

A Technological Approach to Impactive Learning

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Abstract: *A case study of most third world countries, show that young people and even older people from secondary schools who end up been graduates from tertiary institution are not employable, several reasons have been coined as to why we have this deficiency, some of which include uninteresting teaching techniques within the school system, lack of internal/external motivation for study on the part of the student, low retention of taught/ gathered information from the classroom since most courses are abstractly taught, lack of interest to read materials (books). It may further be noted that in our current and future generations can be referred to as technology driven generation. Hence teaching and learning will be impactive if technology is keenly put into consideration. This paper proposed an impactive ICT driven teaching/learning approach for a productive market force rather than the current consumer market force.*

Keywords: ICT, teaching, Impactive, Learning, Productive force, game-application, classroom syndrome

1. Introduction

There is evidence from research that ICT can help pupils to learn and teachers to teach more effectively. However there is not a simple message in such evidence that ICT will make a difference simply by being used [1]. The claims are that there are a number of issues that have been raised for consideration; they include the effect of compared with other research interventions and the almost negligible effect of the provision and use of ICT at a general level [1]. In this paper we address the issue of the effect by pointing out that ICT can be used to positively impact the user for a fun experience and an improved retention by its user.

It is important to focus on retention because without retention desired learning outcomes will be sufficiently reduced due to lack of participation in planned educational programmes. And learning outcomes are at least partially dependent on the quality of the education offered.[2]. this in turn will affect the quality of the work force.

The need for a good retention system by every human being cannot be overly emphasized as the information retained in memory affect the productive of an individual through life. Hence quality and quantity of retention is directly dependent on the interest of the subject matter to the user.

Teachers are living in a time of general uncertainty where rapid changes in professional practice are commonplace. This present situation has arisen due to a number of factors including economic instability, technological innovations and political initiatives. This will require teachers to equip themselves to accommodate these new systems [3].

The quality of teaching in recent times is very much questionable as less and less seem to be impacting the student population. The problems of ICT though cannot be overly emphasized as students will prefer to fiddle with their phones than pick a short piece of literature to read. But this can be turned over to suit teaching system by using as an impactive educational tool.

The generation of children born in recent times, are very much interested in technological inventions like Television, mobile phone, games etc. Hence educators could and have

introduced some of these tools to make impactive learning possible, impactive learning is the ability of a student to apply what he has been taught to proffer meaningful solutions and create new knowledge from what he has gathered for new products of solution for new/existing problems.

Generally technologically driven educational tools that have been explored include distance learning computer assisted learning which in themselves almost have the same effect as teachers in the classroom, word processors, web browsers, search engines, emails [4 DGS, 2014]. These facilities also are expensive to use especially in third world countries, hence they still haven't achieved the desired aim.

The proposed system will attempt eliminate the feeling accompanied with "classroom syndrome". Classroom syndrome is the feeling that surrounds a student of overly needed seriousness and most time the fear of failure in a course. Furthermore it proposes a fun educational technique.

In this paper I propose a game/application driven teaching aid as the channel for impactive education. This paper is organized as follows. Section 1 reviews existing technology driven educational tools, section2 discusses the proposed system for impactive education and its limitations, section 3 presents a conclusion.

2. Review of Existing System

The growth of technology in educational system began from print medium this medium is still very useful but has not achieved an impactive learning system. Although the print medium is still important as stated that it is a powerful and pervasive basic tool for education throughout the world [4].

Several medium for reaching through available technological tools include audio media; gramophone records, cassette tapes, audio compact discs, video tapes, video compact discs, digital versatile discs, video conferencing, world wide web. electronic mail, voice storage and forwarding.

Others include Radio; the radio has been used extensively for education and development purpose. The radio is very

useful in bringing education to the door step of all the citizens of a country. Apart from distance learning institutions can run schedule courses on radio[5], but these programs generally do not keep the listeners glued to it for a maximum of one hour for older people and less for younger ones. But the proposed game application is expected to have the attributes of computer games which are addictive. Television has an advantage over radio in that people are held bound a little longer than radio span because of what they see. Television is more appropriate for teaching science subjects [6] but irrespective of this key benefit the idea of what is been shown to the user been a school program initiates most times the classroom syndrome and the interest is not generally for long. Also most third world countries like Nigeria still have electricity challenges so television watching is almost defeated. With the invention of mobile phones these application will be used on mobile devices for easy moving them around.

These techniques don't initiate any form of addiction. The additions to computer games create a craving for the player to return to that said game. This addiction is the major factor that spores retention possibility.

Furthermore, with the growth and development of the communication technology, distance learning has been made possible and barrier of time and space to the teaching-learning process have been broken [7]. It further grew to accommodate computer assisted learning which included software, videos stored in disk, this methods require that the student listen and has no path for feedback, hence the students understanding of the subject is not monitored. There has been extensive research into computer-assisted instruction (CAI) and computer-based learning (CBL). Some major reviews of this extensive work have been undertaken. One study [8] into the effectiveness of CAI limited the studies it examined to those that took place between 1987-1992 and identified almost 400 reports of research that met this criteria. The impact of the use of computers was then combined statistically to identify the overall impact. In this meta-analysis the mean effect size was relatively small (.24) for the five years in question but increased for more recent studies analysed (.33). This kind of improvement would move an 'average' class of pupils from 50 to about 40th in list of 100 classes ranked in order of attainment. This suggests two things: first, it is possible that the impact of computers may be increasing; second, ICT only produces relatively small improvement. Other forms of educational interventions, such as peer tutoring, reciprocal teaching and homework, for example, all produce greater average impact [9][10]. In a study of the effect of different types of study skills interventions the average effect size was .57 [11]; this would move a class from 50th to the top 30. A study of the effect of thinking skills or metacognitive approaches [12] indicates the average impact would move a class from 50 into the top 20 (an effect size of .72).

A study by the British Educational Technology Association [13] found no link between level of resources for ICT and either reading or mathematics grades at Key Stage 1 in 1999. At Key Stage 2 there was a significant, but very weak, association between ICT resources and pupil attainment. This indicated that ICT curriculum resourcing was at least

99.5% independent of pupil performance at Key Stage 2 (no correlation coefficient exceeded 0.07). In the USA, information about computer use from a longitudinal study was analysed [14]. This study also found a very small link between computer use in the curriculum in school and improvement in pupils' test scores, though again the link was very weak (no correlation coefficient was higher than 0.035 for mathematics, science and reading) which again indicates that at this general level computer use makes very little difference to pupils' achievement. Simply having more computers does not make much difference.

In many cases the students cannot ask questions using the medium (. It also presents to the student the classroom environment which we generally know is not an interesting environment for a young people of this generation. These approaches that have been proposed and explored are faced with the same challenges as mentioned above and so cannot foster retention which is key in this research.

3. The Proposed System

A clear study of impactive learning it can be said that it is dependent on several factors which include; the source and receiver; they are important components of any communication/learning process. Effective or impactive communication cannot take place without the source; the source in this case is the teacher and the receiver which is the student. Another important factor is the channel; it is the means through which communication between the source and the receiver takes place. Communication/education conventionally achieved through spoken words, assignment which could be done through web influence as well as printed books/materials [4]. Furthermore, it was observed that these methods usually require determination on the path of the students to perform or gather impactive knowledge for retention. Most a times in a class about 90% of the students attend for attendance purposes. So that the channel used by the teacher really does not interest them hence they are not impacted. This is the cause of continuous failure in a course irrespective of technique. Such students are said to have classroom syndrome. Although we do not disagree that some teachers have poor communication techniques ant that the code of communication can affect impactive education.

The code for communication is another factor that affects impactive learning. The code is the set of signals or symbols that create meaning for both the source (s) and the receivers [15]. Codes include words of mouth, written visuals e,t,c that communicate ideas, views and feelings. There are several verbal and non-verbal codes that are used in the course of tutoring. For successful/impactive learning the code used should be mutually accessible and interesting to the source and the receiver. Most receivers are thrown off balance as soon as they see certain codes especially if those codes feel abstract to them, for example certain mathematical formulas may feel too abstract that students only attempt to understand them for a short period and think to apply them anywhere else. This reason aids the need for this new approach to learning.

We know that computer games are mostly addictive. This addictive is seen mostly in the quest to conquer in the

challenges represented by the game, the adventure present in most games and the fun also. It could be noted that these player not under educational “classroom syndrome” even when they are performing challenges synonymous to classroom challenges such as test and examinations. They feel more relaxed but anxious to pass each step of challenge (test). These factors (challenge, adventure, fun) feel real to the player and he feels satisfied when he/she has reached the end of each stage/phase of the game, these feelings are not coerced or forced. These feelings since they are enjoyed by the player keeps him/her to retain the knowledge of, firstly the experience, secondly what he/she has done (taught) and thirdly it leaves a constant interest to going back to play a next stage/level.

It is this idea that is explored in the newly proposed system of education. If this system is employed into education young people, we may not need to be coerced to read since reading will be interesting to them.

The proposed system to be built will comprehensively teach the desired course through a game designed application. The system will have modules dependent on the course in question. If for example a course has two topics and should be broken into four subtopics each or modules, the proposed design for that course will be that the two topics will be two stages of the application. Stage 1 will have four steps and the desired substeps as required, the user of the game is expected to pass the stage one completely before he moves to the next stage. In the event of failure he repeats the step until he passes it or till the available time of retry expires. At the end of the last step of the second stage the student would have covered that course content and would certainly have mastered the key points of the course. Furthermore, he should be ready then to write an examination in relations to that course. It can be seen that such a student even if he is weak would do well in that course and have a meaningful retentive memory for creative productions.

If the system is properly implemented the student will always remember the said course not just as a school work but as a fun game, with his/her experience and challenges, these he can apply to life and produce creative solutions for problems. The more he retains the increased chances that he will be more productive in that area and apply the gathered knowledge to produce new innovative ideas, hence changing the market from a consumer market to a producers market.

4. Limitation

It should be noted that this system may present a lot of stress and programming for the designers and will certainly take a lot of time and student consideration to ensure that all parts of a course are covered within the game application.

5. Conclusion

The need for a producing work force will continue to drive the need for impactive education, I have presented a new approach to achieve this desire and if properly implemented it will produce a positive impact in reading/learning and applying culture of young people. This proposition is currently been put together for a course and the results will

be published subsequent release. Although the system will encourage retention of knowledge for application/solution driven work force, the system requires the user to be able to coordinate one’s mind.

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7. References

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