Gamification in the Classroom

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Abstract—Technology Enhanced Language Learning (TELL) is the buzzword of new learning strategies in the classroom. Game-based applications used in the classroom can investigate the interest generated and performance in learning. They can be used to apply insights and develop the pedagogy. Although there are many games-enhanced and game-based perspectives (Chik, 2014), there is a need for more research on the former. The experiment and survey was conducted during a National Seminar held at the Malabar Christian College, Calicut, S. India with over one hundred participants from more than 16 colleges all over India. A simple game format using web resources was administered to the participants with a questionnaire before and after the game to measure their interest. The results highlighted the fact that game-based pedagogy stimulates learners and engages their attention. The experiment is hoped to have far-reaching consequences in the educational world.

Index terms—Internet and Web Applications, Education Technology and Training, Web-based Education Systems and Learning Applications, Communication Systems, Human Computer Interaction (HCI)

I. INTRODUCTION

One of the modern methods of learning is the use of technology in the classroom. Teachers and students alike tend to learn faster when they are tuned to various technologies that are evolving at a surprisingly phenomenal rate. Technology Enhanced Language Learning is the buzzword of new learning strategies in the classroom. Teachers attempt to try new methods that grab the attention of learners in a way they that their minds are in the classroom and not outside. There are many pedagogical approaches and strategies that provide a foundation for ‘everywhere’ learning. There has been many studies to prove that games can be used in the classroom to stimulate the learning process. It also helps to improve their skills at negotiation and analytical reasoning. In a broader context, it also improves their narrative and communication skills. The use of games as learning activities has most likely existed for as long as have formal (or ‘serious’) approaches to teaching and learning. In the new millennium, it is to avoid what would appear to be hyperbole in regard to digital gaming environments. The strong and growing interest in digital games, coupled with rapid technological advancements, has created what is unquestionably one of the most inventive, fast-moving, complex media enterprises currently in existence. (Thorne, 2013).

Game-based perspectives investigate the application of digital games that are explicitly designed for pedagogical purposes, and game-informed perspectives apply insights from the study of games and play for teaching and learning outside of traditional game spaces, that is, the phenomenon of ‘gamification’ (Reinhardt and Sykes, 2014) Good games engage players not only in playing the game, but also in reading and writing about them on the interest-driven websites. (Chik, 2014)

Game-based learning has already been used in various levels of learning and has created a wonderful way to increase interest in the classroom. Traditional grammar games, word building and sentence making take the top place. It has been researched that game design elements are the result of positive psychology and increased motivation. (M. Gonigal, 2011). Gamification was originally coined with the focus of integrating social and/or reward aspects of games into software (Mangalindan, 2010). Gaming refers to playing and using devices to learn and understand. Gamification involves the use of different devices having a common platform with elements like scores, badges and points. Using a game-based curricula, students gain points if they have understood the lesson well. This enables the learners to play with their peers and understand whether the lesson has been learnt or not. Gamification in the classroom holds out a lot of promise since language teachers seek new ways ‘to determine the proficiency level of a student.’ (Theisen, 2013)

II. GAME BASED PEDAGOGY

It has also been argued that game-based situated learning environments promote student motivation and engagement. Unfortunately, very few researchers began to move the discussion of complex problem solving beyond descriptive research (Eseryel, Law, Ifenthaler, Gee, & Miller, 2014). Gaming started a long time ago. Herodotus saw games as a potential means of eliminating a major social crisis. In the opening book of The Histories, Herodotus writes:

In the reign of Atys the son of Manes their king, there came to be a grievous dearth over the whole of Lydia; and the Lydians for a time continued to endure it, but afterwards, as
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it did not cease, they sought for remedies; and one devised one thing and another of them devised another thing. And then were discovered, they say, the ways of playing with the dice and the Knucklebones and the ball... these games they invented as a resource against the famine, and thus they used to do: --on one of the days they would play games all the time in order that they might not feel the want of food, and on the next they ceased from their games and had food: and thus they went on for eighteen years. (Macaulay).

Based on the self-determination theory, the nature and quality of motivation are determined by satisfying three basic needs: autonomy, competence, and relatedness (Ryan & Deci, 2000). The exponential growth of tablets and phablets will be a stepping stone to enable technology to reach into the hands of any person willing to learn from anywhere (Premanand, 2012). The satisfaction of these needs fosters internalized forms of motivation, such as intrinsic motivation (interest), which would lead to higher quality engagement and learning (Ryan & Deci, 2000). Gaming mechanics provide additional engagement, motivation and rewards through learners' participation, with a game-based pedagogy which is proven by academic research. The blended learning approach means that as well as the social experience created through asking/answering questions in a physical setting. The rewards that students receive are a form of feedback that "serves to clearly demonstrate the 'incontestable value' of the [learner's] prowess, providing a favourable form of self-conception ('I'm the best at this') and gratification, alongside the accompanying social rewards" (Conway, 2010, p. 137).

A game based pedagogy like Kahoot! is a perfect platform for sharing, browsing, favouriting or playing content created by educators and learners.

III. SURVEY & QUESTIONNAIRE

The experiment and survey was conducted during a National Seminar held at Malabar Christian College, Calicut, Kerala, India on July 18 2014. The participants of the Seminar were English teachers from all over India. More than one hundred participants from 16 colleges spread over an area of 100 sq km participated. A questionnaire was circulated during the interval using tablet devices to measure the interest of the participants towards gamification. It also understood whether the participants were used to modern technology tools in the classroom.

The response was collected from among 42 participants, 30 females (71%) and 12 Males (29%). The survey composed of 20 participants (48%) in the age category 17-18 and the rest, 22 participants (52%) were above 19 years of age. It was found that 25 participants (60%) lived in rural and semi-urban areas while 17 (40%) of them lived in the city and suburban areas. A surprisingly major chunk of the participants 36 (85%) had not heard of gamification before. Hence the experiment gained prime importance.

IV. GAME FORMAT

An overhead projector displayed the welcome screen of Kahoot! The players were to enter a Game Pin displayed on the screen. This game pin would serve as the link between individual handheld internet enabled devices and the main cloud server. Each participant typed in the Game pin and a unique nickname. Within a few seconds the device got connected and the nickname of each participant was displayed on the large screen. This generated great interest with each participant being part of the wider network. The participant did not require sign-in details or an account to get started thereby saving a lot of time, especially in the classroom. The teacher welcomed each member on-board and as soon as all the participants were connected with the same Game Pin, the game started through a simple 'drag & drop' creator tool (using any device), to build quizzes with embedded imagery and video, based on educational content.

The first question was displayed with four choices given below. The choices were colour coded. Shapes were also included to include mental cognition faculty and also provide large format for visually impaired people. Answering questions in real time through an easy-to-use interface, the participants played against each other aiming to top the on-screen Leaderboard, whilst the teacher facilitates and discusses the content. This method formatively assesses individual knowledge and the teacher can tweak questions suitably in the future to adapt to general standard in the classroom.

V. RESULTS

The results were analysed using Google Analytics and it was found to be encouraging with 96% having enjoyed the game. Since the participants consisted of teachers and students, a question as to whether the game-based pedagogy would be implemented in their classrooms in the future came up with 78% of participants indicating that they would tell their teachers about the game while 63% of the teachers agreed that it was indeed an eye-opener for them. The stumbling block, however was the fact that many of the teachers still did not have access to technology (19%) or that classrooms still did not have Internet access.

VI. FUTURE IMPLICATIONS

The interest generated in the learners exemplified the fact that modern technology devices can play a major role in shaping young minds. Teachers too can add questions and spice up their questions with clues using audio, static and moving visuals. However, individual learning standards may be difficult to assess since the game is used in the whole classroom. However, a one-to-one game could also be set up between the teacher and say, a slow learner.
Kahoot! is an easy way to engage all the students in the classroom. The musical elements and display in pleasing colors evoke a sense of wanting to play again. It is perfect for improving accuracy and speed. Some of the areas where a teacher can use this fun and entertaining tool include multiplication tables, geographical locations, periodic table of elements, roots of words or synonyms, and identification of animals or body parts. The ability to use pictures, and even Youtube videos in question items is a noteworthy and a rare advantage. (Chatzopoulos, 2014). In short, Kahoot! took student engagement to a whole new level by enaging every student to challenge themselves.

![Kahoot!](image)

Figure 1: Game based pedagogy

Note- Pictures capture the moments and expressions very well. Their emotions are visible when playing Kahoot! For additional photos, please visit


REFERENCES


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Prof. Premanand Edward Malyakkal, Associate Professor, Malabar Christian College, Calicut, India is a recipient of 2014 Best Techno-Faculty Award instituted by ICT Academy of Tamil Nadu. Author of 5 books and 9 papers, he has visited over 25 countries. UGC recently awarded a Major Research Project that would enable rural tertiary learners to write English better using an e-learning content and website. An avid web content writer, follow his two sites and blogs at http://www.premclt.com and http://www.funenglishmcc.com