Formative Assessment Through Computer Mediation
Enriching Student Engagement

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Abstract— Student engagement is emerging as one of the strong challenges for university teachers. Digital natives not only stand out from their predecessors because of their technology suaveness but also due to their disenchantment with the traditional student engagement. The irony of Digital immigrants teaching Digital natives highlights the sauveness of them in usage of skill and aptitude in technology but also focuses and delineates their peculiar perspective, needs and demands. It widens the bridge of effective student engagement. The time demands to have collaborative and innovative engagements suiting to the purpose of these new-millennials. This inference is the basis of usage of web 2.0 as a learning-teaching tool. The technology-driven learning has actually changed the dynamics of learning acquisition. It has facilitated the creation of learning spaces 'for learners' and 'by learners'. It has also taken out the learning out of the confined of 'mortar and brick' classrooms to that of 'mortar and clicks'. This has helped them in acquiring learning at their own pace, space and time. Keeping all this in mind, a pilot project was launched for a course where the use of hypermedia was used. This paper encompasses insights from this pilot project involving 441 undergraduate students of an Engineering college. Blogging was chosen as the engagement tool. The paper will discuss the methodology and the results from the work. The paper intends to promote the blogging as successful and innovative tool for learning and students engagement.

Key words: Blogging, Digital natives, technology, students' engagement.

I. INTRODUCTION

Higher education institutions are still grappling with the effective delivery of the highly –demanding syllabus coupled with the heterogeneous students in their class rooms. It is a fact that traditional education system is on the verge of collapse and new and reformed system is yet not in the place. In the wake of such dilemmatic conditions the process is on to make learning student centric. The efforts are to shift the paradigm from Teaching to Learning.

In Universities, teaching is a part of the whole learning process; ideally the process gets completed after feedback and information from the students through engagements. It can be observed through class-room interactions, discourses, class-room conversations, journals entries, assignments submissions, viva-voce et al. The traditional teaching method having firm focus on chalk and talk are now impasse, they don't have enough dynamism to suit the need of heterogeneous students. Apart from students need for learning in their own pace, space and time students also want 24X7 accesses to the information and mentors.

These digital natives are random and organic searchers. They sift through the abundance of information at ease and find old traditional methods of engagements boring and uninspired. Nirma University is situated in Western Region of India. The university under its aegis also has Institute of technology. Almost 4,200 students are enrolled under various UG and PG programme. The Institute enjoys a stellar have a resound name in delivering quality education, in its endeavor to move towards Outcome Based Learning with adoption of second model that is Transitional, where the importance is given more to new courses like Critical Thinking, Communication, complex problem solving and so on to develop competences[1]. The output of this mode is holistic developed individuals introduced many new subjects starting from the freshman years and well spread over four years of graduation. The subjects were meant to provide holistic and broad-based education.

Critical Thinking is one of the subjects for freshman. It is a supplementary course. The teaching scheme was one hour per week per batch. The course was taken by 441 students of different branches of engineering of Semester- I. The concept of the course itself is path breaking, and the pedagogical mode adopted is blended learning that is half of the module was delivered through videos /films/TED talk. The use of Blog as a policy was one of the initiative of the university to adopt the model of 24x7 teaching. The initiative was influenced by the need of digital native students and to provide them interesting yet effective engagement. It was decided to have a pilot project of usage of ICT tools. Google apps /website was also used as a course website. It was decided to have evaluation component also ICT based. Blogging was chosen as the platform for information dissemination and submission of assignments.

2. OBJECTIVE

The chosen method of engagement primarily aimed at providing engagement tool which will help in:

- Disseminating information 24X7.
- Notification of new content.
- Formative assessment of the course.
- Summative assessment of the course.
- Uploading of Video and movies pertaining to the content.
- Cooperative E-learning support.
- Storing and sharing information.
- E-portfolio of the students.
- Archiving the teaching material.

- Creating a sense of belongingness.
- Increasing student interest and ownership in learning.
- Providing ways to participate and respect diverse perspectives.
- Empowering students to find their voices and share them with peers.
- To create a brotherhood among the students.
- Tracking the change in thinking process.

3. ISSUES AND CONCERNS

Apart from dearth of engagement tools which can read and understand students mind and make them contribute in knowledge generation effectively and innovatively. A course like Critical Thinking demands logical coherent and sound written communication. It is always felt that a subject like this faces many of the potential problems of large, lecture format, lower division university courses: content overload, impersonalisation of material, learner passivity and decreased motivation[2]. It has also been proved that research shows that students in lower division higher education, especially first or 'freshmen' year, frequently suffer feelings of isolation and alienation as they struggle to make the transition to a radically different learning system that can easily seem impersonal and overwhelming[3]. Keeping all this in mind it was felt that innovative pedagogical interventions are needed to make learning more penetrative and interesting. Blog platform will provide a platform addressing to all these needs, it is believed.

Among the Web 2.0 tools, blog has emerged as the popular and influential form of online micro-publishing and computer mediated communication [4]. Since last decade blogging has become the transformational technology for teaching and learning [5]. In particular, it is claimed that blogging is a useful practice for the development of higher order learning skills, active, learner centered pedagogy, authentic learning, associative thinking, and interactive learning communities [6].

Blogs - a contraction of 'web based logs' or 'weblogs' - are essentially online journals where an author (or authors) publishes a series of chronological, updateable entries or posts on various topics, typically of personal interest to the author(s) and often expressed in a strongly subjective voice, on which readers are invited to comment[7]. Blog has emerged as a powerful and robust medium for publishing, information sharing and content generation. It has made writing as a democratic process. A survey showed that Tumblr.com has over 101.7 Million blogs with 44.6 Billion blog posts, WordPress.com has over 63 Million blogs, Live journal reports to have 62.6 million blogs with Weebly states it has over 12 million blogs whereas Blogster has over 582,754 blogs[8].

As pointed out by Leslie, some of the use of blogs are as follows

Figure 1: Matrix of possible uses of blogs in education [9]
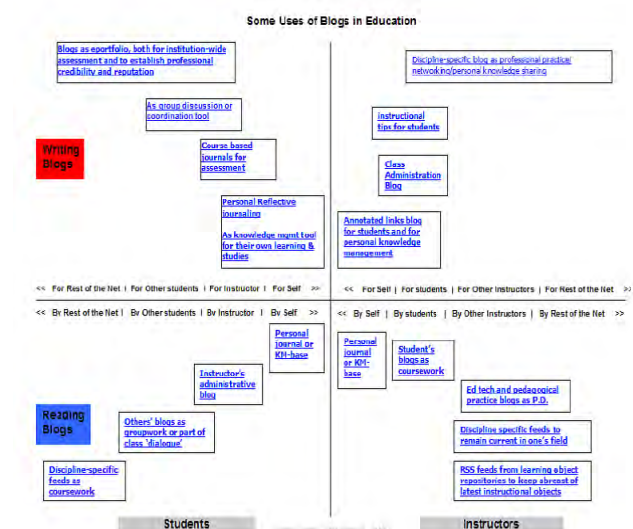
4. CONTENT

Keeping the view of students inclination to use online portals and interest in learning and engaging at their own pace a, place and time, it was planned to post reading material and other

resources on the blog. The pilot project also included submission of the assignments which carry marks through blog.

5 M.ETHODOLOGY

A blog was created on the platform of www.Wordpress.com. Possibility of hosting the blog on an open source learning management like Sakai was also deliberated, but it was felt that at this stage of introducing ICT driven engagement robust support system and easy-to-use attribute will help the faculty member more, www.Wordpress.com being a public domain platform which is free, offers lot of blogging services and widgets.

Blog consisted of posts and pages. Learning material along with videos was posted on the posts. Different posts were created to disseminate the information be it presentations, teaching material, modules, handouts and so on. They all were dynamic in nature and served as the repository of the content.

Posts were dynamic in nature and the widgets to archive them were used so that students can retrieve the information, learning material and can see the comments/assignments posted by fellow students. The moderation was applied and course –coordinators and co-teachers were given rights to moderate the content.

Pages, which are static in nature were created, batch wise and assignments were given. The submission was done through the comment box of the pages. The comments were moderated by the course coordinator.

6. INSIGHTS FROM THE PROJECTS

Evaluation of blogging is a continuous and continual process and a range of methods are and will be used in reflecting upon and monitoring the usage of blog. Principal data collection method has included-

- Post-course feedback Statistic.
- Statistical calculation of frequency and distribution of use as offered by the blogging software.
- Online observation and reflective accounts maintained by teaching staff.
- Content analysis of blogs.
- Formative assignment/comment based evaluation during the semester.
- Summative moodle –based questionnaire at the end of the semester.

One of the major component of the evaluation was through assignment submission (Formative evaluation) . Through pages (static in nature) the assignments were posted . Students submitted their answers through comment box. There were total 3 assignments having 10, 20 and 20 marks respectively. Assignments were giving after 9 weeks of lectures so as to ensure the grasp of the students of the subject. The rubric was used to evaluate the assignments.
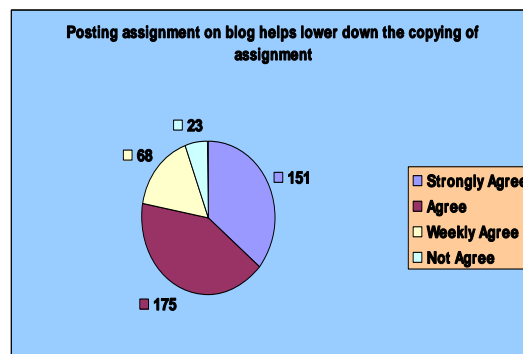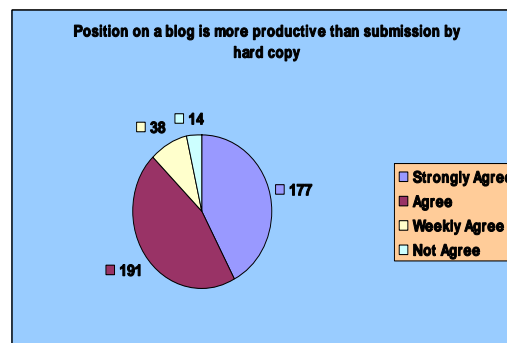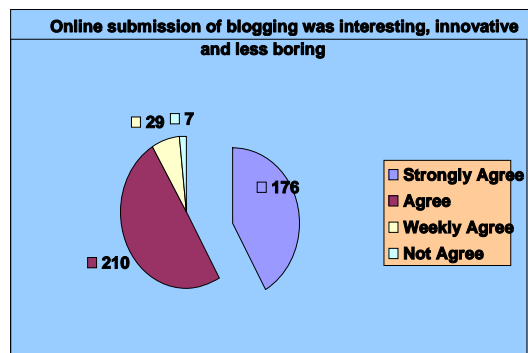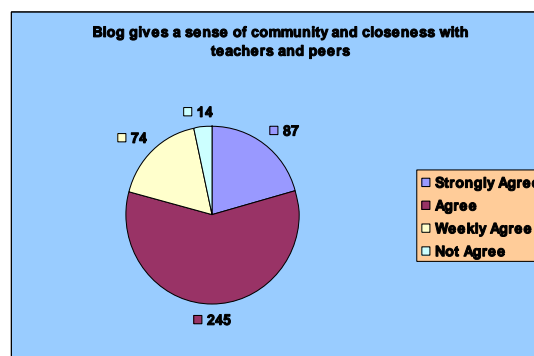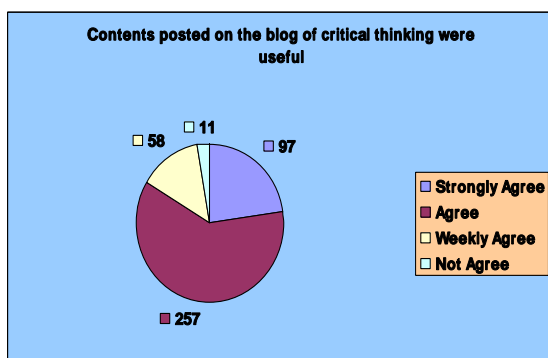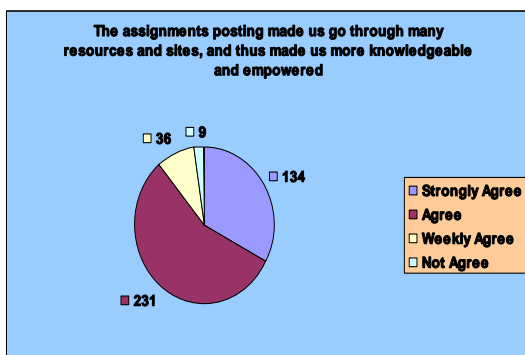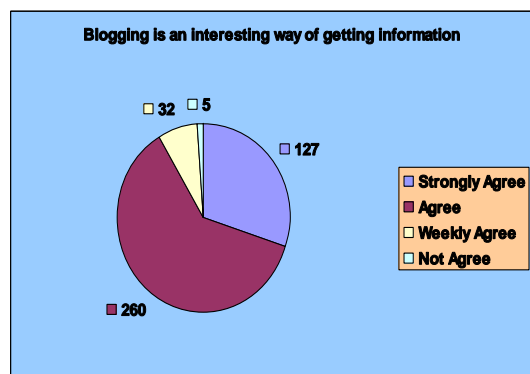
7 RESULTS

The feedback survey taken by more than 400 students on Surveymonkey yield almost similar result to the result mentioned below. The following analysis is of these students.
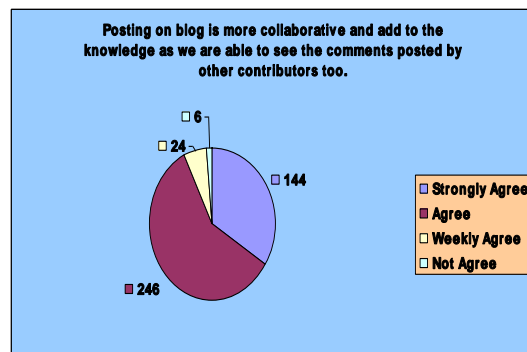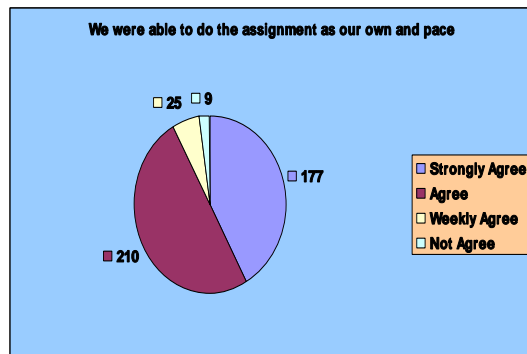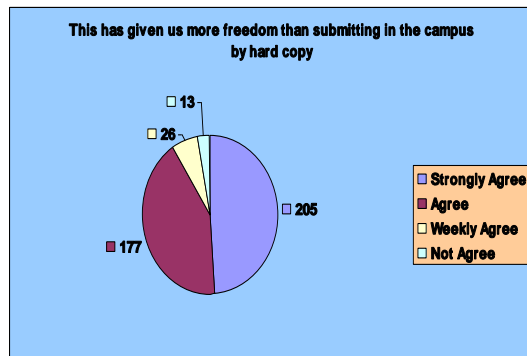
Students were from eight different states of the country mostly from Gujarat, Rajasthan and so on. Few students were from different countries (07 countries)

After the conclusion of the evaluations and course survey was conducted. It comprised ten questions to see and reflect upon the effectiveness of blogging as an interesting and robust tool of engagement as well as a dynamic tool of asynchronous learning.

The questions pertain to the all aspects of asynchronous learning and were given four options. Strongly agree, agree, weak agree, not agree. The four options ensured not to dilute the result as the mid-path usually is not very indicative of the survey-group orientation.

The results in the form of the pie-charts are given below:

Blogging is an interesting way of getting information

32   5
127
260

- Strongly Agree
- Agree
- Weekly Agree
- Not Agree

The assignments posting made us go through many resources and sites, and thus made us more knowledgeable and empowered

36   9
134
231

- Strongly Agree
- Agree
- Weekly Agree
- Not Agree

Contents posted on the blog of critical thinking were useful

58   11
97
257

- Strongly Agree
- Agree
- Weekly Agree
- Not Agree

Blog gives a sense of community and closeness with teachers and peers

14
74   87
245

- Strongly Agree
- Agree
- Weekly Agree
- Not Agree

Online submission of blogging was interesting, innovative and less boring

29   7
176
210

- Strongly Agree
- Agree
- Weekly Agree
- Not Agree

Position on a blog is more productive than submission by hard copy

38   14
177
191

- Strongly Agree
- Agree
- Weekly Agree
- Not Agree

Posting assignment on blog helps lower down the copying of assignment

23
68   151
175

- Strongly Agree
- Agree
- Weekly Agree
- Not Agree

This has given us more freedom than submitting in the campus by hard copy

13
26
205
177

- Strongly Agree
- Agree
- Weekly Agree
- Not Agree

We were able to do the assignment as our own and pace

25 9
177
210

- Strongly Agree
- Agree
- Weekly Agree
- Not Agree

Posting on blog is more collaborative and add to the knowledge as we are able to see the comments posted by other contributors too.

6
24
144
246

- Strongly Agree
- Agree
- Weekly Agree
- Not Agree

The questions asked and their answers indicate heavy leaning towards acceptance of blogging for submission in asynchronous manner:

Out of 445 students, 290 students find blogging as an interesting way of getting information whereas 127 Strongly agreed and Only 6 students find it uninteresting. For the content posted on the blog also more than 257 students find it useful only 11 students did not find it useful. A clear leaning of large percentage of students towards blog as innovative and less boring was evident with 176 strongly agreeing and 210 agreeing and only 7 students not agreeing to it. Students have also indicated that posting on blog is more collaborative, gives sense of community and empower them in sense of choosing their own time and pace.

Blogging also act to the repository of knowledge and transfer understanding as students do not work in silos but can see each other responses, 248 agrees to it and 144 strongly agreed to it .

One of the most important revelation was lowering of plagiarism and copying assignments: 161 strongly agreed;176 agreed and 23 did not agreed.
The summary of the use, views and visitor is given below.
Initial study shows exhaustive and extensive use of the blog. (http://criticalthinkinginnirma.wordpress.com/)

8 CONCLUDING REMARKS

The outcome based upon direct survey and feedback from more than 400 students is encouraging. The objective behind this endeavor was fulfilled as it was found out that the engagement tool successfully provided asynchronous, innovative, collaborative and empowered learning to the students. It seems blog has acted like Borg that has connected and assimilated each other ideas, knowledge, opinions, feedbacks and inputs to have collective knowledge generation[10] .The visits and views 24X7 hours show that student are satisfied by the use of blog as it provides information dissemination and submission at their own pace. place and time.

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