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Are Kids Mentally Smart or Because of Technology?

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Abstract: This research explores the influence of technology on smartness & cognitive development of children with analyzing the behavior of children with using the gadgets and advanced devices. It investigates whether the mental capabilities of children are due to use of technological equipment and tools or they have their own abilities. The research uses mixed approach method questionnaire and survey approach with convenience sampling from 15 respondents from Al Ain basic cycle schools, three of them were selected for an interview. Results indicated that children 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 surely will make children dumb instead of making smarter. The researcher recommended that it is important for parents, teachers, professional, healthcare providers and students to set specific goals for children and use of technology that will support efforts of children to meet their goals in life. 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 than the basis of technology.

Keywords: gadgets, palmtops, Smartphone, collaboratively.

هل الأطفال أذكياء بطبيعتهم أم بسبب التكنولوجيا التي يستخدمونها؟

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الملخص: هدف هذا البحث إلى رصد تأثير التكنولوجيا على الذكاء والنمو المعرفي لدى الأطفال، وكذلك تحليل سلوك الأطفال عند استخدام الأجهزة الذكية المتقدمة. ويهدف هذا البحث الى إلى تحديد ما إذا كانت القدرات العقلية لدى الأطفال بسبب استخدام الأجهزة الذكية أم أنها تلك هي قدراتهم الطبيعية. يستخدم البحث منهجية الوصف التحليلي للبيانات من خلال استخدام استبانة تم إعدادها لهذا الغرض و مقابلة بعض المستهدفين. تألفت عينة الدراسة من 15 طالباً من مدارس التعليم الأساسي في العين، وقد تم اختيار 3 منهم للمقابلة الشخصية.

أشارت نتائج الدراسة إلى أن الأطفال يعيشون في عصر حديث؛ إلا أن استخدام الأجهزة الذكية يُقلّل من قدراتهم العقلية لحل القضايا والمشاكل المعقدة، وهذا سيجعلهم أكثر غباءً وأقل ذكاءً. وقد أوصت الدراسة بأنه من المهم لأولياء الأمور والمعلمين والمختصين والعاملين في المجال العناية الصّحية أن يضعوا أهدافاً محددة لاستخدام الأجهزة الذكية من شأنها أن تدعم قدراتهم العقلية لتنفيذ أهدافهم في

الحياة. كما أكدت التوصيات على أنه يتطلب من الذين يعتنون بالأطفال أن يُشرفوا على استخدام أطفالهم لهذه الأجهزة ليكون الاستخدام فعّالاً ويزيد من قدراتهم العقلية.

الكلمات المفتاحية: الأدوات، أجهزة الكمبيوتر المحمولة، الهاتف الذكي.

Background

Television was considered as an 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 an age that is titled as digital age, this digital age is rapidly growing and changing, that is completely different from the age of parents and ancestors of children. Now, we are surrounded by a wide range of technologies not only in offices but also in homes, markets, schools and healthcare centers 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 a source of optimizing the learning potential of children if children are engaged in enjoyable experiences. Not only learning process but also the development 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 developed mail process, it also emerges with the downsides that leading towards over excessive use of gadgets by 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 a source 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.

1. Literature Review

Before the event when the children speak their first words, their brains are having an excessive amount of learning that happens before they reach the age of five. Research connected to the University of Washington indicates that the advanced 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 a source 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. (Costley, 2014).

Studies also put forward that when children are exposed towards different technological tools excessively, this result in creating a distraction 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 the increasing 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 at the age from the year of 3 to 4 years. Smartphones are easily available for the children for the age group of children from 10 to 12 years. According to a survey conducted by The Kaiser Family Foundation in 2010, children belongs to the age group of 8-18 years old, spend 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 a fact of a surprise that when children will turn to the age group of 7 to 10, the concept 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 a source 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 a source 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 a source of learning from each other and working collaboratively. (Hatch, 2011)

Due to a rich body of research, now people are aware of the development process of children and therefore cutting –edge technologies and media are playing a significant role in creating awareness among parents and caretakers about applying the principles of development and learning of the children. Through the integration 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 the ground 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.

THE AIM 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, school, home and in every field of our community. Specifically, these tools have been a source 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 as a source of leisure. Teachers are using these tools in schools and classrooms for the preparation of syllabus and educational material. This study aims to identify the influence of technological tools on the mental 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.

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 the mental 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 research provides an overview of the effects of advanced technology on the mental development of children and identifying the influence of these tools on the smartness of kids.

Research Questions.

The following research questions are designed to have detailed knowledge about the topic: REWRITE PLS! USE VARIOUS WH QUESTIONS! done

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

Research Limitation

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

Definition of Terms

- Technology: Technology refers to physical components that involve some features like products, blueprints, tooling, equipment, processes and techniques.
- Digital Age: It is also titled as information age; it is defined as the duration beginning in the era of 1970s with the emergence of personal computer and relevant technologies that provide the feature of transferring information easily and rapidly.
- Mental Development: This is defined as improvements made in the knowledge, intellectual capabilities, and practices in any human with the growing age that can be utilized in any particular domain.

2. Data Collection Tools.

Introduction

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

Research Design.

Through structuring appropriate research design, researchers can cater identified research problem in the more systematic way (laerd dissertation, 2012).This research study emphasizes on exploratory research design that involves survey and interview methods that are utilized to explore 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 study involves 15 respondents who were selected for gathering data and two other respondents were selected for the interview process that will help the researcher to identify detailed knowledge about the topic. All respondents were selected through executing convenience sampling method as this sampling method consumes less time and can be a source of gathering relevant information from the respondents.

Sources of data collection

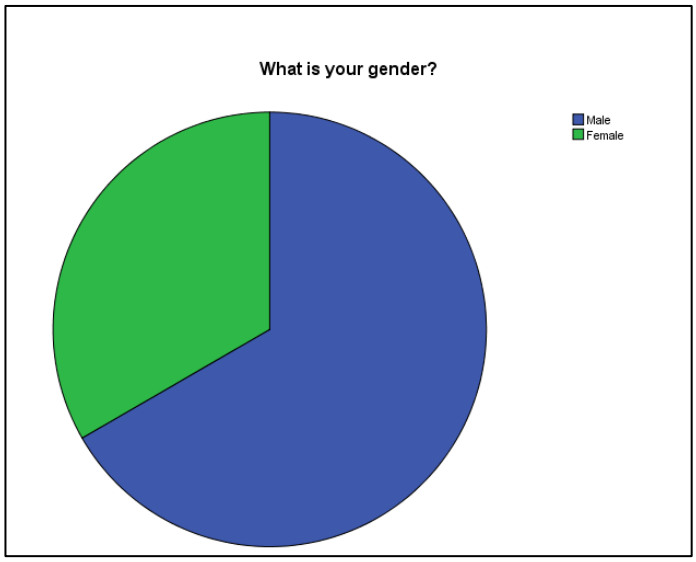
Researchers have two important sources for the purpose of data collection that are titled as primary & secondary data sources. Primary data is characterized as original data that is collected for the identified research topics. It is also called first-hand information (Kaueper 2016). Secondary data is titled as findings of other prominent researchers that are used by other researchers in order to provide reliable and authentic information. Additional sources of secondary data include websites, published journal, articles, newspaper and books. Primary data was gathered through using questionnaire and interview that is conducted with the respondents.

3. Questionnaire Result

Respondents were given a questionnaire with 12 questions that were designed to identify relevant information about the set topic of the research. Question one was about indicating respondents' gender. Table (1) and graph indicate that there were 10 males and 5 females who participated in the survey.

Table(1) 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	

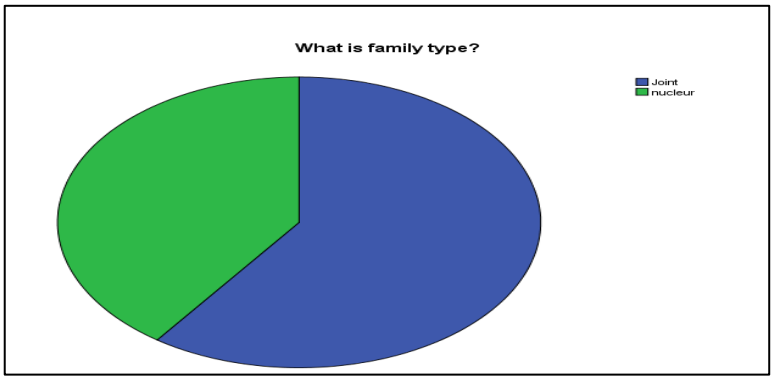


Graph (1) What is your gender?

Question two was about identifying their family type, nine of the respondents indicated that they live in joint family and 6 of the respondents indicated that they live in a nuclear family.

Table (2) What is a family 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	

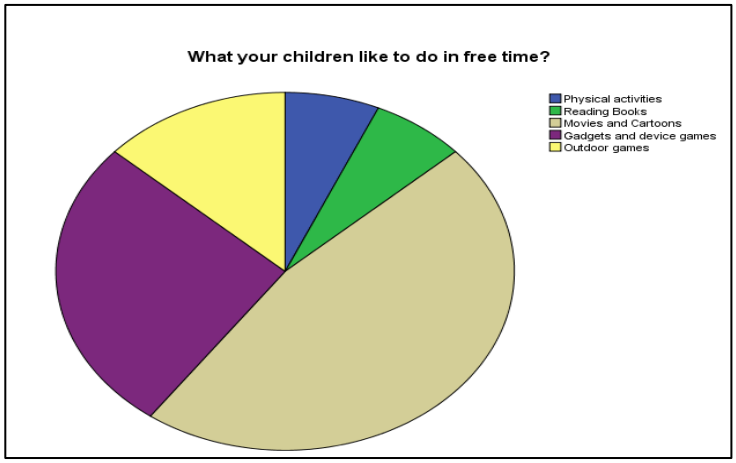


Graph (2) What is a family type?

In question three, the majority of the respondents indicated that their children like to watch movies and cartoons in their free time, four of the respondents whose their children like to play games in their gadgets, advanced tools and devices. Only two of the respondents indicated that their children like to play outdoor games, only one respondent indicated that their children like to read books and involve in physical activities.

Table(3) 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	

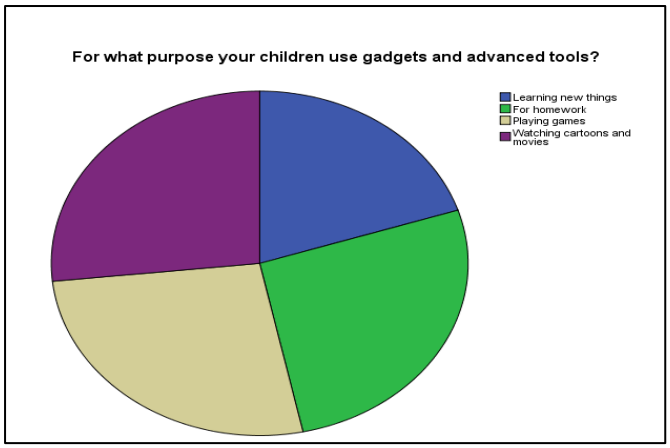


Graph (3) What do your children like to do in free time?

Respondents also mentioned the purpose behind the use of gadgets and advanced tools through question four, that are used by their children. A similar number of respondents indicated 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 indicated that their children use gadgets for learning new things.

Table(4) 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	

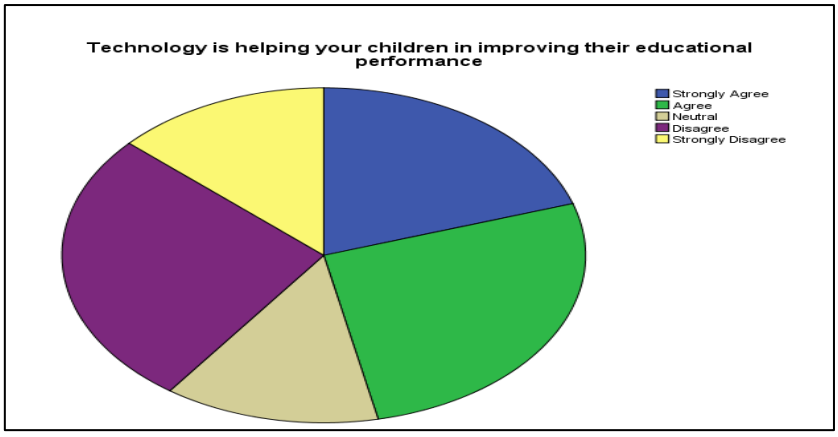


Graph (4) purpose your children use gadgets and advanced tools

Question five that was asked of the respondents was about indicating their views about the effect of advanced technology in enhancing the educational performance of their children. Three of the respondents indicated that they strongly agreed, four respondents identify that they agreed, two respondents gave an opinion that they were neutral, four total respondents identified that they disagreed, whereas two respondents strongly disagreed about this point of view.

Table(5) 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	

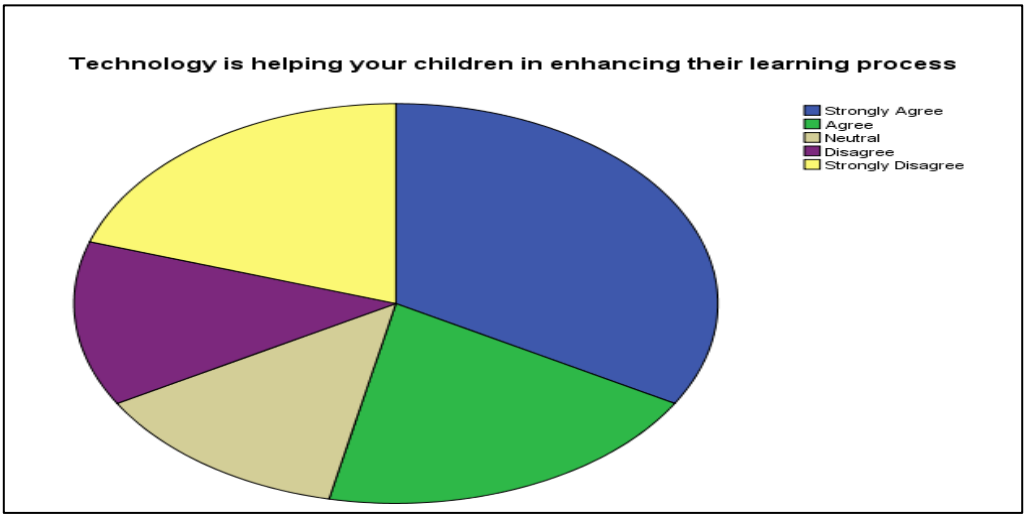


Graph (5) Technology is helping your children in improving their educational performance

Question six that was asked of the respondents was about indicating their views about the effect of advanced technology in enhancing the learning process of their children. Five respondents strongly agreed, 3 agreed, 2 of the respondents identified that they were neutral, 2 respondents disagreed with this statement and 3 respondents indicated that they strongly disagreed with this point of view.

Table(6) 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	

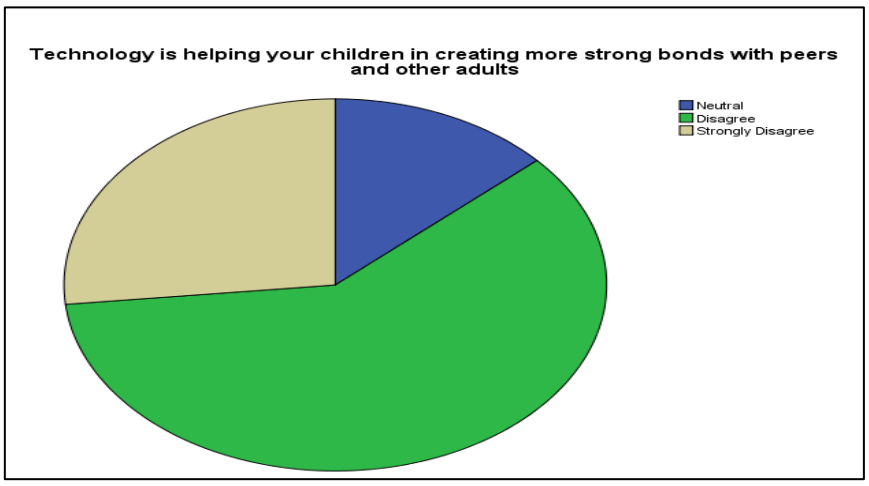


Graph (6) Technology is helping your children in enhancing their learning process

In question seven, respondents indicated their views about the effect of advanced technology in creating more strong bonds with peers and other adults. Four of the respondents strongly disagreed, 2 respondents strongly agreed, none of the respondents agreed and neutral, nine respondents disagreed and about this point of view.

Table(7) 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

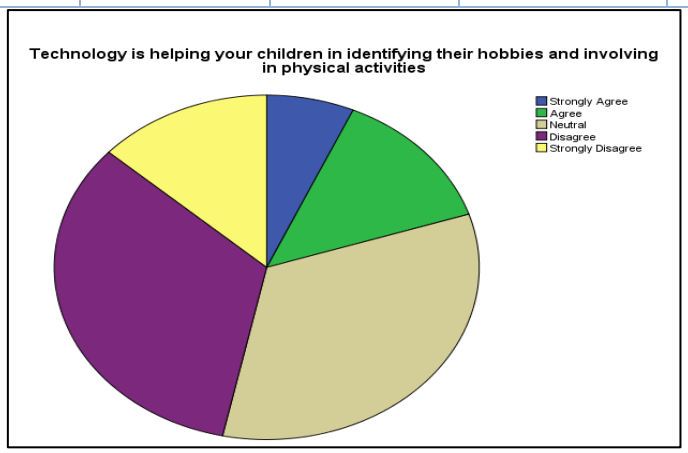


Graph (7) Technology is helping your children in creating more strong bonds...

Question eight 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. One respondent indicated that he or she strongly agreed with this statement, two respondents agreed, five respondents were neutral and disagree and two of the respondents were strongly disagree about this point of view.

Table(8) 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	

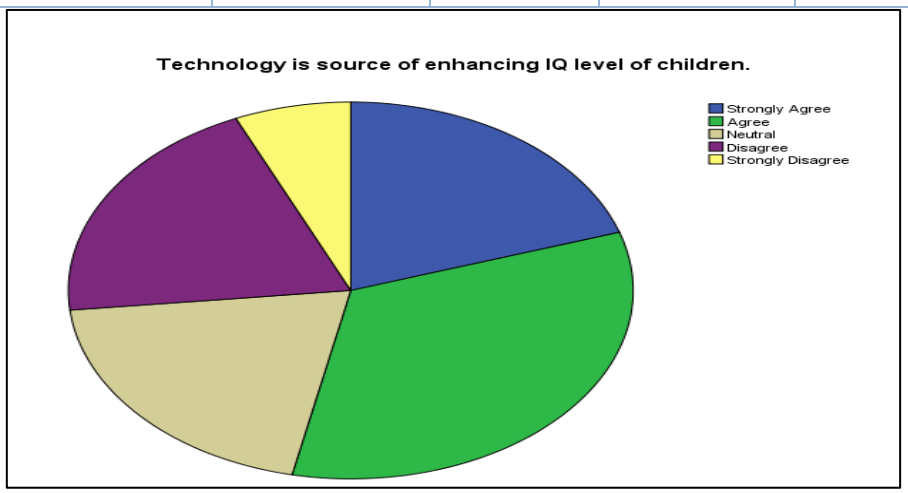


Graph (8) Technology is helping your children in identifying their hobbies

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 respondent was strongly disagree, three disagreed, three indicated that they strongly agreed, three said they were neutral about this and five respondents agreed with this point of view.

Table(9) Technology is a source 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	



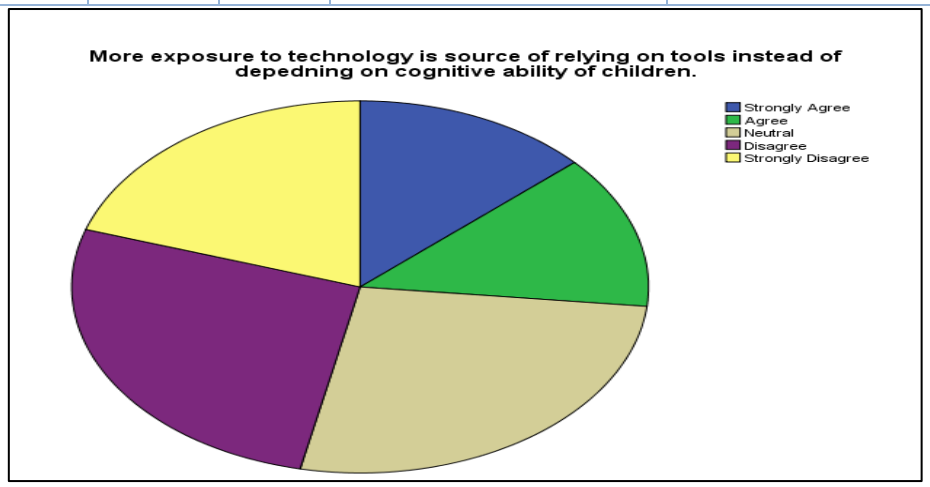
Graph (9) Technology is a source of enhancing IQ level of children

In question ten, respondents indicated their views about more exposure to technology are a source of relying on tools instead of depending on the cognitive ability of children. Among all respondents three respondents indicated that they strongly disagreed, two respondents agreed and a similar case for respondents who strongly agreed. A same number of respondents were neutral and disagreed.

Table(10) More exposure to technology is a source of relying on tools instead of depending on the cognitive 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	

				Frequency	Percent	Valid Percent	Cumulative Percent
	Disagree	4	26.7	26.7		80.0	
	Strongly Disagree	3	20.0	20.0		100.0	
	Total	15	100.0	100.0			

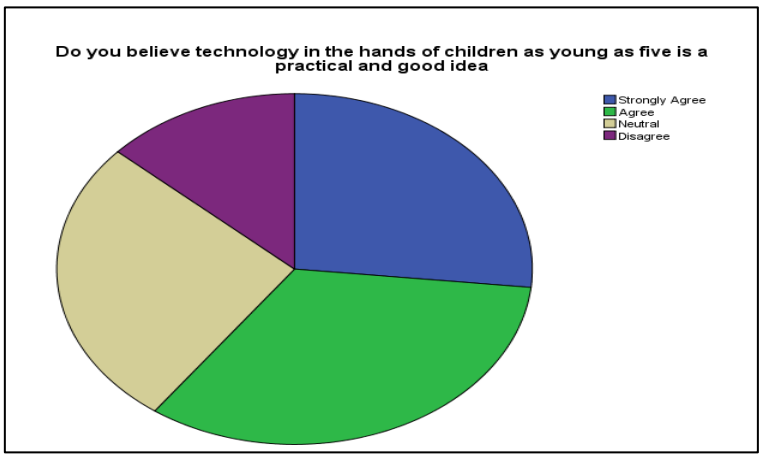


Graph (10) More exposure to technology is a source of relying on tools...

Question eleven that was asked of the respondents was about indicating their views about their belief about giving technology into children are a decent idea. None of the respondents strongly disagreed about this point of view, four of strongly agreed and same were neutral, and five respondents agreed.

Table(11) 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	

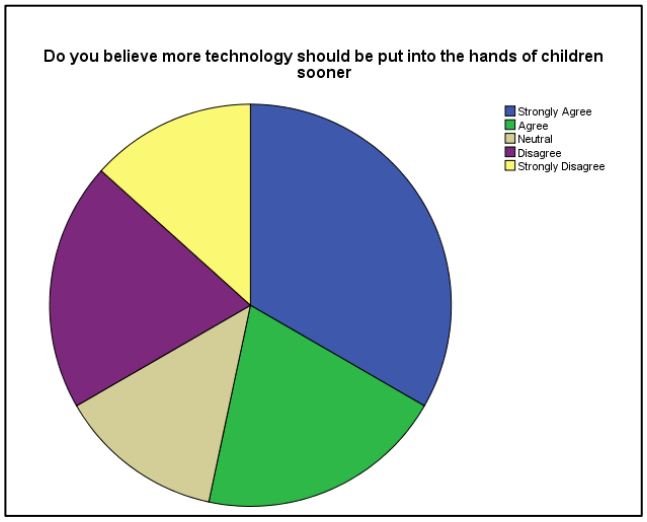


Graph (11) does technology in the hands of children as young as five is a practical and good idea?

Question twelve 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 identified that they strongly agreed with this statement, only two strongly disagreed, three respondents indicated that they agreed and two were neutral about this statement.

Table(12) 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	



Graph (12) Do you believe more technology should be put into the hands of children sooner

Result Analysis

From the above results and, this study put forward that the technology has emerged since the rise of the last generation. Children nowadays are involved in using advanced technologies, gadgets, and tools to search for their educational materials that provide them a better 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 compared to children of the era before the digital age.

Technology itself had made the children smarter as it provides children to look into the collective 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 an easy 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.

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 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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