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DIGITAL LEARNING: "A SUBSTITUTE PROCESS TO TRADITIONAL LEARNING"

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Abstract

The education industry across the globe has been witnessing a significant change in the way learning is offered to students. In today's knowledge based economy, educational institutions are adapting themselves to the technological advancements to meet the demand of 21st century learning. These radical changes could increase the educational productivity and accelerate the rate of learning at an affordable cost with effective use of time.

This paper would present the outcome of Athiya's EXCELiNET- a cloud based immersive learning solution used to teach English to Graduating students. EXCELiNET offers an in-depth curriculum of the four essential components of Business English mastery: Reading & Comprehension, Writing, Listening & Comprehension, Speaking. The students in the pilot study went through 2 modules listening and comprehension; and speaking and were evaluated on the same. A digitally networked classroom with Athiya's interactive learning module was offered through Wiksate - a social learning platform. The post training scores have shown a considerable improvement in their skills.

The outcome of the study would enable the college authority to decide on the strategy to blend e-Learning with instruction-based learning to accommodate the diverse learning styles of students with ease. EXCELiNET caters to visual, auditory as well as kinaesthetic learners.

Introduction

The Emergence of digital technologies (E-Learning) has challenged educational institutions to redefine their teaching pedagogy and redesign their infrastructural requirements. These digital technologies have brought about a paradigm shift in the teaching-learning process. The technology is complementing other software used in classroom teaching. For instance, the software could add a white board tool while video conferencing that would be able to manoeuvre each other's work or a screen sharing option among the peers to add value to the interaction.

The traditional learning model has been transformed into learning that is self- driven and instant. These technologies have also created a level playing field for students from the remotest parts of the world at an affordable cost.

In this paper the authors will discuss the cloud based immersive learning solution: EXCELiNET. It creates an environment of 'being available' to learners even if they are physically not present as a result of technology. This helps learners practice and hone their skills at their own pace and interact with fellow learners, thereby creating a knowledge-based environment.

The paper is divided into four sections : The first section provides the evolution of digital learning from the conventional learning thus creating a blended learning environment. It also captures Athiya's approach towards blended learning. The second section discusses the literature to support the paper. The third section provides the analysis of the pilot study conducted. The last part is the conclusion.

Section 1 :

In a traditional teaching approach the teaching is mainly carried through the “Chalk and the Talk” method, wherein the main focus is the board and presentation by the teacher. The teacher is the main communicator of knowledge, in this system the teacher would pre decide the content and the concept with a known style. The students are evaluated based on the level of information memorised by them. The slow learners and quick learners are evaluated on the same platform. Apart from this there was no way to measure a student's ability to comprehend incoming data in the form of a continuous trend analysis.

The technological advancement in the industrialised world has given fillip to educators to think of education from student centric than teacher centric approach. There is a need felt by the educators to behave like facilitators over teachers. The academicians are leveraging technology to make the teaching more effective in this evolving era. Learning through the aid of technology has created a paradigm shift in the teaching learning process. Though digital learning does not substitute the conventional learning, it could complement the traditional teaching practices. This could create 'the best of two worlds' through a blended learning platform for the learners.

Blended learning is a method of gaining knowledge via the usage of digital devices as well as the traditional form of classroom learning. It is not only effective in terms of learning outcomes, but also on the level of satisfaction of teachers & students. It is a combination of learning techniques which involve traditional face-to-face interaction and web-based delivery.

A module/lesson that takes two hours to complete using traditional learning can be completed in less than half that time. It's also not just about time here; it's about the quality. A trainer can speak on a topic (using traditional learning) for hours together and achieve a said outcome; however, considering all factors remain the same (topic, trainer, trainees, etc.), blended learning can result in an outcome that exceeds expectations in the same scenario.

Blended learning also adopts a more flexible dialogue between trainer and trainee. Trainees attend sessions in order to learn concepts to help them better themselves and their company. In order to achieve that, trainees need to grasp the concept and have a deep understanding of it. This is where blended learning comes in – it helps trainees understand the concept in a theoretical as well as practical way. High importance is given to the application of the concept rather than just a discussion. Blended learning is slowly creeping in to the society structure and will be a norm sooner rather than later. It truly is the 'best of both worlds' not only for the trainees but also for the trainer.

Athiya's Approach Towards Blended Learning : Athiya uses the Bloom's Taxonomy in their content that differentiates them from their competitors. They have adopted the six levels of learning of Bloom's taxonomy in their evaluation process. The students are evaluated based on the Six Levels of cognitive domain :

- Remember : "Retrieve knowledge from long term memory".
- Understand: "Construct meanings from instructional messages, including oral, written, and graphic communication"
- Apply: "Apply a procedure to a familiar task"
- Analyze: "Break material into its constituent parts and determine how the parts relate to one another and to an overall structure or purpose"
- Evaluate: "Make judgments based on criteria and standards"
- Create: "Put elements together to form a coherent or functional whole; reorganize elements into a new pattern or structure"

Apart from this the students would also be exposed to the Knowledge Dimensions of learning that covers :

- Factual Knowledge : That is the basic elements students must know to be acquainted with a discipline or solve problems in it.

- Conceptual knowledge : the inter-relationships among the basic elements within a larger structure that enable them to function together
- Procedural knowledge : how to do something; methods of enquiry' and criteria for using skills, algorithms, techniques, and methods
- Metacognitive knowledge : knowledge of cognition in general as well as awareness and knowledge of one's own cognition

Review of literature :

(**Atifet al,2012**) proposed an immersive learning classroom model based on social constructivism theory. The model developed by them discusses various dimensions: collaborative learning, interaction with educators to learn concepts, cooperative learning and learning reflection to apply skills in new situations with the use of technology.

(**Hiltz and Turoff, 2005**) discuss online learning as a new social process that could act as a substitute process for both distance learning and the traditional face to face learning. They also argue that the education technology would be seen as revolutionary change in the days to come.

(**Rosenblit, 2009**) illuminates that digital technologies should be used as means and not as ends of distance education and education at large. The paper also highlights the challenges faced by distance teaching providers particularly those based on industrial model in incorporating the digital technologies into their systems.

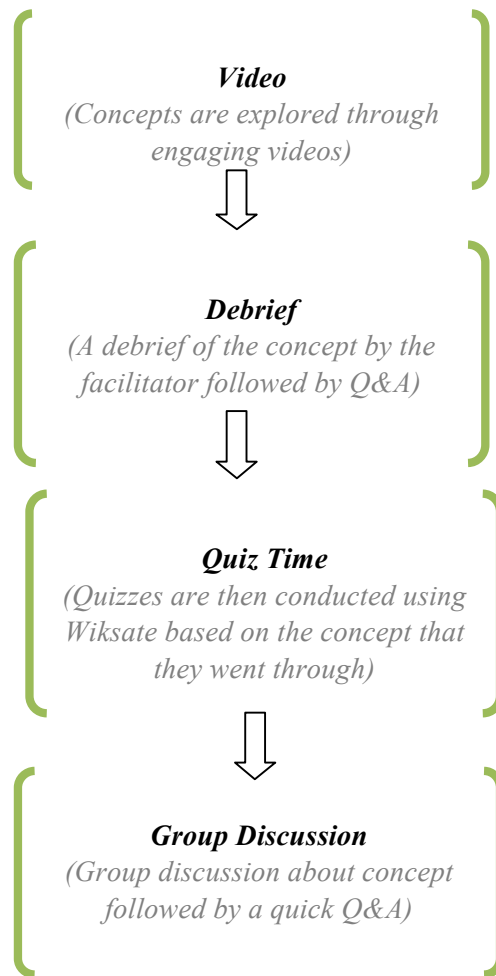
(**Singh et al, 2005**) describes the change in organisational structure of educational institutions as a result of technology initiatives. Apart from this the paper also discusses the changing role of teaching staff, the management efforts of incorporating e-learning in organisational strategy.

Methodology :

The authors have used ExceliNet, a unique cloud-based immersive learning solution offered by Athiya. This solution offers a comprehensive English language learning program based on the Business English Certificate framework offered by The University of Cambridge.

A pilot study was conducted using this solution to teach English language to a group of engineering students. This batch used *Wiksate*, a Social Learning Platform to capture, analyse and credit informal and experiential learning of students.

The flow chart below shows the sequence of steps used to create the blended learning Environment



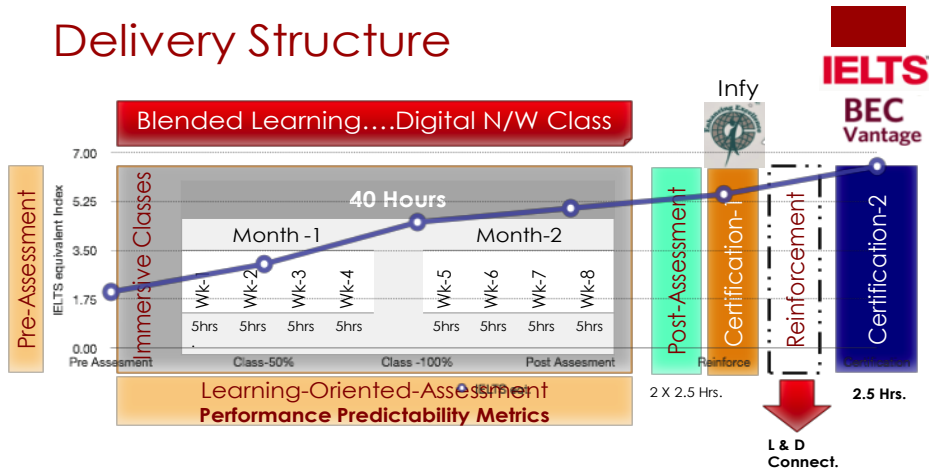
Pre and Post performance of students attending the programme was presented by way of tabulation and graphical representations. The students were rated against various dimensions using score cards.

Analysis :

The ExceliNet learning solution has three stages of evaluation before the student could be ready for the certification. Pre Assessment, Learning oriented Assessment and Post assessment. This would be then followed by reinforcement to make the learning more fulfilling. In the Pilot study 21 students who needed compulsory training were chosen and were put on blended learning mode of ExceliNet and were evaluated.

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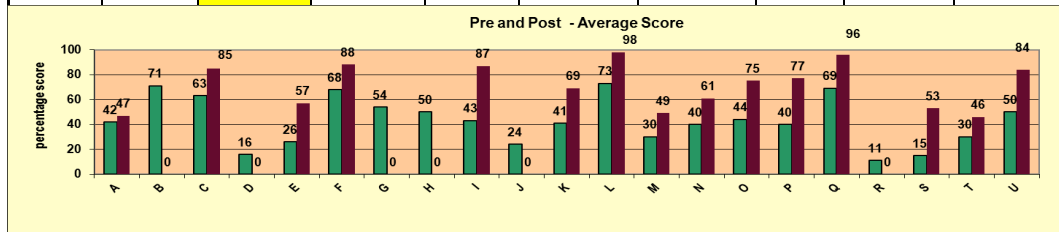
Delivery Structure



Source : www.athiya.com

Table 1: The Pre and Post -scores of Free speech and Listening.

Sl. No.	Name	Pre - Free Speech	Post - Free Speech	Name	Pre - Listening	Post - Listening	Name	Pre - Average	Post - Average
1	A	24	54	A	60	40	A	42	47
2	B	42	0	B	100	0	B	71	0
3	C	26	70	C	100	100	C	63	85
4	D	32	0	D	0	0	D	16	0
5	E	52	74	E	0	40	E	26	57
6	F	56	76	F	80	100	F	68	88
7	G	28	0	G	80	0	G	54	0
8	H	20	0	H	80	0	H	50	0
9	I	46	74	I	40	100	I	43	87
10	J	28	0	J	20	0	J	24	0
11	K	22	58	K	60	80	K	41	69
12	L	46	96	L	100	100	L	73	98
13	M	20	58	M	40	40	M	30	49
14	N	20	42	N	60	80	N	40	61
15	O	28	50	O	60	100	O	44	75
16	P	40	74	P	40	80	P	40	77
17	Q	38	92	Q	100	100	Q	69	96
18	R	22	0	R	0	0	R	11	0
19	S	30	66	S	0	40	S	15	53
20	T	20	32	T	40	60	T	30	46
21	U	0	68	U	100	100	U	50	84



The outcome of the study was analysed based on free speech; listening and comprehension scores obtained by the students. After every topic under every module there are at least 3 quizzes that are matched to the Bloom's Taxonomy at various levels, which enhance the experience of the learner. After a student goes through a quiz the platform (Wiksate) shows their scores instantly. Results are shown on the basis of percentile within minutes after finishing the quiz, which makes the students more competitive. Every student also gets to review his or her answers to check where they went wrong and gives them an understanding of what their problem area is. At the completion of a quiz the class also sees a list of the top 5 incorrectly answered questions and the teacher and the students debate over it.

The average scores of each individual were computed based on the score card used during pre and post training. The Average scores showed a considerable improvement in their speech and Listening skills post this training.

Challenges faced while implementing blended learning :

1. **Learning Mentality of Students:** Modern Education in India has a lot to do with rote learning i.e. Memorization technique based on repetition over problem solving or over practicality. The Rote learning system still haunts every student as students study only to score marks.
2. **Lack of Technical Infrastructure:** India is quickly adapting to the changing world of technology is what they say, however it is not easy for the entire nation to catch up with a trend that keeps changing over night. Technical Infrastructure most often takes a back seat in the education system, as educational institutes believe an operational Computer Laboratory serves every purpose of the student and is state of the art technology
3. **The program is not concept oriented but is practice oriented :** Concept oriented programs teach students concepts or theories of science, language, history, geography and even math but we fail to show or teach students its application.
4. **Rigid Human Interface Evaluation:** Everything cannot be accomplished with just technology, there is also a need for a well experienced trainer to conduct evaluate rigorous evaluations based on a few parameters for example, confidence is evaluated through eye contact, posture, natural self, dress and appearance etc., This requires a human touch or a human interface in order to get the best and most accurate results.
5. **Implementing this program into the curriculum:** Unless the educational institute realises the importance of digital learning and integrate it into the curriculum the effectiveness of blended learning cannot be achieved.

Conclusion, Contribution and limitation :

E-Learning may potentially impact the way higher education has been designed, implemented and delivered. Educational institutions have to realise the need to broaden the scope for learning as a result of a highly competitive environment. For students, e-learning could provide an environment of life-long learning making them self-directed learners. It need not substitute the traditional learning environment but create a blended learning platform there by increasing the learning effectiveness. This could be achieved by the involvement of different stake holders within the educational institute. The Institutions need to create the required resources in terms of infrastructure, trainers and the curriculum along with motivating the students towards the change.

This paper is an outcome of a pilot study carried out in an engineering college. The students were trained on speaking and listening & comprehension skills using EXCELiNET with the technical support from Wiksate. The training report was submitted to the Head of the Department and the Institution Head. The results of the pilot study have helped the management decide on integrating e-learning approaches into their pedagogy in order to teach Business English to the engineering students. This would also make the students industry-ready.

The limitation of this program is restricted to a single module - Business English. However, it does not hold Athiya back from entering another domain in the context of e-learning.

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