



Journal Homepage: -[www.journalijar.com](http://www.journalijar.com)  
**INTERNATIONAL JOURNAL OF  
 ADVANCED RESEARCH (IJAR)**

Article DOI:10.21474/IJAR01/7220  
 DOI URL: <http://dx.doi.org/10.21474/IJAR01/7220>



### RESEARCH ARTICLE

#### EFFECTS OF MULTI-GRADE TEACHING AND LEARNING AT PRIMARY LEVEL SCHOOLS.

**Muhammad Shahzad Ashfaq (Ph.D Scholar)<sup>1</sup>, Dr. M. Imran Yousuf<sup>2</sup> and Dr. M. Arshad Dahar<sup>3</sup>.**

1. Faculty of Social Sciences, Pir Mehr Ali Shah, Arid Agriculture University, Rawalpindi - Pakistan.
2. Chairman, Department of Education, Pir Mehr Ali Shah, Arid Agriculture University, Rawalpindi - Pakistan
3. Assistant Professor, Faculty of Social Sciences, Pir Mehr Ali Shah, Arid Agriculture University, Rawalpindi - Pakistan

#### Manuscript Info

##### Manuscript History

Received: 06 April 2018  
 Final Accepted: 08 May 2018  
 Published: June 2018

##### Keywords:-

Multi-grade teaching,  
 effects of teaching,  
 primary schools,  
 teacher's perception.

#### Abstract

Teaching is an imperative device used for guideline in various circumstances. It is the method for correspondence received in a dynamic and solid environment. Teacher is likewise the coordinator of learning circumstances and transmits science to social community. Some time teacher might be called as a pioneer who assumes a part to change the awful standards of society into the great one. For his past encounters they offer information to understudies and make the establishments of country. Teachers are extraordinary wellsprings of learning, thriving and edification to which anybody can be profited for entire life. They serve as the genuine light in every body's life as they help the understudies to make their courses in the life. The aim of present study is to investigate the effects of multi-grade teaching and learning at primary level schools. The objectives of the study were: 1) To find out the effects of multi-grade teaching and learning in primary schools. 2) To find out which method is easy for learning outcome of students in primary school. 3) To discover in which method students can improve their grade and develop their social skills. The descriptive survey method was used in study. The target population was comprised of One thousand five hundred and seventy six (five hundred and thirty one male one thousand and forty five female) primary teachers of government schools. A sample of two hundred teachers (both male and female), two teachers from each government primary schools were selected. Research questionnaire was developed on likert scale for gathering the data on the basis of teacher's perception on the organizational effects of multi-grade teaching and learning. The collected data were analyzed through SPSS 21. The score of responses were tabulated in to the frequencies and represented in percentage, mean values the standard deviation and chi square test were performed. The results and findings of the study reveal that the majority of 70% teacher's perception regarding the student learning in multi-grade teaching strategies is statistically low indication.

Copy Right, IJAR, 2018,. All rights reserved.

**Corresponding Author:-Muhammad Shahzad Ashfaq.**

Address:-Faculty of Social Sciences, Pir Mehr Ali Shah, Arid Agriculture University, Rawalpindi Pakistan.

### **Introduction:-**

The teaching profession is considered as the best and perfect duty in the world as they give caring obligation to shape somebody's life. Before going to the classroom, a great teacher guarantees his/her objectives of training on regular routine. Each teacher has diverse characteristics of showing their understudies. They change in their insight, abilities, and mentalities in showing particular subjects. They attempt their best and do all endeavors in helping us to accomplish our objectives in life. Class room life is considered as the best a great time as this is the time when everybody learns fundamental things about existence and diverse subjects. All objectives set in the educational time which chooses the improvement of the country. Every single understudy gets open their psyche in the educational time and improves their abilities and learning by taking an interest in the co-curricular exercises, for example, sports, recreations, tests, bunch talk, faces off regarding, exposition composing, discourse recitation, outing, visits, field trips and some more. Educators set objectives of training through their aggregate parts of interesting instructing and learning process.

There is a variety of phrasing utilized as a part of multi-grade training needing illumination for the present examination. There is a requirement for acknowledgment and shared characteristic in the wording. While the plenty of terms used in multi-grade instruction are extraordinary and particular in their own particular right, the most generally referred terms are either multi-age or multi-grade. They may be confirming verifiable difference in wording and structure of the multi-age classroom, however the essential theory has continued as before (Cornish, 2009). The classroom associations of multi-age and mono-grade are independent and unmistakable instructive statutes. The procedure of multi-grade classrooms is not to a great extent an item of declining enlistment in rustic schools (Little, 2008). Multi-grade teaching includes the educating of students from two or more grade levels in one classroom. However in Pakistan, upwards of five or six evaluations may join in one class which teachers work with more than one educational module in the meantime. The majority of the schools emerges multi-grade classes through need instead of decision in country territories guardians don't have the chance to pick their youngsters go to a school with multi-grade or mono-grade classes. As underscores, it is essential to comprehend whether multi-grade teaching has emerged through need or decision, and the writing about multi-grade educating regularly neglects to show this (Little, 2001). In all nations multi-grade teaching is discovered essentially in provincial ranges and emerges to a great extent through needed. Where it happens in urban territories it ordinarily does as such through decision, not needed, and as a piece of more extensive change of theory and instructional method of educating. While multi-grade teaching is picked in light of the fact that it is cost-proficient in numerous creating nations, it is normally more costly to run multi-grade schools than mono-grade schools in numerous industrialized nations.

### **Background:-**

A combination of perspectives and discernments on the starting points of idea multi-grade educating was created through survey of writing and other significant wellsprings of data (Beukes, 2006). It contends that multi-grade educating is not new thought in deficiencies of educators, instructor truancy because of disease and spending limitations confronting numerous nations makes multi-grade educating an alternative (Juvane, 2005). The separates the conditions which prompt the utilization of multi-grade instructing as attributes of learners or instructors, decision made by policymakers and additionally educators to enhance the nature of teaching method. In the following segment the causes of multi-grade instruction are examined in view of the survey of point of view of various creators. Firstly, multi-grading is regularly connected with "little" schools in remote and meanly populated areas. In such schools, there might be just a single, a few instructors, yet they offer an entire cycle of essential training. In the event that that cycle comprises of eight review levels, at that point each of these instructors must manage multi-grade classes. Like these "little" schools some time known as "multi-grade" schools. Multi-grade schools have pulled in consideration in the creating nation setting in light of their capability to build elementary school cooperation rates.

Secondly, multi-grade instructing is likewise normal in bigger urban and rural schools. In a few nations, it is a reaction to uneven understudy enlistment. For instance, a school with an over two review section may need to join two grade levels to make up class sizes. Additionally, in nations where instructor non-attendance is high, and there is no 'cover', evaluations might be joined to abstain from having a class with no educator exhibit. Thirdly, multi-grade instructing might be a think reaction to instructive issues. In created nations, this is connected to the multi-age point of view. Advocates of blended age gathering contend that there are sound academic purposes behind setting understudies of various ages together in a similar classroom. Blended age classes, it is contended, invigorate youngsters' social advancement and empower more noteworthy classroom participation.

Multi-grade educating has been an exercise in both created and creating nations of the world. Multi-grade instructing is typically measured as a matter or an issue in creating nations where the same number of created nations acknowledge it as a compelling procedure (Sibli, 2003). Globally, this has been alluded differently in writing as multi-grade, various group of students, combined class, vertical gathering, family class', and, on account of one instructor schools, unitary schools. Therefore multi-grade educating is alluded to as the educating of understudies of various age groups, evaluations and capacities by a similar gathering (Little, 1995). Multi-grade teaching is by and largely found in schools where only one teacher is available or an institution have only two teachers, here and there even this method can also be seen where in a school have three teachers, multilevel classes in higher foundations, no graded early adolescence training units and unique multilevel collection of understudies. In such schools enrolments is a rule modification within ten to hundred. Multi-grade teaching is not a response to meeting educator deficiencies in the instructive frameworks yet is a methodology to enhance the nature of training in rustic groups. Looking to the socio-social milieu in which the little schools with multi-grade educating are working, these schools could be the focuses of social improvement and group conscientious and the requirement for enhancing their working is far more noteworthy than perceived. Multi-grade educating is a teaching game plan requesting a circumstance where an institution requires that kids from greater than one grade are instructed jointly giving practice exercises at a suitable level for every review, enabling every youngster to increase measure up to profit by their education encounters (NEC, Sri Lanka, 2003).

Multi-grade instructing occurs inside a reviewed arrangement of teaching when a solitary class contains at least two understudy review levels. It is stood out from the typical example of classroom association in reviewed frameworks where a solitary classroom contains understudies of just a single teaching grade. In a number of reviewed frameworks, age and grade are consistent, which a review level is likewise proportional to a specific age gathering of understudies. In a multi-grade class youngsters get less immediate guideline by their educator, timely assignments are poorer and companion mentoring or cross grade gathering by capacity are not applied to any critical degree. Mulryan-Kyne, (2005), found that teaching methodologies are the way to enhancing the nature of educating and studying in multi-grade classroom. The advancement of methodologies those expansions the level of understudy autonomy and agreeable gathering work have a tendency to be proposed. Mulryan-Kyne, (2005), contends that the supporting part guarantees that time used up far from the instructor is used beneficially. Three vital techniques observed to be powerful in such manner are: Peer direction, in which understudies go about as educators for each other, helpful gathering work, which includes little gatherings participating in synergistic errands, and individualized learning programs that include the understudy in self-ponder (Mulryan-Kyne, 2005). The multi-grade display rather than the mono-grade training model is by all accounts actualized for the most part in rustic zones (Tsolakidis and Constantinidi, 2006).

Little, et al., (2007), expresses that multi-grade method, where studies are conducted in more than one grade is educated jointly with a solitary instructor in a similar place. As indicated by (Little, 1995), multi-grade teaching is standard for the majority institutions in country zones. (Hargreaves, 2001), as already specified, the multi-grade educating is instructing by one instructor of youngsters working in a few evaluations or period gatherings. This is supported by (Nawab and Baig 2001), contend various conditions, for example, multi-grade, blended year, mix class, plumb gathering, children gathering, compound class, opening class, dual evaluated class and unitary institutions are utilized over the world to portray the multi-grade circumstance. These conditions allude that the multi-grade circumstance is portrayed in different regions of the world. In any case, the favoured conditions those will be utilized as a part of this examination are multi-grade. Moreover (Muthayan, 1999), asserts that despite the fact that the terms multi-grade and multi-age educating frequently are utilized conversely, they allude to various circumstances. He expresses that multi-grade classes are built up because of managerial needs, for example, small number of registrations, while multi-age classes is the point at which the evaluations and showing educational programs are coordinated. In this examination multi-grade and multi-age are not utilized conversely in the light of the fact that in the multi-grade classroom and mono-grade classrooms the learners are of multi-age, along these lines multi-age does not refer to multi-grade.

This research is endeavored to break down how educators in primary schools oversee instructing and learning in multi-grade classrooms. Multi-grade teaching referred to the educationing of understudies of various ages, evaluations and capacities in the same gathering. It is referred to different in the writing as multi-level, numerous class, composite class, vertical gathering and on account of one teacher schools. Multi-grade teaching is turning into an overall wonder in the vast majority of the rustic regions of giving expanded access to kids in a peopled provincial territory where it is hard to give the sufficient number of instructors required for the mono-grade classes. Multi-

grade teaching is utilized to depict the instructing in fundamental training of students from number of evaluations normally in one class. Multi-grade educators ought to be prepared the techniques that assistance to create relations among the school and the learners group. The difficulties of multi-grade educating and learning are that the nationwide educational modules improvement and educators preparing programs are for the most part in view of a model of mono-grade educating and learners in accepted multi-grade schools need to fight for themselves. The challenges confronted by instructors showing multi-grade classrooms radiates from educational modules outline, the educators themselves, learning and instructing form, school conditions, learners, educators preparing, course books and support. Teacher in multi-grade classrooms are required to actualize the educational programs for mono-grade classrooms and that makes a significant amount of challenges for the instructors included.

This current exercise is a supply of educator shares in view of the evidence of the quantity of understudies selected in the school, absence of the necessary number of understudies in the schools of isolated and provincial territories all over in the country frequently brings about the insufficient supply of teacher amounts for the quantity of classes. Due to the deficiency of teachers and understudies of a little town does not permit by lead the foundation of primary school in the remote precipitous and sloping districts, multi-grade educational structure of essential training has been particularly in trend in these areas of the Kingdom (Apeid/Unesco, 1989).

#### **Purpose:-**

In this modern age when the world is discovering life on Marse, the educational system is key point to success for every nation of the world. Any nation which does not follow modern and partially good teaching techniques will not be contends the rest of world. In Pakistan a number of teaching methodologies are working. Every methodology has its own scope of learning, some are old methodologies and some are modern methodologies. Some people are supporting old techniques of teaching and some are supporting modern techniques of teaching but none of them have enough analysis and study that prove that which methodology is better. After looking at above mentioned problem, this research was conducted to watch out about two teaching techniques through a detailed study and to find out which method is significantly better for our educational system. The two under study strategies are mono-grade and multi-grade method of teaching. The multi-grade method is applied due to shortage of teachers and sometime due to shortage of qualified teachers. In this research the researcher had a better strategy of student's learning from both the above mentioned methods. The researcher tried to discover its effect on student achievement and more especially the formative years of literacy for primary students by teaching methodology in which method of teaching students can enhance their knowledge. Which method is liked by parents, which method is easy for learning outcome of students, by which method students can improve their grades and through which method students can develop their social skills.

#### **Significance:-**

The current study will be contribute to educational research if multi-grade teaching is an equally effective alternate to mono-grade teaching, it is likely to be in the best interest of the students. The study will be beneficial for government schools teachers for improvement in their performance and for students by providing guideline for improving the educational standards of the students and increase achievement in their understanding regarding teaching methodology.

#### **Objectives:-**

The objectives of the research study were as under:-

1. To find out the effects of multi-grade teaching and learning in primary schools.
2. To find out which method is easy for learning outcome of students
3. To discover in which method students can improve their grade and develop their social skills.

#### **Literature Review:-**

Research in multi-grade instruction is rich and different. There are numerous investigations on the focal points and detriments of multi-grade training; as for its impact on understudy accomplishment, and all the more particularly, the developmental years of proficiency for essential youngsters, there is little confirmation and along these lines a requirement for extra examination and request. Notwithstanding, the issue in multi-grade or multi-age instruction is that the level of understudy execution is once in a while an explanation behind multi-review training usage (Tomlinson, 2000). Multi-grade preparation is an inescapable instructive association that can be found all through the world in both industrialized and creating countries (Little, 2004). In particular, examine from the United States and Canada anticipated the predominance of multi-grade instruction to build (Chapman, 1995). Moreover, multi-

grade teaching is prone to increment significantly advance into the future as a practical other option to the mono-grade classroom (Mulryan-Kyne, 2007). It given the wide difference in usage strategy of multi-grade teaching, look into on the impacts of this classroom association on understudy accomplishment stays uncertain (Brinegar, 2010) and in require of further research (Little, 2008). Berry, (2001), keeps up that multi-grade schools are especially successful at advancing the perusing advancement of low accomplishing understudies, somewhat on account of contrasts in the way to deal with direction in multi-grade and mono-grade classrooms. Berry says that mono-grade classrooms are portrayed by undifferentiated entire class educating; nonetheless, in multi-grade classes understudies have greater chance to participate in little gathering work (Berry, 2001).

Multi-grade teaching shows an inescapable exercise which emerges through predetermined amount of understudies and classrooms in little and dispersed resolution territories where populace thickness is low and is seen as a framework that should be canceled (Aksoy, 2007). Multi-grade teaching is coordinated to parallel value of change. APEID/UNESCO (1989) has properly said that multi-grade teaching does not a response to gathering educator lack in an instructive framework yet is a procedure for enhancing of nature of training in country groups. Multi-grade classes contrast from customary classes where each class has its particular grade with its own particular educator and classroom. On account of multi-grade teaching, this is eluded as the course of action of a situation in which understudies of no less than two evaluations are educated jointly by an instructor in one classroom. The other situation, which is not quite the same as this, has isolate classrooms for various evaluations, yet not the required number of classrooms, where the single educator instructs these evaluations by going to the different classrooms in meantime. This kind of teaching course of action is also called multi-class educating, which is the prevailing component of teacher in rare schools other than the normal schools.

Multi-grade schools are described as little schools, and they dominant method for conveying training faster in groups (Thomas and Shaw, 1992). They additionally permit the full cycle of essential instruction to be conveyed to the group. Multi-grade schools are being utilized as a method for achieving groups in uneven zones of the nation, in numerous zones where no schools exists earlier (UNICEF, 1994; 1998). The multi-grade schools viewed as a method for overhauling existing basic schools in remote regions (Little, 1995). Taole and Mncube, (2012), recognize the issues related with multi-grade educating as absence of support for multi-grade teachers, instructors whose are not familiar with the lesson arranging required for multi-grade teaching, absence of responsibility with respect to instructors in the instructional method and instructors who don't see the estimation of multi-grade educating. As per Create, (2008), the difficulties of multi-grade educating and learning are that the nationwide educational modules improvement and educator preparing programs are for the most part in view of a model of mono-grade educating and learners in accepted multi-grade schools need to fight for themselves. Little, (2004), expressed that notwithstanding a requirement for legitimate concerning showing multi-grade classes, instructors likewise recognized large strength of students' non-appearance, visit changes in grade blends and absence of course books as difficulties that they are confronted with in multi-grade schools. Challenges confronted by instructors showing multi-grade classrooms radiates from educational modules outline, the educators themselves, learning and instructing forms, school conditions, learners, educator preparing, course books and support. UNESCO (1989), Vincent, (1999), Create, (2008), recognize educational programs outline as the only troubles confronted by instructors in multi-grade classrooms since the educational programs is intended for mono-grade classrooms. Teachers in multi-grade classrooms are required to actualize the educational programs for mono-grade classrooms and that makes a significant amount of challenges for the instructors included.

Wood and Frid, (2005), defined that the learning environment in multi-grade classes fosters individual student learning, fostering other development levels, social collaboration and responsibility of the individual learning. The educational organization focused on individual learning of student in social context. In the multi-age education that is link to academic process for richer enjoy in multi-age classrooms student learning, reading and writing for future successful results. Multi-grade educating is a teaching game plan requesting a circumstance where an institution requires that kids from greater than one grade are instructed jointly giving practice exercises at a suitable level for every review, enabling every youngster to increase measure up to profit by their education encounters (NEC, Sri Lanka, 2003). Little (1995), in a international review on multi-grade education, found that a few teachers detailed multi-grade education as a chance to offer fantastic instruction while different instructors revealing that understudies in multi-grade training can't get an equivalent training practically identical to those understudies in mono-grade classes. Considering this actuality, regardless of proceeded with execution of multi-grade training, in the writing there still exist conflicting discoveries on the impacts of understudy learning in multi-grade education (Kappler, and Roellke, 2002).

Understudies are dependably non-intentionally doled out to multi-grade classes in multi-grade schools. Investigations of the impacts of multi-grade classroom association have not generally made this refinement unequivocal (Brown, 2010).

#### **Related Research Studies:-**

Research in multi-grade instruction and its impact on understudy accomplishment is non-indisputable (Brinegar, 2010). The immense field of instructive talk gives few complete discoveries on the impacts of multi-grade on understudy accomplishment. Multi-grade training is a hierarchical reality in many localities all through the world (Little, 2008). The multi-grade classroom can be found in such industrialized nations of Canada, United States, Ireland, and Australia. Multi-grade classrooms are an instructive reality all through the industrialized world, (Gerard, (2005a), Lloyd, (2002), Mulryan-Kyne, (2007), Pratt, (1986). Multi-grade classrooms are a transcendent instructive structure in creating countries, for example, Sri Lanka, Columbia, and Vietnam, (Aksoy, (2008), Benveniste and McEwan, (2000), Blum and Diwan, (2007), Little, (2004), Little, (2008), Pridmore, (2007), Vincent, (1999). As for the contrast between multi-grade classroom association and mono-grade teaching on understudy accomplishment, discoveries remain uncertain (Little, (2008) and disputable (Fosco, Schleser, and Andal, 2004). Peer tutoring take place, when students educate different methods of teaching at a time (Wallace, et al., 2001). Companion mentoring can occur when more classes students (in higher evaluations) instruct to youth students, when intelligent students help slower learner students (in a similar grade) or two companions think about the subject collectively and by giving statements helpful for each other to comprehend the effort. Slower learners might likewise coach quicker learners in territories by which they are more grounded, for example, drawing. Associate mentoring is peer help that is generally started by the educator who may incite youngsters to look for the assistance of specific people or incite people to help others (Muthayan, 1999).

Wallace, et al., (2001), characterize personality-coordinated learning process in which people take activity with or without the help of others in indicating their adapting requirements, preparation education objectives, recognizing human and fabric assets for selection, picking and actualizing appropriate learning methods and judging learning results. As indicated by (Muthayan, 1999), self-coordinated learning is when students separately and freely take part in exercises. Self-coordinated learning in multi-grade classrooms causes the learners to assume liability for their own learning. Free operational skills are granted by self-organized learning. Learners can distinguish their learning styles since they can see which method for learning works best for them. Learners are chipped away at their own or with negligible offer assistance from the educator.

Showing techniques and showing procedures which can be utilized as a part of multi-grade classrooms are talked about in light of the perspectives of various authors. (Fraser, Loubser. and Van, Rooy. 1994), talk about the account strategy as the technique where by one individual makes certain data accessible to someone else through discourse. They discriminate cases of story strategy as aggregate exchange, faces off regarding, stories, board talks, visitor speakers, instructing by peers and oral information. The story technique can be utilized by instructors in multi-grade classrooms to provide data to learners particularly toward the start of the class. Jordaan, (2006), distinguishes three principle ways to deal with multi-grade instructing, in particular entirety class instructing, learning in gatherings and free working. Entire class instructing must be utilized toward the start of the school day, at the initiation of the sessions, when learners are occupied with a venture with related themes and particular parts of the educational modules, for example, verse, music, narrating and mental Math's. Learning in bunches in a multi-grade classroom happens when the instructor works with one gathering while alternate gatherings are seeking after a diverse assignment. Free working should happen when learners demonstrate competency of working freely and learners can utilize reference book. Educators instructing in multi-grade classrooms must know when to utilize each approach every day (Jordaan, 2006).

#### **Strength:-**

Multi-grade classrooms are not the conventional or standardizing sorts of classrooms in generally schools. The preface of the structure of a classroom is the amplification of understudy learning. Schools are institutional associations of learning. Educational activities that result in an enhanced learning condition are basic to achievement while obstructions to learning must be essentially tended to, and if conceivable, expelled. Some recorded and late investigations have discovered that multi-grade teaching, in a general sense, not just has an impact on understudies, additionally that impact is certain. In any case, these examinations don't all particularly identify with the beneficial outcomes on understudy accomplishment in multi-grade classes. The study McEwan, (2008), found that multi-grade instruction has positive effect on student's achievement. Multi-grade ponders have discovered beneficial outcomes

on such things as social advancement and mental improvement, (Pratt, 1986, and Lloyd, 2002). These studies represent research through the world, in varying subject matters and grade levels. Although in large there is a lack of positive results on the impacts of multi-grade teaching particularly it identifies in students achievements (Tomlinson, 2000).

#### **Weaknesses:-**

As the investigation of Veenman (1995), it was discovered that there was no note worthy contrast in understudy accomplishment between multi-grade and single grade classrooms. There is a regularly reference to this examination in the writing concerning the issue of multi-grade instruction and understudy accomplishment. It may be an investigation by Mason and Burns (1996) unmistakable difference a glaring difference to the discoveries of Veenman. The exploration, which is the investigation, invalidated the discoveries that multi-grade teaching has no impact on understudy accomplishment. Veenman, (1996), directed a further report on multi-grade teaching understudy accomplishment. The finishes of the examination found that while there is an affirmation and concession in the examination that for the most part the writing has held there are no huge contrasts in understudy accomplishment in multi-grade classes contrasted with mono-grade classes, all things considered multi-grade classes have a little negative impact on accomplishment. The examination by Mason and Burns, (1996), stands about alone in the conclusion that multi-grade training negatively affects the understudy accomplishment.

Normally, any classroom association that influences understudy learning adversely, regardless of the possibility that it is just in a little way, positively merits further reflection, examination and consideration.

#### **Methodology:-**

The research methodology covers research design, population, sampling, instrumentation and procedure of data collection for the current study. The descriptive survey research method was applied to carry out the study (Best & Kahn, 1998). Gay, (1976), stated that the descriptive research method is mostly concerned with the conditions that prevail, that exist, practices, attitude that are held, beliefs and trends that are developing processes and that are on-going.

#### **Population:-**

The target population of the study was comprised of one thousand five hundred and seventy six (five hundred and thirty one male one thousand and forty five female) primary teachers of government schools of (Tehsil Gujar Khan-Rawalpindi) Pakistan. To determine an appropriate sample size, an updated list of all schools in (Tehsil Gujar Khan-Rawalpindi) Pakistan was collected from education department. The measure of 'population' in research study must understand which concerned the subjects or data items that must be included in the study, giving the specific and relevant circumstances (Polit & Hungler, 1999).

#### **Sampling procedures:-**

Sampling is a research technique that used to select a certain number of subjects from a target population as a representative of population (Borg and Gall, 1986). A sample of two hundred teachers (both male and female) from government primary schools was taken. The selection procedure of a portion of the target population to represent it the entire population is known as sampling (LioBiondo-Wood & Haber, 1998; Polit & Hungler, 1999). For the study interest convenience sampling is deemed most suitable (De Vos, 1998).

#### **Research Instrument:-**

The questionnaire tool was used. The questionnaire was developed to collect the information. The items of the questions were drawn according to five-point likert scales, "strongly agree, agree, neutral, strongly disagree and disagree" (Post, D. et al., 2009). Mugenda, (2003), confirmed that the use of questionnaires is the most common instrument in the research of social science study. They said that well organized questionnaires are advantageous because the respondents can see their way around with comfort and that they are easy to compute (Annexure 'A').

#### **Validity:-**

For validation of questionnaire conducted a pilot study in boys and girls primary schools. According to Borg & Gall, (1989), a researcher can conduct a pilot study in two or three cases. The purpose of the preliminary test was to help the researcher to identify the elements that considered inappropriate and make the necessary corrections, examine the answers to check the level of ambiguity of the questions and to evaluate the responses of participant to determine the percentage. The ambiguous items were modified in more appropriate forms. It helped to determine the time

required to manage the instrument. Based on the consultation with the experts, the study selected 38 items from the questionnaire and finalized for the administration. As stated by Gay, L. R., (1987), the descriptive survey research method involves gathering data to evaluate hypotheses or to answer questions about the status of the study.

#### Reliability:-

The research instrument was delivered to same group of participants twice in the pilot study. The scores of all tests were correlated to obtain the use of the reliability coefficient SPSS. The value of Chronbach's coefficient of Alpha of the instrument was calculated .996 which was considered to be quite suitable for the study at large scale (Gay, 2002). The Alpha .996 shows that the given 38 questions have higher internal consistency. A value equal to .700 or high is acceptable in social sciences research work.

#### Reliability Statistics:-

Cronbach's Alpha	N of Items
.996	38

#### Data Collection:-

During the research, investigator was personally visited the schools to get the data from selected sample of the study. The data collection was completed in seven to eight weeks. Straus and Myburgh, (2000), described that collection of data is a basic key and important prospective between the investigator and respondent, collection of data is an art for the researcher from the respondent in mainly efficient means. Tustin, (2006), said that one time the investigator notices the requirement of major research data and has conveyed research objectives and facts requirements, the collection of data is conducting through questioner with chosen objects.

#### Statistical Analysis:-

Gay, L. R., (1987), indicated the importance of the data analysis techniques and its emphasis that "the research plan must include a description of the technique or the statistical techniques used to analyze the data". The collected data were tabulated in the forms of frequencies. The frequencies were presented into scores that assigned the percentage values of the scales each of five responses (using the Likert scale). Borg and Gall, (1998), described that the most commonly used and the confirmed standard pattern is the percentage. The collected data were analyzed by entering the data into a statistical package for the social sciences 21. The percentage, mean, std. deviation and chi square tests were performed for analysis the data (Mirvaliev, M, 1987).

#### Case Processing Summary:-

		N	%
Cases	Valid	200	100.0
	Excluded <sup>a</sup>	0	.0
	Total	200	100.0

$$\chi^2 = \left[ \frac{(O - E)^2}{E} \right] \text{ Where, } \chi^2 = \text{Chi-Square test } O = \text{observed value } E = \text{expected value.}$$

#### Results and Findings:-

**Table 1:-**Score of students learning

S.N	Statement	Percentage	Mean	SD	Df	Chi-Square	
						$\chi^2$	Sig
1	Teaching enhances increased access to education	51.5	2.65	1.169	4	41.200	.000
2	Teaching enhances improved performance to education	16	3.70	1.107	4	72.400	.000
3	Learning outcomes in multi-grade classes is better than in the mono-grade classes	34	3.14	1.244	4	31.400	.000
4	Students learn better in multi-grade than mono-grade classes	25.5	3.40	1.224	4	28.750	.000



5	Students are more motivated in learning	18.5	3.57	1.150	4	76.850	.000
8	In grade classes, syllabus can be completed in time	26.5	3.30	1.177	4	45.850	.000
7	Teaching is promoting group work and collaboration among students	68	2.32	1.247	4	71.050	.000
8	In teaching students give timely feedback to their teachers	25	3.40	1.173	4	35.350	.000

Table 1 shows that the value of eight statements of Chi-square  $\chi^2$  (df=4) = 41.200, 72.400, 31.400, 28.750, 76.850, 45.850, 71.050 and 35.350. The values of Chi-square of these statements are much higher than the critical values  $\chi^2$  (df=4) = 9.49 at  $\alpha=0.05$ . It means that these eight statements related to area “students learning” are highly accepted. Means of these statements with standard deviation shows that these are more than the midpoint of distribution and towards the right direction. It illustrates that most of the respondents accepted these statements related to the said area.

**Table 2:-**Score of teaching methodology

S.N	Statement	Percentage	Mean	SD	Df	Chi-Square	
						$\chi^2$	Sig
1	Teaching provides opportunity for the enhancement of learning by the lower grade level group through exposure to upper grade level students	24.5	3.46	1.142	4	71.650	.000
2	Teaching provides opportunity for students to learn through peer tutoring	11.5	3.84	1.083	4	90.950	.000
3	Is teaching encourage students to participate in group studies	20.5	3.65	1.110	4	99.550	.000
4	Is teaching is easier by approach	11.5	3.85	1.085	4	92.150	.000
5	Assessment is easier in grade teaching approach	12	3.75	.987	4	104.650	.000
6	Teaching is not an inferior strategy of teaching	19.5	3.54	1.186	4	61.450	.000
7	Teachers of grade classes are inadequately prepared for teaching such classes	78	1.92	1.171	4	141.850	.000
8	Grade class is considerably more difficult to teach	55.5	2.53	1.400	4	45.100	.000
9	Is teaching, too demanding in modern age	19.5	3.38	1.058	4	114.850	.000
10	Teaching is an innovation	16	3.60	1.117	4	91.450	.000

Table 2 shows that the value of ten statements of Chi-square  $\chi^2$  (df=4) = 71.650, 90.950, 99.550, 92.150, 104.650, 61.450, 141.850, 45.100, 114.850 and 91.450. The values of Chi-square of these statements are much higher than the critical values  $\chi^2$  (df=4) = 9.49 at  $\alpha=0.05$ . It means that the ten statements related to area “teaching methodology” are highly accepted. Means of these statements with standard deviation shows that these are more than the midpoint of distribution and towards the right direction. It illustrates that most of the respondents accepted these statements related to the said area.

**Table 3:-**Score of students participation

S.N	Statement	Percentage	Mean	SD	Df	Chi-Square	
						$\chi^2$	Sig
1	Teaching is concerned student's social skill development	73.5	2.09	1.071	4	103.200	.000
2	Provides reinforcement of earlier learning for the upper grade level students	74.5	2.07	.978	4	123.250	.000
3	In teaching grouping the students according to their abilities	75	2.06	1.087	4	108.200	.000
4	In teaching it is easier for students to learn	41.5	2.87	1.294	4	26.800	.000

	what others are taught						
5	Is teaching engaging , upper grades students to support lower grade students	53.5	2.67	1.122	4	68.450	.000
6	In teaching, there is lower time on task for students	78	1.92	1.171	4	141.850	.000
7	In teaching, there is less time for direct instructions	77	2.06	1.078	4	121.000	.000

Table 3 shows that the value of seven statements of Chi-square  $\chi^2$  (df=4) = 103.200, 123.250, 108.200, 26.800, 68.450, 141.850 and 121.000. The values of Chi-square of these statements are much higher than the critical values  $\chi^2$  (df=4) =9.49 at  $\alpha=0.05$ . It means that the seven statements related to area “student’s participation” are highly accepted. Means of these statements with standard deviation shows that these are more that the midpoint of distribution and towards the right direction. It illustrates that most of the respondents accepted these statements related to the said area.

**Table 4:-**Score of teaching difficulties/problems

S.N	Statement	Percentage	Mean	SD	Df	Chi-Square	
						$\chi^2$	Sig
1	Teachers do not have learning materials for their teaching in classes	68	2.24	1.147	4	75.850	.000
2	Teacher used the local available materials as teaching aids	15	3.71	1.160	4	67.550	.000
3	Teacher students ratio is less in multi-grade classes	75	2.03	1.015	4	111.250	.000
4	Teaching and learning materials for multi-grade classes are adequately available	15	3.79	1.137	4	82.100	.000

Table 4 shows that the value of four statements of Chi-square  $\chi^2$  (df=4) = 75.850, 67.550, 111.250 and 82.100. The values of Chi-square of these statements are much higher than the critical values  $\chi^2$  (df=4) =9.49 at  $\alpha=0.05$ . It means that the four statements related to area “teaching difficulties/ problems” are highly accepted. Means of these statements with standard deviation shows that these are more that the midpoint of distribution and towards the right direction. It illustrates that most of the respondents accepted these statements related to the said area.

**Table 5:-**Score of parental approaches

S.N	Statement	Percentage	Mean	SD	Df	Chi-Square	
						$\chi^2$	Sig
1	Parents like multi-grade or mono-grade teaching approaches	25	3.43	1.221	4	33.650	.000
2	Is grade, teaching is less expensive for community to organize	75	2.02	1.022	4	111.200	.000
3	In teaching, you think that distance education is credible	14.5	3.83	1.32	4	90.850	.000
4	Teaching is able to cope with parental concern about effects of grades placement	20	3.68	1.255	4	59.100	.000

Table 5 shows that the value of four statements of Chi-square  $\chi^2$  (df=4) = 33.650, 111.200, 90.850 and 59.100. The values of Chi-square of these statements are much higher than the critical values  $\chi^2$  (df=4) =9.49 at  $\alpha=0.05$ . It means that the four statements related to area “parental approaches” are highly accepted. Means of these statements with standard deviation shows that these are more that the midpoint of distribution and towards the right direction. It illustrates that most of the respondents accepted these statements related to the said area.

**Table 6:-**Score of working conditions of schools

S.N	Statement	Percentage	Mean	SD	Df	Chi-Square	
						$\chi^2$	Sig
1	Working condition of your school is satisfactory	20	3.67	1.212	4	71.050	.000

2	Grade teaching in multi-grade schools be abolished	22	3.60	1.252	4	52.600	.000
3	Is teaching, benefits the multi-grades schools for students	80	1.95	.952	4	142.800	.000
4	Multi-grade is more actively bases that mono-grade approach	20	3.74	1.238	4	67.850	.000
5	Teacher can pay attention to every student in these grade classes	23	3.42	1.113	4	81.300	.000

Table 6 shows that the value of five statements of Chi-square  $\chi^2$  (df=4) = 71.050, 52.600, 142.800, 67.850 and 81.300. The values of Chi-square of these statements are much higher than the critical values  $\chi^2$  (df=4) = 9.49 at  $\alpha=0.05$ . It means that the five statements related to area “working conditions of schools” are highly accepted. Means of these statements with standard deviation shows that these are more that the midpoint of distribution and towards the right direction. It illustrates that most of the respondents accepted these statements related to the said area.

### Discussion:-

The purpose of the study was to determine the effects of multi-grade teaching and learning at primary level schools. The study results and findings reveal that in multi-grade teaching strategies the responses about the multi-grade method of teaching on student achievement at primary level schools had low positive perception on the effects of student's performance in primary schools. This position might be due to the fact that they recognized the necessity of multi-grade teaching as a result of lack of adequate teachers. Another hand the use of multi-grade teaching was a matter of necessity rather than orientation or training. In teacher's perception regarding the students learning in multi-grade teaching strategies. The teaching methodology in multi-grade method of teaching, the teacher's responses were quite significant. It is supported by the research study of Gnadinger, (2008) that the peer collaboration continues to be an effective part of the teaching and learning process. As research studies of Gerard, (2005b), Lloyd, (2002), Mulryan-Kyne, (2007), Pratt, (1986), they described that the multi-grade classrooms are a transcendent instructive structure in creating countries, such like, Sri Lanka, Columbia, and Vietnam. The participations of the student in multi-grade classes, the teacher's opinion about the multi-grade participation remain low positive perception. In research study of Tomlinson, (2005), it is indicated that the more familiar mono-grade classes, have an educational theory of differentiated instruction that responds to the individual needs of each student in the class. Little, (2004), express that notwithstanding a requirement for legitimate concerning showing multi-grade classes, instructors likewise recognized large strength of students' non-appearance, visit changes in grade blends and absence of course books as difficulties that they are confronted with in multi-grade schools.

The responses of teacher's about the teaching difficulties in multi-grade teaching strategy indicating the statistically significantly high. According to Create, (2008), the difficulties of multi-grade teaching and learning are that the nationwide educational modules improvement and educator preparing programs are for the most part in view of a method of mono-grade teaching and learners in accepted multi-grade schools need to fight for them. It is also observed in research studies of Miller, (1990), Burns and Mason, (1998) that in teacher's perception on organizational effect on the student achievements in multi-grade teaching and learning has high positive. The parental approach in multi-grade teaching the response of teachers reflects nothing. The current study supported by the previous research of Cornish, (2009) that the social interaction continues to be an important part of the educational process. It is also observed in the studies of Many and Henderson, (2005), Rouse and Barrow, (2006), which the societal, parental and educational factors influence student learning. In study of Myrberg and Rosen, (2008), it reflects that the parental education as an effect on student achievement. Parental education levels, which include the number of resources in the home and attention to literacy has an association with children's achievements in school.

About the working conditions of the schools, in teacher's opinion about the multi-grade classrooms were not appropriate. In the study Fosco, et al., (2004), identified that multi-grade classrooms also found connection with the theoretical concept of cognitive development, reading ability and classroom type. In several research studies the findings contribute to learning theories on differentiated instruction and peer collaboration and social interaction (Tomlinson, et al., 2003). In other studies of Cornish, (2009), Gnadinger, (2008), revealed that in modern era multi-grade classrooms, the basic philosophy of classroom organization. In research studies of Many and Henderson, (2005), Dewey, (1916), Vygotsky, (1998), Fosco, et al., (2004), Wood and Frid, (2005), Fawcett and Garton,

(2005), Geisler, et al., (2009), Reis, et al., (2011), Stuart, et al., (2006), Cornish, (2009), Gnadinger, (2008), Chick, (2006), Swenson and Strough, (2008), the finding in the theoretical basis that student learn best through differential instruction and social interaction and peer collaboration. In another research study of Cheadle, (2008), the socio-economic status factor has long had an influence on student achievement. The current study support the added factors, school location in rural area, parental educational level and parental socio-economic status affecting on student learning. In Newfoundland and Labrador (2009) study indicating a significant issue of student enrolment declining in small and rural areas schools.

### **Conclusion:-**

On the basis of results and findings the following conclusion was drawn that the teacher's responses and teacher's perception regarding the students learning in multi-grade teaching strategies is statistically low indication. The teaching methodology in multi-grade method of teaching, the teacher's responses were quite significant and the mean value and percentage is very low. The participations of the student in multi-grade classes, the teacher's opinion about the multi-grade participation remain low positive perception. The responses of teacher's about the teaching difficulties in multi-grade teaching strategy indicating the statistically significantly high. The parental approach in the multi-grade teaching the response of teachers reflects nothing. In teacher's opinion, the working condition of the schools about the multi-grade classes is not satisfactory. In multi-grade classes, there is less scope of learning for junior grade classes in the presence of senior students, junior students get confuse and afraid of by their seniors. In multi-grade classes teachers were unable to give full attention to all students. In multi-grade classes student should have more opportunity to engage small group work. The challenges faced by multi-grade teachers could be avoided with provision of specific multi-grade training and support.

### **Recommendations:-**

On the basis of the finding, the study recommended the following suggestions. Teachers in multi-grade schools need to be more flexible in their classroom management, to fit particular in teaching situations, the composition of the class and the physical environment. Teaching strategies must be described as a method, devices or techniques use to facilitate learning and enhance teaching. Teacher should be trained to gain professional knowledge; disposition and skills required for improvement in use of multi-grade teaching to enhance student's performance. This buttresses the need for adequate teacher's preparation in this area of study. The seminars and workshops programme should be organized for teachers to enable them to acquire the pedagogical disposition for effective use of multi-grade teaching in primary schools. It therefore stands to reason that learners in multi-grade classrooms should be socialized towards communal resource utilization to accommodate those facing the challenge of shortage of resources. Multi-grade teaching approach, techniques of communication skill related strategies including organizational skills essential for effective use of the strategy that should be integrated into basic methodology courses offered in teachers training institutions. The challenges faced by multi-grade teachers could be avoided with provision of specific multi-grade training and support. This is recommended for the provision of enhancement of our educational system to slowly upgrade to international standards for the progressive future of the students.

### **Recognition:-**

The researcher did not receive any ordinary, special and specific grant from any funding agency in the, commercial, public or not-for-profit sectors.

### **References:-**

1. Aksoy, N., (2007). Multi-grade schools in Turkey: An overview. *International Journal of Educational Development*.
2. Aksoy, N., (2008). Multi-grade schooling in Turkey: An overview. *International Journal of Educational Development*, 28(2), 218-228.
3. APEID/UNESCO, (1989). Multi-grade teaching in single teacher primary schools. *Asia and the Pacific programme of Educational innovation and development*. UNESCO Principal Regional office for Asia and the Pacific Bangkok, Thailand.
4. Benveniste, L. A., & McEwan, P. J. (2000). Constraints to implementing educational innovations: The case of multi-grade schools. *International Review of Education*, 46(1/2), 31-48.
5. Berry, C., (2001). Achievements effects of multi-grade and mono-grade primary schools in the Turks and Caicos Islands. *International Journal of Education Development*, 21(6): 561-566.
6. Best, J.W., & Kahn, J.V., (1998). *Research in Education* (8<sup>th</sup>, Ed) Boston; Allyn and Bacon.

7. Beukes, C. G., (2006). Managing the Effects of Multi-grade Teaching on Learner Performance in Namibia: Dissertation. *Magister Education*. Johannesburg: University of Johannesburg.
8. Blum, N. & Diwan, R., (2007). Small, multi-grade schools and increasing access to primary education in India: National context and NGO initiatives. *Consortium for Research on Educational Access, Transitions & Equity*.
9. Borg, W. R. & Gall, M. D., (1986). *Educational Research*, Longman: New York.
10. Borg, W. R. & Gall, M. D., (1989). *Educational Research: An Introduction* 5th. Eden. New York: Longman.
11. Borg, W. R. & Gall, M. D., (1998). *Educational Research: An Introduction* 5th. Eden. New York: Longman.
12. Brinegar, K., (2010). 'I feel like I'm safe again.' A discussion of middle grades organizational structures from the perspective of immigrant youth and their teachers. *Research in Middle Level Education*, 33(9), 1-14.
13. Brown, B. A., (2010). Teachers' accounts of the usefulness of multi grade teaching in promoting sustainable human development related outcomes in rural South Africa. *Journal of Southern African Studies*, p. 189-207.
14. Burns, R. B. and D. A. Mason, (1998). Class formation and composition in elementary schools: *American Educational Research Journal*. p. 739-772.
15. Chapman, M. L. (1995). Designing literacy learning experiences in a multiage classroom. *Language Arts*, 72(6), 416-428.
16. Cheadle, J. E. (2008). Educational investment, family context, and children's math and reading growth from Kindergarten through the Third Grade. *Sociology of Education*, 81(January), 1-31.
17. Chick, K. A. (2006). Fostering student collaboration through the use of historical picture books. *Social Studies*, 97(4), 152-157.
18. Cornish, L., (2009). Teaching the world's children: *Theory and practice in mixed-grade classes*. Paper presented at the International Symposium for Innovation in Rural Education, Armidale, Australia.
19. Create, (2008). Size matters for EFA: *Policy brief*. Cress, Consortium for Research on Educational Access, Transitions and Equity, Accessed online at: <http://www.create-rpc.org> on 26 March 2014.
20. De Vos, A. S., Strydom, H., Fouche, C. B., & Delpont, C. S. L., (1998). *Research at grass roots*. Pretoria: Van Schaik.
21. Dewey, J. (1916). Democracy and education. *An introduction to the philosophy of education*. (1966 Ed.). New York: Free Press.
22. Fawcett, L. M., & Garton, A. F. (2005). The effect of peer collaboration on children's problem-solving ability. *British Journal of Educational Psychology*, 75, 157-169. DOI: 10.1348/000709904X23411
23. Fosco, A. M., Schleser, R., & Andal, J., (2004). Multiage programming effects on cognitive development level and reading achievement in early elementary school children. *Reading Psychology an international quarterly*, 25(1), 1-17.
24. Fraser, W. J., Loubser, C. P. & VAN ROOY, M. P., (1994). *Didactics for the undergraduate student*. Heinemann Publishers.
25. Gay, L. R., (1976). *Education Research: Competencies for Analysis and Application*. Ohio: Merrill Publishers, Co. of Teaching in Kenya. Implications for Teacher Induction Policies and Programmes. In *Journal of In-Service Education. An International Journal of Professional Development*. Edited by Tony Bates, Thompson and Marion.
26. Gay, L. R., (1987). *Educational Research: Competencies for Analysis and Application*. 3rd.edn. London: Merrill Publishing.
27. Gay, L.R., (2002). *Educational Research: Competencies for Analysis and Application*, National Book Foundation, Lahore.
28. Gerard, M., (2005a). Bridging the gap: Towards an understanding of young children's thinking in multiage groups. *Journal of Research in Childhood Education*, 19(3), 243-250.
29. Gerard, M., (2005b). Bridging the gap: Towards an understanding of young children's thinking in multiage groups. *Journal of Research in Childhood Education*, p. 129-142.
30. Geisler, J. L., Hessler, T., Gardner, R., & Lovelace, T. S. (2009). Differentiated writing interventions for high-achieving urban African American elementary students. *Journal of Advanced Academics*, 20(2), 214-247.
31. Gnadinger, C. M. (2008). Peer-mediated instruction: Assisted performance in the primary classroom. *Teachers and Teaching: Theory and Practice*, 14(2), 129-142.
32. Government of Newfoundland and Labrador (2009). *Educational statistics*. St. John's, NL: Queen's Printer.
33. Hargreaves, E., (2001). Assessment for learning in the multi-grade classroom. *International Journal of Educational Development*, 21 (6), 553-560.
34. Juvane, V. (2005). Redefining the Role of Multi-grade Teaching. *Working Document Prepared for the Ministerial Seminar on Education for Rural People in Africa: Policy Lessons, Options and Priorities*. Addis Ababa, Ethiopia, September 7-9.

35. Jordaan, V. A., (2006). Facilitators course on multi-grade teaching. *Facilitators guide with resources*.
36. Kappler, E., & Roellke, C., (2002). The promise of multiage grouping. *Kappa Delta Pi Record*, 38(4), 165-169.
37. Little, A., (1995). Multi-grade teaching: *A review of practice and research*. Education Research, Serial No. 12. London: Overseas Development Administration.
38. Little, A. W., (2001). Multi-grade teaching: Towards an international research and policy agenda. *International Journal of Educational Development*. p. 481-497.
39. Little, A., (2004). *Learning and teaching in multi-grade settings*. Background paper prepared for the Education for All Global Monitoring Report 2005, The Quality Imperative. United Nations Educational, Scientific and Cultural Organization.
40. Little, A. W., (2007). PRIDMORE, P., BAJRACHARYA, H. & ITHANAPHATHIVANA, M. Learning and teaching in multi-grade settings. *A final report to DFID*.
41. Little, A., (2008). Increasing access through multi-grade teaching and learning. *Consortium for Research on Education, Access, Transitions & Equity*. Saarbrücken: Lambert Academic Publishing.
42. Lloyd, L., (2002). Multiage classes: What research tells us about their suitability for rural schools? *Education in Rural Australia*, 12(2), 1-14.
43. LoBiondo-Wood, G., & Haber, J., (1998). Nursing research: *Methods and critical appraisal for evidence-based practice*. Elsevier Health Sciences.
44. Many, J. E. and S. D. Henderson. (2005). Developing a sense of audience: *An examination of one school's instructional contexts*. Reading Horizons. p. 321-348.
45. Mason, D. A., & Burns, R. B., (1996). 'Simply no worse and simply no better' may simply be wrong: A critique of Veenman's conclusion about multi-grade classes. *Review of Educational Research*, 66(3), 307-322.
46. McEwan, P. J., (2008). Evaluating multi-grade school reform in Latin America. *Comparative Education*, 44(4), 465-483.
47. Miller, B. (1990). A review of the quantitative research on multi-grade instruction. *Research in Rural Education*. p. 1-8.
48. Mirvaliev, M., (1987). The components of chi-squared statistics for goodness-of-fit tests. *J. Sov. Math.* 38, 2357-2363.
49. Mugenda, O.M and Mugenda A.G, (2003). Research Methods: *Quantitative and Qualitative Approaches*; Nairobi: African Centre for Technology Studies
50. Mulryan-Kyne, C., (2005). The grouping practices of teachers in small two-teacher Primary Schools in the Republic of Ireland. *Journal of Research in Rural Education*, 20(17), 1-14.
51. Mulryan-Kyne, C., (2007). The preparation of teachers for multi-grade teaching. *Teaching and Teacher Education: An International Journal of Research and Studies*, 23(4), 501-514.
52. Muthayan, S., (1999). Case Studies of Multi-grade Teaching in India and Canada: *Implications for improving primary school effectiveness*. Paper presented at the International Seminar of Researches in School Effectiveness at Primary Level. New Delhi: NCERT.
53. Myburgh, C. P. H. & Strauss, J., (2000). Study Guide: Research Methodology Module 4: Bachelor of Education (B Ed), Training and Development. *National Qualification Framework (NQF) Level 7*. RAU: Auckland Park.
54. Myrberg, E., & Rosén, M., (2008). A path model with mediating factors of parents' education on students' reading achievement in seven countries. *Educational Research and Evaluation*, 14(6), 507-520.
55. Nawab, A. & Baig, S. R., (2001). The possibilities and challenges of multi-grade teaching in rural Pakistan. *International Journal of Business and Social Science*, Vol. 2 no. 15.
56. National Education Commission, (2003). *Proposals for a national policy framework on general education in Sri Lanka*. Sri Lanka: National Education Commission.
57. Pilot, D. F., & Hungler, B. P., (1999). *Nursing research: principles and methods*. Philadelphia: JB Lippincott Company.
58. Post, D., Van Leeuwen, R., Tiesinga, L. J., Middel, B., & Jochemsen, H., (2009). The validity and reliability of an instrument to assess nursing competencies in spiritual care. *Journal of Clinical Nursing*, 18(20), 2857-2869.
59. Pratt, D., (1986). On the merits of multiage classrooms. *Research in Rural Education*, 3(3), 111-115.
60. Pridmore, P., (2007). Adapting the Primary School Curriculum for Multi-grade Classes in Developing Countries: *A Five-step Plan and an Agenda for Change*. London: Institute of Education, University of London.
61. Reis, S. M., McCoach, D. B., Little, C. A., Muller, L. M., & Kaniskan, R. B. (2011). The effects of differentiated instruction and enrichment pedagogy on reading achievement in five elementary schools. *American Educational Research Journal*, 48(2), 462-501.
62. Rouse, C. E., & Barrow, L. (2006). U.S. elementary and secondary schools: Equalizing opportunity or replicating the status quo? *Opportunity in America*, 16(2), 99-123. 140

63. Sibli, M.P.M.M., (2003). Primary Mathematics Unit, National Institute of Education, *Multi-grade Teaching: an Introduction*, Sri Lanka.
64. Stuart, S. K., Connor, M., Cady, K., & Zweifel, A. (2006). Multiage instruction and inclusion: A collaborative approach. *International Journal of Whole Schooling*, 3(1), 12-26.
65. Swenson, L. M., & Strough, J. (2008). Adolescents' collaboration in the classroom: Do peer relationships or gender matter? *Psychology in the Schools*, 45(8), 715-728.
66. Taole, M. & Mncube, V. S., (2012). Multi-grade teaching and quality of Education in South African rural schools: Educators' experiences. *Study Tribes Tribals*, 10 (2): 151-162. Kamla-Raj.
67. Thomas, C. & Shaw, C., (1992). *Issues in the Development of Multi-grade Schools* Washington: World Bank.
68. Tsolakidis, C., & Constantinidi, A., (2006). *ICT reinforcing teaching and learning in multi-grade schools*.
69. Tomlinson, C. A., (2000). *Leadership for differentiating schools and classrooms*. Alexandria, VA: Association for Supervision & Curriculum Development.
70. Tomlinson, C. A., Brighton, C., Hertberg, H., Callahan, C. M., Moon, T. R., Brimijoin, K., Conover, L. A., & Reynolds, T. (2003). Differentiated instruction in response to student readiness, interest, and learning profile in academically diverse classrooms: A review of literature. *Journal for the Education of the Gifted*, 27(2/3), 119-145.
71. Tomlinson, C. A. (2005). Grading and differentiation: Paradox or good practice? *Theory into Practice*. p. 262-269.
72. Tustin, D. H., (2006). Business Research. *Study guide for CBURESX*. Pretoria: University of South Africa.
73. UNICEF, (1998). *An evaluation of the multi-grade and bilingual education project*. Hanoi, UNICEF
74. UNESCO, (1989). Multi-grade teaching in single teacher primary schools. *Asia and the Pacific programme of Educational innovation and development*. UNESCO Principal Regional office for Asia and Pacific Bangkok, Thailand.
75. Veenman, S., (1995). Cognitive and non-cognitive effects of multi-grade and multi-age classes: A best evidence synthesis, *Review of Educational Research*. 65 (4), p. 319 - 381.
76. Veenman, S., (1996). Effects of multi-grade and multi-age classes reconsidered. *Review of Educational Research*, 66(3), 323-340.
77. Vincent, S., Eds., (1999). *The Multi-grade Classroom: A resource handbook for small, rural schools*. Oregon: Northwest Regional Educational Laboratory.\
78. Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes* (M. Cole, V. John-Steiner, S. Scribener, & E. Souberman, Eds. & Trans.). Cambridge, MA: Harvard University Press.
79. Wallace, J.C., Mcnish, H. & Allen, J. Eds., (2001). *A handbook for teachers of multi-grade classes*. UNESCO.Ag 2i communication, Volume one. France.
80. Wood, K. & Frid, S., (2005). Early childhood numeracy in a multiage setting. *Mathematics Education Research Journal*, 16(3), 80-99.