Are kids mentally smart or are they smart because of technology?

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Abstract- This research report explores the influence of technology on smartness &cognitive development of children with analyzing thebehavior of children with using the gadgets and advanced devices. This paper investigates that whether the mental capabilities of children are due to use of technological equipment and tools or they have their abilities. This research uses mixed approach method questionnaire and survey approach with convenience sampling from 15 respondents three of them was selected for aninterview. Results indicate that children are nowadays are moving towards the age where parents will make their children bounded with these technologies and limiting their thinking capabilities to solve the complex matters and issues that will surely make children dumb instead of making smarter.

Index Terms- Technology, Digital Age, Mental Development, Kids, gadgets

I. INTRODUCTION

Television was considered as the advanced technology that was in the homes that were later replaced by the videos and computers. In today world of advanced technology and sophisticated innovations, children are growing in anage that is titled as digital age, this digital age is rapidly growing and changing that is completely different from the age of the parents and ancestors of the children. Now, we are surrounded by awide range of technologies not only in offices but in homes, markets, schools and healthcare too. New technology, advanced gadgets, and digital media support can be used for enhancing the learning process and gaining in-depth knowledge if it is utilized wisely. This advanced technology can be asource of optimizing the learning potential of children if children are engaged in enjoyable experiences. Not only learning process but also thedevelopment of children, relationship with peers and adults can also be fortified through using advanced technology(Simuforosa, 2013). As relying and depending more and more on advanced technology for the develop mail process of childrenit also emerges with the downsides that leading towards over excessive use of gadgets by the children. It is not surprising for parents and the caretakers that children are becoming addictive users of these advanced technology gadgets.

Mobile phones and different advanced gadgets, instead of investing in the creative opportunities for the development of children, enhancing their learning process and supporting educational tasks, can be asource of increasing distraction and negative outcomes on the physical,mental and cognitive development of children(Subrahmanyam, Greenfield, & Kraut, 2001).

This research aims to find that whether children are affected by these modern technology tools and their smartness are because of this technology or they are smart mentally. This study emphasizes on gathering opinions of parents and caretakers to identify whether kids are mentally smart or are they smart because of technology.

II. LITERATURE REVIEW

Before the event when the children speak their first word, their brains are having an excessive amount of learning that is happened before they reach theage of five. Research connected to the University of Washington indicates that the advance gadgets are not of significance importance for the development of the children. Children can be involved in having communication with the society and reading of the books too. Instead of gadgets and advanced tools, children are required the time from their parents and having involvement of parents in their matters. Moreover, excessive exposure to gadgets results in deficient attention, delay in cognitive development and weak learning process(Costley, 2014).

Another problem that is identified by the researcher is that use of technological gadgets and devices can be asource of weakening the memory of children. A new generation of children is witnessing problems and issues in writing complete statements, sentences and paragraphs and spellings because they are involved in using text messages and internet slang.

Studies also put forward that when children are exposed towards different technological tools excessively, this result in creating adistraction from the duration of quality sleep and therefore this will ultimately lead to poor performance in academics(Schacter, 2002).

Another study put forward that due to increase use of modern technologies, children can be accompanied by less amount of sleep and that will in result increase in difficulties to have attention towards academic performance. Laptops and palmtops are available in the market that had to attract the target market of young children that starts from the year of 3 to 4 years. Smartphones are available easily for the children for the age group of children from 10 to 12 years. According to asurvey conducted by The Kaiser Family Foundation in 2010, children belongs to theage group of 8-18 years old, spend their ten hours in average in front of the media and digital gadgets(Haughton, Aiken, & Cheevers, 2015).

Nature Conservancy, in a global survey, put forward that the throughout the globe, preschoolers spend only 12 hours in a week,playing outdoors or on a playground. Therefore, it should not be afact of asurprise that when children will turn to theage

group of 7 to 10, theconcept of traditional play will be over and they will be surrounded with the gadgets and the advanced tools. Advanced tools and techniques and devices, can also be asource of bringing advanced educational opportunities with creative work for children that can result in enhancing the knowledge of children. Different studies put forward that the benefits of using technology in schools can lead to establishing different projects that will involve students to think critically and solve the problems using their metal capabilities. Technology can be utilized to redesign and reframing the classrooms of the children that can produce that environment which will be helpful for promoting the development of skills in children for higher order level. Technology can also be asource of increasing student collaboration that is a highly effective tool for the learning process of children. Through utilizing technology children can work in groups that can be asource of learning from each other and working collaboratively.(Hatch, 2011)

Due to arich body of research, now people are aware of the development process of children and therefore cutting –edge technologies and media are playing asignificant role in creating awareness among parents and caretakers about applying the principles of development and learning of the children. Through theintegration of technology in the childhood development programs, professionals are succeeded in creating solid developmental foundations for the children. It is important for the early childhood programmers to improve the developmental program quality through identifying the opportunities and challenges of advanced technology that can affect the developmental process of children(NAEYC, 2013).

The benefits of traditional playing on theground and outdoors are not limited to physical health and development of children but also it positively affects the mental, emotional and cognitive development of children. In contrast, the demerits of addictive to gadgets are huge that can affect the children until they reached their adulthood. It is important for parents and guardians of children, before handing over gadgets to their child, to have in-depth emphasize on the long-term effects of advanced gadgets on physical and brain development of their child.

III.   Goal of the Study

Children are living in world of interactive media and advanced technology. Children are growing up and developing their skills and capabilities with the presence of digital devices that have become part of our culture and environment at work, at school, at home and in every field of our community. Specifically, these tools have been asource of transforming the management of parents and families in their daily lives and use these tools for the purpose of having entertainment and providing their children a source of leisure. Teachers are using these tools in the school and classroom for thepreparation of syllabus and educational material. This study aims to identify the influence of technological tools on themental smartness of kids, whether they are being smart due to the use of the tools or they are mentally smart and using these tools according to their smartness.

IV.   Importance of Study

The increasing time duration children spending on computers, laptops, palmtops and smartphones has promoted the concerns of parents and researchers how the use of these advanced tools is making difference in themental development of the children. It is observed that the children are involved in taking help for their homework and educational tasks that make them smart due to increased knowledge of children. This article provided an overview of the effects of advanced technology on themental development of children and identifying the influence of these tools on thesmartness of kids.

Research Question

Following Research Questions are designed to have detailed knowledge about the topic:

- What are the effects of advanced tools onthe mental development of children?
- What are the purposes for which children use advanced tools?
- What is the role of parents in developing children mental development?

Research Limitation

This research study is limited to identify the influence of advanced tools at children from theage group of 5 to 15. Additionally, the respondentswill be caretakers,guardians, and parents of the children, as there will more chance that this group of respondents will be asource of identifying detailed information about the defined topics. It is possible that there will be achance of biases from the respondents in providing authentic information that may limit authenticity of data gathering procedure.
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Data Collecting Methodology
Introduction

This section of the report comprises of methodology for the execution of the study and specifically for data collection process. In this chapter of the study, theresearcher had included all important research tools,techniques, theprocess for the process of data analysis and delivering appropriate results. Data that was gathered for conducting the study and survey procedure was gathered through primary and secondary sources with the approach of amixed method that is conducting thesurvey, analyzing data through quantitative method, also conducting interviews with the respondents, and analyzing data through qualitative method.

Research strategy

In this section of research methodology, research study identifies the technique that will be used for the purpose of data collection. These techniques ranged from case studies, actionresearch, surveys, experiments, ethnography and grounded theory (USC, 2016). This study used survey method that will identify the opinions of respondents.

Research design

Through structuring appropriate research design, researchers can cater identified research problem in themore systematic way (laerd dissertation, 2012).This research study emphasizes on

exploratory research design that involves survey and interview methods that are utilized toexplore the research topic. This research used mixed approach through collecting data from primary sources and analyzing through quantitative and qualitative means.

Sample Size and Design

The sample of this research study involves 15 respondents that are selected for gathering data and two respondents are selected for theinterview process that will help theresearcher to identify detailed knowledge about the topic. All respondents were selected through executing convenience sampling method as this sampling method consume less time and can be asource of gathering relevant information from the respondents.

Sources of data collection

Researchers have two important sources for the purpose of data collection that are titled as primary & secondary data

sources. Primary data is characterized as original data that is collected for the identified research topics. It is also called first-hand information (Kaueper, 2016). Secondary data is titled as findings of other prominent researchers that is used by another researcher in order to provide reliable and authentic information. Additional sources of secondary data includewebsites, published journal, articles, newspaper and books. Primary data was gathered through using questionnaire and interview that is conducted with the respondents.
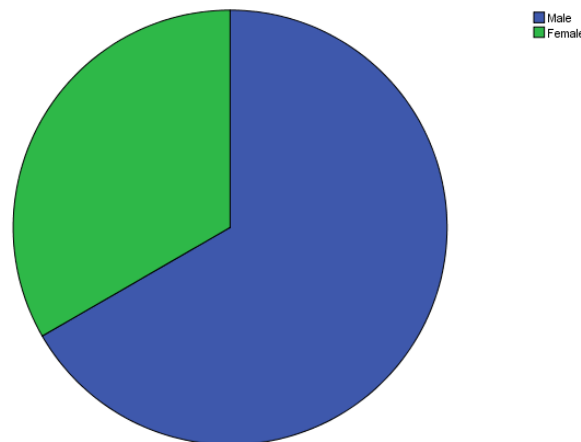
Questionnaire Result

Respondents were given a questionnaire having 12 questions that were designed to identify relevant information about the set topic of the research. The first question that was asked of the respondents was about indicating their gender. Below mentioned table and graph indicate that there were 10 males and 5 females who participate in the process of thesurvey.

What is your gender?

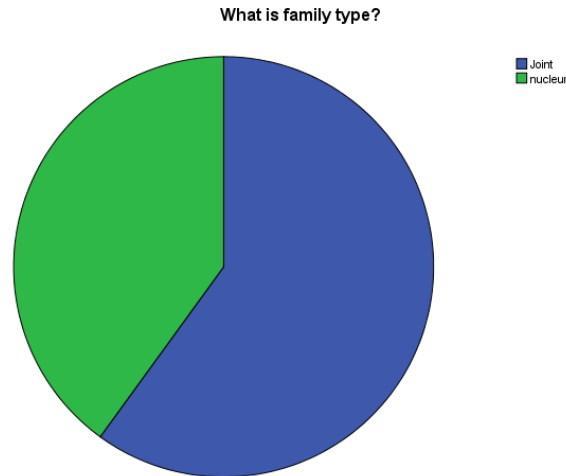|		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	10	66.7	66.7	66.7
	Female	5	33.3	33.3	100.0
	Total	15	100.0	100.0	

What is your gender?

Next question that was asked of the respondents was about identifying their family type, 9 of the respondents indicates that they live in joint family and 6 of the respondents indicates that they live in anuclear family.
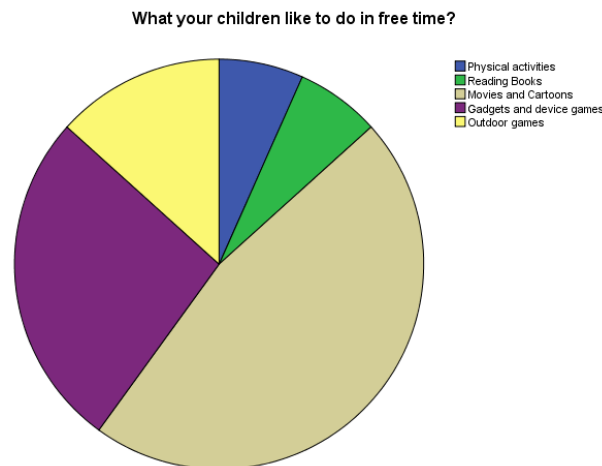
What is afamily type?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Joint	9	60.0	60.0	60.0
	nuclear	6	40.0	40.0	100.0
	Total	15	100.0	100.0	

What is family type?

■ Joint
■ nucleur

Next questions for which respondents answer the question were about identifying the tasks which their child executes in their free time. The majority of the respondents indicate that their children like to watch movies and cartoons in their free time,four of the respondents that their children like to play games in their gadgets and advanced tools and devices. Only two of the respondents identify that their children like to play outdoor games, only one respondent indicates that their children like to read books and involve in physical activities.

What do your children like to do in free time?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Physical activities	1	6.7	6.7	6.7
	Reading Books	1	6.7	6.7	13.3
	Movies and Cartoons	7	46.7	46.7	60.0
	Gadgets and device games	4	26.7	26.7	86.7
	Outdoor games	2	13.3	13.3	100.0
	Total	15	100.0	100.0	

What your children like to do in free time?

■ Physical activities
■ Reading Books
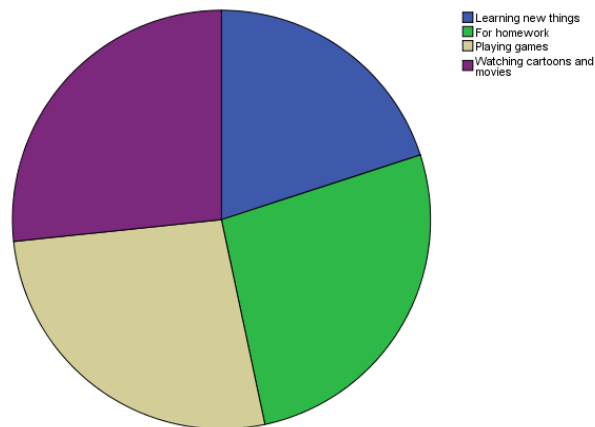■ Movies and Cartoons
■ Gadgets and device games
■ Outdoor games

Respondents also indicate about the purpose behind the use of gadgets and advanced tools, that are used by their children. A similar number of respondents indicate that their children use their advanced tools and gadgets for the purpose of doing their

homework, playing games and watching cartoons and movies .three of the respondents indicates that their children use gadgets for learning new things.

For what purpose your children use gadgets and advanced tools?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Learning new things	3	20.0	20.0	20.0
	For homework	4	26.7	26.7	46.7
	Playing games	4	26.7	26.7	73.3
	Watching cartoons and movies	4	26.7	26.7	100.0
	Total	15	100.0	100.0	

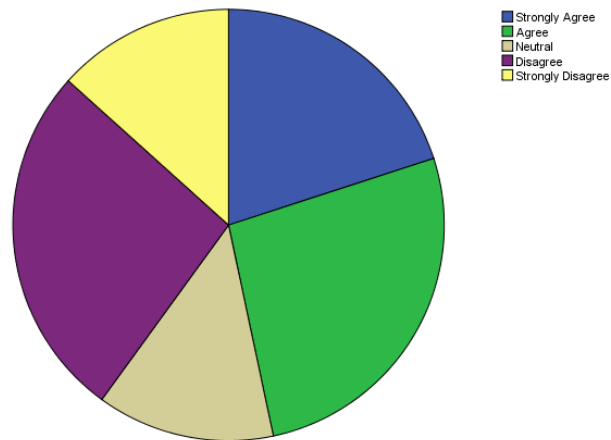For what purpose your children use gadgets and advanced tools?

Next question that was asked of the respondents was about indicating their views about the effect of advanced technology in enhancing theeducational performance of their children. 3 of the respondents indicates that they strongly agreed,4 respondents identify that theyagreed, 2 respondents give anopinion that they wereneutral,4 total respondentsidentify that they disagreed and 2 respondents strongly disagreed about this point of view.

Technology is helping your children in improving their educational performance

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	3	20.0	20.0	20.0
	Agree	4	26.7	26.7	46.7
	Neutral	2	13.3	13.3	60.0
	Disagree	4	26.7	26.7	86.7
	Strongly Disagree	2	13.3	13.3	100.0
	Total	15	100.0	100.0	

Technology is helping your children in improving their educational performance

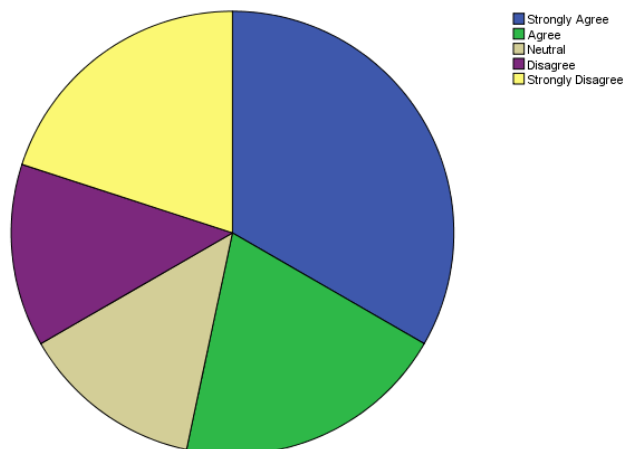
Next question that was asked of the respondents was about indicating their views about the effect of advanced technology in enhancing thelearning process of their children.Fiverespondentsstrongly agreed,3agreed, 2 of the respondents identify that they wereneutral,2 respondents disagreedwith this statement and3respondentsindicate that they strongly disagreedwiththis point of view.

Technology is helping your children in enhancing their learning process

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	5	33.3	33.3	33.3
	Agree	3	20.0	20.0	53.3
	Neutral	2	13.3	13.3	66.7
	Disagree	2	13.3	13.3	80.0
	Strongly Disagree	3	20.0	20.0	100.0
	Total	15	100.0	100.0	

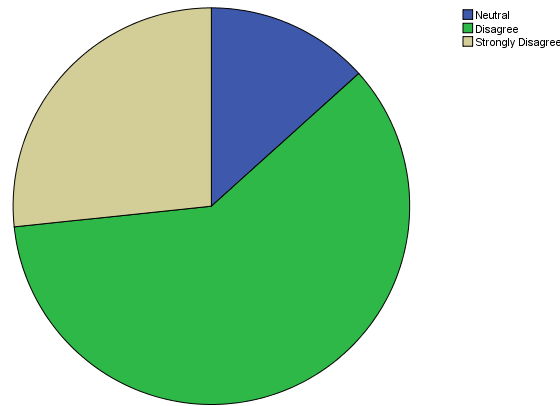Technology is helping your children in enhancing their learning process

Next question that was asked of the respondents was about indicating their views about the effect of advanced technology in creating more strong bonds with peers and other adults.4 of the respondents strongly disagreed,2 respondents strongly agreed, none of the respondentsagreed and neutral,9 respondents disagreed and about this point of view.

Technology is helping your children in creating more strong bonds with peers and other adults

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neutral	2	13.3	13.3	13.3
	Disagree	9	60.0	60.0	73.3
	Strongly Disagree	4	26.7	26.7	100.0
	Total	15	100.0	100.0	

Technology is helping your children in creating more strong bonds with peers and other adults
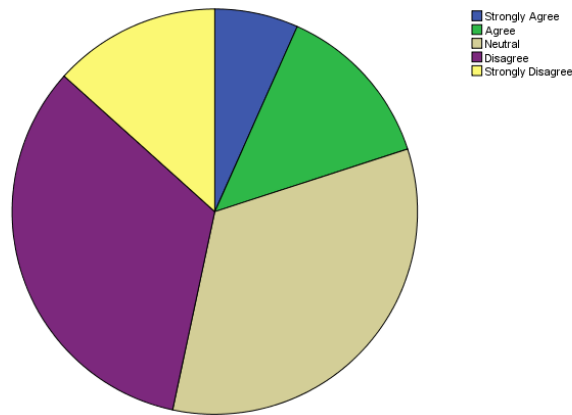
- Neutral
- Disagree
- Strongly Disagree

Next question that was asked of the respondents was about indicating their views about the effect of advanced technology in identifying their hobbies and involving in physical activities. 1 respondent indicates that he or shestrongly agreed with this statement,2 respondentsagreed, 5 respondents were neutral and disagree and 2 of the respondents were strongly disagree about this point of view.

Technology is helping your children in identifying their hobbies and involving in physical activities

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	1	6.7	6.7	6.7
	Agree	2	13.3	13.3	20.0
	Neutral	5	33.3	33.3	53.3
	Disagree	5	33.3	33.3	86.7
	Strongly Disagree	2	13.3	13.3	100.0
	Total	15	100.0	100.0	

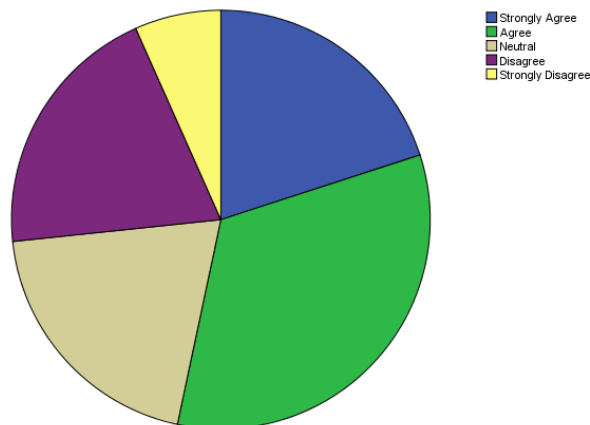**Technology is helping your children in identifying their hobbies and involving in physical activities**

Next question that was asked of the respondents was about indicating their views about the effect of advanced technology in enhancing IQ level of children. Only one respondentwas strongly disagree, three disagreed, three indicates that they strongly agreed, three said they were neutral about this and five respondents agreed with this.

Technology is asource of enhancing IQ level of children.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	3	20.0	20.0	20.0
	Agree	5	33.3	33.3	53.3
	Neutral	3	20.0	20.0	73.3
	Disagree	3	20.0	20.0	93.3
	Strongly Disagree	1	6.7	6.7	100.0
	Total	15	100.0	100.0	

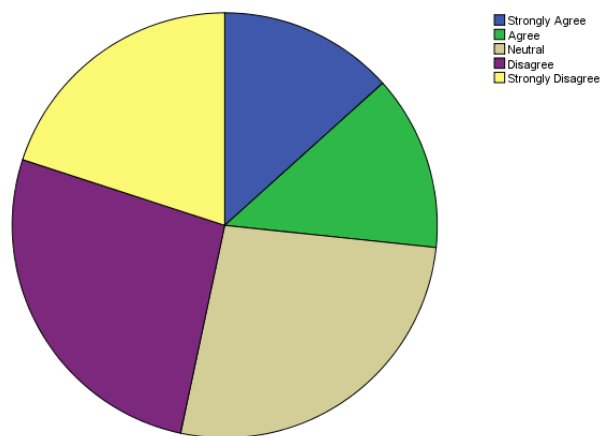**Technology is source of enhancing IQ level of children.**

Next question that was asked of the respondents was about indicating their views about More exposure to technology is asource of relying on tools instead of depending on thecognitive ability of children.Among all respondents three respondents indicate that they strongly disagreed, two respondents agreed and asimilar case for respondents who strongly agreed. A same number of respondents were neutral and disagree.

More exposure to technology is asource of relying on tools instead of depending on thecognitive ability of children.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	2	13.3	13.3	13.3
	Agree	2	13.3	13.3	26.7
	Neutral	4	26.7	26.7	53.3
	Disagree	4	26.7	26.7	80.0
	Strongly Disagree	3	20.0	20.0	100.0
	Total	15	100.0	100.0	

More exposure to technology is source of relying on tools instead of depedning on cognitive ability of children.
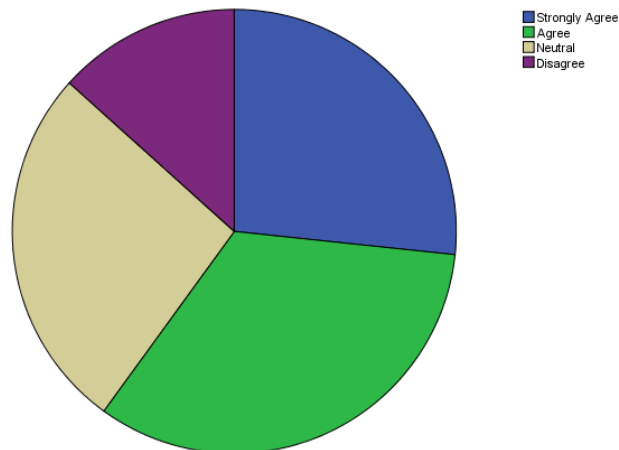

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

Next question that was asked of the respondents was about indicating their views about their beliefabout giving technologyintochildren are a decent idea.None of the respondents strongly disagreed about this point of view, 4 of strongly agreed and same were neutral,5 respondentsagreed.

Do you believe technology in the hands of children as young as five is a practical and good idea

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	4	26.7	26.7	26.7
	Agree	5	33.3	33.3	60.0
	Neutral	4	26.7	26.7	86.7
	Disagree	2	13.3	13.3	100.0
	Total	15	100.0	100.0	

Do you believe technology in the hands of children as young as five is a practical and good idea
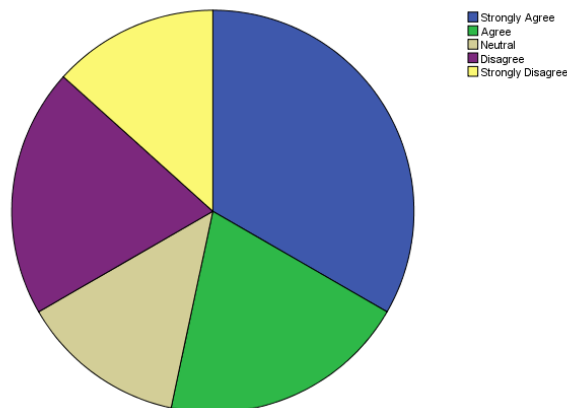

Next question that was asked of the respondents was about indicating their views about their belief about more technology should be put into the hands of children sooner.There were five respondents in total that identify that they strongly agreedwith this statement, only two strongly disagreed, three respondents indicates that they agreed and two were neutral about this statement.

Do you believe more technology should be put into the hands of children sooner

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	5	33.3	33.3	33.3
	Agree	3	20.0	20.0	53.3
	Neutral	2	13.3	13.3	66.7
	Disagree	3	20.0	20.0	86.7
	Strongly Disagree	2	13.3	13.3	100.0
	Total	15	100.0	100.0	

Do you believe more technology should be put into the hands of children sooner

V. RESULT ANALYSIS

From above results and opinions, this study put forward that the technology has emerged since the rise of thelast generation. Children nowadaysare involved in using advanced technologies, gadgets, and tools to search for their educational materials that provide them abetter understanding and in-depth knowledge of any topic. When the children learn to use these advanced tools and technologies they are able to gain more knowledge and understanding about anything they need. Today children are

growing smarter as compare to children of the era before thedigital age.

Technology itself had made the children smarter as it provides children to look into thecollective knowledge of mankind, and learn certain subjects with free and easy access. However, it is significant to consider that whether technologies are making children smarter or they are extremely depending on these tools to have aneasy solution to their complex work and gain nothing except negatively influenced development. It is not important to gain some information,use it and attain good scores in school or any other activity. Children are using these technologies neglecting their physical,cognitive and emotional development. They cannot be able to face different situations and challenges,as using gadgets and technological equipment are working as a tool on which they are completely dependable. Results indicate that children are nowadays are moving towards the age where parents will make their children bounded with these technologies and limiting their thinking capabilities to solve the complex matters and issues that will surely make children dumb instead of making smarter.

VI.   CONCLUSION AND RECOMMENDATION

Modern technology cannot be stopped and its evolution cannot be limited, whether it is providing learning objectives or negatively influence development to the children. It is important for parents, teachers, professional, healthcare providers and students too to determine specific goals for children and use of technology that will support efforts of children to meet their goals in life. Children cannot be expected to get advantages from advanced technology, if their caretakers, guardians, parents are not familiar and interested in the modern technology and its potential disadvantages and advantages. They are required to monitor the children and guide them to make effective and efficient utilization of these technologies that can improve their mental capabilities and also involve some physical activities that can make the children smarter ion the basis of technology.

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