Effectiveness of Modern Educational Games on Society

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Abstract

The study is about how modern education games are effecting the society. The authors have discussed different point of views published and working in the same domain after critically evaluating previous work in the same domain. The authors have covered how games are changing the way of learning new education trends.

Introduction

From the last two decades, Technology has advanced at a high pace specifically mobile technology and people are experiencing great influence in their daily routine. Technology is becoming part of every body's life style especially in academia, for delivering lecturer one should have to have updated knowledge of emerging technologies. These days' application developers are developing educational games to help in sharpening the mind of users. These games mostly contain riddles/puzzles that requires some effort of mind to solve. There is grammar based games that helps a person in improving his/her grammar and it is always fun to play these type of games. These games are usually designed and developed for hand held devices in order to enjoy mobility during play. About 97% of teenagers are devoting most of their time in gaming. In order to utilize the time in productive way developers, researchers and educators are focusing on developing

educational games, which will be game changer in efficiently educating the young generation. The purpose of the developed games is to educate the users with less knowledge of handling the hand held devices & have secondary educational ethics [1].

I. LITERATURE REVIEW

1. Ancient Drifts

Initially analysis on electronic games were conducted within the begin of Seventies, or thereabouts, at concerning a similar time the primary video games appeared within the us. However, the primary studies that went on the far side their potential psychological effects to broach the tutorial potential for kids and adolescents weren't printed within the scientific literature for one more 10 years. Work by G. H. Ball, entitled. Telegrams Teach over you're thinking that, printed in 1978 set a solid precedent. during this study, Ball hints at 2 lines of analysis that might

become common place within the succeeding literature.

(a) On the opposite hand, Ball analyzed the capability of video games for developing the abstraction skills of youngsters, with specific stress on the games. three-dimensional characteristics and therefore the simulation of real worlds. This side before long became a awfully widespread line of analysis. Authors World Health Organization followed in Ball's footsteps embody Lowery and Knirk [1982-83]; Gagnon [1985]; Greenfield [1985]; and Dorval and Pépin [1986], all of whom got wind of a similar conclusion: that the expertise associated ability shown by players have an accumulative impact throughout the sport.

(b) On the opposite hand, he additionally studied basic aspects within the intellectual development of youngsters and adolescents in learning language and arithmetic and therefore the role compete by video games. many of his conclusions are often thought to be daring, even now. as an example, he all over that video games ar useful to learning variety of intellectual skills, together with assimilation of numerical ideas and reading comprehension, and that they even promote reading.

Broadly speaking, the pioneering add this field encompasses a common divisor relating to the tutorial implications of video games: i.e., the will to research a development that had really began to show signs of growing importance; however there was a negative issue too: the scientific community's open disbelief that video games were necessary. Video games were typically judged as a just insignificant sort of diversion.

Furthermore, the paradigm dominant at that point centered primarily on the pernicious effects of the mass media on kids, a

perspective that was shortly transferred to video games. as an example, till well into the Nineties, there was a widespread tendency to draw associate degree nearly required parallel between consumption of video games and rising violence among kids and adolescents. The authors of a number of these studies observed that the proportion of adolescents World Health Organization selected academic video games is extremely tiny compared to people who most popular war, strategy, or different genres.

During the Nineteen Eighties, researchers normally command the read that, for kids and adolescents, video games ar large time-wasters. The zeal with that researchers tried to calculate what number hours kids devote to taking part in video games, as if this command the key to the standard of their education, is curious, to mention the smallest amount. this type of measuring solely results in associate degree communicator or apocalyptic perspective. many authors have gone a step more, conducting studies that aim to scale back the addictions to that the indiscriminate consumption of video games could lead.

The profound limitations of those types of studies build it clear why it's necessary to determine a calmer and additional objective approach to the research project on video games, one that's not infused with such a negative bias.

It is additionally necessary to draw attention to the pervasive gender bias in several studies of video games. several authors appear to try and do their utmost to live and compare the consumption of video games consistent with sex, or to spell out however the games have associate degree influence on gender relationships, social

values, and stereotypes. Hence, the report referred to as The Video Generation [Provenzo, 1992], or the compendium, From Barbie to Mortal Kombat: Gender and laptop Games [1998, Casell and Jenkins, eds.], that illustrates the gender stereotypes in sure video games made by Nintendo, are so enlightening [2].

As has been familiar for a few time, one in every of the key ingredients of undefeated learning is motivation - a driven learner can tend to seek out the way to beat any obstacles or difficulties over their less-motivated kin. sadly, ancient pedagogic methods tend to return across as 'dry' and 'technical' to current students, that results in a natural erosion in their motivation to be told additional a couple of subject.

Several authors like Presnky justify this development by contestation that current students ar what ar termed as 'digital natives', individuals accustomed interacting on a day after day with made interactive digital media devices like computers, mobile devices and game consoles.

RIGHTFUL USE:

The contents of the system should be manageable to all the people, even people having different abilities and in different locations. To make it possible, the following are required to be done:

Simplest format: The technology format used should be cost effective and can be accessed from anywhere. The base used in games should be designed in such way that anyone can access it and can learn to its maximum. The games should be differentiated by the level of learning.

Cloud storage and sharing: The technology should have access to cloud so that more and more educational games and data can be stored and shared with other students and don't have to be bothered by the limited storage problem of the device. This can help in storing more and more information and use the data to its fullest. (Babita Gupta, 2012).

Flexibility:

The system should have different levels and options to choose materials which are to be used according to the convenience of the user. The users should have the ability to edit or delete the contents of the program according to their convenience so that the user will get the appropriate benefit of the material he is interested in. There should be assignments or works (DIY) which the learner must do to exploit more and more details of the material. To combine the real world with the classroom teaching used to be the responsibility of the educators in traditional teaching but while using the mobile technology, the students get the opportunity to take the respon sibility themselves and exploit the real world themselves [3].

Mobile Technology Principles

The principles of mobile technology are based on the design of both the operating system and the instructional design of the learning material so that they can easily, comfortably and appropriately be used by the students for their betterment. There are mostly seven principles discussed below [4].

Distinguishable information:

To make the interface user friendly the technology should provide instructions, captions and transcriptions to the learners. There should be videos, dos and don'ts

prescribed by other users also to get a personalized information about the technology[5].

Educational games promote student logic:

Games in education plays vital role in manipulating the student's mind. Games, like chess, poker puzzle games, can enhance students' intelligence and build the student's reaction ability to challenging exercise. Games involves virtual reality with realistic graphics and tough context, can make the students gain collaborating experience, this lets the student to come out of their busy routine of boring classroom, and seek the fun of learning.

Playing games is study as well:

Playing a game that requires knowledge can help a student to gain more knowledge. The game "learning from Lei Feng" made by ShengDa company is the first ever educational game that is available online, the idea of the game is that entertainment is also equally important like education, students will be taught to do good things while playing the game.

The game, "Fantasy Westward Journey", is a game where a user unlocks new questions, instead of beating a monster to unlock a new level. Many students playing the "Fantasy Westward Journey" know that in order to upgrade, they must be more aware of Chinese history and world geography.

How educational games affects industrial standards:

The Single Sign-On is an online enterprise level platform. SSO enables educational institution consumers, service providers and value added resell associates on

a global scale in an integrated community-based system. This enables the best value services for the costumers. Single sign-on or the SSO standards has also advanced to make the mobile technology simple and easier for the education innovators. There are several freely available Open Educational Resources as well as commercial educational service providers. The features include;

ii. Web based mobile application and services

iii. Mobile applications those are available for different mobile operating systems such as android, iOS (Apple), Windows etc.

iv. Courses available online applicable for all major learning management systems.

v. Featured mobile tools for educational purpose [6].

vi. Digital libraries which are personal accounts based and provide eBooks, videos, audios, interactive activities, other kinds of games, assessments of individuals such as tests for IQ, EQ etc. and for planning and executing which are available for individual downloads.

vii. All these features in mobile phones utilize a specific pre-built Single Sign-On connector. This single sign-on service enables the institutional network administrator to manage and provide services to any mobile device such as smartphones, netbooks, tablets even laptops and PCs which are enabled with different operating systems like Windows, Android, Apple, iOS. This is used by a connected terminal user.

viii. Many private firms participate in the development of the technology standards;

however, few of them actively invest in the research and development of advanced technologies to improve the standard. Very few of these organizations have provided technology to improve the 3G and 4G standards [7].

Advance Features of mobile technology facilitating educational games:

After stepping into 21st century application of technology has emerged in each field. Application of technology has significantly increased in the field of education also. To facilitate learning with the help of technology the field of cellular world has also moved forward. Cellular devices such as mobile phones, tablets, netbook, notepad and smart phones are enabled with features supporting educational games to assist in learning of the users. Information technology and advanced communication technology has increased the horizon of learning experience anytime and anywhere. Here we will discuss the improvement in mobile technology and its impact on the educational games [8].

The developed world countries and developing world countries are constantly giving efforts to develop the advanced technical infrastructures by adding greater bandwidth and services capabilities. By now 5th generation (5G) services has been developed, in most of the countries around the world 1G, 2G, 3G and 4G services are provided. 1G technology i.e. otherwise known as Global System for Mobile Communications (GSM) is the first ever created mobile technology. It has further developed to advanced 5G technology at present. The GSM service is efficient for voice data transmission. With efficient digital coding a bandwidth up to 22.8 Kbps can be achieved. For mobile gaming which is either stand alone or based

on web servers, the prerequisite is to have a better band width for efficient data transmission. By time, the GSM service stepped further to 2G service i.e. the General Packet Radio Service (GPRS) with improved and added features such as packet switching protocols. The 2G services enabled browsing internet and reading emails through phone. Further advancement in technology provided Universal Mobile Telecommunication System (UMTS) also known as 3G, which enabled us to play online games, streaming video, making video calls etc. The 4G and 5G network services are much faster than the 3G network service and will facilitate faster access of the educational games facilitating use of cellular devices in learning. In addition to the mobile games it will also help to faster access to the cloud computing and access to the online libraries [9].

Future of mobile technology:

As the mobile technology is advancing at the highest rate, its future is also bright. Taking in account the rate of advancement it is assumed that by 2020 the utilities sector will increase up to 2.4 million, with increased customer services and cost efficiencies. In 2020 the expected advancements can be as follow [10].

Flexibility of mobile devices:

The devices will breakdown the physical barriers which are now a day limited to devices like tablets, gaming books, etc.

Wearable technology:

Now the technology is so advanced that people are wearing technology in the form of watches, so it is expected to have technologies in glasses which can be implemented with smart chips, allowing users to use technology and experience amplified reality.

5G networks:

This will let users to experience a greatest speed of data transfer with high quality expectations like low consumption of battery and high range of supportive devices.

Real time speech translations:

This technology can eliminate the barriers in languages.

Now considering the user interface, these are the link between the user and the electronics device. For advanced products, the improvement in interface is the must, so in future the user will be experiencing multi-modal interfaces. After the use of touch in technology now comes the time of voice, i.e. in future voice will be the major interface of devices. In present time also, speech technology is used but is not that prior, so in future it will grow gradually to its priority. The other important future development can be the visual interface where technology will work according to the gestures of the user.

With the advancement in technology the educational sector will also experience the change in learning in global viewpoint. Following are the expected changes:

- a. Easy to access, afford and function.
- b. The development will have an important effect on educational sector by evolving into an easily accessible, affordable and functional technology and available at lower costs. There will come a day when every learner will have access to the technology and to faster and flawless networks but in low costs.

- c. Collection, synthesis and analysis of data in larger amounts.

According to a study performed by IBM, 90% data emerged in between two years

- a. and are being recorded. In future, it is estimated that the devices which have the

access to clouds will have an increased capacity of data synthesis. The rate of management and processing of data will increase as compared to the present technologies and will enable new opportunities to the learning sector.

- b. No language barriers.

- c. In future the technology will acquire the capacity to translate languages in many different languages with high accuracy and this will increase the understanding capacity of the learners.

- d. No limitations of screen size.

In future the screen size of the devices will not limit the learning ability of the students. Technology with flexible display techniques will give access to more portability and some other technologies will let the learner to experience the reality of the world in its learning [11].

Educational Games helps in Developing Student's Creative Abilities:

The word creation has two structures one is development and the other one is disclosure. Innovation is to create or to make new things; disclosure is to distinguish things or laws that as of now exist yet they have not yet been comprehended. "Colored pencil material science" is a baffle construct amusement made with respect to 2D material science motor, the diversion is composed by Petri Purho a 26-year-old from Finland. In this amusement, the most imperative mission isn't simply to gain information, yet to create and to utilize new learning with high creative energy, and that is the most critical thing understudies need to do now. Numerous youthful understudies are roused by the system undertaking and the narrative of system equity. The significance of learning and imagination has occurred increasingly profoundly in many understudies' heart. The system makes the possibility of youthful

understudies have the progressive change. A few capacities have been enhanced incredibly, these incorporate inventive reasoning and development capacity.

From the empirical studies we can tell that mobile learning games can help a student to increase learning ability, and provide motivation to engage with a learning environment, in our case this is due to play the learning game [9].

In a particular scale such as Cooperation, Augmented Reality (AR), Pervasive Games or Physical Navigation seem to be positively influencing learner's motivation to handle a particular subject or a given learning content.

Make Changes in the usual Game concept:

At exhibit time, numerous instructive recreations have made a great deal of dynamic endeavors here. For instance, the diversion "Dream Westward Journey" has included a substantial number of Chinese history components in the amusement. That has changed the straightforward quest for high hardware level into another level. On the off chance that a man can answer an inquiries quicker than you, he is essentially more astute than you, and he has more information of Chinese social history and world topography than you. This diversion is exceptionally useful for the understudies to take on the planet geology world sea, and economy information [7].

Make game in a way that it provides information:

The engineers of the diversions can gain from the amusement "Dream Westward Journey" and some other great recreations' plan technique. These amusements changed the example of doing single errands into an approach of taking a functioning inquiry, and give some information to the player. Numerous individuals who had played the

"Dream Westward Journey" realizes that they require enough information about world geology and history to answer questions on the off chance that they will overhaul speedier. Furthermore, every checkpoint is an extraordinary case. Truth be told, understudies are examining while at the same time playing these amusements. Each diversion has its own particular technique. Player can't enter the following obstacle on the off chance that he hasn't passed the first. In this manner, he should continually think about how to keep up and create himself as much as he can. Because of these amusements, understudies will shape the propensities for investigating and taking care of issues, unwittingly and bit by bit. In this way, the understudy's legitimate thinking capacity will take work out [12].

Effects of using learning patterns in mobile games:

The Physical Navigation pattern, makes the players of a mobile game to move in the physical world in order to play the game"[13]. The MLG Frequent 1550 [14], for instance, uses the same pattern. Players have to move around in order find sources of information and to complete tasks provided. Also, Explore [15] uses this pattern. It requires groups to walk around the ruins to identify the place the mission refers to. The pattern Player-Location Proximity is defined by the distance between the player and a certain physical location which effects gameplay and triggers an event. Frequenters 1550 uses this pattern. On entering one of the six areas, the old city of Amsterdam is divided into an introductory and a video clip is provided. this video clip provides words that can help to complete the tasks in that area [14].

According to Bloom, the affective domain encompasses attitudes and motivation.

Discussion:

The research proves that knowledgeable games on mobile are very effective for students who have a strong learning desire.

There are games on mobile devices that improves the English spellings of player. In these games, some letters are given to the player and he has to combine those letters in appropriate way to make new words. This really helps them to discover new words [16]. As technology is getting in all the sectors, it is also making its way in the education sector also. The mobile revolution has changed the view towards the mobile devices as just gadgets to a vital way to provide a change to the education sector. The principles of mobile technology are based on the design of both the operating system and the instructional design of the learning material. Mobile technology has stringent principles such as rightful use, simplest format, cloud storage and sharing flexibility, distinguishable information, error lenience, less physical and technical efforts, formation of communities, instructions and reminders, quizzes and requests and monitor work. These principles of mobile technology have assisted to improve mobile facilities and enable it to facilitate the use of educational games[17].

The industry standards of the mobile technology help to make complex decisions with an eye to the extensive use of games in mobile the alternative that supports the use of educational games to enable the mobile user to learn through gaming. The selection of alternatives and decision to select an alternative and discard other alternatives are based on the principles and industry standards of the mobile technology[18]. Since the introduction of educational games in the mobile technology the industry standards and features of the mobile technology has ever since improving. Similarly, the gaming

experiences are also improving from calculator-based games to games with graphics.

Conclusion

Development of higher order generation of IP technology like 2G, 3G, 4G and 5G facilitates use of mobile device in many other vital sectors along with the educational games. The future of mobile technology is indeed bright as technologies such as flexibility of mobile devices, 5G, wearable technologies are in pipeline of development, and however some of the prototypes of these technologies are available in market now. In short, these improvements will help us to learn though mobile devices in many ways[16].

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