Effects of multimedia on learning skills of Kids (2-5 yrs.)

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Abstract: Early childhood education is an important stage in child's educational life. This is the span of life when rapid development takes place in all aspect. Child begins to learn from surroundings, kids use to observe, absorbs and reacts. In this Digital Ira multimedia is playing important role because gadgets are everywhere. A small kid at home is also surrounded by many digital devices. Cartoon channels, Mobile Apps, Games, Videos and Audios are different forms of multimedia used frequently for entertainment or for the purpose of education even at home. Due to ease of access of Internet in recent times, more and more educational apps have flooded the market.With the help of multimedia in small age, kids access vast variety of information andare able to gain content related knowledge. This research is mainly based on effects of multimedia on Learning Skills of kids in age group 2 to 5 years old. The main focus of study is on Attention, Memory and Thinking capability of kids which may get affected due to use of multimedia in primary education.

Keywords: Multimedia, Mobile, TV, Apps, Learning Skills, Effects, kids, Attention, Memory, Thinking.

I.   Introduction

Multimedia is a combination of text, video, sound, pictures and animation. This always attracts human being of all age group. 10 years back android operating system came in market and gave birth to Mobile Apps and Games. Nowadays Smart TV and Mobile Apps/Games are boosting the multimedia contents. Today they work like main sources to gain knowledge and explore the world. Few articles and research papers says multimedia give positive impact on child in early age. They say that Observation, Manipulation and Investigation skills are enhanced due to introduction of educational Multimedia Contents to kids in early age. Even Cartoon Chanel telecast programs to boost kid's moral and ethical values, as well as child can learn good habits and bad habits just watching their favorite cartoon serials. But in real life scenario people are experiencing both positive and negative sides of Multimedia. Parents are complaining about few bad habits and tantrums thrown by kids as negative effects of it on their wards.

The objective of the paper is to find whether multimedia helps kids in their learning process in early age. There are three main pillars of learning process. Kids start learning by observing so attention is very important factor, then they memorize the concept and afterward they start thinking on it. The questionnaire is designed base on these three categories Attention, Memory and Thinking. It will help us to come toward a concrete conclusion.

The paper organized in VII sections. Section II gives literature review, where glimpse of previously done work are present. This section gives a base for further study in this topic. Section III clears the objective of the study. Section IV talks about research methods used in study. Numbers always helps us to come with a conclusion, Section V presents outcomes as Results in numeric form. Conclusion on results and scope for further study ismentioned in section VI. Section VII gives us references.

II.   Literature Review

Multimedia can assist kids in learning processes. There are two ways to learn with multimedia, Learn "From" Multimedia and Learn "With" Multimedia. Multimedia tools like Smart Televisions, Educational Videos, Audio records, Games, and Mobile Apps can improve early education by sharing knowledge in interactive ways. Multimedia learning material have more cognitive connections available, which helps in deeper understanding and improve problem solving skills of kids in early age. [2]

Since last two decades we are witnessing a revolution due to onset of technology. The rapid development in e-learning sector offers new ways in which learning can take place at home. Learning at home represents an educational opportunity with the potential to improve learning. Learning with multimedia is a big success because it engages one of the five human senses for information reception "sight and sound". Due to motion and sound multimedia contents can capture kid's attention, generate interest and motivate them for learning process.[6]

The learning process always begins with observation and then act. Multimedia supports this "Learning by Doing" approach. Attractive visual information, images, animations help kids to pay attention and learn the

concept with more enthusiasm. Due to alphabets and words presented with images kids may get motivated in vocabulary learning. [3]

Technology and social media plays very important role in our daily life. Anyone can use it to learn any concept at any time and at any place. It helps us to overcome challenges in all aspects of social, economical and cultural life of individual. The teaching process becomes effective if it generate interest in students for learning. Implementing science lesions with use of multimedia can lead towards making a difference, which produce in students a long term memories about the concept. [7]

Research has also shown increases in young children's motivation to learn when they are involved with engaging and fun digital media. Computer learning activities can elicit high levels of interest in and focus on the learning task that does not tend to diminish over time [5], and young children reported high levels of enjoyment and engagement [1].

The kids in early age are not mature enough to distinguish fantasy from reality. If they spend a lot time with multimedia then the time spend on other healthy activities like sports, physical activities, family time get affected. Adverse effects of this are aggressive behavior, anger, social isolation, childhood obesity, eating disorders are commonly found in our young generation.[8]

e-learning environments designed using multimedia can give different effects basing on difference in students characteristics. If learning environment is not designed in line with the learner's cognitive style then cognitive overload can lead to the negative impact on the learning outcomes. [9]

The first five years of childhood are very important for the overall development of child. In this span of childhood fast development occurs. Kids easily learn new behavior patterns. Multimedia elements introduced in early years make students more dependant and physically inactive. If they see violence through multimedia element, they do something like that. At this crucial age multimedia contents my create confusion, disturbance in their mind. [10]

III. Objectives Of The Study

To analyze the effectiveness of multimedia contents on learning skills of kids in small age group 2 to 5 years.

IV. Research Methods

Questionnaire was prepared on three aspects:
a) Attention span of kids
b) Memory
c) Thinking capability

The data for this research study was collected intwo ways.By conducting interview of two playgroup teachers and interview of an owner of Daycare centre. Along with that one questionnaire was prepared, consisting of 25 questions which covers the above mentioned three aspects. This questionnaire was distributed to the parents of kids belonging to the age group 2 to 5 years old. 76 Parents responded to the Questionnaire. Excel was used in this study for analysis of variables. Simple pie charts are used to represent data in graphical format and outcomes are measured in two classes using YES/NO parameters. If large data set is available then correlation study can be done with help of R studio.
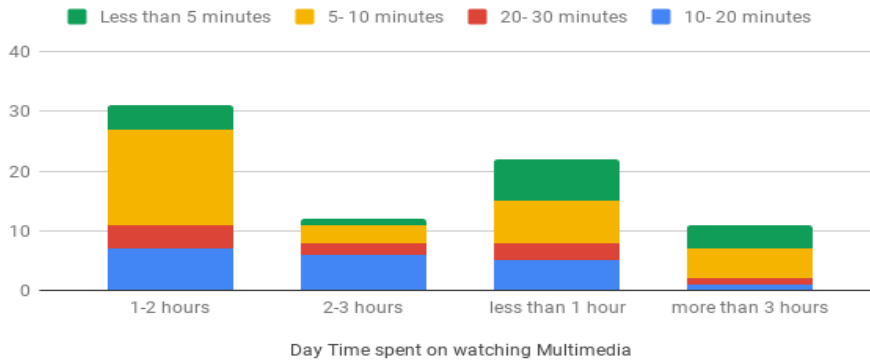
V. Results And Discussion

Figure 1: Attention span v/s Day Time spend with Multimedia

Here it is observed that if kid spends more than 3 hours for watching Television then Attention Span of the kid gets reduced, while moderate time 1-2 hours spending on Television says attention span of kid is comparatively good. This contributes a lot towards learning process of a child.
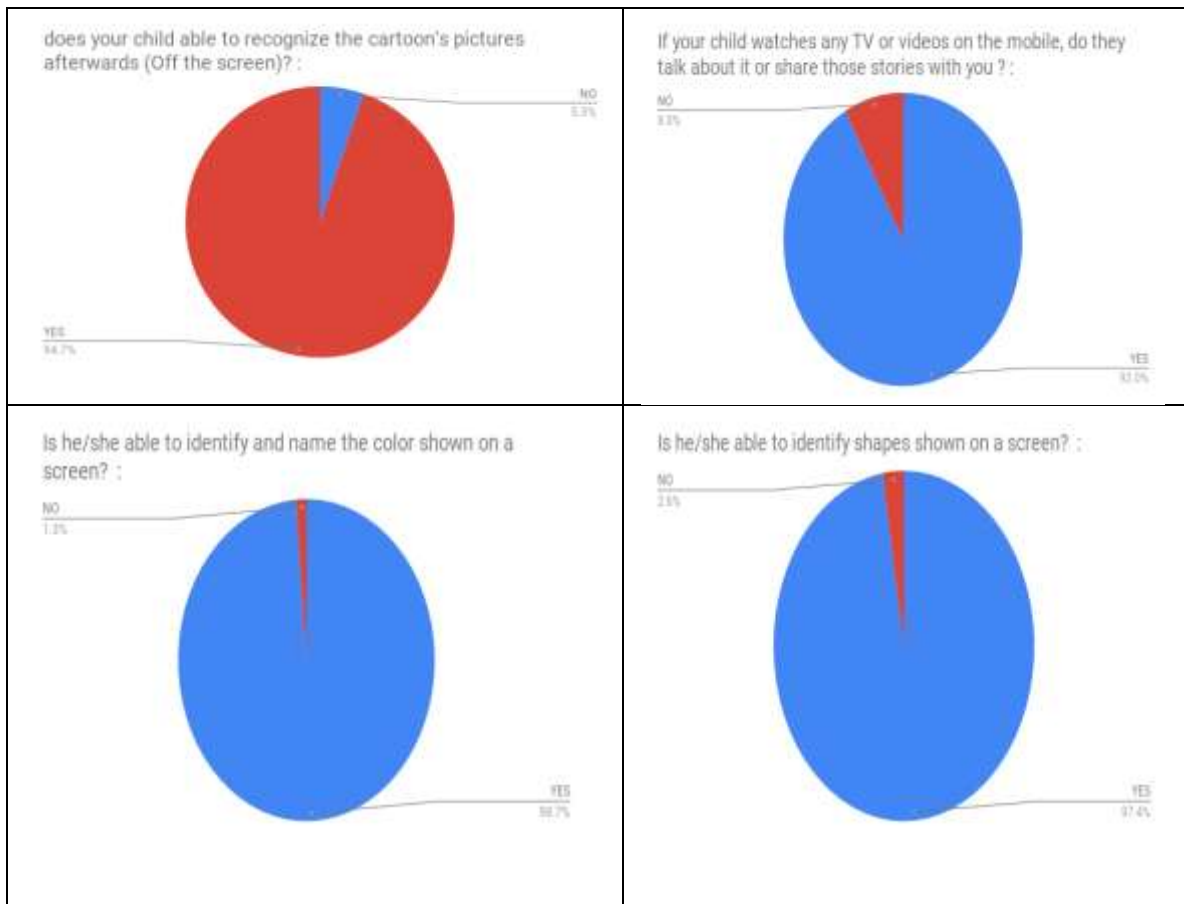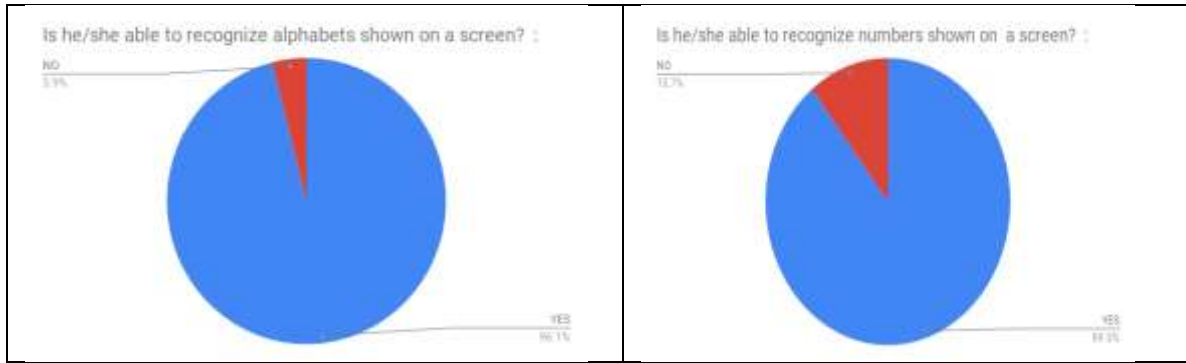
Figure 2: Impact of Multimedia on kids Memory

As far as Memory aspect is concerned, it has been observed that as the effect of multimedia in early age giving us positive effects. In all six scenarios we got more than 90% answers in YES.94.7% kids under 2- 5 yrs are able to recognize the cartoon's pictures off the screen. 92% kids use to talk about what they watch on digital media and share those stories with parents. 98.7% kids are able to identify and name the color shown on the screen. 97.4% kids are able to identify shapes, 96.1% kids recognize alphabets and 89.3% kids recognize numbers shown on a screen.

These numbers indicates kids are absorbing content related knowledge in their memory very quickly.
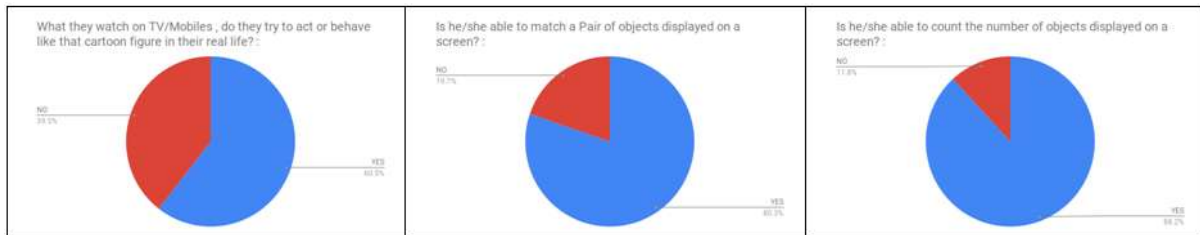

Figure 3: Impact of Multimedia on kids Thinking

Above Figure3, shows that Multimedia is making good impact on thinking capability of kids where 88.2% of kids are able to count the number of objects displayed on screen. 82.3% of kids are able to perform match the pair of objects displayed on screen. But the first figure says that 60.5% of kids try to act and behave like that cartoon figure in their real life, which reflects bad impact on their Thinking capability.

If multimedia contents get used in constructive way, it will surely give positive results. As we can see the outcome of the analysis, if we keep time span of watching multimedia under control then the "Attention" span of kids is good while spending more than 3 hours with multimedia contents gives negative impact on attention span of kids. Watching the Educational videos, Cartoon Channels, Mobile Apps increase kids interest in the contents and it is reflected in the results. In all six cases we got results in very high range indicates that one of the main component of learning process "Memory" is improved. Thinking process begins with memory.

In real life, child remembers something and then starts relating them with each other. The questions like whether kids able to count or perform match the pairs, do they relate themselves with carton figures helps us to come out with the conclusion that Thinking process of kids is also improved.

This study will definitely helps parents of younger kids to come out of dilemma whether to introduce multimedia for kids in very early stage of their life.

VI. Conclusion

According to the outcome of the study and survey it can be concluded that: The Multimedia contents are significantly useful for enhancing Learning skills of kids in early age.

The study can go ahead with large dataset. With the help of R studio,the variables can be correlated and able predicts new trends with data.

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