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A Study About Role of Multimedia in Early Childhood Education

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ABSTRACT: *Multimedia is the multi dimensions of media, which can be an amalgamation of text, sound effects, light, animated figures, still images, videos and interactive content forms. Multimedia is simply multiple forms of media integrated together. Multimedia is simply multiple forms of media integrated together, i.e. the collection of audio, sounds, text, graphics etc which develop in programs. Multimedia increased independence, decision making, and consolidation of children's prior knowledge, critical literacy and specific number and language concepts in the students. Multimedia plays a very important role in assisting students in learning processes. In present investigation to identify the role of different types multimedia devices and their positive influence in early childhood education (3-6).The study was conducted in the year 2013. The main area selected for the study was Alambagh. In this area selected five mohllas Pawanpuri, Kailaspuri, Geetapalli, Krishnapalli and Sujanpura. A total of 120 Pre-primary and primary teachers were selected for the study. Random sampling method was used for sample selection and questionnaire schedule was used for data collection. F test and t test used in research for data analysis. The results revealed that the role of different types of multimedia devices and their positive influence are highly significant on children's academic performances and all round development.*

Keywords- *Multimedia, Early Childhood education, Television, Computer, Positive influence.*

I. INTRODUCTION

Multimedia is the integration of multiple forms of media. This includes text, graphics, audio, video, etc. For example, a presentation involving audio and video clips would be considered a "multimedia presentation." Educational software that involves animations, sound, and text is called "multimedia software." CDs and DVDs are often considered to be "multimedia formats" since they can store a lot of data and most forms of multimedia require a lot of disk space.

The word comes multimedia comes from the Latin word "multus" which means "numerous" & media which means "middle" and "centre". Multimedia is general sense therefore means "multiple intermediaries" between sources and sink of information or multiple means by which information is stored, transmitted, presented and perceived. Multimedia is communication that uses any combination of different media, it may or may not involve computers. Multimedia can include a range of formats from a simple PowerPoint slide show to a complex interactive simulation (Learning Circuits) and in most cases is believed to enhance user experience and result in easier and faster understanding of the information presented. The concept of presenting information in various formats is not a new phenomenon, however when reviewing this concept in terms of multimedia it generally implies presenting information in various 'digital' formats (Wikipedia, 2006).

Major elements of multimedia include text, video, sound, graphics, and animation. The elements used in multimedia have all existed before. Multimedia simply combines these elements into a powerful new tool; text has the most impact on the quality of the multimedia interaction. Generally, text provides the important information. Text acts as the keystone tying all of the other media elements together; sound is used to provide emphasis or highlight a transition from one page to another. Sound synchronized to screen display, enables teachers to present lots of information at once. Sound used creatively, becomes a stimulus to the imagination; used inappropriately it becomes a hindrance or an annoyance; video represent information by using the visualization capabilities .While this is not in doubt, it is the ability to choose how we view, and interact, with the content of digital video that provides new and exciting possibilities for the use of digital video in education. Video can stimulate interest if it is relevant to the rest of the information on the page, and is not 'overdone'. One of the most compelling justifications for video may be its dramatic ability to elicit an emotional response from an individual; animation is used to show changes in state over time, or to present information slowly to students so they have time to assimilate it in smaller chunks. Animations, when combined with user input, enable students to view different versions of change over time depending on different variables. Animations are primarily used to demonstrate an idea or illustrate a concept. Video is usually taken from life, whereas animations are based on drawings; graphics provide the most creative possibilities for a learning session. They can be photographs, drawings, graphs from a spreadsheet, pictures from CD-ROM, or something pulled from the Internet. With a scanner, hand-drawn work can be included. Standing commented that, "the capacity of

recognition memory for pictures is almost limitless". The reason for this is that images make use of a massive range of cortical skills: color, form, line, dimension, texture, visual rhythm, and especially imagination

Television (TV) is a telecommunication medium for transmitting and receiving moving images that can be monochrome (black-and-white) or colored, with or without accompanying sound. "Television" may also refer specifically to a television set, television programming, or television transmission.Computer is an electronic device that is designed to work with Information. The term computer is derived from the Latin term 'computare', this means to calculate. Computer cannot do anything without a Program. It represents the decimal numbers through a string of binary digits. The Word 'Computer' usually refers to the Center Processor Unit plus Internal memory. The computer-related literacy experiences of young children should involve a balance between open-ended activities and more closed learning activities. (Segers & Verhoeven, 2002). Computers do provide an environment in which children use a large amount of language with both peers and teachers Children demonstrated more active interest and joy when using the computer programs. They also showed more concentration using the computer than watching It was concluded that the children had more motivation for using the computer, were more happy using the computer, and appeared to "get more out" of that experience. Computers also appear to be highly motivating for young children. They generally have very positive experiences on the computer and tend to stay on task for a long period of time. (Mccarrick & Li, 2007). Slide projector is an instrument to view photographic slides. It has four main elements: an electric light bulb, a reflector and "condensing" lens to direct the light to the slide, a holder for the slide a focusing lens. A flat piece of heat absorbing glass is often placed between the condensing lens and the slide, to avoid damaging the slide. This glass absorbs infrared. Light passes through the transparent slide and lens, and the resulting image is enlarged and projected onto a screen. So the audience can view its reflection.

Video is an electronic medium for the recording, copying and broadcasting of moving visual images. Video codec's will contain a sequence of frames, still pictures and, for compressed formats, movements between those pictures. Quality will vary depending on the number of frames per second, color space, resolution, etc. Video use in early childhood education, promoting strong brain development, preparing children for school, building a stronger workforce and economy. Animations are highly engaging for young viewers and most students, even in the early years show a high level of media literacy and knowledge about animation. The word "animation" is a form of "animate," which means to bring to life For example, a spinning globe is it better to film the motion on video, or is animation a better solution. Through animation in traditional stories provide a huge knowledge related to real context.

Early childhood is a stage of fast development. Due to fast physical development, child becomes more active. In this stage child learn new behavior patterns. Early childhood often seems endless as they wait impatiently for the magic time to come when society will regard them as "grown ups" and no longer as children. Early childhood is the age when dependency is practically a thing of the past and is being replaced by growing independence and ends at about the time the child enters first grade in school.

Early childhood education is a term that refers to educational programs and strategies geared toward children from birth to the age of eight. This time period is widely considered the most vulnerable and crucial stage of a person's life. Early childhood education often focuses on guiding children to learn through play. The term often refers to preschool or infant/child care programs. Early childhood education consists of activities and/or experiences that are intended to effect developmental changes in children prior to their entry into elementary school. Early childhood education is a term that is used to commonly describe the formal teaching and care of young children by individuals or professionals other than their family or in settings outside the child's home.

Multimedia has the potential to create high quality learning environments. With the capability of creating a more realistic learning context through its different media and allowing a learner to take control, interactive multimedia can provide an effective learning environment to different kinds of learners. Multimedia learning materials may be richer, provide more opportunities for elaboration, and have more cognitive connections available for the learner to link the new knowledge with prior knowledge. Multimedia instruction should be more effective than classroom lecture. Multimedia may be effective because it improves students' attitudes toward the learning material. Instruction using multimedia information presentation appears to be a potential learning advantage compared to traditional classroom instruction. Multimedia can also cause learners to attend to the wrong information, thereby decreasing learning. Multimedia may improve learning by allowing the instructional designer to use the most effective medium to present specific information. For multimedia instruction to have a significant, positive impact on education, we need to make multimedia instructional design decisions. (Lawrence, 1995). Primary level is an important stage in the child's educational life. If a teacher succeeds in framing a sound base and making the entire concept clear to a child then in future the student will be able to grasp difficult thing easily (Suleman, 2008). It depends upon effective teaching learning process. Educational technology plays an important and crucial role in making teaching learning process more effective and successful. Educational Technologies are those materials, procedures, organizations, ideas, devices,

instruments or machines which make the teaching learning process more effective, successful, and unforgettable. The primary role of multimedia is learning by doing. Students firstly see the objects and then learn. Multimedia may have unique capabilities to facilitate learning because of the parallels between multimedia and natural way children learn, that is through visual information and imagery. Visual text was presented with graphics; students may be more motivated to success and achievement in vocabulary learning. Vocabulary learning instruction and curriculum should reconsider their use of multimedia within their presentations. (Kim& Gilman, 2008). Using interactive multimedia in the teaching process is a growing phenomenon. Multimedia plays a very important role in assisting students in learning processes. Therefore, it can be concluded that the multimedia enhance and enable students to learn in a more effective way. Use of multimedia tools to engage children. Multimedia tools provide a wealth of new ways to encourage children, explore issues, records views and communication from others. There are two major approaches to using multimedia in early childhood education, first students can learn "from" multimedia. Second they can learn "with" multimedia.With respect to education multimedia are the symbols systems that teachers and students use to represent knowledge representations with others. The foundation for the use of multimedia in early childhood education is "educational communication'. Most teachers and students feel comfortable enough to being using multimedia. Teachers to check out videodisc players for practice at home as means of encouraging them use the equipment in their classrooms. Multimedia are necessary for an education in various ways, developing cross skills and competencies, efficient communication, Solving problems, Critical thinking, Collaboration, Using technologies. Developing attitudes, intellectual curiosity, Responsibility. Student satisfaction and motivation is higher in courses that use multimedia materials. To raise interest level, students appreciate (and often expect) a variety of media. To enhance understanding, rich media materials boost student comprehension of complex topics, especially dynamic processes that unfold over time. To increase memorability, rich media materials lead to better encoding and easier retrieval. Multimedia's capacity to deliver real time simulations through the use of video was a feature that many believed elevated it beyond traditional based learning. Multimedia could be viewed as a means of supplementing replacing or preparing student for practical experiences. Multimedia could provide a solution were where laboratory was too expensive to purchase or maintain, where storage of equipment prevented hands-on use for each student when reduced teaching budgets prohibited the provision of the extra academic and technical staff required to supervise practice sessions. Multimedia teaching tool could provide a solution to concerns such as the pressure to increase student enrolments in course monotonous lectures, lack of interest or motivation in learning a subjects and poor student performances. Multimedia provided and students with greater options and a degree of control over the learning process. This control included display control, pace and sequence control.

II. OBJECTIVE OF THE STUDY

1. To identify the role of different types multimedia devices and their positive influence on children's academic performances in early childhood education.

III. HYPOTHESIS

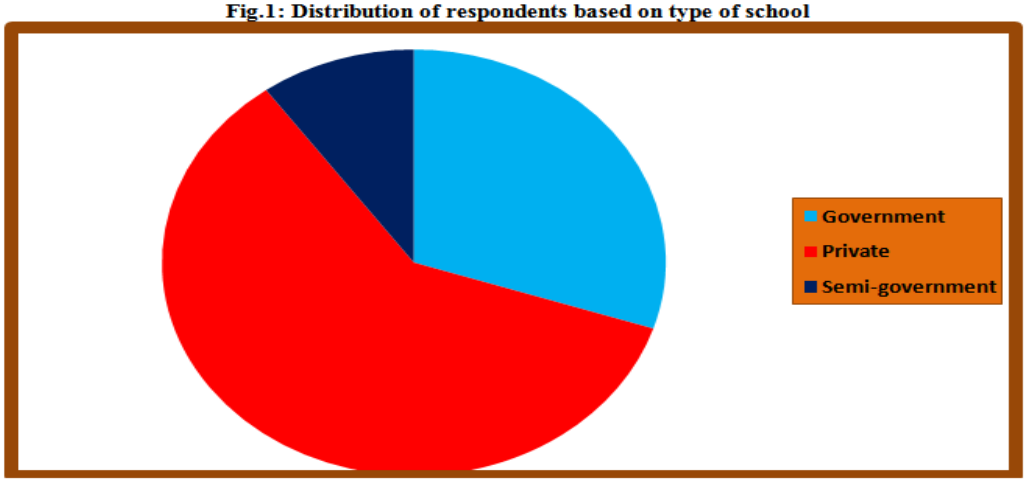
1. Ho:- No significant difference exist in role of different types of multimedia in the early childhood education.
2. H_1:- No significant difference between different types of multimedia devices and their positive influences in early childhood education.

IV. RESEARCH METHODOLOGY

The study was conducted in the year 2013. The main area selected for the study was Alambagh. In this area five mohllas were selected i.e. Pawanpuri, Kailaspuri, Geetapalli, Krishnapalli and Sujanpura. A total of 120 Pre-primary and primary teachers were selected for the study. Random sampling method was used for sample selection and questionnaire method was used for data collection. After data collection, the data were tabulated in Microsoft excel and analysis was done by using frequency, percentage and f-test through SPSS (20^{th} version).

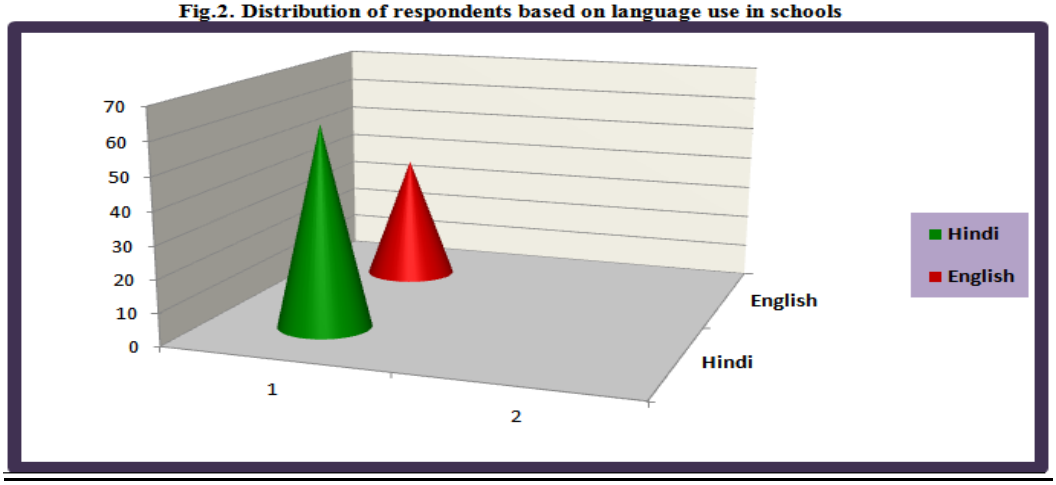
V. RESEARCH FINDING AND DISCUSSION

Fig.1: Distribution of respondents based on type of school



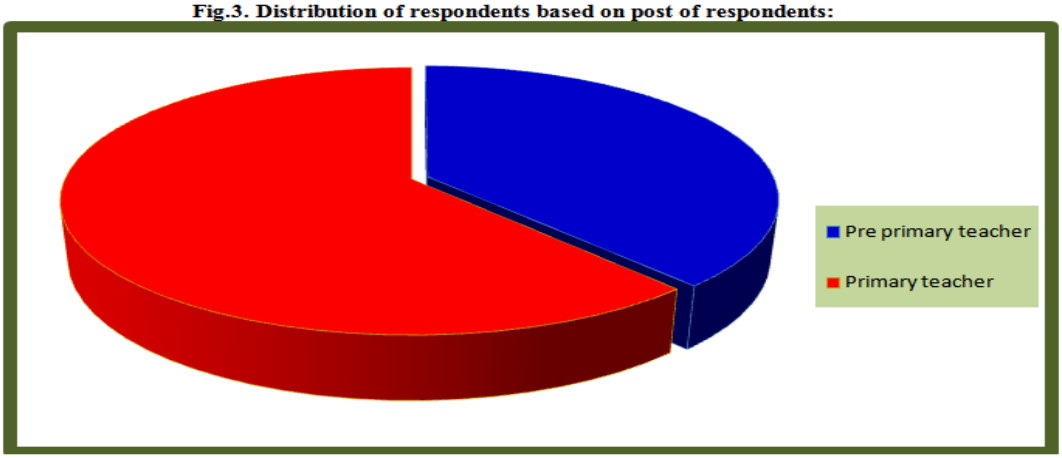
The above graph showed the distribution of respondents on based of school where they taught. Majority (60%) of respondents belongs to private schools, 30 per cent respondents belong to government schools and minimum 10 percent respondents belong to semi-government schools.

Fig.2. Distribution of respondents based on language use in schools



From the above graph it is clear that most (61.7%) of the respondents belongs to Hindi Medium Schools and minimum 38.3 per cent belongs to English medium s schools.

Fig.3. Distribution of respondents based on post of respondents:



The graph has shown the post of respondents in schools. Majority (61.7%) of respondents is primary teachers and minimum (38.3) are pre-primary teachers.

Table 1: Mean, S.D. & F value of variables based on the education

Variables	Graduate		P.G.		Other		F-value	Sig
	Mean	SD	Mean	SD	Mean	SD		
Watching television inculcates moral ethics in a children-	.35	.486	.57	.499	.71	.460	4.158	.018*
Computers increase children's content related knowledge-	.55	.506	.80	.401	.57	.504	4.338	.015*
Animation in stories provide opportunity to children's for observe, manipulate and investigate-	.52	.508	.44	.000	1.00	.000	15.916	.000***
Videos helpful to present for students a real-world context-	.65	.486	.80	.488	.64	.488	1.920	.151
Use of slide projector enhance child engagement related to education-	.16	.374	.39	.441	.75	.441	12.591	.000***

(p<0.05*) & (P<0.001***)

The above table shown the high significant differences in watching television, computers increase children's content related knowledge, animation in stories provide opportunity to children's for observe, manipulate and investigate and use of slide projector enhance child engagement related to education. No difference found in videos helpful to present for students a real-world context.

Table 2: Mean, S.D. & F value of variables based on the types of school

Variable	Government		Private		Semi government		F –value	Sig
	Mean	S.D.	Mean	S.D.	Mean	S.D.		
Watching television inculcates moral ethics in a children-	.69	.467	.47	.503	.58	.515	2.463	.090
Computers increase children's content related knowledge-	.56	.504	.86	.348	.00	.000	28.303	.000***
Animation in stories provide opportunity to children's for observe, manipulate and investigate-	.67	.478	.49	.503	1.00	.000	6.766	.002*
Videos helpful to present for students a real-world context-	.47	.506	.81	.399	1.00	.000	10.617	.000***
Use of slide projector enhance child engagement related to education-	.53	.506	.42	.496	.08	.289	3.797	.025*

(p<0.05*) & (P<0.001***)

The result revealed that, highly significant difference was found in Computers increase children's content related knowledge and videos helpful to present for students a real-world context. No significant differences was viewed in watching television inculcates moral ethics in a children whereas significant differences shown in animation in stories provide opportunity to children's for observe, manipulate and investigate and Use of slide projector enhance child engagement related to education.

Table 3: eMean, S.D. & t- value of post in the schools

Variables	Pre- primary		Primary		t-value	Sig
	Mean	S.D.	Mean	S.D.		
Watching television inculcates moral ethics in a children-	.67	.474	.47	.503	9.133	.003*
Computers increase children's content related knowledge-	.78	.417	.62	.488	16.062	.000***
Animation in stories provide opportunity to children's for observe, manipulate and investigate-	.52	.505	.64	.485	3.325	.071
Videos helpful to present for students a real-world context-	.35	.482	.96	.199	139.223	.000***
Use of slide projector enhance child engagement related to education-	.63	.488	.28	.454	3.343	.070

(p<0.05*) & (P<0.001***)

The above table shown significance differences in computers increase children's content related knowledge and videos helpful to present for students a real-world context. No differences shown in animation in stories provide opportunity to children's for observe, manipulate and investigate and use of slide projector enhance child engagement related to education whereas significant difference found in watching television inculcates moral ethics in a children.

VI. CONCLUSION

It was observed from the study that the role of multimedia devices based on teachers education, types of school and post of teachers in schools. Teacher's knowledge increased the understanding in early childhood education through multimedia. Multimedia devices have quality to improve early education. Television helpful for increased knowledge about moral values in early childhood. Computers provide correct knowledge in interactive ways. Videos are mostly based on real situation that's by children's interacting easily. Animation are deeply affected the mind of children's and increased their academic performances. The presentations through slide projectors increase children's attention. This shows that there is an association between dependent and independent variables. The hypothesis was, therefore, not accepted.

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