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The Effect of using Video Game for School Education

Mr. G. Arokiasamy [α], Mr. J.Yuvaraj [σ] & Mr.Rabooni Raju [ρ]

Abstract- Nowadays the human life is blended with technology so the present student generation must be provided with the new technology for learning. The education system is made up of old style of learning and teaching. So we came up with the research to find which type of digital tool will help their learning process. Thus the researcher has designed a game on the specific subject and implemented to a 9th standard student then made survey to find out the effect of this tool. The videogame and mobile app is highly helpful in learning and understanding the subject. The finding emphasis that technology provide a very good platform for students interface and education. This will depend on students involvement in technology through amount of time spend for this purpose. If it will be enhanced it will be lead success.

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I. Introduction

In the present globalized market-driven world, Human progress and development is highly influenced by the power of information and technology. The technologically driven world spins around the information explosion and technological resources. Dr. Digumarti Bhaskara Raostates "The emergence of the "Learning Society" amongst advanced technology economies with its concomitant knowledge updating and renewal for individuals creates new expectations". The developing countries have come to realize the role and need of skills with latest technology for the future generation. Human alone is capable of learning and transferring his understanding to some other destinations. This capacity of his mind is often referred to as skill development. This ability has made the civilization to progress over the centuries. This communicative function is based on skill development in various countries. Whatever it may be but no one can deny today the impact of handling latest devices by younger generation. The paradigm shift in educational theory is due to growing use of advanced digital technology and ICT.As Dr. Satya prakash noted in his article, "Several studies have been conducted regarding the use of ICT. IT helps students because more reflection and autonomy develop their critical thinking skill, increase motivation by offering more diverse and authentic learning resources and this brings the outside world to Class-room". The gaming environment has taken the most part of today's younger generation. So it is the concern of this paper.

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II. Objective

The main objective of this study is to find out the learning outcome using videogame for specific subject. Gaming involves various factors inter-related to the students' learning process. These factors are bound to influence the nature of their academic involvement. So, this study will also aim to trace out the interconnectivity between those factors and students' academic performances. to find out of effective of video game tool.

III. Methodology

It is commonly known that playing video games extensively will have detrimental effects on academic performances of the students. On the other hand, some other studies warrant that the academic performance could be improved due to playing video games. These studies also show that the student's cognitive skills are also being enhanced as an additional outcome of gaming. So, there are some unclear assumptions which led us to investigate the relationship between their gaming habits and their academic performance. To carry out the study, the student of the particular School taken as publisher in that 9th standard student are respondent of the study. This study used survey method as the tool to collect data from the respondents. A convenient sampling method was used to identify the respondents needed for the study. We limited the total number of respondents' amount to sixty three. The study used Multivariate analysis is used to find out the significance.

IV. Review of Literature

Video gaming is an unavoidable environment for younger generation because it has the potential for maximum interactivity and fun. Besides, the technocrats are investing their resources and are in a race to come up with newer concepts in innovating these gaming devices. An article, Start up explore beyond reality with AR and VR written by Ayyar (2016) in a newspaper notes that "It is compatible with all existing PC games, movies and one can live-stream from online gaming communities". This clearly shows that how vital this gaming is for the future younger generations and hence this area requires a lot of researches. Playing 3D video

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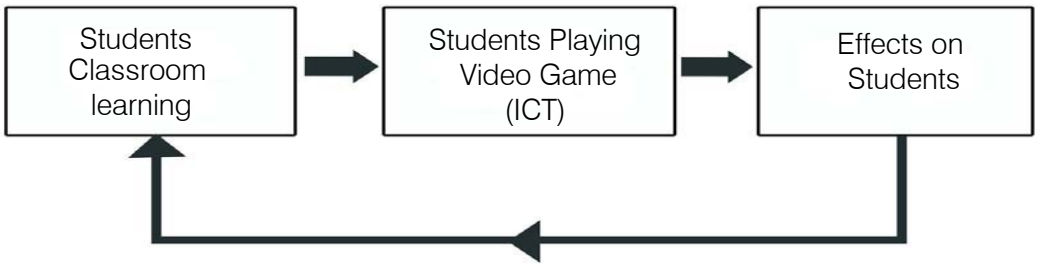
games may boost memory-says an article in a newspaper (Times of India, December 10, 2015) which refers to a research conducted by Craig Stark and Dane Clemenson of UCI's Centre, California. The research has found that playing 3D video games such as 'Super Mario' may boost the memory power of the gamers. A study was carried out by the Nanyang Technological University, Singapore on Children and Video Games: Addiction, Engagement, and Scholastic achievement. In this study, Skoric et al. (2009) indicated that addiction tendencies in video gaming are consistently negatively related to scholastic performance. While, no such relations are found for either time spent playing games or video gaming engagement. He concludes that there is no relationship at all between video game playing tendency and academic performance. Another study, A Study of Time Management: The Correlation between Video Game Usage and Academic Performance Markers, from New York conducted by Anand (2007) states that video games may have a detrimental effect on an individual Grade-Point Average (GPA) and possibly on Scholastic Aptitude Test (SAT) scores. This conclusion is different due to SAT scores that are repeated. One more study, how computer games help children learn conducted by Shaffer (2006) points out that the new "smart games" will give students the knowledge and skills they need to adapt to the changing world. Based on this theory, the students playing video games might have more adaptability towards their academics. On the contrary, there are a few studies that explore the negative side of video gaming and digital technologies. One such study is referred in an article, Dizzy? It could be cyber sickness by Murphy (2015) that refers to a research at Coventry University's Centre for mobility and transport in England. It states that, "It is a natural response to an unnatural environment". It also says that digital balance is lost due to motion created in gaming or similar devices which causes dizziness. It also says that there is nausea due to watching fast-moving digital images becoming common. The above researches urged us to study the habit of video gaming that has any effect on the academic performance of the gamers.

V. Conceptual Framework



VI. Operational Definition

- Variables dealing with the respondent characterises measured by Gender, Age, class, Occupation and mobile users. these operational methods is applied to evaluate students engagement with learning tools like video game and mobile app.
- Students playing games is measured by how much time they using, how informative, user friendly, and useful in learning process.
- The effect of using video game on learning is measure by Understanding, encouraging new way of learning and effect on academic performance.

VII. Finding and Discussion

Table 1: Frequency and percentage of personal characterises respondents

Variable		Frequency	Percent	Total
Gender	Male Female	34 28	54.0 44.4	62
Class	9th Standard	62	98.4	62
Please rate the quality of the interface of the app	Poor Average Better very good unanswered	1 8 30 21 2	1.6 12.7 47.6 33.3 3.2	62
how was the user experience?	Difficult Understandable Moderate Easy Very easy	5 6 7 32 12	7.9 9.5 11.1 50.8 19.0	62

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was it.	Yes NO Unanswered	54 2 6	85.7 3.2 9.5	 62

The about table indicates that the difference of the gender of respondent 54% male respondent and 44.4% female respondent .All respondent belong to 9th standard. The 47.6% of respondent are viewing the interface as better. 1.6% of respondent feel that is poor. The 50.8% of respondent feels that app was easy and 7.9% of respondent feel that app was difficult .The 85.7% of respondent are feel that the tool used for learning is good and 3.2% of feels difficult.

Table 2: Frequency and Percentage of using Videogames and mobile apps by Respondents

Variable		Frequency	Percent	Total
Was it.	Yes No Unanswered	54 2 6	85.7 3.2 9.5	 62
Was it.	Yes No Unanswered	49 5 8	77.8 7.9 12.7	
Do you think this game could have been better	Yes No	49 13	77.8 20.6	 62
how cool is it to study the subject with mobile games like this	Disappointing Okay Fun Amazing	3 8 27 24	4.8 12.7 42.9 38.1	62
do you have a smart phone of your own	Yes NO	31 31	49.2 49.2	 62

The above table indicates that the 85.7% of respondent answered that the app was informative and 3.2% answer edit was not informative. The 77.8% of respondent answered it was user-friendly and 7.9% of respondent respond it was not. The 77.8% of respondent feels that the app could been muc better and 20.6% of respondent feels it was good. The 42.9% of respondent feel fun to study like with these kind of games and 4.8% of respondent feel disappointed to study like with these kind of game. The equal half of the students having mobile phone of their own.

Table 3: Frequency and Percentage of using Video games and mobile apps by respondents

Variable		Frequency	Percent	Total
if not, do you have a smart phone at your home that you can access every day to play this game?(for educational user)	Yes No Unanswered	47 11 4	74.6 17.5 6.3	 62
If yes, what smart phone do you have?	Android I phone Windows Others Unanswered	42 3 4 11 2	66.7 4.8 6.3 17.5 3.2	 62
have you studied this subject before?	Yes No Unanswered	43 18 1	68.3 28.6 1.6	 62
how well did you understand about this topic before using the game	Very little 10% 50% 70% 95%	5 9 23 16 9	7.9 14.3 36.5 25.4 14.3	 62

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how many hours do you use your smart phone in a day?(if you have one)	Less than one hour 1-2hour a day 3-4 hours a day More than that	22 26 7 7	34.9 41.3 11.1 11.1	62
how much time can you allot to play this game in a day?(if you have one)	Less than one hour 1-2hour a day 3-4 hours a day More than that	32 17 7 6	50.8 27.0 11.1 9.5	62

The above table indicates that the 74.6% of respondent says that they very much interested to access the game on everyday and 17.5% of respondent says that they not willing to use it on every day. The 66.7 of respondent using android mobile and 4.8% of respondent using I phone mobile. The 68.3% of respondent haven't studied this topic before and 28.6% of respondent have already studied this topic. The 50% before they played the game and 7.9% of respondent says that they haven't understood the topic before they played the game .The 41.3% of respondent using smart phone for 1-2 hours in a day and 11.1% of respondent using smart phone more than 3hours in a day. The 50.8% of respondent says they'll allot less than one hour to play the game and 9.5% respondent says they'll allot more than 4hours in a day.

Table 4 : Frequency and Percentage of Effects on using the tool by the respondent

Variable		Frequency	Percent	Total
how much did you understand about this topic after using the game	Little 10% 50% 70% 95%	2 5 13 21 21	3.2 7.9 20.6 33.3 33.3	62
how likely is it that you would recommend this way of learning to your fellow student?	May be Recommend Highly recommend	13 28 21	20.6 44.4 33.3	62
how much does this new way of learning encourage you to understand the subject?	Disappointing Okay Fun amazing	3 10 30 19	4.8 15.9 47.6 30.2	62
how much excited are you about this new way of learning that is coming up?	Not at all May be Very much	3 17 42	4.8 27.0 66.7	62
do you think this will help you to increase your grade?	Yes No	55 7	87.3 11.1	62
how likely do you prefer to implement this system of education in indie?	Not at all May be definitely	2 20 40	3.2 31.7 63.5	62

The above table indicates that the 33% of respondent have understood the topic after they used the game and 3.2% of respondent haven't not understood the topic after they used the game. The 44.3% of respondent says they'll recommend this way of learning to others and 20.6% of respondent says they' ll might recommend to others. The 47.6% of respondent encourage this way of learning to understand the subject and 4.8% of respondent they won't encourage this way of learning. The 66.7% of respondent have very much excited to learn this kind of method and 4.8% of respondent haven't very much excited to learn this kind of method. The 87.3% of respondent think it will increase their grade and 11.1% of respondent think it will not

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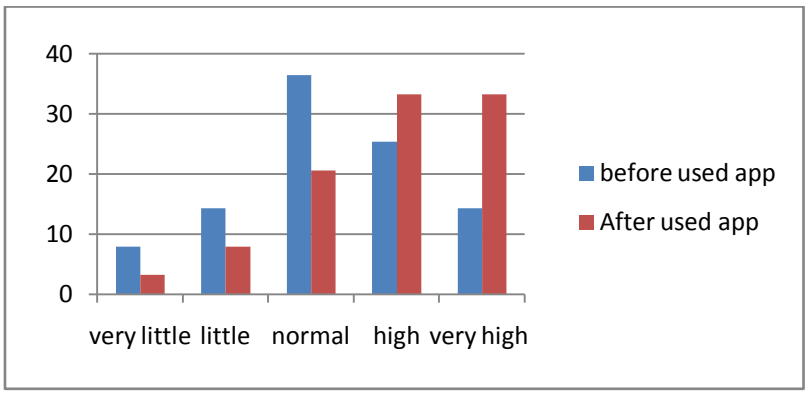
increase their grade. The 63.5% of respondent prefer to implement this system of education in India and 3.2% of respondent not prefer to implement this system of education in India



Graph 1: Comparing the effects using video game

The above Flow Chart indicates that the **Very little**-7.9 % of student understood before used the app and 3.2% of students understood after used the app. **Little** - 14.3% of students understood before used the app and 7.9% of students understood after used the app. **Normal**-36.5 % of students understood before used the app and 20.6% of students understood after used the app. **High**-33.3 %of students understood after used the app and 25.4% of students understood after used the app. **Very High** -33.3 % of students understood after used the app and 14.3 % of students understood after used the app.

Table 5: Significance of variables related proved by Multivariate test

Tests of Between-Subjects Effects[d]

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	Gender	29.438[a]	37	.796	1.762	.074
	Class	.000[b]	37	.000	.	.
	do you think this will help you to increase your grade?	9.907[c]	37	.268	1.735	.079
Intercept	Gender	2.025	1	2.025	4.483	.045
	Class	8.106	1	8.106	.	.
	do you think this will help you to increase your grade?	3.812	1	3.812	24.706	.000
Understanding.before	Gender	2.919	1	2.919	6.462	.018
	Class	.000	1	.000	.	.
	do you think this will help you to increase your grade?	.148	1	.148	.957	.338
using.hours	Gender	2.997	1	2.997	6.636	.017
	Class	.000	1	.000	.	.
	do you think this will help you to increase your grade?	.857	1	.857	5.551	.027
subject.Encourage	Gender	.048	1	.048	.107	.747
	Class	.000	1	.000	.	.
	do you think this will help you to increase your grade?	.064	1	.064	.417	.525
allotment	Gender	1.860	1	1.860	4.119	.054
	Class	.000	1	.000	.	.
	do you think this will help you to increase your grade?	.020	1	.020	.127	.724
App.Quality	Gender	1.434	3	.478	1.058	.385
	Class	.000	3	.000	.	.
	do you think this will help you to increase your grade?	.753	3	.251	1.626	.210

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Critical Value of intercept of tool from the table is P=4.00, The test result value is 4.483.Therefore it is significant. It means that interface is help in learning.

Critical Value of Understanding the subject before using the tool from the table is P=4.00, The test result value is 6.462 .Therefore it is significant. It means using the understanding the subject before using the tool is significant.

Critical Value of hours used for the tool from the table is P=4.00, The test result value is 6.636 .Therefore it is significant. It means the amount spend on videogame and mobile app is highly significant. Rest of the Variables in the table are not significant.

Table 6: Significance of variables related proved by Multivariate test

User.Experience	Gender	1.584	4	.396	.877	.492
	Class	.000	4	.000	.	.
	do you think this will help you to increase your grade?	1.675	4	.419	2.713	.054
Understanding.after	Gender	.779	4	.195	.431	.785
	Class	.000	4	.000	.	.
	do you think this will help you to increase your grade?	1.065	4	.266	1.725	.177
informative	Gender	.100	1	.100	.221	.642
	Class	.000	1	.000	.	.
	do you think this will help you to increase your grade?	.012	1	.012	.080	.780
App.Quality * User. Experience	Gender	3.006	4	.751	1.664	.191
	Class	.000	4	.000	.	.
	do you think this will help you to increase your grade?	.466	4	.116	.755	.565
App.Quality * Understanding.after	Gender	3.553	2	1.777	3.934	.033
	Class	.000	2	.000	.	.
	do you think this will help you to increase your grade?	.106	2	.053	.344	.712
App.Quality * informative	Gender	.000	0	.	.	.
	Class	.000	0	.	.	.
	do you think this will help you to increase your grade?	.000	0	.	.	.
User.Experience * Understanding.after	Gender	.922	4	.231	.510	.729
	Class	.000	4	.000	.	.
	do you think this will help you to increase your grade?	.058	4	.015	.094	.983
User.Experience * informative	Gender	.000	1	.000	.000	.985
	Class	.000	1	.000	.	.
	do you think this will help you to increase your grade?	.012	1	.012	.077	.783

Critical Value of Quality of app and understanding after the used from the table is P=3.15,the test result value is 3.934 .Therefore it is significant. It means quality of the tool is highly related to the understanding after using the tool. Rest of the Variables in the table are not significant.

VIII. Conclusion

Researcher investigated number of variable that are related to using video game and mobile app for students learning. In this the result showed that gender is affecting in using the tool for learning specially male

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that means the male students are more than female students used time for video game and mobile app.85.7% of respondents feels it was informative.87.3 % of respondents feel that using the game will increase students grade. The videogame and mobile app is highly helpful in learning and understanding the subject. The finding emphasis that technology provide a very good platform for students interface and education. This will depend on students involvements in technology through amount of time spend for this purpose. If it will be enhanced it will be lead success.

References Références Referencias

1. G. Arockiyasamy 1, * K. Surendheran 2 Sujeevan Kumar Bullard 3. The influence of playing video games on academic performance among graduates of Karunya University, Journal of Advances in Humanities and Social Sciences 2016, 2(3): 119-132
2. Ang, Soon, Linn Van Dyne, and Thomas Rockstuhl. 2011. Cultural intelligence. In Cambridge handbook on intelligence: 582-602, eds. Robert J. Sternberg, and Scott Barry K. New York, NY: Cambridge Press. DOI: 10.1017/cbo9780511977244.030
3. Crowne, Kerri A. 2008. What leads to cultural intelligence? Business Horizon 51, no. 5: 391-399. DOI: 10.1016/j.bushor.2008.03.010
4. De Lange, Daniëlle, Filip Agneessens, and Hans Waege. 2004. Asking social network questions: A quality assessment of different measures. Metodološkizvezki 1, no. 2: 351-378
5. Earley, P. Christopher, and Soon Ang. 2003. Cultural intelligence: An analysis of individual interactions across cultures. Palo Alto, CA: Stanford University Press
6. Fernandes, J.A.P.S.E., and danAndadari, R.K. 2012. Persepsimahasiswaterhadappemberlakuanmasyara katekonomi ASEAN. FEB UKSW program studi S1 Manajemen, Salatiga, ID
7. Fernandes, J.A.P.S.E., and danAndadari, R.K. 2012. Persepsimahasiswaterhadappemberlakuanmasyara katekonomi ASEAN. FEB UKSW program studi S1 Manajemen, Salatiga, ID
8. Hair, Joseph F., and Black William C. 2000. Cluster analysis. In Reading and understanding more multivariate statistics, eds. Laurence G. Grimm, and Paul R. Yarnold, Washington DC, US: American Psychological Association.
9. Harrison, J. Kline, and Brower, Holly H. 2011. The impact of cultural intelligence and psychological hardiness on homesickness among study abroad students. The Interdisciplinary Journal of Study Abroad 21: 41-62.
10. Kanten, Pelin. 2014. The effect of cultural intelligence on career competencies and customer-oriented service behaviors. Istanbul University Journal of the School of Business 43, no. 1: 100-119.
11. Ang, Soon, Linn Van Dyne, and Christine Koh. 2005. Personality correlates of the four factor model of cultural intelligence. Group and Organization Management 31, no. 1, 100-123. DOI: doi.org/10.1177/1059601105275267

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