6-6.11 years ($U = 436$, $r = -.35$) and 7-7.11 years ($U = 510$, $r = -.3$) but this difference of fine motor skills development become non-significant in 6-6.11 years vs. 7-7.11 years age group as the rate of development decrease ($U = 588$, $r = -.17$) and effect size is near to zero indicating that effectiveness of age is not profound in this area of age for fine motor skill development. Although overall all age groups show significant differentiation in this fine motor skill development domain [H (2) = 10.99, $p < .01$], same trend has been reported in Jonckheere test values [$J = 2530$, $p < .05$, $z = 1.95$, $r = .2$] where effect size is low and confirms that fine motor skills development decreases when slow learners age increases.

Table shows that all three age groups of slow learners are significantly different in their development rate of perceptual motor skills sub-domain with reference to age [H (2) = 56.83, $p < .001$]. This difference is quite large in 5-5.11 years age group in comparison to 6-6.11 years ($U = 138$, $r = -.7$) and 7-7.11 years age group ($U = 86$, $r = -.8$) slow learners and effect size clearly indicate that development of perceptual motor skill is highly effected by age. Whereas in 6-6.11 to 7-7.11 years of slow learners this developmental rate of perceptual motor skills is not highly significant and the effect size is also decreased to low, ($U = 556$, $r = -.2$) revealing

that both group do differ in their perceptual motor skill but this difference is not large enough to be consider as a profound effect of age on this particular skill development. Jonckheere trend results also confirm this notion [$J = 3552$, $p < .001$, $z = 7.3$, $r = .6$] where the effect size is moderately large but not in high range.

Results on the cognitive domain shows that all the three age groups of slow learners differ significantly in their cognitive skills [H (2) = 71.9, $p < .001$]. Values of Mann Whitney indicate that difference of cognitive skills is very high in 5-5.11 vs. 7-7.11 years of slow learner ($U = 30$, $r = -.82$) as in comparison to slow learners of 5-5.11 vs. 6-6.11 years ($U = 259$, $r = -.6$) and 6-6.11 vs. 7-7.11years ($U = 139$, $r = -.7$). Age level effectiveness is high in 5-5.11 vs. 7-7.11 years slow learners cognitive skills as effect size is also very large i.e., -.82. Jonckheere trend also reveals that with the developments in age, cognitive skills also tend to developed at increasing rate in slow learners and age effectiveness is very large on cognitive skills development rate [$J = 3904$, $p < .001$, $z = 9.06$, $r = .85$].

Results on the sub-domain of cognitive domain i.e., attention and memory skills reveals significant difference among slow learners of different age groups [H (2) = 62.32, $p < .001$]. Values of Mann-Whitney test show that this difference is highly significant in slow learners of 5-5.11 years in their comparison to 6-6.11 years ($U = 250$, $r = -.6$) and 7-7.11 years ($U = .000$, $r = -.9$) age slow learners, whereas 6-6.11 vs. 7-7.11 years slow learners do not differ as largely in their developmental rate of attention and memory skill. Although this difference is significant but not as much large to confirm the profound effect of age level on this particular skill development ($U = .478$, $r = .32$) and the effect size is medium. The trend test values confirm this notion that though age level effects the development of attention and memory skills

but when slow learners grew older this developmental rate tends to slow down to have significantly large effectiveness [$J = 3604$, $p < .001$, $z = 7.75$, $r = .72$].

Similarly, slow learners have different level of reason and academic skills across their different age groups [H (2) = 78.42, $p < .001$]. Mann Whitney values show that this difference with relevance to age effectiveness is quite large among the 5-5.11 years slow learners in their comparison to 6-6.11 years ($U = 136$, $r = -.7$) and 7-7.11 years ($U = 12$, r = -.85) age group score learners but this tends to decrease between slow learners of 6-6.11 years vs. 7-7.11 years as the effect size is significant but not as much large as other two groups ($U = 192.5$, $r = -.64$). Jonckheere values show that significant effectiveness of age is present in reasoning and academic skills developments: as the slow learners grew older this skill will be enhance more and more [$J = 3991.5$, $p < .001$, $z = 9.55$, $r = .9$] and the effectiveness of age is profound.

Results in table also confirms that all slow learners from different age group possess different level of perception and concepts skills [H (2) = 53.26, $p < .001$]. Mann Whitney U test values reveal that slow learners of 5-5.11 years age are not much different from slow learners of 6-6.11 years age group with reference to perception and concepts skills as the effect size is small ($U = 529$, $r = -.23$). The difference of perception and concepts skills due of age effectiveness is very proved in 5-5.11 vs. 7-7.11 years slow learners ($U = 95$, $r = -.75$) and 6-6.11 vs. 7-7.11 years slow learners ($U = 167$, $r = .7$) as the effect is large. Jonckheere trend test also confirms the same: as the slow learners have incensement in age, their perception and concept skills also tends to enhance with age levels [$J = 3540.5$, $p < .001$, $z = 7.17$, $r = .7$].

Grade

The difference of grade levels of slow learners in developmental skills was measured by dividing the sample into 3 groups i.e., one slow learners having the grade level of Kinder Garden (KG) (n = 38), second slow learners of 1st grade level (n = 38) and third slow learners from 2nd grade level (n = 38). In order to test the hypothesis that there will be variation in developmental skills of slow learners as an impact of increase in grade, Kruskal-Wallis, Mann-Whitney U and Jonckheere trend tests were computed.

Table 20

Kruskal-Wallis, Mann-Whitney U, Jonckheere Trend of Grade Levels on BDI-2, Its Domains & Sub-Domains (N=114)

Domains & Sub-domains of BDI-2	KG vs. 1st Grade (n = 76)			KG vs. 2nd Grade (n = 76)			1st vs. 2nd Grade (n = 76)			*Jonckheere Trend*			
	U	*z*	*r*	*U*	*z*	*R*	*U*	*Z*	*r*	*H* (2)	*J*	*Z*	*r*
Adaptive (ADP)	709.5***	-.13	-.01	256***	-4.87	-.6	240***	-5.04	-.6	32.69***	3101.5***	4.88	.5
SC	634	-.93	-.1	287.5***	-4.89	-.6	219***	-5.59	-.64	35.02***	301.5***	4.59	.43
PR	679	-.45	-.04	307***	-4.34	-.5	349.5**	-4.34	-.5	22.81***	2996***	4.34	.4
Personal Social (P-S)	457***	-2.77	-.332	362***	-3.75	-.43	461***	-2.73	-.32	18.84**	3051***	4.63	.43
AI	681	-.47	-.05	507**	-2.61	-.3	508**	-2.86	-.33	9.02***	2636***	2.83	.3
PI	163***	-5.9	-.7	189.5***	-5.69	-.65	706.5	-.81	-.02	46.61***	3242***	5.81	.54
SR	652.5	-.73	-.08	503**	-2.29	-.3	440**	-2.95	-.34	9.67**	2597**	2.26	.21
Communication (COM)	190***	-5.54	-.63	170.5***	-5.74	-.7	313.5***	-4.25	-.5	50.99***	3658***	7.75	.7
RC	216***	-5.3	-.6	162.5***	-5.84	-.7	518**	-2.13	-.24	43.91***	3435***	6.63	.62
EC	357***	-3.8	-.43	228***	-5.16	-.6	389.5***	-3.48	-.4	34.45***	3357***	6.22	.6
Motor (MOT)	453***	-2.82	-.32	492**	-2.4	-.3	704*	-.19	-.02	9.07**	2682	2.7	.3
GM	721	-.01	n.e	703	-.21	-.02	667	-.75	-.08	.25	2241	.43	.045
FM	560*	-1.73	-.2	654	-.83	-.09	588.5	-1.45	-.16	3.77	2271	.57	.05
PM	258.5***	-4.86	-.6	212.5***	-5.39	-.6	580	-1.5	-.17	36.33***	3281***	5.89	.6
Cognitive (COG)	414***	-3.22	-.4	184***	-5.6	-.6	260.5***	-4.8	-.6	41.98***	3473***	6.81	.6
AM	372.5***	-3.73	-.43	241***	-5.29	-.6	699	-.6	-.07	27.47***	3049***	4.76	.45
RA	298***	-4.45	-.5	159***	-5.88	-.7	269.5***	-4.45	-.5	47.53***	3578.5***	7.39	-.5
PC	632	-.94	-.1	238***	-5.04	-.6	249***	-4.93	-.6	33.70***	3213***	5.46	.51
BDI-2 Total	326***	-4.12	-.5	190***	-5.53	-.6	291***	-4.48	-.5	43.13***	3524.5***	7.07	.7

Note. SC= Self Care, PR= Personal Responsibility, AI= Adult Interaction, PI= Peer Interaction, SR = Self Concept & Social Role, RC= Receptive Communication, EC= Expressive Communication, GM= Gross Motor, FM= Fine Motor, PM= Perceptual Motor, AM= Attention and Memory, RA= Reasoning and Academic Skills, and PC= Perception and Concepts.

**p<.05, **p<.01, ***p<.001*

Table 20 shows that slow learners of all three grade levels differ significantly in their developmental skills level [H (2) = 43.13, p < .001]. The effectiveness of grade level is more profound on developmental skills of slow learners from KG in comparison to 2nd grade (U = 190, r = -.6) than the slow learners of 1st grade (U = 326, r = -.5) and slow learners of 1st grade vs. 2nd grade slow learners (U = 291, r = -.5). This shows that as the grade level increases the developmental skills also increase with that among slow learners. The results of Jonckheere test also confirms this as the effect size is positive and large in the data [J = 3524.5, p < .001, z = 7.07, r = .7].

Slow learners of various grade levels were also compared further on all 5 domains and 13 sub-domains of BDI-2, in order to see the effect of grade levels belongingness in their skills development. Results show that slow learners are significantly different in their adaptive skills across grade levels [H (2) = 32.69, p < .001]. Mann-Whitney U values reveal that adaptive skill is not found to be at different level among KG and 1st grade slow learners (U = 709.5, r = -.01) compared to other grade level slow learners of 2nd grade. On the other hand KG grade slow learners (U = 256, r = -.6) and 1st grade slow learners (U = 240, r = -.6) have significantly different level of adaptive skills in comparison to 2nd grade slow learners. Hence it can be inferred that slow learners of 2nd grade are more developed in their adaptive skills as compared to KG and 1st grade slow learners and with increase in grade level adaptive skills also tend to develop more and more. These findings are confirmed by Jonckheere test values, where a positive trend in data has been shown [J = 3101.5, p < .001, z = 4.88, r = .5] as the effect is medium.

Results in table also reveals that slow learners have significant differences on the sub-domain of adaptive skills i.e., self care across grade levels [H (2) = 35.02, p < .001]. Results of Mann-Whitney U reveal that slow learners from 2nd grade have significantly different level of self concept as compared to KG (U = 219, r = -.64) as the effect size is high indicating increase in grade level also increase the self concept skill. However KG and 1st grade student are having the same level of self concept skill and differences are non significant as the effect size is low near to zero (U = 634, r = -.1). Jonckheere trend test also reports the same trend in data as the self concept skill develops with the increase in grade levels but this development is not much different in early grades [J = 3015, p < .001, z = 4.59, r = .43] and the effect size is also medium.

Table also shows that slow learners are different with reference to their personal responsibility skill development [H (2) = 22.81, p < .001]. Mann-Whitney U values reveal that slow learners from 2nd grade show significantly different level of personal responsibility skills as compared to slow learners from KG (U = 307, r = -.5) and 1st grade (U = 349.5, r = -.44). But this difference was neutral and non significant between slow learners of KG and 1st grade (U = 679, r = -.04) as the effect size of grade level on personal responsibility skill development is very low near to zero. Jonckheere trend test values also confirm this notion that higher grade level slow learners have high developmental skill of personal responsibility as compared to lower grade slow learners and the grade levels positively effect the developmental rate of personal responsibility skill [J = 2996, p < .001, z = 4.34, r = .4] among slow learners; where effect size is medium.

Results of slow learners' differentiation across grade levels of personal social domain show significant differences [H (2) = 18.84, p < .001]. Mann-Whitney U values reveal that slow learners of 2nd grade students are more sound in their personal social developmental skills incorporation to KG (U = 362, r = -.43) and 1st grade slow learners (U = 461, r = -.32). Trend test values of Jonckheere also reveal that with the advancement in grade levels personal social skills also tend to raise at medium effect level [J = 3051, p < .001, z = 4.63, r = .43]. Same trend is visible in the adult interaction sub-domain where results show that slow learners of different grades have different level of adult interaction in their social life [H (2) = 9.02, p < .001]. Although slow learners of KG are not significantly different in their adult interaction in comparison to 1st grade slow learners (U = 681, r = -.05) as the effect of grade level is near to zero. However adult interaction skill has been significantly different among slow learners of 2nd grade in comparison to 1st grade (U = 508, r = -.33) and KG (U = 507, r = -.3) as the effect size is medium. So it means that as the slow learners move towards higher grade their adult interaction skill develops but this developmental rate is at medium effect size as shown in trend test [J = 2636, p < .001, z = 2.83, r = .3].

Results also show that slow learners differ significantly in their peer interaction across various grade levels. Results indicate that this differentiation is not significant in 1st grade slow learners in comparison to 2nd grade slow learners (U = 706.5, r = -.02) as effect size is near to zero. However the development of peer interaction skill is very much profound in slow learners of KG in comparison to 1st grade (U = 163, r = -.7) and 2nd grade (U =189.5, r = -.65). Peer interaction skill tends to develops at high rate when slow learners are in lower grade but gradually fall down

as they move towards high grade levels. Jonckheere trend test also confirms this as the effect size medium [$J = 3242$, $p < .001$, $z = 5.81$, $r = .54$].

Results on the sub-domain of self concept and social role show significant difference among slow learners of all grades in this developmental skill [H (2) = 9.67, $p < .01$]. Slow learners of KG are not significantly different in this skill development as compare to 1st grade slow learners ($U = 625.5$, $r = -.08$) as the effect size is close to zero. However, 2nd grade slow learners are significantly different in their developmental level of self concept and social role skill from 1st grade ($U = 440$, $r = -.34$) and KG ($U = 503$, $r = -.3$) slow learners but this difference is of medium effect size and same trend can be seen in Jonckheere test results that as the slow learners move towards high grades the difference is going to be prominent [$J = 2597$, $p < .01$, $z = 2.26$, $r = .21$].

Analysis on the domain of communication skills also reveals significant differences among slow learners of all grades with reference to their communication skills development [H (2) = 50.99, $p < .001$]. Mann-Whitney U values show that communication skill development rate is significantly different among 1st grade and 2nd grade slow learners ($U = 313.5$, $r = -.5$) on medium effect size but this difference accelerates among KG slow learners in their comparison to 1st grade ($U = 190$, $r = -.63$) and 2nd grade ($U = 170.5$, $r = -.7$) slow learners as the effect size is quite large. So it can be said that slow learners of KG and grade 1st have pick up the pace rate of communication skills developments and this is maintained at the higher grade level of 2nd grade. Jonckheere test values also confirms this trend [$J = 3658$, $p < .001$, $z = 7.75$, $r = .7$].

Results on the sub-domain of receptive communication skill also reveal difference among slow learners [H (2) = 43.91, p < .001]. Mann-Whitney U values indicate that significantly high differences are found among slow learners from KG in comparison to 2nd grade (U = 162.5, r = -.7) and 1st grade (U = 216, r = -.6) as the effect size is also very large. On the other hand, although a significant difference in receptive communication skill is seen in 1st grade slow learners in comparison to 2nd grade but effect size is medium (U = 518, r = -.24). Same can be seen in Jonckheere test results as the trend is positive in data about receptive communication development but the effect size is not that high large [J = 3435, p < .001, z = 6.63, r = .62].

Results in the table show that slow learners are significantly different in their expressive communication skills with reference to their grade levels [H (2) = 34.45, p <.001]. This difference is more significant among KG slow learners in comparison to 2nd grade slow learners (U = 288, r = -.6) as the effect size is large. However, 1st grade slow learners differ significantly in their expressive communication skills in comparison to KG (U = 357, r = -.43) and 2nd grade (U = 389.5, r = -.4) slow learners but the effect size is medium. So it means that expressive communication skills develop by the differentiation in grade levels and it is also confirmed by the positive trend seen in Jonckheere trend test results [J = 3357, p < .001, z = 6.22, r = .6] where the effect size is large.

Table 20 shows that slow learners are different in development of their overall motor skill with reference to different grade levels [H (2) = 9.07, p < .001]. However, Mann-Whitney U values indicate that this difference is negligible among slow learners of 1st grade in comparison to 2nd grade (U = 704, r = -.02) as the effect size is

near to zero. On the other hand motor skills are found to be significantly different among KG grade slow learners in comparison to 1st grade (U = 453, r = -.32) and 2nd grade (U = 492, r = -.3) where the effect size is medium. Jonckheere trend test values also reveal that motor skills of slow learners tend to developed at accelerated rate in lower grade but as they move towards high grade development rate of motor skills fall down to create any significant difference [J = 2682, p < .01, z = 2.70, r = .3] revealing medium effect size.

Results on the sub-domain of motor skills i.e., gross motor skills show that slow learners of different grade levels are not significantly different in their gross motor developmental skill level [H (2) = .254, p = n.s.] and non significant trend also exposed in the Jonckheere trend test results [J = 2241, p = n.s, z =.43, r = .04] as the effect size is very close to zero.

Similarly, table shows that slow learners of the different grade levels do not significantly differ in their sub-domain i.e., fine motor skills [H (2) = 3.77, p = n.s.]. However Mann-Whitney U values reveals that only a slight difference can be seen in the fine motor skills of slow learners of KG in comparison to 1st grade (U = 560, r = -.2) but the effect size is medium. Thus in overall Jonckheere trend test, no profound trend has been seen in the results [J = 2271, p = n.s, z =.57, r = .05] and the effect size of the data is close to zero to give any significant trend of effectiveness of grade level on fine motor skills development.

Results of the sub-domain of perceptual motor skills reveal the significant differences among slow learners [H (2) = 36.33, p < .001]. However Mann-Whitney U values indicate that the difference is non-significant among 1st grade slow learners in comparison to 2nd grade (U = 580, r = -.17) as the effect size is low. On the other hand slow learners of KG are significantly different in their perceptual motor skills in comparison to 1st grade (U = 258.5, r = -.6) and 2nd grade (U = 212.5, r = -.6) slow

learners as the effect size is large. So, this means that the development of perceptual motor skills is significantly different among slow learners from KG to 2nd grade slow learners but the rate of developments slows down when they move to 1st grade to 2nd grade making it non significant. Same can be seen in the trend test results [$J = 3281$, $p < .001$, $z = 5.89$, $r = .6$] where the effect size is relatively large.

Table reveals that slow learners have different level of cognitive skills across grade levels [H (2) = 41.98, $p < .001$]. Mann-Whitney U values indicate that 2nd grade slow learners are significantly different in comparison to KG ($U = 184$***, $r = -.6$) and 1st grade ($U = 260.5$***, $r = -.6$) in their cognitive skills as the effect size is relatively large. However the difference of cognitive skills development among KG slow learners in comparison to 1st grade was although significant but not large ($U = 414$***, $r = -.4$) as the effect size is medium. So it can be said that cognitive skills differentiations are not outstanding in early grades but 2nd grade learners are more advanced in their cognitive skills development as compare to early grade slow learners. This positive trend is also visible in Jonckheere test results [$J = 3473$, $p < .001$, $z = 6.81$, $r = .6$] and the effect size is also relatively large.

Results in the table shows that slow learners are significantly different in their attention and memory skills with reference to grade levels [H (2) = 27.47, $p < .001$]. Mann-Whitney U values show that slow learners of KG are different in their attention and memory skills in comparison to 1st grade ($U = 372.5$***, $r = -.43$) and 2nd grade ($U = 241$***, $r = -.6$) slow learners and effect size ranges from medium to high. However, this difference tends to vanish in 1st grade slow learners in comparison to 2nd grade slow learners ($U = 669$***, $r = -.07$) as the effect size decreases to -.07 that is close to zero. The findings suggest that though slow learners' attention and memory

skills tends to develop in initial grades but ratio / rate of development gradually slow down to reveal significant developmental differentiation that is why Jonckheere trend test values are also showing medium effect size [$J = 3049$, $p < .001$, $z = 4.76$, $r = .45$].

Results reveal that slow learners are significantly different in their developmental skill of reasoning and academic across grade levels [$H\ (2) = 47.53$, $p < .001$]. Mann-Whitney U values indicate that this difference is very high among slow learners of KG in comparison to 2nd grade ($U = 159$***, $r = -.7$) whereas, it tend to have low effect size when 1st grade slow learners are in comparison to KG ($U = 298$***, $r = -.5$) and 2nd grade ($U = 269.5$***, $r = -.5$) as the effect size is medium. Hence, it can be said that difference in development is visible in extreme grade but their rate is slightly low in relative immediate groups of grades. Trend test also supports these findings where the effect size is also large [$J = 3578.5$, $p < .001$, $z = 7.39$, $r = .7$].

Table shows that slow learners of different grade levels have significantly different level of perception and concepts skills [$H\ (2) = 33.70$, $p < .001$]. This differentiation among slow learners of 2nd grade in comparison to 1st grade ($U = 249$***, $r = -.6$) and KG ($U = 238$***, $r = -.6$) is more profound as the effect size is large but it is non significant among slow learners of KG in comparison to 1st grade ($U = 632$, $r = -.1$) where the effect size is low. So, it indicates that with the grade level enhancement, the rate of perception and concepts skills also tends to increase and it is significantly different in higher grades. Jonckheere trend test results also confirms the positive trend in data as the effect size is medium [$J = 3213$, $p < .001$, $z = 5.46$, $r = .51$].

Socio-Economic Status

Present study also aimed to explore the influence of socio-economic status on the developmental skills acquisition of slow learner. Three groups were formulated on the basis of the information provided by the Pakistan Institute of Developmental Economics (2004) i.e., those who were from high socio-economic group (n = 40) income range of Rs. 31,000/- and above per month, those from medium socio-economic group (n = 44) income range of Rs. 20, 000/- to Rs.30, 000/- per month, and those from low socio-economic group (n = 30) with the income range of below Rs. 19, 000/- per month. To explore the difference between these three groups of slow learners and to test the hypothesis No. 7 that slow learners belonging to lower socio-economic status will have low level of developmental skills as compared to slow learners of medium and high socio-economic status. Kruskal-Wallis test was carried out along with Post HOC comparison by using Mann-Whitney U test and Jonckheere Terpstra test for trend check in slow learners' developmental skills.

Table 21

Kruskal-Wallis, Mann-Whitney U, Jonckheere Trend of Socio-Economic Status Groups on BDI-2, Its Domains & Sub-Domains (N=114)

Domains & Sub-domains of BDI-2	High vs. Medium (n = 84)			High vs. Low (n = 70)			Medium vs. Low (n = 74)				*Jonckheere Trend*		
	U	*z*	*r*	*U*	*z*	*r*	*U*	*Z*	*r*	*H* (2)	*J*	*z*	*r*
Adaptive (ADP)	839.5	-.36	-.04	424.5*	-2.09	-.25	487*	-1.91	-.22	5.17	2529*	2.04	.2
SC	872	-.07	n.e	398**	-2.53	-.3	433.5**	-2.59	-.3	8.2**	2576.5**	2.37	.22
PR	866.5	-.21	-.01	493.5	-1.27	-.15	547.5	-1.25	-.14	2.02	2372.5	1.22	.11
Personal Social (P-S)	659*	-1.99	-.22	430.5*	-2.02	-.24	635	-.28	-.03	5.49	2555.5*	2.18	.2
AI	818	-.63	-.07	560	-.55	-.07	650	-.13	-.02	.50	2232	.56	.05
PI	621.5**	-2.4	-.3	364***	-2.90	-.34	588	-.83	-.09	9.93**	2706.5***	3.07	.3
SR	724.5	-1.4	-.15	485.5	-1.37	-.16	647	-.14	-.02	2.62	2423	1.49	.14
Communication (COM)	726.5	-1.38	-.15	441.5*	-1.88	-.23	595	-.72	-.08	3.93	2517*	1.97	.2
RC	699.5*	-1.62	-.17	366.5**	-2.78	-.33	550.5	-1.21	-.14	7.68*	2663.5**	2.75	.3
EC	764.5	-1.04	-.11	538.5	-.73	-.09	653.5	-.27	-.03	1.17	2292.5	.8	.07
Motor (MOT)	538***	-3.08	-.34	355**	-2.93	-.35	651	-.1	-.01	12.29***	2736***	3.13	.3
GM	740.5	-1.36	-.15	507	-1.19	-.14	651.5	-.11	-.01	2.29	2364	1.23	.12
FM	450.5***	-3.97	-.4	274***	-3.99	-.5	640.5	-.22	-.03	21.42***	2915***	4.17	.4
PM	605**	-2.49	-.3	399**	-2.43	-.3	659.5	-.01	n.e	8.18**	2615.5**	2.51	.24
Cognitive (COG)	681*	-1.79	-.2	390**	-2.49	-.3	568	-1.02	-.12	6.87*	2641**	2.62	.25
AM	699**	-1.67	-.18	382**	-2.69	-.32	549	-1.27	-.15	7.56*	2650**	2.76	.3
RA	717	-1.47	-.16	438.5*	-1.93	-.23	598.5	-.68	-.08	4.19	2526*	2.03	.2
PC	719.5	-1.55	-.16	411.5**	-2.24	-.3	577.5	-.91	-.1	5.18	2571.5**	2.26	.2
BDI-2 Total	689*	-1.71	-.2	395**	-2.43	-.3	574	-.95	-.11	6.41*	2622**	2.25	.24

Note. SC= Self Care, PR= Personal Responsibility, AI= Adult Interaction, PI= Peer Interaction, SR = Self Concept & Social Role, RC= Receptive Communication, EC= Expressive Communication, GM= Gross Motor, FM= Fine Motor, PM= Perceptual Motor, AM= Attention and Memory, RA= Reasoning and Academic Skills, and PC= Perception and Concepts.

**p<.05, **p<.01, ***p<.001*

Table 21 shows that slow learners from different socio-economic status are different in their developmental skills level [H (2) = 6.41, p <.05]. Mann-Whitney U values reveal that significant high difference is present among high socio-economic status slow learners in comparison to low socio-economic group slow learners (U = 395**, r = -.3) as the effect size is medium. However the high socio-economic group slow learners are different from medium socio-economic group slow learners but this difference is of low significance and effect size is also medium low (U = 689*, r = -.2), whereas slow learners of medium socio-economic group were not different in their developmental skills in general when they are in comparison to low socio-economic group slow learners. Thus it means that at lower level of economic status developmental skill are not much differently developed but this rate of development significantly differ among slow learners when we move toward higher socio-economic status. Jonckheere's value also confirms this positive trend in the data (J = 2622, z = 2.25, r = .24).

Results in the table reveals that slow learners of all three socio-economic status are not different in their adaptive skills domain in general [H (2) = 5.17, p = n.s.]. However, in depth comparison with the help of Mann Whitney between group reveals that low socio-economic group of slow learners have significant differences in comparison to high socio-economic slow learners (U = 424.5*, r = .25) and medium socio-economic group of slow learners (U = 487*, r = .22) though this difference is low in significance and effect size is also medium to low but they differ in this domain. Mann Whitney values also indicate that slow learners of high socio-economic group are not different in adaptive skills level in comparison to medium socio-economic status slow learners. So it can be said that difference in adaptive skills is profound in extreme group of slow learners but difference in immediate group of

socio-economic status of slow learners is negligible. The trend test values also support this finding as the effect size is medium low ($J = 2529$, $z = 2.04$, $r = .2$).

Analysis on the sub-domain of adaptive domain i.e., self care shows that slow learners of different socio-economic groups have different level of self care skills [H (2) = 8.20, p <.01]. Mann-Whitney U value shows that slow learners of low socio-economic status are different in their self care skill in comparison to medium socio-economic slow learners group ($U = 433.5$**, $r = -.3$) and high socio-economic group slow learners ($U = 398$**, $r = -.3$) as the effect size is medium. However, there is no significant difference among slow learners of high socio-economic group in comparison to medium socio-economic group slow learners, which means that extremes of socio-economic status execute on self care developmental level but in immediate groups it is found to be non significant ($U = 872$, r = n.e.). Trend test values all also in line with these results ($J = 2576.5$, $z = 2.37$, $r = .22$).

On the other hand result shows that socio-economic status is not effective on personal responsibility skill development among slow learners of different socio-economic groups [H (2) = 2.02, p = n.s.]. Mann-Whitney U value reveals that all the groups are the same with reference to developmental level of personal responsibility skill as no significant difference is present. Same is shown in the trend test results ($J = 2372.5$, $z = 1.22$, $r = .11$) as the effect size is too low to indicate effectiveness of socio-economic status on personal responsibility skill among slow learners.

Table also shows that in general slow learners of different socio-economic groups are not significantly different in their personal social skills [H (2) = 5.49, p = n.s.]. Mann-Whitney U reveals that slow learners of high socio economic status are different in their personal social skills in comparison to medium socio-economic status ($U = 659$*, $r = -.22$) and slow learners of low socio-economic group (U =

430.5*, r = -.24). However, this difference is negligible among slow learners of medium socio-economic status in comparison to slow learners of low socio-economic status (U = 635, r = .03). So, it indicate that socio economic status effects on the developments of personal social skills among slow learners and slow learners of high socio economic status are more developed in this skill as compared to other groups of socio economic status (J = 2555.5, z = 2.18, r = .2).

Analysis on the sub-domain of personal social skills i.e., adult interaction shows that slow learners of all socio-economic groups have same level of adult interaction skill [H (2) = .50, p = n.s.] and not one group is different from another group as all the results of Mann-Whitney U test proves to be non significant. Jonckheere trend test results also confirms that socio-economic status of slow learners doesn't effect on their adult interaction skill developmental level (J = 2232, z = .56, r = .05) and the effect size very close to zero.

Contrary to that, analysis of the sub-domain i.e., peer interaction skill reveals that this skill is differently develop among slow learners of all 3 socio-economic status [H (2) = 9.93, p <.01]. The high significant difference is present among slow learners of high socio-economic status in comparison to low socio economic status on their peer interaction skill developments where Mann-Whitney U values indicate a medium effectiveness of socio economic status on this skill (U = 364***, r = .34). Same way slow learners of high socio economic status are different from medium SES (U = 621.5**, r = -.3) as the effect size is medium but no significant difference relies between medium and low socio-economic status slow learners (U = 588, r = .09). This trend is also clear in Jonckheere test values which indicate that high socio-

economic status slow learners have more peer interaction skills as compared to slow learners of medium and high socio economic status ($J = 2706.5$, $z = 3.07$, $r = .3$).

Table also shows that developmental level of self concept and social role skill among 3 socio-economic groups of slow learners has no differences [H (2) = 2.62, p = n.s.]. Mann-Whitney U values also indicate that all groups of slow learners do not differ at all in developmental rate of their self concept and social role skill and no positive/negative trend is present in the data ($J = 2433$, $z = 1.49$, $r = .14$) as the effect size is so low to indicate any effectiveness of socio-economic status on this particular skill development among slow learners.

Results in table also reveals that slow learners of different socio-economic groups are not significantly different in their communication skills [H (2) = 3.93, p = n.s.] in general. However values of Mann-Whitney U show that a slight low significant difference can be seen in the extreme socio-economic groups of slow learners i.e., the slow learners of low socio-economic group are different in their communication skill level in comparison to high socio economic group slow learners ($U = 441.5$*, $r = .23$) as the effect size is medium low. This is also present in the results of Jonckheere trend test ($J = 2517$, $z = 1.97$, $r = .2$) where low effect size reveals that the socio-economic status effect on the communication skill development of slow learners but this effect is not highly profound.

Analysis on the sub-domain of communication skills indicates that slow learners of all socio-economic groups have different level of receptive communication skills [H (2) = 7.68, $p < .05$]. This level of difference is more profound in both extreme groups as low socio-economic group slow learners in comparison to high socio-economic group slow learners are different in receptive communication (U =

336.5**, r = .33). Whereas, this difference is negligible in low vs. medium socio-economic group slow learners (U = 550.5, r = .14) as the low effect size proves that effectiveness of socio-economic status on reception communication skill development is not significant at all. So, it seems obvious that high socio economic group of slow learners are more developed in their receptive communication skill (J = 2663.5, z = 2.75, r = .3) as the effect size is medium and positive trend in data supports this notion.

However, results in the table show that slow learners of all 3 socio-economic status have same level of expressive communication skill developments [H (2) = 1.17, p = n.s.] and not one group is different from the other group as the results indicate a non significant difference with reference to expressive communication skill among slow learners of different socio-economic groups. Jonckheere trend test also reveals that there no particular positive/negative trend is present in the data, which can prove that socio-economic status is effective on expressive communication development among slow learners (J = 2292.5, z = .8, r = .07).

Analysis on the domain of motor skills reveals that slow learners of different socio-economic status differ significantly in their motor skills [H (2) = 12.29, p <.001]. Results of Mann-Whitney U indicate that slow learners of high socio-economic status are significantly different in their motor skills development in comparison to medium socio economic status (U = 538***, r = -.34) and low socio economic status (U = 355**, r = -.35) slow learners. However, this difference proves to be non-significant between slow learners of medium and low socio economic status (U = 651, r = -.01) as the effect size is very low close to zero. Thus, it proves that socio economic status is very effective in development of motor skill among slow

learners and this difference can be visualized in slow learners of high socio economic status. Trend test of Jonckheere also reports the same positive trend in data that as the socio economic status increase, motor skill will develop on high rate (J = 2736, z = 3.13, r = .3) as the effect size is medium.

Similarly, result indicates that socio-economic status is not effective on the developmental skills of slow learners of low, medium and high socio economic status [H (2) = 2.29, p = n.s.]. Values of Mann-Whitney U also reveal a non-significant differentiation among slow learners of all socio economic status with reference to their gross motor skills developments, which means that all slow learners are having same level of gross motor skills without any specification to their socio economic status. Jonckheere trend test also reports that there is no specific positive/negative trend is present in the data with reference to development of gross motor skills among slow learners of low, medium and high socio economic status (J = 2364, z = 1.28, r = .12).

Analysis on the sub-domain of motor skills i.e., fine motor skills reveals that socio economic status strongly affects the fine motor skills development of slow learners and they are significantly different [H (2) = 21.42, p <.001]. Mann-Whitney U values show that slow learners from high socio economic status are significantly different in their level of fine motor skill in comparison to medium socio economic status (U = 450.5***, r = .4) and low socio economic status (U = 274***, r = .5) slow learners as the effect size is also medium high. However, low socio economic status slow learners are not different from medium socio economic status slow learners on fine motor skills developmental level (U = 640.5, r = -.03) as the effect size is too small to give any indication of socio economic status effectiveness on fine motor

skills of these slow learners. Same positive trend is present in the Jonckheere trend test results which indicate that socio economic status affects the fine motor skills developmental rate and slow learners of high socio economic status have more fine motor skills as compared to low and medium socio economic status slow learners (J = 2915, z = 4.17, r = .4).

Similarly, sub-domain of perceptual motor skills also found to be different among slow learners with reference to socio economic status [H (2) = 8.18, p <.01]. These differences are more profound in high socio economic status slow learners in comparison to medium socio economic status (U = 605**, r = -.3) and low socio economic status (U = 399**, r = -.3) slow learners as the effect size is medium. Whereas, slow learners of medium socio economic status are not different from low socio economic status slow learners in their development rate of perceptual motor skills (U = 659.5, r = n.e.) and no effect size is present. Trend test results of Jonckheere analysis also support these findings as a positive trend of low medium effect size is present in the data indicating that high socio economic status of slow learners positively effects the developmental rate of perceptual motor skills in slow learners (J = 2615.5, z = 2.51, r = .24).

Analysis on the cognitive domain of BDI-2 indicates that slow learners' socio economic status significantly effects on the cognitive skills development level on a low level [H (2) = 6.87, p <.05]. Mann-Whitney U values also reveal that in extreme groups of socio economic status in slow learners proves to have high difference in cognitive skills i.e., slow learners of high socio economic status in comparison to low socio economic status (U = 390**, r = -.3) whereas, a slightly low significant difference is present among slow learners of high socio economic status in

comparison to medium socio economic status with reference to perceptual motor skills (U = 681*, r = -.2) but socio economic status groups of low and medium prove to be neutral in terms of their perceptual motor skills. Jonckheere test also reports the positive trend in data. High socio economic status has significant effects on perceptual motor skills of low learners as the effect size is medium low (J = 2641, z = 2.62, r = .25).

Results of the sub-domain of cognitive domain i.e., attention and memory skills reveal that slow learners are significantly different in terms of their skills with reference to their respective SES but this difference is not significant [H (2) = 7.56, p <.05]. Mann-Whitney U values show that only extreme groups of slow learners with reference to socio economic status i.e., high vs. low (U = 382**, r = -.32) significantly differ in attention and memory skills, whereas this difference is significantly low among slow learners of high socio economic status in comparison to medium socio economic status (U = 699*, r = -.18). However slow learners of medium vs. low socio economic status groups are alike in their level of attention and memory skills. So, it indicates that slow learners of high socio-economic status will have more attention and memory skills as compared to medium and low socio economic status groups, which proves to have a positive trend in data (J = 2650, z = 2.76, r = .3).

Table also shows that in general all slow learners of different socio economic status are alike in terms of their reasoning and academic skills [H (2) = 4.19, p = n.s.]. However, Mann-Whitney U reveals that a slight level of significant difference on reasoning and academic skills is present among slow learners of high socio economic status in comparison to low socio economic status (U = 438.5*, r = -.23). It is also

indicative in the Jonckheere trend test that reveals a slight positive trend in data: socio economic status is effective on the reasoning and academic skills development of slow learners ($J = 2565$, $z = 2.03$, $r = .2$) and the effect size is of low size.

Result in table shows that overall slow learners of high, medium and low socio economic status have same level of perception and concepts skills and no significant difference has been observed [H (2) = 5.18, p = n.s.]. Between group comparisons by using Mann-Whitney U reveals that high socio economic status groups of slow learners are significantly more sound in their level of perception and concepts skill and it is of medium effect size ($U = 411.5$**, $r = -.3$). However, immediate groups of socio economic status of slow learners are neutral on their perception and concepts skills. This slight positive trend is also clear in Jonckheere trend test results (J =2571.5, $z = 2.26$, $r = .2$) where the effect size is medium low but in positive direction, meaning high socio economic status slow learners are more developed in their perception and concepts skills.

Discussion

The present study was undertaken to assess the developmental skills level of slow learners. The study also focused to explore the differences among slow learners' developmental skills with reference to their demographic variables i.e., gender, age, grade, sector, area and socio-economic status. To assess the developmental skills of children ranging from 5 years to 7 years and 11 months of age, a 450 items measure, Battelle Developmental Inventory-2 developed by Newborg (2005) was used.

This study was conducted by using the sample, screened out from the part 1 of this research. The main objective was to find out the developmental skills level among them with different demographic variables. The reliability and validity of BDI-2 were also analyzed for this specific sample. As an initial step for results analyses, alpha reliability coefficient revealed that BDI-2 is a highly reliable measure for the assessment of developmental skills among slow learners as the reliability estimates of the total BDI-2 were proved to be very high. All the 5 domains and 13 sub-domains of the BDI-2 were also found to have high reliability. Though all the domains and sub-domains were revealing high reliability, internal consistency of the scale was also assessed by inter scale correlation. All the domains of BDI-2 were correlated with BDI-2 total (see Table- 5) and further they were correlated with their respective sub-domains (see Tables 6, 7, 8, 9 & 10) and were found highly significant. These results indicated a high reliability and internal consistency of the scales and provided substantial support to use BDI-2 in our study.

Since, the sample comprised of only slow learners, it was purposefully selected and screened with the help of subjective and objective screening method (see

Chapter III: Part I for details). Normality analyses were done to find out the sample representation in the general population. Test of normality Kolmogorov-Smirnov was run as the mean and standard deviations of hypothesized normal distribution were not known. The values of normality analyses showed that both Kolmogorov-Smirnov and Shaprio Wilk were highly significant (see Table 11), which indicated that the distribution of current sample of the present study was non-normal (as the term used by Field, 2005) (see Figure 1). These results revealed that further assessment of the slow learners in terms of their comparisons on different demographics with reference to their developmental skills could only be possible with the help of non-parametric statistics instead of parametric statistics and literature also support that the population of slow learners is non-normally distributed in the population (Kaznowski, 2004).

The range of minimum to maximum scores of slow learners on BDI-2 revealed that slow learners scored below their desired age level and below the cut-off scores range that is between the -2 to -1 standard deviation (see Tables 12, 13 & 14). On the bases of present sample scores age wise percentile ranks were also computed to form the normative profile of slow learners which will serve as and criterion for the future studies (see Table 15).

On the bases of these findings further analyses of slow learners on their developmental skills level were carried out by selecting two non parametric tests (i) Mann-Whitney U (in comparison to *t*-test) to assess if the difference exists between gender (boy vs. girl) area (urban vs. rural), and school type (private vs. public); and (ii) Kruskal-Wallis (in comparison to One Way ANOVA) to compare three groups of independent variables having three sub groups categories i.e., age (5, 6, 7yrs), grade (kindergarten, 1st and 2nd grade), and socio economic status (high/ middle/ low).

Gender differentiation

Based on the previous research findings (Costello, 2008; Matthys, Cohen-Kittenis, & Berkhout, 1994), it was hypothesized that developmental skills of slow learner girls will be high as compared to developmental skills of boys. The results support the hypothesis and differences have been found among slow learner boys and girls in the results from developmental skills assessment. Girls were more developed in their overall skills of adaptive, socio-personal, communication, motor and cognitive than boys (see Table 16). Kittler, Krinsky-McHale, and Devenny (2004) also found female superiority in term of cognitive and communication abilities over boys as boys were found to be 1.5 years behind in development as in comparison to girls. Similarly boys' rate of physical and psychological development is relatively at a slow pace as compared to girls. Hanlon, Thatcher, and Cline (1999) found that "boys develop along the same lines as girls, only slower." Similar results were reported in a smaller study by Anokhin, Lutzenberger, Nikolaev, and Birbaumer (2000). Furthermore in-depth analyses of BDI-2 with reference to gender comparisons revealed that developmental skills domains i.e., adaptive, motor and cognitive will developed in different ratio among slow learners with the exception of personal-social and communication domain skills, where girls proved their superiority with high significance in these domains. Domain wise analyses indicated that girls have more adaptive skills, they can take care of themselves more well as compared to boys but both were equal in taking responsibility of their tasks, assignments and demonstrate care and caution.

It was further revealed that both boys and girls possessed equal level of personal social skills and both were not different at all in meaningful social

interactions such as interacting with adults, peers and to develop his/her own self identity and had equal level in their sense of social role.

Results also indicated an interesting notion that overall communication skills, as they received and expressed information and ideas through verbal and non-verbal means, were found to be gender neutral but concrete analyses showed that slow learner girls as compared to slow learner boys were more receptive in their communication (see Table 16). They were significantly able to recognize and understand sounds and words as well as information received through gestures and other non-verbal means. Girls were found to be more receptive in their identification of initial sounds in words and can better associate pictures with words as compared to boys. A report published by Mental Health Network Organization (2009) also reported that boys tend to speak later (and reach comprehensive speech later), and more physically impulsive and more likely to ignore the voices (even their parents).

Study also assessed the developmental skill of motor domain among slow learner boys and girls, which supported the hypotheses and slow learner girls were found to be more developed in motor domains as compare to boys. Results revealed that large muscle developments of girls was more accelerated than boys and girls were found to have excellent control over their fine body muscles along with their perceptual skills for completing tasks such as stacking blocks; putting rings on pegs; putting small objects into a bottle; copies letters, number and words and were fluent in writing of scripts. Literature review also support that developmental rate of motor skills is very high in girls as compared to boys in early years of life and that girls learns very quickly than boys; how to use their large and fine muscles of body to complete the tasks in general (Romero, 1998).

Slow learner boys and girls were further compared with reference to their cognitive developmental skills and it was indicated by the study results that girls were stronger than boys in cognitive skills (see Table 16). Although both gender was found to possess equal ability of reasoning and academic skills but attention and memory skills along with making perception and concepts of features of life were tremendously held by slow learner girls. Girls were strong in their ability to assess the world visually and auditory, by conceptualizing and discriminating on the basis of features such as color, shape, size and physical/geographical properties (Mental Health Network Organization, 2009).

Urban/rural differentiation

Another hypothesis which was formulated that the slow learners from rural areas will have substantially low developmental skills as compared to slow learners belonging to urban areas was approved significantly. Findings of the Mann-Whitney U test revealed that on all domains of BDI-2 i.e., adaptive, personal social, communication, motor and cognitive skills slow learners of the urban areas scored high as compared to their comparative group, slow learners of rural areas (see Table 17). In depth comparisons on the entire domain with respect to sub-domains showed that urban area slow learners had superior adaptive skills than rural slow learners and were more sound in their self care attitude, though they were equal in taking responsibility for their daily chores of house hold things.

Findings also revealed an interesting thing that urban slow learners personal-social skills were highly strong than rural slow learners. Urban slow learners were highly interactive with their adults and this interaction helped them a lot in developing

their social life by giving them high sense of well being, social role ideology and enhanced their self concept. However, both groups were found to have equal level of peer interaction skills as they both interacted towards their peer group in the same manner and in the same intensity (Danielle, 2007). In a study done by Doolan and Zimmer (2002) it was found that rural children don't have the lush opportunity to experience the world with the new and advanced horizons as their urban age mates do i.e., they are the most disadvantage group who faced the face with their limited resources and ultimately their poor and underprivileged environment failed to push or boost up their psycho-social development.

Study also indicated that slow learners of urban and rural areas had different communication styles and patterns as they possessed a different developed level of communication skills. Urban slow learners were again found to be superior in communication pattern and were more expressive as compared to rural slow learners. Their knowledge and ability to use simple rules of grammar to produce phrases and sentences was more profound than rural slow learners. However, both groups were equal in terms of their receptive communication as they possessed equal level of ability to discriminate, recognize, and understand sounds and words as well as information received through gesture and other nonverbal means but rural slow learners were at deficits in expressing all that knowledge towards their surroundings. Literature also supports this notion that as the culture and atmosphere regarding opportunities to experience is different among rural and urban settings, that is why slow learners of both areas were having different level of developmental skills. Urban slow learners were exposed to more advanced culture and with latest and high tech facilities; their modes of communication pattern got more accelerated rate of

development as compared to rural slow learners (Liddle & Long, 1958). Moreover, schools environments and educational instruments and models were one of hi-tech in urban school as compared to rural schools, which in turn boost up the developmental skills of slow learner.

On motor domain surprisingly both urban and rural slow learners were found to be equal on fine motor skills as they both can use their fine muscles to control and coordinate but urban slow learners were high in their large muscular movements along with their perceptual abilities to do the complex task more easily as compared to rural slow learners (see Table 17). In a study conducted by Hetrick (1979) to assess the visual motor abilities of slow learners; it was also found that slow learners belonging to rural area were below average in their mental ages than urban slow learners. Literature review supports this notion that as the health and nutrition condition is deteriorated in rural areas as compared to urban areas that is why children at rural areas were born to be weak by birth and this weakness sustained to go along due to lack of health and nutrition facilities, which in turn negatively effects the motor development of these children especially their large muscular movements and their perceptual sense of world in general (Cooter, 2004; Karr-Morse & Wiley, 1997; Williams, 2006).

Results of study also indicated a significant difference among urban and rural slow learners in terms of their cognitive skills. It was revealed that rural areas slow learner though grasp the minor level of attention and memory skills as they successfully attended the auditory stimuli for varying length of time and to retrieve information when they were given relevant clues to do so, in both the short term and long term; but unfortunately they were exposed to be deficit in critical thinking skills

which were needed to perceive, identify or solve the problems. They were lacking scholastic abilities necessary for reading, writing, spelling, enumeration and mathematics, which in turn left them deficits to interact with the immediate environments by sensing the need of time and demand (Chaudhari, 1994, 2004).

Private and Public schools

The demographic variable of private and public schools was also analyzed to explore the differences among slow learners and the sector has came out as an important factor in determining the level of developmental skills among slow learners of private and public sector schools.

According to the personal observation of the researcher, he was astonished that in public sector although Ministry of Education had allocated funding for quality enhancement, hence, their dispersion and usage were vanished from the total image. A huge difference was seen in the educating style among schools of the public and private sectors though the curriculum was the same but the delivery style and motivation of the teaching staff was also very much different. Overall findings of present study regarding the assessment of developmental skills of slow learners was in line with the previous literature support (Dagnan, 2007) i.e., slow learners enrolled in public and private schools differ significantly high with reference to their developmental skills of adaptive, personal-social, communication, motor and cognitive domains (see Table 18). Thorough comparisons indicate the superiority of private sector slow learners on public sector slow learners in terms of their developmental skills level. It was found that slow learners of private schools received a composite educational environment with continuous level of support. In turns this

composite environments and parent teacher involvements helps them to enhance their adaptive skills; they learn to take care of their self and daily good behavior exercises give them a sense of responsibility and autonomy to complete their small chores of daily life by their own without seeking maximum help from their CO's and supervisions (parents/teachers) (Darveaux, 1984). The slow learners flourished their social skills as they comfortably talked to adults and gained the sense of their social role, its related responsibilities and sense of self concept ideology, which in turns boost up their self-esteem in comparison to public sector slow learners. Frequent gatherings and play/drama activities helped to enhance communication skills among private sector slow learners and they express their own point of view more frequently and in an easy mode as compared to public sector slow learners (Eva, 2003). Awareness of nutrition value and hygiene concepts along with regular exercise programs helped them in strengthening their motor skills by experiencing more large/small body movements, making perceptual concepts of puzzles and mind gadgets, which in turn heighten up their experience of cognitive skills/abilities. Regular revisions and phonics helped private sector slow learners to explore more knowledge and learn these themes in strong patterns with associations and morals. These strategies helped them to cope well in private sectors schools environments and they got maximum exposure to reason out their intellect in order to internalize the perceptual concepts of their surroundings. Chaudhari (2008) also reported the similar notion that the type of school a child attend also makes the difference in their adjustment in the society and as the competition arises schools are trying to deliver more opportunities and resources to accommodate the needy one. In contrast to that both sectors slow learners were at the same level while interacting with their peer and

receiving the information from the outer world but this interaction or receptive communication dramatically fall down among public sector slow learners when they have to express these towards their adults with logic and reasoning.

Age Differentiations

It was further hypothesized that high level of developmental skills will be possessed by 7-7.11 years age group than 6-6.11 and 5-5.11 years age groups. Our results fully supports this hypothesis confirming the previous research review that slow learners of older age 7-7.11 years possess high level of developmental skills from younger and middle age groups (see Table 18). Trend test also supported this notion as the trend of distribution in sample was on high effect size on positive side that as the increase in age, developmental skills also progressed/developed.

Results also indicated that developmental skills of adaptive domain were found to be equal among 5-5.11 and 6-6.11 years of age but 7-7.11 years of age slow learners indicated a profound superiority from these two age groups of slow learners, which means that previous two groups were not as developed in these skills as compared to 7-7.11 year's age group. The adaptive domain skills were supposed to be developed fully by the age of 6 years for self care sub-domain and by the age of 8 years for personal responsibility sub-domain. Though, self care skill was not fully developed in 6-6.11 years age group as it was considered as a mile stone for this age group but it was fully developed in 7-7.11 years age group, it also confirms the findings of Shaw (2000a, 2000b) that slow learners works at below grade/age level approximately 1-2 years late in their developmental skills.

Same like adaptive domain, slow learners of age 7-7.11 years were found to be significantly different from age groups of 5-5.11 years and 6-6.11 years of age on personal social domain and its respective sub-domains with exception of peer interaction, as the 1-2 years gap was there to indicate the difference of developmental rate of skills (Malik, 2009; Warnemuende, 2009). However, slow learners of 5-5.11 years in comparison to 6-6.11 years of age were found to have no difference in their skill of self-concept and social role; it confirms the mile stone criterion of BDI-2 which is of 6 years age for this domain and as they were slow learners so this was not for them to fully complete that sub-domain. These findings also confirm the results of study done by Kaznowski (2004) that slow learners of small age groups enrolled in initial grades were unable to exhibit their full social role strength, which in turn harms their self-concept development in general.

Moreover, present study also revealed that slow learners of 6-6.11 to 7-7.11 years of age has equal interaction with their peers as this skills mile stone on set is of 2 years age and among these two age groups. This developmental skill has been developed at that level which becomes non-significantly different between these two age groups.

It was also found that communication skills in general and specifically with reference to reception or expressive communication skills all three age groups were found to be significantly different from each other. Interestingly this difference was close to merely hundred percent high among slow learners of 5-5.11 in comparisons to 6-6.11 and 7-7.11 years on overall communication domain; among 5-5.11 years in comparison to 7-7.11 on receptive communication sub-domain as they were highly significantly different from each other on these developmental skills. For

communication domain and its sub-domains, age range of development was described to be from birth to 8 years of age on BDI-2 by Newborg (2005). Now the slow learners were though not fully developed in this domain but greater difference was found in extreme age groups with reference to communication skill of development.

Motor development was also age wise different among slow learners of immediate age groups of 6-6.11 in comparison to 7-7.11 years of age group. It was found to be non-different on motor domain and its sub-domains of gross motor and fine motor developmental skills. Whereas, a slight low level of significant difference was found in perceptual motor skills and 7-7.11 years age group of slow learner was more developed in that skill as compared to 6-6.11 year's age slow learners.

Gross motor skill was equally developed among all three age groups of slow learners. However, slow learners of 7-7.11 years of age were found to be more superior in their developmental skills level of gross, fine and perceptual motor sub-domains from 5-5.11 year's slow learners and slightly significantly higher of perceptual motor skills from 6-6.11 year's slow learners. These findings confirms the previous literature that motor skills development was at slow phase among slow learners and immediate age group do not indicate gross differences as compared to extreme age groups of slow learners (Hetrick, 1979).

Cognitive domains comparisons of all three age groups of slow learners revealed that age group of 7-7.11 years' slow learner was bound in these developmental skills as compared to 5-5.11 and 6-6.11 years slow learner age groups and this difference was very high as the effect size reported to be huge as near to 85-100%. Trend test results of this domain and its sub-domain also revealed that as an increase in age also has positive effects on cognitive skills development though the

rate of development is comparatively slow than normal children but it is accelerated in comparison to their own slow learners age groups (Malik, 2009).

Grade Differentiations

Another hypothesis was formulated that there will be variation in developmental skills of slow learners as an impact of increase in grade levels. The hypothesis was accepted partially as slow learners of all three grades proved to be significantly different from each other in overall developmental skills but this difference appeared to be non-significant with reference to slow learners of KG in comparison to 1st grade on adaptive domain and its sub-domains of self care and personal responsibilities; adult interaction, self-concept and social role, gross motor and sub-domain of perception and concepts. Similarly slow learners of 1st grade in their comparisons to 2nd grade were found to posses' equal level of developmental skills in sub-domain of peer interaction, attention and memory and on motor domain along with its sub-domains of gross, fine and perceptual motor skills. This trend of distribution of difference confirmed the notion that as the developmental rate of skills was moderately low in slow learners as compared to average developing child so it was not possible to assess most differences of development among immediate grade levels because of minimum discreetness of grade ratio. However, in extremes grade levels i.e., 2nd grade in comparison to KG showed profound difference in their developmental skills assessment, which means that this positive trend confirms the findings of literature that differences in abilities are visible in one to two years difference (Slow Learners: The Leaky Bucket, 2003) with greater discrepancy in comparison grade major difference of developmental skills level. Results also showed

that this difference in extreme grade having large effect size of -.5 to -.7 indicating a high positive trend in data distribution. It also means that with the passage of time as the slow learners moved ahead towards higher grades, they become more equipped in their developmental skills levels although these are not up to marked level of an average development but still motivating to confront demands of educational set up and to deal with classroom setup at a certain level (Derevensky, 2000).

Socio Economic Status

To determine the influence of socio economic status of slow learners on developmental skills and to test the hypothesis that slow learners belonging to lower socio economic status will have low level of developmental skills as compared to slow learners of medium and high socio economic status. The results support our hypothesis that slow learners of low socio economic class were having low level of developmental skills as compared to medium and high socio economic status' slow learners. Findings of Chaudhari, Kulkarni, Pandit, and Deshmukh (2000) are also inline as they found that borderline intelligence; learning and motor development problems are more visible in the low socio economic class than any other economic set up. In present study, marked and significant differences were also found on overall BDI-2 and its domains of adaptive, personal-social, communication, motor and cognitive along with sub-domains of self-care, peer interaction, receptive communication, fine motor, perceptual motor, attention and memory, reasoning and academic skills and on perception and concepts where slow learners of high socio economic status showed profound level of superiority on slow learners of low socio economic status with reference to developmental skills levels (see Table 21).

However, both extremes of socio economic status were found to be equally developed in the dimensions of personal responsibility, adult interaction, self concept and social role, expressive communication and gross motor skills. These findings were also in line with the previous researches done on slow learners and learning disabled, which reports that socio economic status effects immensely on the development of slow learners whether the development is physical or emotional (Cooter, 2004). Results of the present study also revealed that slow learners of low socio economic class were more deficits as compared to medium/high socio economic status with reference to developmental skills acquisition level. Their abilities to take care of their basic needs: eating, dressing, toileting, grooming and preparing for sleep were not properly developed. They were unable to engage in meaningful social interaction with peers who are their age-mates. They hesitate to share their toys and certain other objects with their peers and do not cooperate in social gatherings. Slow learners of low socio economic status were deficits in terms of their level of understanding and use of conversational skills and were deprived of associative learning along with communicational skills. Research findings by Swanson (2006) and Liddle and Long (1958) also confirms that slow learners who belongs to culturally deprived and low socio economic back ground showed less responsiveness in communication skills when they are faced with educational demands as they were not so much familiar with school gadgets and feel hesitation and fear to ask questions or answer any questions. It was also proved that this groups of slow learners though successfully adapted the initial locomotion motor skills i.e., walking running, jumping and coordinated movements such as throwing but failed to grasp the fine muscles control and coordination for completion of increasingly complicated tasks. As

Gouwens (2004) and Warnemuende (2009) reported that slow learning children from lower economic set up often starts late walking, running and their certain fine and gross motor developments are little bit late than their same age mates. Similarly, they were not at upmost developed level of doing perceptual motor tasks required by their age levels as Swetin (2000) also reported that a large percentage of slow learners belonged to lower socio economic families where prenatal and postnatal care is inadequate and eventually adverse effects are prominent in their psycho-social functioning. These slow learners of low socio economic status were also suffering from inability to complete the cognitive milestones activities of their age i.e., attending, perceiving, and processing information; remembering; thinking; and knowing in comparison to their other two groups of medium and high socio economic status (Carroll, 2002; Shaw, 2000a & b). It is also evident from literature that children belonging to low socio economic status in developing countries show significant deficits in intellectual and behavioral functioning and these deficits were more profound in reasoning and verbal ability. They show more poor grades in school and reduced attention and unresponsive play behavior made them difficult to adjust in the regular standard setup (Whaley et al., 2003).

According to a latest research, done by Columbia Centre for Children's Environmental Health (CCCEH, 2010), children brought up in polluted and suburban area in their prenatal and postnatal phase have more chances of bearing borderline intellectual functioning.

Chapter-III

PART-III: IMPLEMENTATION OF INTERVENTIONAL TEACHING PLAN: PRETEST AND POSTTEST OF BDI-2 FOR ASSESSMENT OF DEVELOPMENTAL SKILLS

This part of research is comprised of III part of the study and was carried out in following steps which in turn served as a process for exploring the effectiveness of intervention on the developmental skills of slow learners through single group pre test post test design:

Step I: Pre test of slow learners' developmental skills.

Step II: Implementation of Interventional teaching plan (4 months duration).

Step III: Post test of slow learners' developmental skills.

Method

Step I: Pre-Test of Slow Learners Developmental Skills

Objective:

The main objective of this part was:

1. To take baseline measurement of slow learners' developmental skills prior to interventions.

In order to achieve the objective, slow learners were assessed with the help of BDI-2.

Sample

Slow learners (N = 10), both boys (n = 8) and girls (n = 2), were conveniently selected from two private sector schools of urban area of District and Tehsil Sargodha, Punjab. The age range of slow learners was of 5-5.11years (n =8) and 6-6.11 (n =2), they were studying in two different grades of KG (n=8) & 1st (n=2) and socio economic status of all slow learners was high (above Rs.31, 000/- per month). The procedure for identification of slow learners was the same as part I of this research i.e., subjective (teacher's appraisal and student's academic performance) and objective (raw scores and relevant percentile ranks i.e., 10th to below 25th. Out of 30 students a sample of 10 slow learners was identified who were showing borderline intelligence. The following flow chart describes the demographic characteristics of the sample:

	School 1				School 2			
	Grade		Age		Grade		Age	
	KG	1st Grade	5-5.11 years	6-6.11 years	KG	1st Grade	5-5.11 years	6-6.11 years
Boys	03	01	03	01	02	02	01	03
Girls	01	------	01	------	01	------	01	------

The participants were approached with the consent of school administration and were selected for interventions implementation on convenience level as some schools refuse to give consent because of insufficient resources, finances and lack of competent / free staff. So, only those two schools were selected whose principals allowed imparting interventions, agreed to spend finances on teaching aids and their teachers showed commitment for long duration. Both the schools run from play group

to grade 10, and follow the standard curriculum of Punjab Text Book Board. They had 30 teachers as a total teaching staff whose education rages from B.A to MSc. The selected 4 teachers for interventions had the education level of B.A, B.Ed and were acknowledged by their respective schools administration for their good communication and tactfulness in dealing with challenging situations. Prior to intervention they underwent a six day training program (see Annexure E for details) to ensure the proper implementation of interventions. Parents both mother and father of all ten slow learners were also involved in this part of study and regular parents, teacher and researcher meetings were called.

Instrument

Battelle Developmental Inventory-2: For the assessment of key developmental skills a standardized, individually administrated assessment battery Battele Developmental Inventory-2 was used (Newborg, 2005). The full BDI-2 battery consisted of 450 items grouped into five domains: (i) Adaptive, (ii) Personal-Social, (iii) Communication, (iv) Motor and (v) Cognitive and 13 sub-domains. Following table gives the clear description of these domains with their respective domain:

Adaptive Domain	**Personal-Social Domain**	**Communication Domain**	**Motor Domain**	**Cognitive Domain**
• Self-Care • Personal Responsibility	• Adult Interaction • Peer Interaction • Self-Concept & Social Role	• Receptive Communication • Expressive Communication	• Gross Motor • Fine Motor • Perceptual Motor	• Attention & Memory • Reasoning & Academic Skills • Perception & Concepts

High score on each domain and its relevant sub-domain with respect to age level indicate that the child has achieved the desire level of these particular key

abilities, whereas low scores below the desired age level means the deficit level of these functional abilities. As the present study had assessed the level of developmental skills among slow learners (see part II for details) it was already clear that slow learners are skill deficit about -1 *SD* to -2 *SD* in comparison to normal developing children and their raw scores correspond to 37th and 25th percentile rank. Pre-post test comparison in the present study just aimed to find out whether all the slow learners (N = 10) who are on -2 *SD/25th* percentile will move to -1 *SD/37th* percentile with reference to their developmental skills enhancements due to a profound effect of interventions or not. Age relevant raw scores on 37th and 25th percentile ranks are describes in the tables (see Appendix B).

School psychologists and health care professionals have already found BDI-2 as a standardized individually administered battery to effectively measure the functional abilities in young children.

Procedure

The sample was approached directly by the researcher with the consent of school administration and their developmental skills were assessed with the help of BDI-2 which was considered as the baseline measurement before the interventions.

Results

After data collection of BDI-2 in pre-test means, standard deviations and minimum to maximum range of scores of slow learners according to two distinct age group 5-5.11 and 6-6.11 years were analyzed.

Results of this phase of study revealed that all the slow learners with respect to their age groups scored below average on -2 SD i.e., 25th percentile ranks in each domain and its respective sub-domains (see Appendix B for details).

Step II: Implementation of Interventional Teaching Plan

Objective

The basic aim of this step was:

1. To expose slow learners with the interventional teaching plan. .

Sample

The sample of 10 slow learners of step-I (pre-test) was the sample population in this part of study.

Instrument

Academic Interventional Teaching Plan: The research revealed that generally in a mainstream classroom setup, which is of inclusive type, and range of abilities varies from below average to gifted, it is essential for educational sector to accommodate every child in that productive environment. It is desired to have best method of teaching and training of slow learners/at risk students to be incorporated with the traditional ones to enforce the learned material. For this purpose a separate academic interventional teaching plan was devised on the bases of four broader themes given by Shaw (2000): (i) while interacting with slow learners teacher should make all instructions concrete and relevant to the learning task in-hand, (ii)

instructions should be designed in a way that they help the student to generalize skills, (iii) academic engaged time should be increased in order to built a sound communication bond and this bond will ultimately prevent various behavior and inattention Issues.

In the light of above four broader themes an academic interventional teaching plan was designed, implemented in mainstream classrooms. The following steps were undertaken to implement the academic interventional teaching plan:

1. *Modification in the curriculum and study material:* The standard curriculums of Punjab Text Book Board of KG and 1st grade were modified as more pictures books, charts, models and educational blocks, educational soft ware of games and puzzles with the help of computers, educational rhymes and short stories, crayons, poster colors and playful dough (clay) along with paper pencil, were made part of study (see Appendix D for sample material and course content).

    a. *Pictures book:* the lessons were illustrated with different pictures, photographs, maps and designs in picture books related to KG and 1st grade standard curriculums. The book was prepared with the help of a drawing teacher and an artist. In this method the teacher taught the course content by showing pictures in between the oral explanations. Students' handled the picture book and closely observed each picture related to the portion.

    b. *Charts:* were prepared using the enlarged pictures of picture book with the help of the artist. In each chart related picture were drawn

separately for clarity and these charts were displayed on the walls so that students could see and observe the charts during the class hours while explaining the portion.

c. *Models and educational Blocks:* were developed on KG and 1st grade standard curriculum of Punjab Text Book Board. They were made out of wood, thermapol and plaster of paris with the help art teacher, artist and carpenter. These models and educational blocks were used to clarify the difficult concepts along with oral explanations. All the students personally handled the models by manually touching and seeing (hands on method).

d. *Educational soft ware, games and puzzles:* in accordance to the curriculum of KG and 1st grade educational soft ware were added for the elaborative presentation of the learning material on daily basis e.g., Rays Package of Learning Aid (with the option of UK/US spellings and phonics) composed of (i) Rays letter and numbers (to teach the alphabets, numbers, counting, simple spellings and keyboard skills); (ii) Rays spellings and word games (to learn weekly spellings through word games) and (iii) Rays Kids Tables and Time (for math practice); Farms animals (Old Mac Dot Farm) and Little farm of fruits and vegetables (to give the conceptual understanding of science knowledge); education puzzles (letter and picture matching exercises in Math, English and Urdu; count and tell, tell before and after, hundreds, tens and ones, find the largest number, find the same or spot

the different one) were also practiced out (see Appendix D for sample work sheets).

e. Educational Rhymes and short stories: to ease the knowledge delivery and to present the material in a fun manner various educational rhymes: The ant go marching; Mary had a little lamb, One for Sorrow, One two buckle my shoe, Three little Indians, Thinker tailor, Urdu alphabet jingle, azrah ki guriya, abu laye motor car, machli hai jal ki rani, bakri meri bholi bhali, aik tha titer aik tha batair, Ramzan kay Rozay, Allah Malik Allah Malik, shair aaya shaair aaya; and short stories Goldilock and three bears, little riding hood, shair or chooha, khachwa or khargoosh, jhoot the saza, and sara ka bagh were introduced along with the taught material on weekly basis. These rhymes and stories were also rehearsed at the end of the week in review of concepts session by drama and role playing.

2. *Modification in classroom environment:* A regular seat change plan was designed to be implementing on weekly basis. Slow learners were stipulated to be sitting in front whereas all the other normal class goes along with the weekly seat change program by rotation. Walls were decorated and painted with curriculum material in form of displaying models, charts, pictures and story characters (Goldilocks and three bears, little riding hood; Sara ka bagh and shair or chooha). For this help of painting artist and art teacher was taken.

3. *Modification in time demands*: The deadlines for task completion/performance were designed to be lenient for slow learners as compare to other class fellows

i.e., if normal average child need 5 minutes for one problem solution then 7-8 minutes were given to slow learner.

4. *Peer tutoring and use of groups in learning*: Class assignments were made easy for slow learners and were given in small portions. Senor grade slow learners and good learners of their own class were assigned to be as their tutors. Complex and technical tasks were distributed among groups and slow learners were encouraged and appreciate to cooperate and share their knowledge and skills with others.

5. *Daily good behavior exercise*: In daily routine a model good behavior was exercised by role modeling of class fellows and monitored (through observation by researcher and teacher) to be incorporated (imitated/acted out) in their routine behavior as a mode of social skills training / social problem solving exercises. For example "how to take permission", "how to say good morning / good bye", "how to say sorry on your mistakes by accepting them", "how to pay gratitude by saying thank you", "how and when to welcome others" " how to share belongings by "welcoming" and "ask to share from other by saying "please" were taught on daily basis which were aimed to help them in resolving their problems in interpersonal communication, problematic relations and poor initiative / motivation issues.

6. *Provision of encouragement and immediate feedback as reward of every desirable behavior:* On each successful task accomplishment and initiative, immediate feedback (in form of praise from teacher and clapping from class fellows) and encouragement were made part of intervention plan as they helped to boost up their self-concept/esteem and self-confidence.

7. *Review of concepts on weekly basis:* It was designed that at the end of every week (preferably on Fridays), all the week plan was reviewed in a fun way with the help of drama, role play, in form of storytelling and presentations. The basic aim was to polish slow learners ability to make sense of relationship / associations between ideas / things with the help of pictorial presentation of each concept / model of learning material and behavior. For this the whole class along with slow learners were assigned to play some roles and present the concept of learned material which were designed according to the guide lines provided by teaching aid manuals of UNESCO Islamabad, Pakistan (UNESCO, 2004; 2001a, 2001b) e.g., in English: I am C Kh Cake, I am very tasty, all children like me; in Urdu: main tay ta titly hoon, maray rang bohat khobsoorat hain, mujhay phool achay lagtay hain, main hawa main urti hoon; in Shapes: I am a circle, I am round and I have no corners.

Teachers Training: Prior to interventions implementation teachers of the selected schools went under training. The aim of the teacher training was to provide theoretical base in cognitive education, learning, ad motivational strategies; as well as semi standardized teaching methods developed to increase learning capacity in slow learning students of borderline intelligence. The training was given to teachers by the researcher who prepared training module (see Appendix E) with the help of main resource material used in training that was inspired by teaching aid manuals of UNESCO Islamabad, Pakistan (UNESCO, 2004, 2001a; 2001b) and Shaw's guide of educational programming frame work (2005, 2008, & 2010) and teaching resources for teaching slow learners (2001). This training module was evaluated by experts'

opinion and finalized through committee approach. Teachers' training was carried out to provide awareness about the key facts of about slow learner population and their special needs advocacy. Specifically the objectives of training were to:

1. To improve and promote the quality of teaching for slow learner.
2. To give theoretical understanding of the slow learner differences and special needs advocacy in comparison to other disabilities.
3. To enable teachers for creating a friendly and productive environment to foster slow learner in mainstream classroom.
4. To familiarize teacher with new and effective teaching modalities for educating slow learner and preventing him from mental health risks.
5. To introduce interactive and activity based teaching methodologies to respond slow learner diverse needs in mainstream class room and show some ideas how the curriculum can be adapted to individual needs.
6. To promote use of interventional plan as source and reference material for educating slow learner in mainstream class room to generate a facilitating and conducive environment for slow learner developmental skills acquisition in main stream classroom.
7. To encourage teachers to work with families and with other personnel in health and social services and in the community.
8. To give opportunity for professional development of teacher and school administration in tackling challenges of slow learner.

For five days (once a week, preferably on Friday) the participants were trained through resource lectures , interactive discussion and they experimented with teaching materials and stimulated (role played) instructional strategies (interventional teaching

plan modes of knowledge delivery). All the four teachers who followed the 5 –day's course were also assessed by the researcher with the help of observation checklist (see Appendix F) for their successful training. Afterwards, these teachers participated with their classes in the research as class teachers of slow learners. As a part of their training these teachers were instructed prior to the interventions' implementation that they have to incorporate all the interventions in their interactions with slow learners on daily basis. They also had to observe and monitor each and every behavior (educational / recreational / socio-personal) with reference to slow learner cultural context and prepare a feedback for these interventions.

Meetings with parents: regular meetings one in a week arranged with the parents of the slow learners and after collecting the initial information in a semi structured interview (see Appendix G for interview guide) about their child development, abilities and general level of functioning in comparison to other age mates they were briefed about the special needs advocacy. In a friendly discussion their denial and resistance to accept their child as slow learner were overruled by providing them some guidelines for fostering slow learners' needs:

1. They were guided to develop patience as this process of change will be very slow in comparison to their other off springs but hope and patience is highly desired.
2. They were also guided to accept their child present state as it will help them to assess what kind of change and support is needed. Furthermore, they were told not to compare child's achievement with his/her other siblings because he/she is different from them but had

some unique abilities and characteristics (strengths) which should be more focused as positive one.

3. They should allow extra time for to the child for completion for daily life chores due to his/her slowness and avoid blaming and name calling or restricting them to do anything as will be very destructive for child's self esteem and self confidence.
4. They should keep the door of communication open by discussing things about schools, friends, interests and his/her likes/dislikes as this will ensure his sense of belonging and acceptance in home and family.
5. They were encouraged to give participatory involvement in educational process of the child. They were further guided to be aware / vigilant about the home work assignments, make the schedule of homework, take interests in class presentation tasks and be part of Parent Teacher Meetings (PMT).

These guidelines helped to confirm parent commitments and active participation.

Procedure

After pre-test slow learners (N = 10) were set up to academic interventional teaching plan (5 days/week and four hours/day) in their mainstream classroom set up, which was inclusive of different abilities level, as the prime aim was to increase their adjustment in the mainstream classrooms. Their academic course content was modified and new relevant study material in the form of pictures, charts and models was incorporated. Teachers were instructed prior to the interventions' implementation

that they have to incorporate all the interventions in their interactions with slow learners on daily basis except of seating change plan, which was on weekly basis; and of review of concept to be done on the fifth day of every week. They also had to check each and every behavior (educational / recreational / socio-personal) with reference to their cultural context and prepare a feedback for these interventions. Regular meetings of with parent of teacher and researcher were arranged (preferably on Saturdays) to discuss the progress at home as an impact of interventions and mutual consensus on the pace of progress next week agenda items in line with the interventions plan were sought out. Parents were informed in advance about the time by call or parent notes to ensure the successful schedule completion. Furthermore a detailed and comprehensive conclusion of all three parties i.e., researcher, teacher and concerned parents were added in qualitative analyses to see how the interventions effected the child behavior at home environment too.

Results

On the basis of initial feedback provided by the teacher during 4 months period of intervention student were checked for their readiness of post-test and certain changes were brought in to account with reference intervention on the daily feedback provided by the teachers. The effectiveness of intervention on the developmental skills of slow learners was checked in post-test and also described in detail in qualitative analysis (see page 198).

Step III: Post-test of Slow Learners Developmental Skills

Objectives

The objective of this part of study was as follows:

1. To find out the effectiveness of interventional teaching plan for developmental skills of slow learners.

The study also aimed to identify the predictive value of interventional teaching plan as an enhancer in the developmental skills level of slow learners which will serve as an initial step in building grounds to put forth the said plan on the vast level in upcoming times.

Hypotheses

On the basis of the objective of this study, following hypotheses were formulated for the study:

1. Slow learners will score higher on BDI-2 after exposure of intervention. Compared to pre-test assessment, slow learners will show higher level of cognitive, personal social and communication skills in the post test assessment.

Sample

Slow learners (N = 10), part of step I and II were considered as post-test sample in this phase.

Instrument

Battelle Developmental Inventory-2: BDI-2 developed by Newborg (2005) which measures cognitive, motor, language, self help and social skills in individuals from pre-school to primary grade levels was used to assess the developmental skills of slow learners.

Their attained scores on the post-test of BDI-2 were compared with their previous scores on BDI-2 in pre-test conditions and minimum to maximum range of both age groups was compared to see the difference in scores as a result of interventions effectiveness.

Procedure

After completion of intervention period (4 months) and initial feedback (in researcher teacher meeting on weekly meetings) provided by the teachers during four months period of intervention student were assessed for their readiness of post-test (second baseline) with the help of BDI-2 the same procedure of assessment was followed as in phase of pre test. A qualitative procedure was also followed to see the effectiveness of intervention through the feedback of parents and teachers of slow learners. The main aspects of feed backs were child adaptation and learning outcomes of the modified curriculum, his/her behavior of regarding social role ideology and personal responsibilities, his/ her social skills acquisition e.g., adult and peer interaction, receptive and expressive communication skills, their abilities to sustain attention, memorizing and reasoning abilities to adopt environmental change, sensitivity and perceptual understanding of environmental surroundings.

Results

In order to assess the hypotheses of the study quantitative plus qualitative analyses were performed.

Quantitative Analyses: The purpose of the analysis performed was to examine the effectiveness of interventional teaching plan on the developmental skills of slow learners. Obtained scores of Slow learners (N = 10) were compared on their two related conditions of BDI-2 (pre-post test) through Wilcoxon Signed Rank test. *Mdn*, z scores and effect size (r = .0 to .2 means low effect; r = .3 to .5 means medium effect; and r = above .5 means large/huge effect) were calculated on the data of slow learners to see the effectiveness of interventions.

Difference between Pre-test and Post-test Scores of Slow Learners on BDI-2 after they were exposed to interventional teaching plan

In order to determine the difference of scores of slow learners on BDI-2 in two related conditions of pre-test and post-test age wise (5-5.11 and 6-6.11 years) descriptive analyses was run to obtain means, standard deviations along with minimum to maximum scores.

Table 22

Mean, Standard Deviations, Minimum to Maximum Range of Scores on BDI-2 by 5-5.11 Years Slow Learners in Pre-Post Test (N=8)

BDI-2 Domains & Sub-domains	Pre-Test				Post-Test			
	M	*SD*	Min.	Max.	*M*	*SD*	Min	Max
Adaptive	83.25	1.75	80	85	98	.00	98	98
SC	58.25	1.4	56	59	62	.00	62	62
PR	25	1.06	24	26	36	.00	36	36
Personal-Social	145	4.9	136	149	149.63	3.96	147	156
AI	51.5	.93	50	52	51	.00	51	51
PI	32	1.07	30	33	35.5	.93	35	37
SR	61.5	2.97	56	64	63.13	3.04	61	68
Communication	110.88	.99	110	113	133.9	5.72	127	139
RC	51.8	.46	51	52	62.8	5.6	56	67
EC	59.13	1.4	58	62	71.13	.4	71	72
Motor	159.4	3.99	152	162	162.13	3.09	160	168
GM	79.25	1.4	77	80	78.25	.5	78	79
FM	52.13	1.64	49	53	50.75	1.4	50	53
PM	28	1.07	26	29	33.13	1.4	32	36

Continued…

BDI-2 Domains & Sub-domains	Pre-Test				Pre-Test			
	M	*SD*	Min.	Max.	*M*	*SD*	Min.	Max
Cognitive	131.25	2.71	128	134	157.63	3.62	154	164
AM	49.25	.7	48	50	52	.00	52	52
RA	32.5	.54	32	33	44.63	3.16	42	50
PC	49.5	1.6	48	51	61	1.07	60	62
BDI-2 Total	629.75	11.81	607	641	701.3	14.9	686	725

Note. SC= Self Care, PR= Personal Responsibility, AI= Adult Interaction, PI= Peer Interaction, SR = Self Concept & Social Role, RC= Receptive Communication, EC= Expressive Communication, GM= Gross Motor, FM= Fine Motor, PM= Perceptual Motor, AM= Attention and Memory, RA= Reasoning and Academic Skills, and PC= Perception and Concepts.

Table 22 indicates that on all domains and sub-domains of the BDI-2 all showing change of score ranged from minimum to maximum by 5-5.11 years slow learners as an effect of interventional teaching plan. Mean and standard deviation values has also changed in pre and post test conditions, and scores of BDI-2 shifted from -2*SD* to -1*SD*, which in turn confirms our hypothesis that as an effect of interventional teaching plan slow learners will show high scores in post test of BDI-2 as compared to their pre-test condition of BDI-2.

Table 23

Mean, Standard Deviations, Minimum to Maximum Range of Scores on BDI-2 by 6-6.11 Years Slow Learners in Pre-Post Test (N=2)

BDI-2 Domains	Pre-Test				Post-Test			
& Sub-domains	*M*	*SD*	Min.	Max.	*M*	*SD*	Min	Max
Adaptive	84.5	2.12	83	86	98	.00	98	98
SC	56	.00	56	56	62	.00	62	62
PR	28.5	2.12	27	30	36	.00	36	36
Personal-Social	144	1.41	143	145	156	.00	156	156
AI	51	.00	51	51	51	.00	51	51
PI	35	.00	35	35	37	.00	37	37
SR	58	1.41	57	59	68	.00	68	68
Communication	127.5	2.12	126	129	138	1.41	137	139
RC	57.5	.71	57	58	66.5	.71	66	67
EC	70	1.41	69	71	71.5	.71	71	72
Motor	158	.00	158	158	167	1.14	166	168
GM	78	.00	78	78	.25	.5	78	79
FM	50	.00	50	50	50.75	1.4	50	53
PM	30	.00	30	30	33.13	1.4	32	36
Cognitive	144.5	2.12	143	146	162.5	2.12	161	164
AM	49	.00	49	49	52	.00	52	52
RA	40.5	2.12	39	42	49.5	.71	49	50
PC	55	.00	55	55	61	1.41	60	62
BDI-2 Total	658.5	7.8	653	655	721.5	4.95	718	725

Note. SC= Self Care, PR= Personal Responsibility, AI= Adult Interaction, PI= Peer Interaction, SR = Self Concept & Social Role, RC= Receptive Communication, EC= Expressive Communication, GM= Gross Motor, FM= Fine Motor, PM= Perceptual Motor, AM= Attention and Memory, RA= Reasoning and Academic Skills, and PC= Perception and Concepts.

Table 23 indicates that all domains and sub-domains of the BDI-2 all showing change of score range from minimum to maximum by 6-6.11 years slow learners as an effect of interventional teaching plan. Mean and standard deviation values has also changed in pre and post-test conditions, and scores of BDI-2 Shifted from -2*SD* to -1*SD*, which in turn confirms our hypothesis that as an effect of interventional teaching plan slow learners will show high scores in post test of BDI-2 as compared to their pre-test condition of BDI-2.

Obtained scores of overall sample of slow learners (N = 10) were further analyzed with Wilcoxon Sing Rank test, Median, tiles and effect size were computed on total BDI-2 scale, its 5 domain and their respective 13 sub-domains to see the effectiveness of interventional teaching plan as a enhancer in the developmental skills of slow learners. Following table clearly describe the results of study:

Table 24

Median, Tiles, Effect Size and Wilcoxon Signed Ranks Values of Pre-Post Groups of Slow Learners on BDI-2, its Domains and Sub-Domains (N=10)

Domain & Sub-Domains	Pre test (n = 10)	Post test (n = 10)		
	Mdn	*Mdn*	*z*	*r*
Adaptive (ADP)	83	98	-2.828**	-.63
SC	59	62	-2.889**	-.65
PR	26	36	-2.804**	-.64
Personal Social (PS)	146	148	-1.774	-.4
AI	52	51	-1.414	-.31
PI	26	35	-2.848**	-.63
SR	62	62	-.666	-.14
Communication (COM)	52	66.5	-2.831**	-.63
RC	59	71	-2.829**	-.63
EC	59	71	-2.829**	-.63

Continued…

Domain & Sub-Domains	Pre test (*n* = 10)	Post test (*n* = 10)		
	Mdn	*Mdn*	*z*	*r*
Motor (MOT)	161	161	-.678	-.15
GM	80	78	-1.243	-.3
FM	53	50	-.277	-.06
PM	28.5	33	-2.911**	-.65
Cognitive (COG)	133.5	158	-2.820**	-.63
AM	49	52	-2.877**	-.64
RA	33	44	-2.829**	-.63
PC	51	61	-2.818**	-.63
BDI-2 Total	635	703	-2.818**	-.63

Note. SC= Self Care, PR= Personal Responsibility, AI= Adult Interaction, PI= Peer Interaction, SR = Self Concept & Social Role, RC= Receptive Communication, EC= Expressive Communication, GM= Gross Motor, FM= Fine Motor, PM= Perceptual Motor, AM= Attention and Memory, RA= Reasoning and Academic Skills, and PC= Perception and Concepts.

**p<.05, **p<.01, ***p<.001*

Table 24 shows that slow learners experience enhancement in their adaptive skill as a result of intervention and they score significantly high on adaptive domain of BDI-2 in post-test (*Mdn* = 98) as compared to their previous scores of pre-test (*Mdn* = 83, *z* = -2.829, *r* = -.63, *p* < .01). Relatively large effect size is indicating high effectiveness of interventions on adaptive skills of slow learners. It also reveals that the scores of self care sub-domain significantly increase due to effectiveness of interventional teaching plan and slow learners improve their self care skill from the level in pre-test (*Mdn* = 59) to post-test (*Mdn* = 62, *z* = -2.889, *r* = -.65, *p* < .01). results further show that slow learners' personal responsibility skills are also significantly benefit from interventions and this effect is huge and they score higher in post-test (*Mdn* = 36) than their previous scores of pre-test (*Mdn* = 26, *z* = 2.840, *r* =

-.64, $p < .01$). The effect size is large enough to support the findings and significant effects of interventions are seen in the data.

Results of Table 24 reveal that interventions have no effect on developmental sills of slow learners in their personal social domain and on sub-domains of adult interaction and self concept of social role as post-test (*Mdn* = 148) scores of slow learners on are not significantly different from their pre-test scores (*Mdn* = 146, z = 1.774, r = -.4, p = n.s.) on personal social skills . Similarly no significant change was visible in terms of their post test scores on adult interaction (*Mdn* = 52), and self concept and social role (*Mdn* = 62) in comparison to pre-test (*Mdn* = 51, z = -1.414, r = -.31, p = n.s.), (*Mdn* = 62, z = -.666, r = .14, p = n.s.) respectively. However, interventions significantly affect positively the peer interaction skill of slow learners as they score high on this sub-domain in post-test (M*dn* = 35) than their pre-test (*Mdn* = 26, z = -2.848, r = -.63, $p < .01$).

Findings in domain and sub-domains of communication skills also show the effectiveness of intervention for skills enhancement as slow learners as their scores in post-test of communication domain (*Mdn* = 137.5) tend to get higher in comparison to their scores in pre-test (*Mdn* = 111, z = -2.818, r = -.63, $p < .01$) where the effect size is relatively large. This trend is also present in the sub-domain of receptive communication skill of slow learners, which is profoundly affected by intervention and scores of slow learners tends to increase in post-test (*Mdn* = 66.5) from their initial scores in pre-test (*Mdn* = 52, z = -2.831, r = -.63, $p < .01$). Similarly, effectiveness of interventions is also present in expressive communication skills of slow learners that tend to accelerate after they are exposed to interventions and this is present in their responses of expressive communication domain. In post-test, slow

learners show high level of expressive communication (*Mdn* = 71) than their response in pre-test (*Mdn* = 59, *z* = -2.829, *r* = -.63, *p* < .01). In all results of communication domain and its sub-domains effect size is relatively large, which co-notates the effectiveness of intervention as a communications skill enhancer.

Table 23 shows a non-significant effect of intervention with respect to motor skills of slow learns as they do not differ at all in their scores of motor domain in pre-test and post-test administration. Same is the case in its sub-domains of gross and fine motor skills where the results reveal a non-significant difference in pre-test and post-test scores of slow learners and the effect size is very low, close to zero and having non-significant p value (.782). However, perceptual motor skills of slow learners are exceptionally affected by interventions and this effect is more vivid as median values of pre-test (*Mdn* = 28.5) raised in post-test administration (*Mdn* = 33), revealing a strong high effect size (*r* = -.65) with a significant value (*p* < .01). It means that slow learners' developmental skill of perceptual motor sub-domain is enhanced by the profound effects of interventional teaching plan.

Results of cognitive domain indicate that slow learners' cognitive skills enhanced as an impact of their exposition to the interventional teaching plan. The pre-test scores on cognitive domain (*Mdn* = 133.5) increased in post-test (*Mdn* = 158, *z* = -2.820, *r* = -.63, *p* < .01) indicating a profound and highly significant effect of intervention in the developmental rate of cognitive skills among slow learners. It is also visible in the sub-domain of attention and memory skills of slow learners, where the effectiveness of interventions raise the scores to high (*Mdn* = 52) in post-test as compare to scores in pre-test (*Mdn* = 49). This difference is profound and effect size is quite large having high level of significance (*z* = -2.877, *r* = -.64, *p* < .01). Slow

learners' reasoning and academic skills also improved from interventions as an affect and scores of post-test in this sub-domain indicate (*Mdn* = 44) an increase with respect to their scores in pre-test (*Mdn* = 33, *z* = -2.828, *r* = -.63, *p* < .01). This improvement is also present in their perception and concepts skill developmental rate as they show high scores in this sub-domain in post-test (*Mdn* = 61) as compare to their pre-test (*Mdn* = 51, *z* = -2.818, *r* = -.63, *p* < .01). Moderately large effect size in domain and sub-domains of motor skills confirms the sound effectiveness of interventions as enhancing the cognitive skills among slow learners.

Overall, result of BDI-2 also reveals that interventions are significantly effective in enhancing the developmental skills of slow learner as they score higher in post-test administration of BDI-2 (*Mdn* = 703) than their scores of pre-test administration (*Mdn* = 635, *z* = -2.818, *r* = -.63, *p* < .01) and the effect size of interventions effectiveness is relatively large.

These findings were also reported by the information gathered through the class room observations; daily feedback reports prepared by class teachers about the child's behavior (relevance to cultural context) and the rich information gathered through the meeting with concerned parents and teachers of the slow learners. Information gathered through these sources provided the guidelines to formulate a qualitative report by analyzing the contents.

Qualitative Analyses

The qualitative report was prepared by thoroughly analyzing the content of rich data gathered through parent teacher meeting and class room observations and it was revealed that slow learners as a part of inclusive mainstream classroom were the

population desiring some special needs. They were unable to meet the challenges of daily routine or to accomplish goals and targets of day by day living in their own cultural context because of their limited intellectual abilities and below average developmental skills. This failiure in their own cultural context make them frustrated and at risk of certain mental health problems e.g., poor self image, immature personal relations, lack of sufficient communication, refusal to cooperate or take initiative. Due to their borderline IQ they were working at below ability level, which is not accordingly compatible to their desired age limits. They had the age specified perception and concepts, but in a very slow pace, which is insufficient to reason out the logical world around them (S. Shaw, personal communication, August 17, 2009). Cognitively they tend to live in present and had no range of future goals or the ability of forth seeing. Their pace of work was very slow and in turn these slow learners made them the bottom part of achievement ladder in their social and academic culture. Their poor self image restricted them to participate in group activities and they were feeling difficulty to follow the multi step models of knowledge delivery. The interventions were though new to them but it gave them some sense of worth and feeling of belongingness for better adjustment in class and academia. It was observed that as a result by provision of more concrete instructions and immediate feedback on their desired behavior responses they became more sensitive to follow instructions and establish the ability to carry out the daily tasks with minimal prompting. Peer tutoring and social skills exercises were helpful in boosting the self esteem and self confidence level and they learned to groom, greet others, eat independently, and share their belongings/toys with peers and siblings at schools and home respectively. Cross class room grouping and use of heterogeneous groups to complete group tasks also

helped them to do their part of goal achieving behavior, and to share the responsibility with other members (Rao, 2001). Research also support the effectiveness of peer tutoring and group assignments as they helped the weak and struggling learners to improve in studies (Behera, 2009; Clattenburg, 2003; Falls, 2003; Flannigan & Groth, 2003; Houston, 2004; Maroney, 2001; Rossman, 2009) and made them happy to have new friends. These exercises also helped them to learn the social skill of asking permission, paying gratitude and coping with challenges of life. Their receptive and expressive communications were benefited from interventions and they were observed to become sensitive and aware of others thoughts, feelings and emotions by recognizing facial and maintain eye contact while communication. Their sense of safety was aroused as they internalized the model behavior to safeguard them from danger, became conscious about morality and took pride in their self accomplishments. All these were also reported by the parents in parent teacher and parent researcher meeting that at home slow learners also showed remarkable progress in dealings with other in their own cultural context. These results were also in line with the findings of Davis and Williams (1972) that slow learners got maximum advantage by multi model approach instead of uni-model approach i.e., if they are taught by using different strategies then it particularly help them in creating a favorable attitude toward learning and promote a sound conceptual understanding of the taught material. These findings also confirm the Vygotsky's (1988) concept of practical intelligence in one's own cultural context / proximal zones. Thus according to him the etiology of learning is social interaction: a concept is first presented to a child socially (inter psychologically) either by parent, peer or teacher, later to appear inside the child through the process of internalization. According to this concept if the

cultural context / proximal zones of the slow learners weather in educational paradigms or in home setting is more facilitating in nature then the chances of their practical intelligence can be raised. It can be done with the help of intervention as and if early identification and special needs advocacy is going to be taken into account then one can safe guard slow learners for indulging in several metal health issues and their adjustment in the society can be enhanced.

Positive impact of academic interventions was very much visible in the educational advancement of the slow learners. Knowledge delivery through modified curriculum tailored according to slow learners special needs advocacy gave them a chance to come up in front and to stand side by side with their others class fellows (Liddle & Long, 1958). Education through provision of models, graphs, and pictures gave them the opportunity to learn in a fun way and an accelerate learning rate was seen when knowledge was delivered with the help of models and charts (Groth & Flanningan, 2003; Mrockza, 2003; Palan, 1998; Sayyah, 2009; Shaw, 2000a, 2000b, 2007). These learners showed keen interest in building and associating their own knowledge through making pictures, drawings and models by the help of crayons, playing clay, poster colors and foaming sheets. Dutton (1964) found that teaching the slow learners probably demands more imagination and vitality than any other work a teacher is likely to do; it involves recognizing the student's limitation, but also his desire for maturity, prestige, and accomplishment. That is why modifications in curriculum to create need or desire for learning are the important part in educating the slow learners. According to Sayya (2009), slow learners want to learn in a fun and energetic way and if repetition of material is in the form of fun activities, i.e., for math use of flash cards, matches, crayons or candies to give the concept of counting,

addition, subtraction or multiplication then they showed keen interest and this interest and attention get longer when they get the fun material as a rewards in response to every correct answer.

Changes in mainstream classroom environment and seating plan were also proved to be very useful in motivating these students. Sitting near to teacher gave them prime attention of the instructor (Carroll, 2002; Clattenburg, 2003). This was helpful in polishing their initiative skills and their hesitation to talk and share was eliminated.

Modified time demand and immediate provision of positive feedback was found motivational for goal achievements. It also protects them against the embarrassment previously they were facing when failed to do the task in time. Warnemuende, John, and Samson (1999) also confirmed that lenient deadlines gave slow learners a chance to grasp the pace of goal attaining process. It was proved that "wait and see approach" with slow learners was more beneficial. Sayyah (2009) also found that slow learners showed maximum progress rate when they were congratulated on when they done the job well (after every correct answer and on successful ending of each learning session). This immediate positive reinforcement made them feel empowered and gave them the sense to look forward to the upcoming times. Dutton (1964) also confirmed that slow learner needs immediate rewards as a reflection of his successful efforts and it gave him the motivation to stay ahead and move along with the other members of the group and he needs them frequently if his work is to reflect effort as they gave him the motivation to stay ahead and move along with the other members of the group.

Daily good behavior exercises gave them the insight of self growth and helped them in making small promises with their own self in order to achieve the target behavior by self regulation. Their ability/skill to have self insight and self control was favored by this activity at large as immediate feedback and positive rewards in forms of praise and labeled as a role model gave them motivation to move ahead toward academic and social achievement. Social Skills training like these daily good behavior exercises in forms of modeling, role playing, performance feedback and transfer of training gave the slow learner a sense of motivation to move around with confidence (Jenik, 2006). Same findings were also reported by Darveaux (1984) that daily good behavior game followed by immediate positive rewards gave intense motivation and reinforcement to these students for achieving the academic goals with the strong control over their disruptive behaviors. Lescano (1995) found that although slow learners lack self esteem but they are also very sensitive to exaggerated or artificial praise and when on each social acceptable behavior they got the maximum admiration they become more and more socially positive individuals.

Review of concept on weekly basis was found to be more beneficial for slow learners as it enhanced their minor level leads by maximum course of revisions. These reviews were imparted in mode of educational rhymes, short stories, role play, drama and fun activities which set them free from the burdens of educational life and they learned a lot in a casual way rather than tip top classroom set up. Because of limited cognitive abilities slow learners were not in power to grasp much large amount of information / knowledge in paper pencil form in one setting, yet it was very much incorporated and internalized in from of fun way activities due to their unique

requirement of alternative methods for attaining achievement and success (Herskovits, 2007; Shaw, Grimes, & Bulman, 2005).

Parents and teachers both were happy with the progress rate of their children and felt contented about the helping aid provided by the researcher. They reported a very positive change in their children specifically with respect to their academic profile and personal-social and emotional skills. It was found out that the daily home behavior was very much affected by the academic interventions and the slow learners' personal-social skills and daily good behavior exercises helped them in positive communications and managing their problematic relations. Schools administration and teaching staff admitted that interventions were helpful in tackling the challenging environment of class room with slow learners' presence. But non-availability of financial support and lack of additional training restrict them to take benefits of these interventions.

The overall process of this phase and outcomes are described in a table bellow to wrap up the objectives and achievements of this phase of study:

Table 25

Study Design, Participants, Intervention Features, Outcome Measures, and Evidence of Interventions Effectiveness

Research Design and Participants Description	Interventions	Outcome measures	Effectiveness of Interventions
Single Group Pre-Post Test Design Participant: students with below average IQ (N = 10)	Modification in curriculum & study material, classroom environment, time demands, use of peer tutoring, implementation of daily good behavior exercises, provision of immediate feedback & encouragement and review of concept on weekly basis Interventions were done on 5 days per week and 4 hours per day in inclusive classroom settings for the period of 4 months.	Battelle Developmental Inventory-2 Feedback of teachers and parents researcher observations.	Profound effect of interventions was seen in enhancing the developmental skills of slow learners. Results reveal large and significant effect size. However, no significant effect was seen for personal social skills with the exception of of Peer Interaction and Perceptual Motor skills. Qualitative analysis based upon parents, teachers meetings and teachers + researcher observations revealed that slow learners got maximum benefit of Academic Interventional Teaching Plan and about 90% students benefited from the review of concepts on weekly basis in a fun manner with the help of drama, role play, rhymes and storytelling.

Discussion

This part of the study was conducted to examine the effectiveness of interventional teaching plan on the developmental skills of the slow learners. More specifically, it was hypothesized that slow learners will enhance their developmental skills as a result of intervention effectiveness. The research also aimed to find out that the slow learners will score higher on domains of cognitive, personal-social and communication skills in post-test, as interventions were supposed to work as predictor/enhancer for these developmental skills among slow learners.

Single group pre test post test design was used to determine the change of slow learners' scores on BDI-2 as a result of interventions effectiveness. At the first step, (i) base line measurement / pre-test for the assessment of developmental skills was taken throughBDI-2 of the selected sample of ten slow learners identified through objective and subjective screening method. At the second step, (ii) academic interventions were given for about four months period to slow learners in inclusive classroom settings followed by the (iii) second baseline measurement / post-test by BDI-2. Their pre-test and post-test scores of BDI-2 were analyzed through Wilcoxon Signed Rank test and medians. A qualitative report was also formed based on the observations and daily feedbacks provided by the teachers.

Results of this phase supported our hypothesis i.e., that slow learners developmental skills will be affected by interventional teaching plan. Results of Wilcoxon signed rank test also revealed that slow learners showed high significant raise in their BDI-2 scores of post-test as compared to their pre-test scores of BDI-2 (Jung, Sainato, Davis, 2008; Shevell, Majnemer, Webster, Platt, & Brinbaum, 2005).

This trend was also present in adaptive, communication and cognitive domains and their respective sub-domains of BDI-2, whereas developmental skills of personal social and motor of slow learners were remained silent and failed to show any positive effect of interventions on these developmental skills domain and their respective sub-domain with exception of peer interaction, and perceptual motor sub-domains of personal social and motor domains respectively (see Table 24).

Moreover, the results in table 23 revealed a positive shift in the scores (means and standard deviations) of slow learners on BDI-2 from pre test to post test condition which confirmed the effectiveness of interventional teaching plan and their range of minimum to maximum scores in domains and sub-domain also increased with exception of personal-social and motor domains and their sub-domains excluding sub-domain of peer interaction and perceptual motor respectively. This suggests that intervention design was very effective for slow learners to come out from the catastrophe of skill deficits phenomena (Lose, 2008; Vlachou, Didaskalou, & Argyrakouli, 2006). It helps them to improve their mental health condition, which was destroyed or was on risk because of their deficit developmental skills (inadequate coping mechanisms, poor self-image, immature interpersonal relationships, troubled communications, and inappropriate social role ideology). Lowenstein (2003) and Kaznowski (2004) found that proper identification and accurate executions of special interventions helped slow learners a lot and they become able to function at maximum their ability level. According to Shaw, Grimes and Bulman (2005) slow learners require alternative methods to reach achievement and success and usually require some level of additional support to be successful (Bateman, 1991; Luckxasson et al., 1992; Sing, 2004).

Prior to implementation of interventions it was observed (by the researcher, teachers and parents) and measured through BDI-2 that these slow learners have below average developmental skills which were not sufficient to face challenges of daily routine. These depressed abilities were the main reasons for their sufferings from mental health risks i.e., they were found to be less autonomous and were unable to take good care of their own self and showed negligence from dangerous things; they were unable to take initiative while interacting with adults and lack of ability to act accordingly to desired social role/responsibilities. Literature also supports this notion that interventions are helpful in preventing many mental health risks and developmental skills deficiencies for slow learners (Lescano, 1995). They were suffering from misconceptions as they do not respond and receive communication from outer world in an abrupt and sufficient manner as they face limitations in rapid motor decision making speed because of limited intelligence (Shaw, 2010, 2005). They were feeling difficulty in doing perceptual motor tasks where conceptual and motor skills were desired to achieve the set goals of life. Their "mental" or intellectual abilities were shaken out as lack of self-confidence and had poor self image (Khan, 2008) and low expressive communication (Danielle, 2007) hurdle in their activities of attending, perceiving and processing information, remembering new knowledge and applying these bits of knowledge to other social situations.

Academically, these students were working at below ability level not in accordance to their desired age limits and lack percetual skills to reason out the logical world around them (Chaudhari, Kulkarni, Pandit, & Deshmukh, 2000). The interventional teaching plan gave them a new horizon of thinking and opportunities were given in order to experiment their abilities at maximum level. Blanchard (2007)

also found that slow learners are the struggling learners and get maximum benefits of learning material if presented in mode of slow pace of lecture delivery with repetitive and reframed instructions for rehearsing the preconditioned skills/knowledge, and boosting resilience by the repertoire of means to preserve their mental health as this will safe guard them from their ill behavior and personal issues. Arban (2008) also supported the notion that interventions and extra time for revisions proved to be helpful for slow learning children in maintaining their progress pace in academics.

Shaw (2010) also found that slow learners got the maximum benefit from sitting near to them as it helps them to get guidance and support in each difficult task which ultimately diminishes the chances of severe emotional and behavioral problems. Turn by turn and step by step repetitions, immediate feedback, peer tutors help and encouragement gave them a hope and push back to move ahead (Krishnakumar, Geeta, & Palat, 2006).

Feedback provided by teachers and parents also confirmed the positive effectiveness of interventions in resolving several mental health issues of slow learners and school administration admitted the profound effectiveness of academic interventions in motivating the slow learners to move ahead and combat the challenges of academia and life in general. Although this push back in the form of interventions was not for a long time as it was experimented for only 4 months but this quality time gave them a spark to shine like star in the galaxy itself.

Chapter-IV

DISCUSSION

(OVERVIEW OF THE STUDY)

During the past decades research in cognitive disabilities focused a lot more on disorders related to cognitive functioning and their adverse effect on the school performance of the children but unfortunately children of milder intellectual deficits / borderline intellectual functioning often called slow learners seldom attract attention especially with respect to their school situation and mental health problems. American Psychiatric Association (2000) defined slow learners as person having IQ range of 71 to 84 which lies between the ranges of -2 to -1 standard deviation (SD). Although this intellectual level is part of normal variation but in today's complex societal demands these slow learners are at risks of the shortcomings both in school and in daily social life (Shaw, 2010).

Present research tried to draw attention towards the need of identification of slow learners enrolled in main stream classrooms; assessment of their deficit developmental skills contributing to their several mental health issues; and a need of academic interventional teaching plan to gratify their desired special needs while enrolled in mainstream classrooms and combating the real life situations. This study also indicated that the schools and society at large must prepare themselves to adapt the educational modifications and working conditions for this large minority of slow learners having borderline intelligence.

The present research was carried out in three distinctive parts and each part of study provided the basis of the next part of the study. Part I of the study was

conducted to identify the slow learners enrolled in the main stream class rooms and it served as initial step in the present research. The identification of slow learners was done through procedure of subjective and objective screening from schools of District and Tehsil Sargodha (Punjab), Pakistan, of both urban/rural and private/public sector. In subjective screening, collaboration of *teachers appraisal*: reporting a child success level, performance in curricular, recreational interest and overall performance, which was found to be dull or below average in comparison to their class mates; and attained achievement scores in their respective grades: which were below 40% of total marks and corresponding to letter grade C^- and D^+ were the bench mark criteria. After wards the selected 960 slow learners were objectively screened out by their attained scores and corresponding percentile ranks i.e., 10^{th} to below 25^{th} for slow learners on Ravens Colored Progressive Matrices (RCPM) (Raven, 1977). A sample of 114 slow learners was identified through objective screening out of 960 subjectively screened slow learners which made up the 11.2 percent of the total 960 slow learners. This proportion of the population was alarming as it was near to the 14.1 percent of the western community of slow learners having the borderline intelligence level (Lowenstein, 2003; Shaw, 2007). This created the great concern for the researcher as in a developing country like Pakistan; it was very disturbing to left out that much large minority of children having borderline intelligence without any proper guidance and interventional treatment plan for their better accommodation in schools. It was much more evident from the literature review that these children have deficit skills (Aly, Taj & Ibrahim, 2009) as they were at risk of indulging into severe mental health problems (Eva, 2003), if proper identification and treatment measures were not taken into account (Levine & Barringer, 2008) at initial stages. They were suffering from

many behavioral and emotional problems as well, due to their subnormal / below average intellectual ability, which restrict most of the coping and problem solving skills generalization (Balado, 2003; Shaw, 2010).

On the basis of these findings part II of the research was carried out for the assessment of slow learners' developmental skills level. It was assumed that slow leaners will have certain deficits in their developmental skills due to their borderline intelligence which in turn put them on stake of various mental health and behavioral problems. It was further hypothesized that developmental skills level of slow learners will also be different with respect to their demographics. Analysis of data revealed that slow learners were deficit in their adaptive, personal social, communication, motor and cognitive developmental skills and their attained scores fall -2 to -1 standard deviation (SD). Due to deficiency of appropriate skills they felt difficulties in adjusting the mainstream schools environment and certain academic and behavioral problems made the schools success impossible for them (Cooter & Cooter, 2004a). This problem not only effect them in schools environment but also left some profound negative impact daily life as they feel handicapped in most of the situations (Malik, 2009).

Results further revealed that differentiation among developmental skills level was obvious because of certain demographic characteristics (gender: boys / girls, rural / urban, private / public, age, grade and socio economic status) of slow learners. Slow learner girls were found to have more adaptive, motor and cognitive skills (Hanlon, Thatcher & Cline, 1999) as compared to boys with exception of personal social and communication skills. It was evident from the results of study that girls were more developed in their self care skills in comparison to boys however, both were found to

be equal in taking responsibilities of their task and caution for danger. Girls were also found to be more receptive in their verbal and non verbal communication than boys; yet both were equal in expressive communication. Results of present study were found to be in line with previous literature which states that girls uses to developed physically and psychologically in more rapid way for about 1.5 years ahead than boys even in special group of slow learners (Kittler, Krinsky-McHale & Devenny, 2004).According to researches of Mental Health Network Organization (2009) development of comprehensive speech among boys is delayed as compared to girls and they also tend to ignore the reception of surrounding voices even voices of their own parents. It was also found that girls' auditory and visual abilities for assessment of world around them were developed strongly than boys and they can easily discriminate the features upon the basis of their physical and geographical features.

The findings of study highlighted that geographical boundaries in the form of urban / rural set up also played a profound role in successful attainment of developmental skills. It was found that slow learners of urban areas were more sound in their developmental skills in comparison to slow learners from rural area. Slow learners from rural setup appeared more developed with respect to personal social relationship building with adults, which boosted up their self confidence and helped them in building a strong social role ideology; yet both slow learners of urban and rural area had equal level of peer interaction skills and as well as peers. Moreover, slow learners of rural setup were found to be deficit in their cognitive, motor and perceptual motor skills due to which they felt difficulty in performing the tasks of critical thinking and problem solving. These results are also supported by study carried out by Danielle (2007) on slow learners. She found that the lack of

opportunities and differences in exposure to advance technology also restrict the development of slow learners psycho motor skills. Literature also supports that along with the lack of opportunities that the impoverished and underprivileged environment of rural set up served as a barrier in their psycho social development so far (Nisbett, 2005).

Type of school (public / private) and its teaching environment (equipped of modern technology, differentiated teaching aids, etc), was also very important in slow learners academic adjustment as present study revealed that private schools slow learners were in lead with reference to their development of adaptive, personal-social, communication, motor and cognitive skills on their counterpart, slow learners studying in public schools. It was evident that in private schools slow learners received composite environment associated with continuous level of additional support whether academic or social. Administration of private schools were more concerned about the involvement of parents and their friendly atmosphere gave slow learners an edge to move ahead by having a sense of responsibility, autonomy and confidence in self (Dagnan, 2007). Teaching aids and environment in private schools such as frequent social gatherings and plays / dramas activities helped slow learners in developing communication and personal- social skills. Use of new fun ways of teachings, sustained slow learners' motivation and interest in education and they learn very smoothly as education never considered to be a burden or punishment by them (Eva, 2003).

The findings of present study also highlighted the fact that slow learners of all ages, grades and SES groups were having different level of adaptive, personal-social, communication, motor and cognitive skills. It was evident that slow learners of

preliminary grades and small age groups were having deficits developmental skills and as this deficiency index was higher in the 2nd grade and older age group of the slow learners. Malik (2009) and Warnemuende (2009) also reported the gap (about 1-2 years) between the actual and desired level of developmental skills got wider as the increase in age occurs with the passage of time. It was also evident from the study results that slow learners of the low SES group had most deficit developmental skills in comparison to the other two middle and high SES groups slow learners. The reasons for this are that slow learners of low SES were living in culturally deprived /backward areas. Their malnutrition and exposure of filthy and unhygienic conditions negatively affected their development that is why they showed significant deficits in the motor and cognitive domains. Literature also supported that slow learning children belonging to developing countries reported to be having high level cognitive and psycho-motor developmental delays. The conditions of economy also negatively affected their below average intelligence that develop certain insecurities and reservations about the odds of life and fail to communicate their own thinking so far. This exterminate their self-esteem and self-confidence which in turn become more evident in their poor school performance, emotional and behavioral problems and some time their criminal involvements (Shaw, 2000a; Sweten, 2000; Whaley et al., 2003).

On the basis of the results of part II, it was obvious that slow learners having borderline intellectual abilities were also found to have deficit developmental skills which in turn became problematic in their adjustment at schools /home. Upon the basis of these results, a distinctive interventional teaching plan was administered in inclusive classroom setup. The basic assumption of for this was that it will be

effective in enhancing the developmental skills of slow learners and will also be fruitful in accommodating the slow learners in mainstream class rooms (part III of present research). Result of both quantitative and qualitative analysis revealed that slow learners showed high significant raise in their BDI-2 scores as compared to their pre-test scores of BDI-2 domains of adaptive, communication and cognitive and their respective sub-domains, whereas developmental skills of personal-social and motor of slow learners were remained silent and failed to show any positive effectiveness of interventions on these developmental skills domain and their respective sub-domain with exception of peer interaction, and perceptual motor sub-domains of personal social and motor domains respectively. Lowenstein (2003) and Kaznowski (2004) found that proper identification and accurate executions of special interventions helped slow learners a lot and they become able to function at their maximum ability level. According to Malik (2009) and Eva (2003) slow learners require alternative methods to reach achievement and success and usually require some level of additional support to be successful.

It means that intervention design was very much effective in terms that it pull out slow learners from the catastrophe of skill deficits phenomena and its duration of 4 months was also accurate in imparting effectiveness of teaching modalities on the developmental skills of slow learners . Time duration of interventions was also proved to be successful by Pujar & Gaonkar (2008) and Bower (2008). Prior to implementation of interventions these slow learners were suffering from severe kind of mental health issues as they were less autonomous, unable to take good care of their own self; lack ability to do their daily chores and cautionary guts, they were unable to take initiative while interacting with adults and lack of ability to act

according to desired social role and responsibilities (Lescano, 1995). They lack the ability to perform receptive communication from outer world in an abrupt and sufficient manner as they face limitations in rapid motor decision making speed because of limited intelligence (Shaw, 2008). They were feeling difficulty in doing perceptual motor tasks where conceptual and motor skills were desired to achieve the set goals of life. Their "mental" or intellectual abilities were shaken out as lack of self-confidence and had poor self-image, self-esteem (Forsyth, Lawrence, Burnette & Baumeister, 2007) and low expressive communication (Levine & Barringer, 2008) hurdle in their activities of attending, perceiving and processing information, remembering new knowledge and applying these bits of knowledge to other social situations. They were working at below ability level not in-accordance to their desired age limits as they don't had the specified perception and concepts to reason out the logical world around them. Interventional teaching plan gave them a new prospect of thinking and opportunities were given in order to experiment their abilities at maximum level. Blanchard (2007) and Nisbett (2005) also found that slow learners are the struggling learners who get the maximum benefits of education through interventions as this will safeguard them from at risk of various mental health problems. The findings also revealed that as a benefit of interventions, professional development of teachers also had a positive shift as the regular meetings with researcher and parents horizons their vision of academia, its related challenges and solution oriented approach. Sheikh (2010) also reported similar findings from her research that professional development of teachers of regular inclusive education require follow-ups, refresher courses and participatory discussions at expert forums,

which if done then transfer of learning becomes fast and successful towards the students.

Present research confirmed that population of slow learners was enrolled in our mainstream schools and due to their deficit in developmental skills they need extra attention of teacher, policy makers and psychologists. They were also found to be at risk of several mental health problems because of their below average intellectual abilities and deficit developmental skills. Though an early identification, assessment of developmental skills and supportive interventional plan can safeguard this large minority form various misfortunes of school and social life yet these are the neglected area of Pakistani education reform still so far.

Conclusion

The present study identified the population of slow learners enrolled in mainstream classrooms and further assessed their developmental level of adaptive, personal-social, communication, motor and cognitive skills. Moreover, a separate interventional teaching plan was administered to see its effectiveness in enhancing the developmental skills level of slow learners. The results of the study revealed that slow learner were having subnormal developmental skills and were unable to meet the criteria of normal/average development. Demographic differentiation analysis further indicated that slow learner girls were more strongly developed in their overall skills of adaptive, motor and cognitive than boys with exception of personal-social and communication skills. Furthermore, differences o in these developmental skills were also visible among slow learners of rural and urban area as findings revealed that on

all domains of BDI-2 i.e., adaptive, personal-social, communication, motor and cognitive skills, slow learners of the urban areas scored higher as compared to their comparative group i.e., slow learners of rural areas. Results also indicated the lead of slow learners of private sector schools on slow learners of public sector schools in terms of their developmental skills (adaptive, personal social, communication, motor and cognitive) level. These differences were also significantly visible in slow learners of multiple age, grade and SES groups with reference to their developmental skills only with exception of medium and low SES groups. Findings of the study also revealed that slow learners developmental skills were positively affected by specifically developed interventional teaching plan. Results of Wilcoxon signed rank test results revealed that slow learners showed high significant raise in their post-test BDI-2 scores as compared to their pre-test scores of BDI-2. This trend was also present in domains and sub-domains of adaptive, communication and cognitive of BDI-2. Whereas these interventions were remained silent and failed to show any positive effect on the domains and sub-domains of personal-social and motor skills except peer interaction and perceptual motor sub-domains of personal social and motor domains respectively.

Implications

The present study has several implications for research and educational practice as is makes several worthy contributions to the existing education literature.

- Highlighted the extended need of identification of slow learners in mainstream classrooms, adjustment & mental health issues and their need of separate style

teaching interventions which are the neglected areas in the educational field of Pakistan.

- It has raised the awareness about slow learners and their special needs which required accommodations in regular and inclusive school setup as an insurance of success in school.
- Theoretically, identification of slow learners and their mental health issues will generate a body of scientific knowledge and data about growing problems of slow learners in school and give possible feasibility for the adjustment in average/normal school setup rather than special children schools.
- It also contributes to the existing literature in relation to cultural context, socioeconomic conditions, facilities available in schools and the society when compared with similar research undertaken in the developed world in the previous years.
- Practically, results of study gave helpful and concrete support to school psychologists, educational policy makers & teachers for addressing the academic challenges of slow learners. As this issue has not been properly highlighted in the past and this research results will provide standardized and applied criteria for saving them from the mental health risks.
- It also highlighted that professional development of teachers require modernized trainings, follow-ups, refresher courses and participatory discussions, if done; then transfer of learning becomes fast and successful.

In nut shell, present study has highlighted the issue that if a child can't learn the way schools aim to teach; then they need to teach the way he learns i.e., in accordance to his/her ability level (Cooter, 2004a). 'Slow learner' does not imply that a child cannot learn at all they can learn, but gradually slow and according to their ability level (Balado, 2003; Kaznowski, 2004; Shaw, 2008) thus the guiding principle for maintaining the success level in this population is to give order to all the special needs, composed a structure of instructional program, explicit plus concrete directions to laid down the prime purpose and execution strategies with all the sufficient resources. It is up to the schools to respond to the challenge of making modifications to facilitate success in these unique individuals, thereby raising self-esteem and ultimately assisting them on the road to successful adulthood.

Limitations

As with most research, the present study has its own limitations salient of which are discussed below:

- In nut shell, small sample size, demographic area / locality, time/cost constraints, and participants' absences. Additional limits to present research especially in interventions part may also include the students taking the test once before (the test/retest effect) and lack of randomized control group.
- In detail the sample of the present study was selected from English Medium private/public schools of urban/ rural areas of District, Tehsil Sargodha.
- The present study was limited to study children of kindergarten, 1st grade and 2nd grade (5-5.11 to 7-7.11 years of age).
- The education of parents, profession of parents, family size and birth order of the child were not taken as variables of interest which may be an important

contributor in developmental skill acquisition of borderline intelligence/slow learning children.

- Another limitation of the present study was taken only from English medium schools, and show children from Urdu medium schools may show a different responses and findings. So the findings of present study have limited generalization.
- Family medical and psychological illness history was also not recorded for enrichments of collected information.
- Interventions were only varied out on a very small sample and no differences were analyzed on the basis of demographic characteristics.
- Study was also limited in its broader focus on certain other associated features in relation to below average performance of slow learners e.g., motivation level, family setup, parenting styles, etc.)

Future Recommendations

- Results of the present study revealed that slow learners from public sector schools were having low level of adaptive, socio-personal, communication, motor and cognitive developmental skills as compared to private sector schools slow learners. Since this study was conducted on local sample of English medium schools in Sargodha division (Punjab Province of Pakistan), hence it restricts generalization of findings across all provinces of Pakistan. The replication of present study is desired on the sample of slow learners of

Urdu Medium schools both public and private also with a nation-wide larger sample to secure the generalization of results.

- Similarly, present study only focused on the assessment of urban and rural slow learners; therefore, it is needed to replicate the research design on culturally diverse, ethnic populations, students of different motivation level and self regulatory skills as some may behave differently to basic study skills programs and different interventions modalities.
- Present study was conducted in some degree of time period but if replication of study could be carried out with a longitudinal research design having multiple base line measurements, a comprehensive assessment of study variables then significant implications of interventions can be achieved.
- Implementation of the interventions was carried out through single group pretest-post test measurement. One should replicate the research objectives by use of randomized experimental and control group design with a larger sample as presently this limitation preclude statements about the true nature of the observed changes and generalization of results beyond small sample size.
- Sample of present study was limited to schools of Sargodha District only; however, a vast majority of sample from diverse national and provincial level in comparison to each other would help in enhancing the external validity of the current findings.
- Cross cultural study should be carried out to further explore the variables of current study in a global context and it would be more interesting to add the comparison group of normal developing children and differences should be analyzed on all demographic characteristics.

- Additional factors e.g., the role of teachers, parents' involvement in education and effects of counseling services for slow learners will also make a good contribution for understanding the issues and their potential resolutions.
- It is recommended that follow up studies for slow learners' developments should also be carried out to trace the wear and tear in skills level with the passage of time. As the present study was done on a very small scale with local sample, still the feed back from parents and teachers was very positive with reference to the positive change in slow learners' social and academic life. Regular meetings with parents of children and follow ups gave the confidence in interventional teaching plan to be considered as a reliable instrument for safe guarding slow learners for developing various mental health risks. It was also appreciated that these efforts will be welcomed on the larger scale too and these should become part of educational policies too.
- It would only be possible if the teachers get specialized training for working with children of special needs, i.e., they should be able to identify problems of slow learners in the regular main stream classrooms. Although present study is limited in its scope, as this does not formally offered any training for the teachers to assesses and work with slow learners, who are identified as having specific special needs. However, those teachers who participated in the study (with the researcher) have shown increased amount of interest in getting involve in this kind of interventional work with slow learners. Few of them had detailed discussions with the researcher about the interventions. They are aware that this requires formal specialized training and improve insight into

the needs of children with special needs, and help assist these children to bring desired changes in slow learners' academic and social profile.

- It is therefore suggested that interventional teaching program needs to be incorporated in the curriculum of professional training of teachers.
- It is further recommended that individualized educational programs for slow learners would make a valid contribution for d**e**veloping special curriculums and teachers training in Pakistan.

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Appendix A

Sample Questions to Get Teacher's Appraisal/Comments about the Child Performance in Socio-Cultural Context

Concepts and perceptual thinking

1. Compared to other classmates/age mates does the child show difficulty in understanding the instructions of learning environment?

Social competence and socio-personal attitudes

2. Does the child show greater hesitation in taking initiatives and performing the task expected of his environment in comparison to his/her class mates.

Communication and sharing of thoughts

3. Compared with other children of class does the child show greater difficulty in expressing/sharing his/her thoughts with classmates or elders?

Socio personal skills

4. Compared to other classmates or children of his age does the child show more problematic and quarrelsome relations with others?

Social ease and pro-social skills

5. Compared to other children does the child restrict to show/participate in even small helping chores and reserved/restrain from emergency situations.
6. Does the child show difficulty in understanding/show less sensitivity even to the basic facial expressions/feeling of others (peers/elders)?

Adaptive skills

7. Compared to other children of his age does the child is less capable of taking good care of him/herself by keeping out of danger e.g., hot elements, fire, deep water, traffic, sharp metals etc.,)
8. Compared to other children of his age does the child has the ability to perform independently less complicated chores without minimum supervision e.g., tying laces of shoes, washing hands, tying laces of shoes making of his bag eating his/her lunch etc.,?

Self concept and social role

9. Compared to other children of his age, does the child show personal ideology and tries to be responsible for tasks desired of his/her social role.

Along with the written comments on report cards these sample question were also helpful in identifying the below average performance of the child in given cultural context.

Appendix B

Raw Scores and Age Equivalence Percentile Ranks of BDI-2

Table B.1

Raw Scores on BDI-2 with Age Equivalence of 5-5.11 Years on 50th, 37th and 25th Percentile Ranks

Domains & sub-domains of BDI-2	5-5.11 years					
	25th		37th		50th	
	min	max	min	max	min	max
ADAPTIVE (ADP)						
(i) SC	59	62	61	63	62	64
(ii) PR	26	34	27	33	29	34
PERSONAL SOCIAL (P-S)						
(i) AI	53	54	54	55	55	56
(ii) PI	37	41	39	42	40	43
(iii)SR	64	73	67	75	69	76
COMMUNICATION (COM)						
(i) RC	55	60	57	63	58	64
(ii) EC	62	67	64	69	65	71
MOTOR (MOT)						
(i) GM	78	82	80	83	82	84
(ii) FM	52	54	53	55	54	56
(iii)PM	28	34	29	35	30	36
CONGNITIVE (COG)						
(i) AM	50	53	51	54	52	55
(ii) RA	35	42	37	44	39	46
(iii)PC	52	61	54	62	56	64
BDI-2 TOTAL						

Note. SC= Self Care, PR= Personal Responsibility, AI= Adult Interaction, PI=Peer Interaction, SR = Self concept & Social Role, RC= Receptive communication, EC= Expressive Communication, GM= gross Motor, FM= Fine Motor, PM= Perceptual Motor, AM= Attention and Memory, RA= Reasoning and Academic Skills, and PC= Perception and Concepts.

Above table describes the mean or average development of skills in normal child on 50th percentile in each and every domain and sub-domains of BDI-2 among 5-5.11 years of age children, however scores against 37th percentile are in the range of -1SD which means the below level development according to the age groups similarly the scores against 25th percentile are in the -2SD range which is the limit of below average development in this respective age group and below this means severe developmental delay or abnormality. The table will work as a criterion measure to judge the level of present sample.

It the same way for age 6-6.11 and 7-7.11 percentiles of 50th, 37, and 25th accordingly to the minimum and maximum range of raw score are described in the following.

Table B.2

Raw Scores on BDI-2 with age equivalence of 6-6.11 years on 50th, 37th and 25th percentile ranks

Domains & sub-domains of BDI-2	6-6.11 years					
	25th		37th		50th	
	min	max	min	max	min	max
ADAPTIVE						
(i) SC	_____	_____	_____	_____	_____	_____
(ii) PR	33	39	35	40	37	41
PERSONAL SOCIAL						
(i) AI	_____	_____	_____	_____	_____	_____
(ii) PI	_____	_____	_____	_____	_____	_____
(iii)SR	74	79	77	81	79	82
COMMUNICATION						
(i) RC	61	67	64	69	65	70
(ii) EC	70	76	72	77	74	78
MOTOR						
(i) GM	_____	_____	_____	_____	_____	_____
(ii) FM	_____	_____	_____	_____	_____	_____
(iii)PM	35	39	37	40	38	41
CONGNITIVE						
(i) AM	_____	_____	_____	_____	_____	_____
(ii) RA	45	52	46	53	48	54
(iii)PC	62	68	65	70	67	71
BDI-2 TOTAL						

Note. ____ = that this sub domain is desired to be completed in the previous age level and it is normal development bench mark.

Note: SC= Self Care, PR= Personal Responsibility, AI= Adult Interaction, PI=Peer Interaction, SR = Self concept & Social Role, RC= Receptive communication, EC= Expressive Communication, GM= gross Motor, FM= Fine Motor, PM= Perceptual Motor, AM= Attention and Memory, RA= Reasoning and Academic Skills, and PC= Perception and Concepts.

Table B.3

Raw Scores on BDI-2 with age equivalence of 7-7.11 years on 50th, 37th and 25th percentile ranks

Domains & sub-domains of BDI-2	7-7.11 years					
	25th		37th		50th	
	min	max	min	max	min	max
ADAPTIVE						
(i) SC	_____	_____	_____	_____	_____	_____
(ii) PR	40	41	41	43	42	44
PERSONAL SOCIAL						
(i) AI	_____	_____	_____	_____	_____	_____
(ii) PI	_____	_____	_____	_____	_____	_____
(iii)SR	80	81	82	83	83	84
COMMUNICATION						
(i) RC	68	71	70	72	71	73
(ii) EC	76	79	78	80	79	81
MOTOR						
(i) GM	_____	_____	_____	_____	_____	_____
(ii) FM	_____	_____	_____	_____	_____	_____
(iii)PM	41	42	40	43	42	44
CONGNITIVE						
(i) AM	_____	_____	_____	_____	_____	_____
(ii) RA	53	56	54	57	56	58
(iii)PC	68	71	70	73	72	74
BDI-2 TOTAL						

Note: ____ = that this sub domain is desired to be completed in the previous age level and it is normal development bench mark.

Note. SC= Self Care, PR= Personal Responsibility, AI= Adult Interaction, PI=Peer Interaction, SR = Self concept & Social Role, RC= Receptive communication, EC= Expressive Communication, GM= gross Motor, FM= Fine Motor, PM= Perceptual Motor, AM= Attention and Memory, RA= Reasoning and Academic Skills, and PC= Perception and Concepts.

Appendix C

Demographic Data Sheet

Name: _____

Gender: Boy / Girl

ID / Roll No: _____

Grade: KG / 1st Grade / 2nd Grade

School: Private / Government

Area: Urban/ Rural

Teacher: _____

Assessment period: Beginning of year / Mid year/ End of year

Date of testing: _____

Date of Birth: _____

Chronological Age: ____ years and ____months

Age in months: _____

Appendix D

Course content and Sample Material Used for Modification in

Curriculum and Study Material

Objectives and Outcomes

SOCIAL SKILLS
By the end of interventions, the child will:

1. Work and play cooperatively in a variety of settings (large groups, small groups, learning centers, etc.).
2. Exhibit behavior that demonstrates an understanding of school and classroom guidelines (routines, rules, schedules, procedures, etc.).
3. Listen to others while in large and small groups.
4. Stay involved in a self-selected activity for an appropriate length of time (approximately 15 to 29 minutes).
5. Follow simple verbal directions.
6. Work independently and/or co-operatively to solve problems.
7. Select and complete a task while working at a learning center.
8. Choose a variety of materials and activities from learning centers.
9. Recognize dangerous situations and take action to protect self (use of telephone, safety rules, etc.).
10. Attend to personal tasks (clothing, personal hygiene, etc.).

CREATIVE SKILLS
By the end of interventions, the child will:

1. Express thoughts and ideas about work and play.
2. Develop and verbalize solutions to simple problems.
3. Think of new uses for familiar materials.

LANGUAGE & ARTS
By the end of interventions, the child will:

1. Complete simple rhyming pairs.
2. Hear and repeat sounds in a sequence (hand rhymes, vocal sounds, numbers in a sequence, etc.).
3. Hear and repeat a simple eight-to-ten word sentence.
4. Tell what happens first, middle and last about an event or activity.
5. Dictate a story about an event or experience.
6. Answer questions and contribute ideas that are relevant to the conversation or group discussion.
7. Speak using complete sentences that include a subject, verb, simple phrases and some adjectives.
8. Tell what is happening in a picture.
9. Identify and read first and last name in print.
10. Reproduce a three-object pattern from memory.
11. Identify and name eight basic colors (black, brown, red, yellow, orange, green, blue, purple).
12. Match at least half of the upper-case letters with the lower-case letters.
13. Begin to use initial and ending consonant sounds.
14. Begin to name the letters of the alphabet.
15. Begin to recognize, name and match words in context.
16. Read their own "writing" to the group, teacher and/or parents.
17. Demonstrate left-to-right and top-to-bottom eye movement when engaged in appropriate activities (looking at pictures in sequence, following print on a page).
18. Show basic parts of a book (front and back), hold book correctly, indicate where to begin reading.
19. Print first and last name on unlined paper.

20. Trace, copy and generate shapes, letters and numerals. Children may still be reversing some letters.

MATHEMATICS
By the end of interventions, the child will:

1. Identify, name and draw a circle, square, rectangle and triangle when shown an example.

2. Identify some three-dimensional objects (box, can, etc.).

3. Sort objects, group into a set and tell what the objects have in common (color, shape, size, etc.).

4. Build groups or sets that have more than, less than an equivalent quantities and tell which have more and less.

5. Pair and count objects using one-to-one correspondence.

6. Count orally from one to twenty.

7. Count objects in a set orally one-to-one from zero through ten.

8. Construct, identify and name sets of objects zero through ten.

9. Identify and name numerals zero through ten, in and out of sequence.

10. Match sets of objects to numerals zero through ten.

11. Point to objects and name their ordinal position first though fifth.

12. Write numerals zero to ten, in and out of sequence, on unlined paper. Children may still be reversing some numerals.

13. Identify and name sizes such as big, bigger, biggest; small, medium, and large.

14. Identify and name lengths such as long, longer, longest; short, shorter, shortest.

15. Put objects in graduated order from shortest to tallest, thinnest to thickest, etc.

16. Identify and name a penny, nickel, dime and quarter.

17. Help create and explain a simple graph, such as a bar graph, showing how many boys and girls are in the class.

18. Complete and construct simple patterns with objects such as car, block, sticks and cards.

19. Demonstrate (with objects) spatially related terms such as on, above, below, beside, under, on top of, behind and over.

20. Identify the days of the week and months of the year.

MOTOR SKILLS
By the end of interventions, the child will:

1. Demonstrate basic locomotor movements such as walking, running, jumping, hopping, galloping, and skipping.

2. Demonstrate non-locomotor movements such as bending, stretching, pulling, pushing, etc.

3. Balance on one foot for approximately five seconds.

4. Walk and balance on a four-inch line or balance beam.

5. Coordinate large arm movements such as easel painting, woodworking, climbing, throwing, playing rhythm band instruments, writing on chalkboard, playing with blocks, catching and tossing.

6. Demonstrate strengthened hand and eye coordination while working with pegs, stringing beads, using pattern blocks, using crayons, pencils, paint brushes and finger paint on plain paper, cutting with scissors, using glue and a variety of puzzles.

7. Hold and use a pencil, crayons and marker using thumb and two fingers.

SCIENCE
By the end of interventions, the child will:

1. Observe and describe characteristics of the four seasons such as temperature, weather, appropriate clothing, etc.

2. Observe and describe characteristics of weather using vocabulary such as sun, rainbow, clouds, fog, shadows, dew, frost, rain, hail, sleet, snow, lightning, thunder, temperature and tornado.

3. Observe and describe what various plants and animals need for growth.

4. Observe, classify and describe the sensory attributes of objects according to taste, smell, hearing, touch and sight.

5. Observe, describe and classify real objects according to their common properties (animals, plants, etc.).

6. State the opposite properties of some objects, such as magnetic-nonmagnetic, float-sink, heavy-light, rough-smooth, hard-soft, wet-dry, etc.

7. Observe and describe the sequence of "simple" life cycles such as plants, frogs, butterflies and chickens (egg/chicken, seed/plant, etc.).

8. Discuss basic health needs of human beings such as good nutrition, dental care and exercise.

9. Describe simple conservation measures used to protect our environment.

10. Observe, describe and experiment with vibration and sound such as rubber bands, bottles of water and homemade telephones.

SOCIAL STUDIES
By the end of interventions, the child will:

1. State their full name, age, birthday, address, telephone number and name of parent or guardian.

2. Identify the title of various school helpers and the individual who occupies that job in the immediate school setting, including principal, secretary, custodian, counselor, librarian, nurse, cook and teacher.

3. Identify common occupations that occur within their immediate surroundings (bus driver, police officer, firefighter, etc.).

4. Identify how children within the local community and around the world have needs in common and are also unique as to languages, food, clothing, transportation and customs.

5. Recognize Oklahoma (or the state you are in) on a map of the United States.

6. Begin to develop an understanding of city/town, state, country.

Appendix E

Teachers Training Module

Introduction

Difficulty in dealing with slow learners is one of the problems that every school faces. The teachers have their big headache over these children. Handle them in homework & class work, understanding the topic, etc are the areas concerned with the slow learners. We try to advise them or we try to get result by hook or crook through putting negative enforcement by punishing them. It is estimated that due to that problem many slow learners or dropout students are being termed as weak students and thrown out of the school. But that is not the solution. The result of the action of the throwing out the child out of the school paves the way to create a dark spot in the life of the victim child. Then, where are the solutions? If the teachers will give time to think over those children, definitely the solution comes in their hand. It is also the proof in history that many slow learners have become qualified themselves as the scientists & writers in their life. So, why not we experiment with these slow learners who are with us? Have we thought over it? Have we tried to understand the life of a slow learner?

Context and challenges

Teachers belonging to inclusive type educational setup may need additional support to cope with children of various abilities regardless of their gender, physical, intellectual, social, emotional, linguistic or other characteristics. For this present module may serve as a guide in training teachers for dealing slow learners in mainstream education.

Main objectives

- To offer teacher training based on the need to understand and respond appropriately to educational needs of slow learners in mainstream schools.
- To train teachers on new teaching aids such as picture books, educational software, games, puzzles, educational rhymes, short stories, and role playing through dramas and acts— that may be helpful in educating slow learners in mainstream setup.

Specific objectives of this training are to

1. To improve and promote the quality of teaching for slow learner.
2. To give theoretical understanding of the slow learner differences and special needs advocacy in comparison to other disabilities.

3. To enable teachers for creating a friendly and productive environment to foster slow learner in mainstream classroom.
4. To familiarize teacher with new and effective teaching modalities for educating slow learner and preventing him from mental health risks.
5. To introduce interactive and activity based teaching methodologies to respond slow learner diverse needs in mainstream class room and show some ideas how the curriculum can be adapted to individual needs.
6. To promote use of interventional plan as source and reference material for educating slow learner in mainstream class room to generate a facilitating and conducive environment for slow learner developmental skills acquisition in main stream classroom.
7. To give opportunity for professional development of teacher and school administration in tackling challenges of slow learner.

Although the focus is mainly on slow learners; but the most of suggested techniques are about good teaching and they are effective with ALL children.

This training module is arranged into four Units:

UNIT 1: Every Child in an Individual

UNIT 2: Assessing Needs

UNIT 3: Responding to Diversity

UNIT 4: Working Together

UNIT 1: Every Child is an Individual

After working through this Unit teacher will know:

1. Barriers to children learning that have limited intellectual abilities.
2. Ways of reducing learning difficulties that child may experience if he/she is slow learner
3. The rights of social inclusion and to education as expressed in various international declarations (eg., Education For All).
4. Implications for teachers in their every day practice in developing more friendly and productive learning environment for slow learner.

Barriers to learning: Every child is an individual with distinctive needs and abilities. In a mainstream classroom teacher has to deal with the children of all abilities some are above average, average and below average. Among them below average or slow learners are the

prime concerns as they need extra attention and facilitated environment due to their limited abilities. They are students who learn more slowly than their peers, yet do not have a disability requiring special education (Griffin, 1978). A number of factors may account for slow learners, such as problems at home, lack of emotional growth, the lack of a secure environment, limited opportunities for learning, absenteeism from school, untrained teachers and large class size. It is important for teachers to be aware of this range of problems that can cause a child to be considered a slow learner.

Reducing learning difficulties: Many learning difficulties can be reduced if children have the opportunity to interact with peers and adults in community; to experience a range of environments which minimize the impacts of their limited intelligence; and to be taught by teachers and parents who help them in learning new skills.

Parent's involvement in education process is crucial and a collaborative effort of both teachers and parents proves to be more beneficial. Parents can take good care of physical need of the child i.e., nutrition and healthy environment of and health care by hygienic surroundings and vaccinations for multiple diseases. However along with physical psycho-social needs of safety (secure environment without violence, aggression, anger and frustration), warmth (showing love) and interaction (talking, playing etc.) are essential for child's physical, mental and emotional growth.

In classroom learning friendly environment welcomes, nurtures, and educates all children regardless of their gender, physical, intellectual, social, emotional, linguistic or other characteristics. Teachers have to be more open in accepting the different needs of children and to expect they are showing their best efforts at maximum ability level.

Right to participation: Though all are different but they all had an equal right to education. Rules developed by UNESCO and UNICEF gave the framework for including all the children of disabilities and marginalized groups to be included in educational streams.

Implications for teachers: all the children have the right to education and this should happen as far as possible in ordinary schools- pre-primary, primary and secondary. In that way teachers and school need to adapt their ways of working to meet the needs of slow learning children. This will result in an improved and more cost-effective education system as well as benefiting slow learners and their families as well.

UNIT 2: Assessing Needs

After working through this Unit teacher will know:

1. The warning signs that indicate a child could have borderline intelligence.

2. Common causes of this below average intelligence.
3. The adaptations, which teacher should make to their classrooms and teaching strategies to meet these children's needs. Most of the suggestion helps all the children in the class to learn better.
4. A framework for adapting and modifying the curriculum.

This unit is divided into two parts.

Part 1. Identification of needs: With some children, their special needs are very obvious e.g, physical disabilities however sometimes it becomes very difficult to find out the reasons for low achievement and motivation in children for learning. Slow learners are the group that has this problem at most and teachers may get help if they consider the following identification cues/ warning signs to track these children. Some specific characteristics of slow learners are:

1. Functions at ability but significantly below grade level.
2. Is prone to immature interpersonal relationships.
3. Has difficulty following multi-step directions.
4. Lives in the present and does not have long range goals.
5. Have few internal strategies (i.e. organizational skills, difficulty transferring, and generalizing information.)
6. Scores consistently low on achievement tests.
7. Works well with "hands-on" material (i.e. labs, manipulative, activities.)
8. Has a poor self-image.
9. Works on all tasks slowly and have short attention span.
10. Masters skills slowly; some skills may not be mastered at all.

Their weakest skills are generally writing and reading. That is why, for example, hyperactive or attention-deficit students tend to disturb the class and misbehave whenever these skills are emphasized. Many slow learners show difficulties in perception. They tend to ignore details and go for overall comprehension and production. They do not notice, for instance, the apostrophe or the plural forms when reading. In the same way, some may omit forms of speech when writing or speaking.

Part 2. Classroom adaptation and modifications: In order to adjust slow learners of borderline intelligence in mainstream class rooms and to promote their current educational quality all the learning environment of class along with the course content should by adapted

and modified to meet the demands of slow learner special needs. A number of strategies are suggested for supporting and motivating slow learners, for example:

1. Give daily evaluations.
2. Use simple vocabulary in directions and instructions.
3. Use standard formats and limited types of responses for each assignment.
4. Provide multi-sensory (hand signs and voice) prompts to elicit correct responses.
5. Analyze and break down difficult tasks.
6. Increase time-on-task rates (more teacher questions, group participation, effective use of signals, gestures, etc.).

Furthermore teacher can get help for adaptation and modification of curriculum from the following model

A Frame Work for Adapting the Curriculum

1. The Pupil

A child in my class has difficulties. How these difficulties affect pupil's learning?	What specialists (school psychologists, educationist etc.) can you get for advice/help?

2. The classroom and school environment

What changes might you make to the classroom or the school environment (building, room etc.) to make easier for the child to come to school and to learn? What assistive aids may be needed?

3. School subjects

What changes do you need to make to the subject you teach the child both in terms of level and expected outcomes? This covers the level you teach to the subject to the child as well as the range of subjects taught.

4. Teaching strategies

What changes you need to make to your teaching methods to suit the child's needs? You may find that some of the suggestions made earlier can apply to other difficulties also.

5. Participation in other school activities (sports, presentation, school chores etc.)

What changes might you make to ensure the child's active participation?

6. Tests and examinations

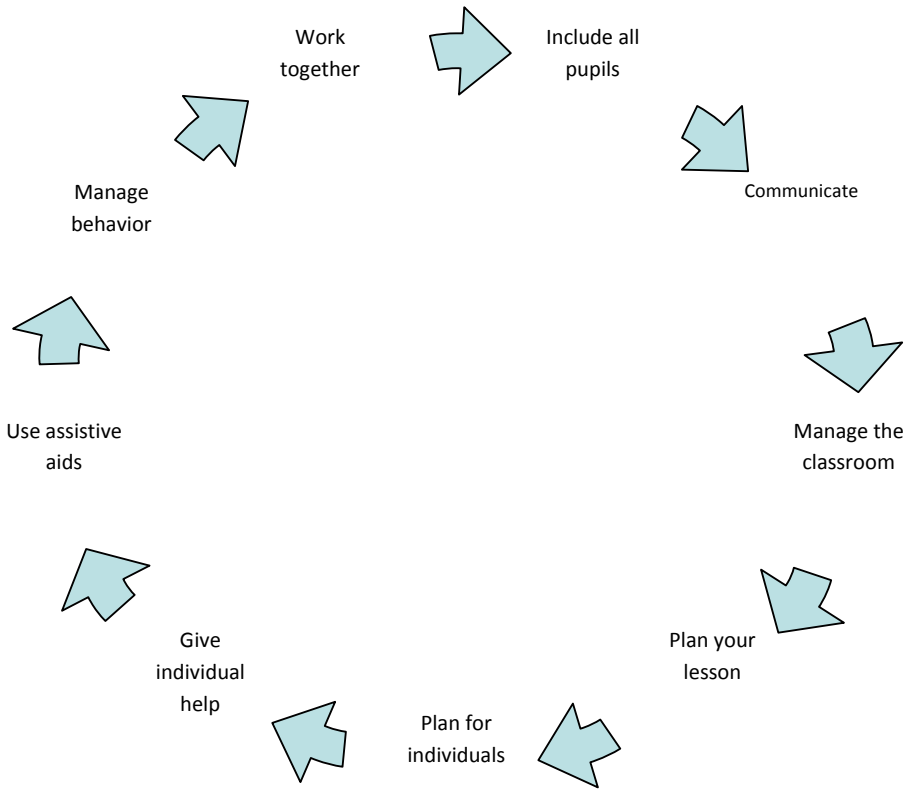
What changes do you need to make to assess the pupil's learning?

UNIT 3: Responding to Diversity

After working through this Unit teacher will know:

1. Nine ways for dealing with diversity in the classroom they are: effective communication, class room management; having individual educational plans; the use of assistive aids; the preparation of lesson; individual help for slow learner; managing slow learners' behavior and fostering this/her social inclusion in the life of school.

Part 1. Nine Golden Rules: These rules are helpful in dealing children with special needs and if teacher adopt them with spirit then children learn more. They are:



1. *Including all children:* this idea narrate the concept of mixing and sharing of children of all abilities so that slow learners of special needs should not become isolated within their class and school.
    i. Other children of different abilities should be encouraged to become friends of slow learners and assigned as their peer tutors or group members.
    ii. Slow learners should be encouraged to become part of group activates and talent shows e.g., drama, dance and singing according to their liking.
    iii. Slow learners should be involved in all school activities for example, cleaning, dining etc.
2. *Communication*: in the central ingredient in teaching which involves sending and receiving of messages. Teachers do a lot of talking to manage and direct student's behavior or to give them some new information/ to explain new things. While communicating with slow learners verbal communication should be enhanced by the nonverbal cues associated with visual codes for example, facial expressions, gestures hand, body movements, touching, visual codes i.e., pictures, drawings and writing on board etc. to ensure the successful communication for learning four points should be made possible:
    i. Get the slow learner's attention
    ii. Present the activity
    iii. Observe his/her performance
    iv. Give feedback
3. *Managing Classroom*: slow learners need to sit close to the teacher and chalkboard. Physical structure of the class should be arranged in a way that it would not restrict the mobility of the child. Reduce distractions by providing a quiet, private place to work.
4. *Lesson planning:* lesson planning makes teaching more effective in nature. While planning a lesson following should be considered:
    i. What outcomes are desired for the lesson to be taught and by understanding the level of the child as every child has a level of his own and this level of understanding is different from another child.
    ii. Children understand more if the lesson is planned in a way that each part of day to day lesson relates with the previous day lesson as the

weak child more often can't understand the studies because he has not understood the previous formula/concept in the previous classes.

iii. Make lessons short. Limit the working time and have several short work periods rather than one long one.

5. *Individual plans:* Students learn more quickly if the teaching methods used match their preferred learning styles. As learning improves, so does self esteem. This has a further positive effect on learning. Students who have become bored with learning may become interested once again.
    i. Work on material that is somewhat challenging but allows success. Work that is too hard or too easy is a turn-off.
    ii. Make learning fun and comfortable. Your positive attitude is very important.
    iii. Go over his/her daily work to reinforce the learning. Slower learners need repetition.
    iv. Provide meaningful, concrete activities rather than abstract.
    v. Give short specific directions and have your child repeat them back to you.
6. *Individual help:* Slow learners need a lot of support and continuous encouragement to get maximum benefit from the teaching material. Therefore, is desired:
    1. That slow learners should be grouped with good learners as their tutors which is helpful for them to organize their work and good learners assists them when they have completed their own work.
    2. Complicated or high cognitive task should be given in groups so that they can get the work done by team effort which will be helpful for their training of participatory activities also.
7. *Assistive aids:* slow learner's difficulties can sometimes be overcome by using special aids and equipment to overcome their particular skills deficiencies. Teachers often use such aids in their lessons. These can include flash cards, charts, pictures, models, blocks etc. it is desired that teacher should:
    i. Add variety to the academic routine.
    ii. Do active things and use educational games, puzzles, and other techniques as much as possible.

iii. Encourage your child to explore areas of interest to him/her. Career opportunities often come from these interests.

iv. Teacher should emphasize strengths and use lots of praise and reinforcement frequently.

v. The student-teacher relationship can improve because the student is more successful and is more interested in learning.

8. *Managing behavior:* Some student can be disruptive to the class. But children need to learn to behave in a socially acceptable way. Reward and punishment is the good policy to manage disruptive behaviors. For example:

   i. Teacher should reward the child when he/she is behaving appropriately and has successfully completed the work set. Rewards should be given by pointing to the class that this is the model desired behavior and praise them by class claps, etc.

   ii. Good tone of voice and positive facial expression along with a pat of shoulder also work well. Slow learners should be rewarded even of the successful effort not necessary to wait for task completion.

   iii. Punitative punishments are not desirable rather social punishment works very well for example on misbehavior should be punished to sit in the corner from where he can see the class and in the mean while class should play some interesting game. This social deprivation pushes him to adopt model desirable behavior.

9. *Working together*: Slow leaner s issues cannot be solved in one entity and for that teachers along with school administration should work with parents, health care professional, schools psychologist and educational policy makers.

UNIT 4: Working Together

After working through this Unit teacher will know:

1. How schools can work together to help teachers in promoting the education of slow learners.
2. What change in school culture is desired for accommodating the slow learners.
3. How parents of the children and health professionals can give help to deal with slow learners.

Schools Working Together: The challenge of creating education for ALL cannot be done in isolation and for that schools have to work in groups. Rather working alone they should co-operate with each other and share their resources and expertise for making the environment feasible for the students of special needs.

Change in School Culture: Schools should make a positive change in their tiptop culture to be flexible enough to accommodate slow learners in their school. Their curriculum should the revised and certain assisted aids should be added to enhance the learning abilities of the special needs students.

Working with Parents and Health Professional: children do best at schools when families take a close interest in their education. May be some parents or care takers are reluctant to contact schools but it is the duty of schools to welcome parent for discussing the progress of their children.

1. Parent's feedbacks about the slow learner behavior at home enrich the understanding of the teacher how to deal with child in educational setup.
2. Reports about the slow learner should be send to parent and their feedbacks should be gathers through regular parents teachers meetings.
3. Regular parenting workshops arranged by schools may also be helpful in giving knowledge to parent that how can they revise the learning material at home by incorporating different methodologies.
4. Similarly, schools can invite health professional and school psychologist to get help in identifying various issues of slow learners and many disabilities or psychological problems can be identifies and managed through this.
5. Meetings of school psychologists, health professional and parents of the children should be arranged by schools to get better understanding about the use of preventive methods to foster learning and skills enhancement in slow learners.

This collaborative venture may place extra demands on teachers. But the rewards are also many as they create more opportunities for their students. Teachers who work in this way are more satisfied by their jobs. Furthermore, these approaches redefine the role of schools and teachers. They place different expectations on schools. The test of their success is simple. Do they result in happier, more fulfilled lives for the slow learner both at school and when they leave the school? If the answer is "yes", then the aim of the school to furnish the learning skills of slow learners has been achieved.

Appendix F

Teacher Classroom Observation Checklist

1	To what extend teacher followed the interventional teaching plan designed for slow learner.	1	2	3	4
2	To what extend teacher not only communicates lesson objectives at the start of the lesson but also insures slow learner understand them.	1	2	3	4
3	To what extend teacher fully utilizes and integrates additional resources and technology (interventions) in lesson planning for slow learner.	1	2	3	4
4	To what extend teacher display exceptional knowledge and makes instructional methodology to suit with environmental context of slow learner.	1	2	3	4
5	To what extend teacher demonstrate superior ability and practice in ensuring the assessment and evaluation method aligns with the lesson goals while dealing with slow learner.	1	2	3	4
6	To what extend teacher displays deep knowledge of how to link content with previous lesson with slow learners' own experiences on par with the best.	1	2	3	4
7	To what extend teacher uses different communication media and approaches in ensuring that instructions and explanations are clearly received and understood by slow learner.	1	2	3	4
8	To what extend teacher's knowledge of slow learners' different learning styles allows him/her to be creative in varying the approaches to classroom instruction and an example to others	1	2	3	4
9	To what extend copies / worksheets has been checked properly by giving comprehensive feedback and slow learner has re-one the work by incorporating the feedback given by teachers and peer tutors.	1	2	3	4
10	To what extend teacher puts a great deal of effort into creating a learning environment for slow learner, and is that visible to be sense by other when he/she enters into the class room.	1	2	3	4
11	To what extend teacher display the highest level of good manners and respect in and out of the class room i.e., a role model to follow by slow learner.	1	2	3	4
12	To what extend teacher maintains excellent record on the performance of slow learner, enhance by comments on areas needing improvements and action to be taken in this direction.	1	2	3	4
13	To what extent teacher has created corner, displayed slow learners work and updated profile. The work shows that student has shown meaningful progress and a ladder of achievement towards future targeted goals.	1	2	3	4
14	To what extend the teacher bears the reputation for being disciplined, patience, fair and without favor but according to school policy.	1	2	3	4

Appendix G

Interview Guide Used for Meetings with Parents

1. Compared to other children did the child have any serious delay in sitting, standing or walking/talking?
2. Compared with other children does the child have difficulty seeing, either in daytime or at night?
3. Does the child appear to have difficulty in hearing?
4. When you tell the child to do something, does he/she seem to understand what you are saying?
5. Does the child have difficulty in walking or moving his/her arms or does he/she have weakness/stiffness in arms or legs?
6. Does the child sometimes have fits, become rigid, or lose consciousness?
7. Does the child learn to do things like other children of his/her age?
8. Does the child speak at all (can he/she make him/herself understood in words; can he/she say any recognizable words)?
9. Is the child speech in anyway different from normal (not clear enough to be understandable by people other than his/her immediate family)?
10. Compared with other children does the child need extra attention and adult's supervision for toileting, bathing and eating needs?
11. Compare with other children of his/her age, does the child appear in any way mentally backward, dull or slow?

These questions were helpful in initial screening for any medical or psychological illness of child other than low IQ. The main inspiration for this interview guide was taken from study conducted by Zaman, Khan, Islam, Banu, Dixit, Shrout and Durkin (1990).