

Webinar – Education through Digital Collaboration

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Abstract—Transition in the learning habits and trends of students is evident from the traditional text based to the current dynamic modes like world-wide web, CAI and simulation. Webinar as a learning technology offers a platform to overcome the gap in this digital divide and help the students get acquainted with the latest. A case describing the use of webinar by Infosys helps the reader comprehend the digital collaboration webinar offers discussing its shortcomings and benefits.

Index Terms—webinar; learning habits, teaching methodology

I. LEARNING TECHNOLOGIES

As per Gretchen Rhines Cheney et al. (2005) ^[1] India has the second largest education system in the world, falling only behind China. University Education Commission (UGC) ^[2] set up in 1948 provides guidelines for coordination, determination and maintenance of standards of university education in India. Studying the vast historical background of education in India, it can be seen that though the Indian education system is powerful, yet it needs to dynamically revamp various facets to emerge strong in today's ever changing scenario.

In today's fast pace world students are well informed and require a facilitator rather than an instructor. They have islands of information available but do not have the patience to understand its use or consult their faculty. The learning technologies have also seen a change in the learning habits of students from the past to the recent times. The current day students are well versed with the modern technologies and are avid internet users compared to their predecessors who were more comfortable in a text based instruction based approach.

However in the current education system, there exists a digital divide – a gap in the content and method of knowledge dissipation and what value it offers to its students in today's ever changing world of technology collaboration. Studying the trends in the past, a shift can be ascertained in learning habits of students from the traditional method of lecture based to the interactive and descriptive based on World Wide Web (WWW) or internet, e-mentoring, etc.

This paper talks about the shift in the learning habits and technologies and the impact webinar can play as a

learning technology taking a case study from Campus Connect team of Infosys Technologies Ltd.

II. CHANGE IN LEARNING HABITS FROM TRADITIONAL TO TECHNOLOGY BASED

Till late, the teaching methodology used in most of the educational institutes in India was following the traditional method of chalk and talk but in recent times this has seen a paradigm shift.

A. Traditional Methodology

Key features of the traditional teaching methodology can be collated as under:

- One way communication without any interaction
- No openness between the faculty and students as a forum to exchange ideas
- Less focus on analytical skills and more on memory based.
- Only lecture based class room approach followed for knowledge delivery

This approach faced a lot of challenges, some being:

- *Lack of Flexibility* – the students were not offered any flexibility in terms of their learning styles and habits or of implementing their learning. There was a fixed approach being followed.
- *Less or no access to Information* - Improving access of information to the students is difficult as there is was no mode for information sharing.
- *No Standardization* – Quality check at all levels of education was absent offering no standardisation.

B. Scientific Methodology

The advent of multi-media revolutionised training techniques and brought in greater diversity and interaction. The black boards have been replaced by LCD screens. Some of the ingenious methods using scientific or technology base are:



Figure 1. Various Knowledge Dissipation Methods

- *Multi-media Aids* – teaching using medium like power point presentations and slides, audio-visual clipping, etc enhancing the learning experience.
- *Computer aided instruction (CAI)* - use of computers in delivering training, supervising trainee progress, feedback and assessing results. A similar technique is Computer based trainings (CBT).
- *E-mentoring and E-learning* – as these techniques are not dependent on the physical presence of the instructor; they help students to study on their own comfort and speed.
- *Video Conferencing* – It incorporates voice, image and data during long distance transmission offering a real time and highly proficient means.
- *Brainstorming & Case studies* – is a group creativity technique designed to generate a large number of ideas for the solution of a problem.
- *Simulation* – reproduction of the real time environment for introducing students to real time challenges.
- *Webinar* – seminar or lecture over the internet [3].

This study attempts to establish the role of Webinars – an upcoming technology in the field of digital collaboration - in bridging the digital divide.

III. WHAT IS A WEBINAR

‘Webinar’ is a union of ‘web + seminar’ which simply means a seminar over the internet. This software is a remarkable innovation in the field of technology which offers a platform for people to interact and collaborate over vast geographical boundaries through WWW. This platform offers a two-way communication leading to higher effectiveness and involvement by the audience.

Typically a webinar consist of a presentation hosted by a service provider on a web server. The link of the webinar is shared with the attendees who can log on to the site and participate in it. The Webinar platform has

already carved a niche for itself in the arena of business and has now started being use in education arena as well. After increasing the dynamism in the industry, webinars are all set to bring a revolution in the Education sector.

The focal feature of a webinar is its potential to discuss and share information. Offering a one stop shop for interacting with an array of experts, this platform provides a great appeal to its users.

Some more characteristics of webinars are discussed below:

A. Characteristics

- *Sharing Application* – It allows presenters to share their desktops, applications, etc to help the audience get a better understanding of the topic.
- *Chat window* – Attendee students can ask their queries during the session without disturbing the flow of the session through chat window. It helps in interaction with the presenters privately, interaction with the panellists privately, interaction with other participants privately or interaction with all the participants in one go.
- *Session Recording*– It may be beneficial to record the session delivered by the presenter for re-use. This is an out-of-box feature in webinars. The session can be recorded and shared with the students or participants in the form of CDs, etc. This also aids in archival of valuable information.
- *Survey* – The presenter can choose to conduct polls and surveys for the audience.

B. Infrastructure Requirement

For Organisers:

- One dedicated personal computer (PC)
- Online WEBINAR monitoring PC station (Preferred)
- Dedicated phone system and line (high quality preferably Polycom)
- Voice-Tap hardware for WEBINAR recording

For Participants:

- One dedicated personal computer (PC)
- Installation of Software of the vendor being used for Webinar (For example WebEx^[4], GoToWebinar^[5], etc)
- Dedicated direct phone line
- LCD projector
- High quality speaker phone with amplifier (if required for large audience) and mute button

C. Steps to organise a Webinar

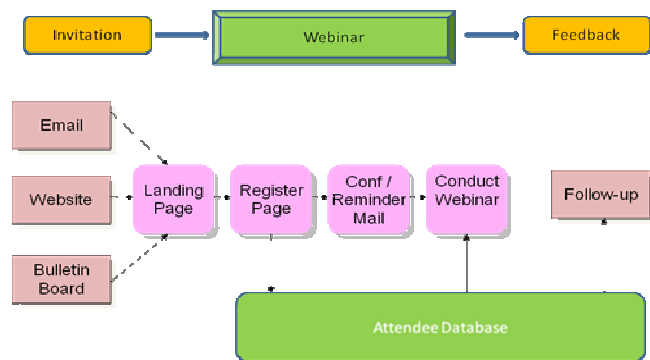


Figure 2. Webinar Event flow

The above diagram describes the event flow for a webinar. The host can send the invitation of the webinar event to intended audience (Student, faculty, etc) through an email, or post it on organization website or bulletin board sharing the link in the invitation mail. On the 'Landing Page' the logged in users can find detailed information about the webinar like objective, speaker profiles, reading materials links, etc. For attending the event, participants need to register on 'Registration Page'.

Once the registration is complete, participants receive an email detailing the next set of instructions for joining the webinar. A reminder mail can also be set for the event. For the audio of the webinar event, participants need to use their telephone and a computer for viewing the presentation. After the event the attendee details can be used for collating feedback and follow-up.

IV. IMPACT OF WEBINAR ON EDUCATION – A CASE STUDY OF INFOSYS CAMPUS CONNECT INITIATIVE

Campus Connect Initiative was launched in 2004 By Infosys Technologies Ltd as an industry- academia partnership which with the aim of enhancing the quality and quantity of talent pool in India.

Campus Connect team had a target to reach 500+ partner colleges in an proficient and cost effective way for sharing technical, soft-skills, and domain knowledge. This required reaching the colleges across tier 2, 3 cities and deliver sessions which required approximately 5 hours of travel. Having Infosys Subject Matter Experts (SMEs) from various units spend such a large amount of time on travel wasn't a viable approach.

Hence, the team decided to use a technology platform called Webinar. To augment the planning and implementation of webinars a process was put in place. The team decided to work with WebEx which is a globally acclaimed online meeting applications and software services provider. Once this was zeroed in, the next challenge was to successfully deploy it across all 9 Development Centres (DCs) of Infosys in India. It also required each DC be equipped with the knowledge of Webinar – understanding the concept, its set up and conduction.

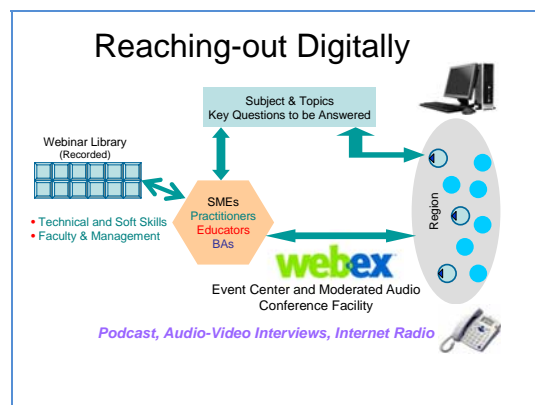


Figure 3. Webinar Platform

To provide clarification for all of this and to define a formal process, the team came up with a Field Guide^[6] for webinars which served as a single point of reference for the above.

The following give an idea on the effectiveness and use of webinar by the team.^[7]

A. Stakeholder Feedback

1. Faculty feedback

The webinar efficacy was calculated as part of the Campus Connect Perception Measurement survey in 306 colleges with 521 faculty member responses. The average rating turned out to be **3.53 on a scale of 1 to 4** (Scale: 1. Strongly disagree 2. Disagree 3. Agree 4. Strongly agree).

2. Student feedback –

Comprehensive feedback was collected for each webinar from the students. It covered feedback for content, flow, effective delivery, interaction through Q&A sessions, etc. Average feedback scores for major categories are given in the table below. (Scale: 1–Poor, 2–Satisfactory, 3– Good, 4–Very good, 5–Excellent). Overall Webinar Effectiveness was rated as 4.29 out of 5, above 'Very Good'.

TABLE I.
CONSOLIDATED WEBINAR FEEDBACK

Area of Feedback	Average Rating (on a scale of 1-5)
Webinar Content	3.93
Webinar Design	3.90
Presenter Effectiveness	4.05
Planning & Delivery	3.95
Overall Webinar Effectiveness	4.29

B. Webinar Metrics

Some consolidated metrics for the webinars conducted so far across the DCs are mentioned below. Table 2 gives the number of webinars conducted till date and their impact.

TABLE II.
WEBINAR COVERAGE DATA PERIOD - FEB 2006 - MAY 2009, 9 DCS

No.	Item	Number
1	Total number of Webinars conducted	59
2	Number of Colleges impacted across India	509
3	Number of Faculty impacted	1147
4	Number of Students impacted	22527

C. Rationalization of Travel Cost and Productivity

Total cost of 1 hour webinar session covering 10 partner colleges is approximately Rs. 12,000/- (Twelve Thousand) and to conduct similar seminar session in 1 partner college by SME through physical travel cost Rs. 39500 (Thirty Nine Thousand). So each webinar session results in saving of Rs. 383000/- (Three Lack Eighty Three Thousand).

TABLE III.
COST BREAKUP TO CONDUCT 1 SEMINAR SESSION

No.	Cost Saving Per Webinar Session	Rs.
1	Cost of Webinar covering 10 colleges	12000
2	Cost of Seminar covering 10 colleges	395000 (39500 * 10 Colleges)
	Total Savings per webinar session	383000

TABLE IV
COST SAVING PER WEBINAR SESSION

No.	Cost Breakup to conduct 1 Seminar	Rs.
1	Flight Tickets / Taxi Charges	12000
2	Accommodation – 2 Days	5000
3	Food /Misc. Expense	2500
4	Productivity loss due to travelling	10000
5	Banner / Marketing Material etc	10000
	Total	39500

Savings in terms of the SME travel time is another significant benefit. Taking a conservative estimate of two business days the SME would have spent in travelling to the college and delivering the seminar, a saving of 1018 business days has resulted because of using webinars.

D. Capability improvement – Scalability and Reach

Before the advent of Webinars in campus connect knowledge dissipation, SMEs were required to travel to the colleges posing a restraint on the number of colleges that can be covered. The reach to the colleges before and after introducing webinars gives a clear picture of the extent of change brought about. Table 5 shows the

number of colleges the team was able to reach before and after introducing webinars.

Without Webinars, the coverage percentage would have come down from 22.18% to 18.53%. Because of the wide reach of Webinars, the coverage percentage has increased from 22.18% to 57.22%, an increase of 35.04% in coverage of colleges. This coverage has further increased to 40% covering almost each Campus Connect Partner Colleges.

TABLE V
IMPROVEMENT IN COLLEGE COVERAGE

No.	Period	# Partner Colleges	# Colleges Covered	% Coverage
1	Nov 2005 - Oct 2006 (Without Webinars)	275	61	22.18
2	Nov 2006 - Oct 2007 (Without Webinars)	367	68	18.53
3	Nov 2006 - Oct 2007 (With Webinars)	367	210 (142+68)	57.22
4	Nov 2007 – Till Date (With Webinars)	520	509	97.8

E. Reusability and Reproduction

These webinars covered a wide range of topics from Technical, Soft-Skills, Effective English, Quality and Domain areas. These webinar sessions delivered by SME are recorded and re-use later. These webinar sessions are reproduced and edited in such a manner that they can be used later on by partner colleges. Recording of these sessions are shared with participants in the form of CDs or by uploading the content on WebEx portal. This also aid in archival of Digital library.

V. BENEFITS WEBINAR PLATFORM USAGE IN INFOSYS CAMPUS CONNECT

Some benefits the team achieved were:

- *Collaboration* – It offered the presenters to share information, data, applications, desktops, etc along with allowing participants and presenters to interact amongst themselves publically or privately thus serving as a successful collaborative medium.
- *Multiple speakers* – The team could employ the advantage of multiple speakers for a single session without bearing the travelling cost for each. It has been seen that a panel of speakers creates more impact than an individual, especially for longer presentations.

- *Greater target access* – Webinar has an edge in terms of its greater reach to audience and overcome geographical boundaries. It is easy to access and use through WWW and is available anywhere anytime.
- *No location dependency* – As webinar are location independent, it can involve Subject Matter Experts (SME) from a variety of locations to talk about their respective areas of expertise. This helped the students leverage the knowledge base of these SMEs which may not have been possible otherwise.
- *Interactive platform* – It offered an interactive platform to the session audience (students, faculty or college management) to communicate with the facilitator hence making it an effective means of communication. Having a question answer round with all the participants in a set order like alphabetical helps solve the common queries of the participants and record them.
- *Learning offline* – Recording allows participants to re-run the session and learn the concepts in detail.
- *Engage senior speakers* – as the presenters of the sessions were practitioners and senior Infoscions, physical travel was not possible generally. Webinars helped the team overcome the issues and increase the SME base.
- *Download Material* – Participants could download the material of the webinar and read it offline. This increased the learning window for them. The SMEs could share applications during their sessions as well.
- *Feedback* –Instructor feedback could be recorded through webinars. It helped to analyse and improve further.

VI. HURDLES FOR THE TEAM IN WEBINARS

- *Need for high end Infrastructure*– requires quality of service and has dependency of electricity connection especially for the VOIP (Voice over internet protocol). Call drop-off rates during webinar session is typically 10 percent so live helpdesk support through phone and online chat is required in case of any technical issue.
- *Cost of hosting* – As a medium of instruction, webinar proves to be costly as compared to the others. Institutions or students may find it difficult to purchase licenses for webinar software and sustain the same.
- *Restricted Audience Involvement*–The two-way communication channel has a limited usage here. Hence, this may prove to a hurdle at times. It may not be able to live up to the same level as a physical interaction with the expert.
- *Limited modes of multi-media usage* –Power Point Presentation Animation along with video cannot be played smoothly if a participant

doesn't have the required bandwidth. Webinar doesn't allow the instructor to use audio and video mode simultaneously.

VII. CONCLUSION

The traditional methods of training in educational system may have been in practice since a long time, the current time throws a challenge for students to update themselves on the technologies and their usage. With the advent of IT era, the learning habits of students have undergone a transformation from referring the text books to browsing the internet, having 3D images and animations as aids.

Webinar today has gained significant popularity. More and more institutions want to leverage technology in the field of education and percolate its maximum advantage to their students. It has helped overcome the issues of bandwidth and leverage expertise but has still to develop its potential as an interactive forum and cost effectiveness.

Going ahead, this technology can be deployed to harness a formal mechanism of measurement and an evaluation framework. Its usage can be extended to other areas of learning and its target audience base increased. While the current study talks about the webinars conducted through WebEx, some common vendors that offer this platform can be listed as below:

- InterCall^[8]
- GoToMeeting^[9]
- IBM Lotus Sametime^[10]
- MeetingBridge^[11]
- ReadyTalk^[12]
- WebMeetLive^[13]

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REFERENCES

- [1] Gretchen Rhines Cheney, Betsy Brown Ruzzi and Karthic Muralidharan, "A Profile of Indian Education System, National Center on Education and the Economy," November 2005
- [2] Home Page, <http://www.ugc.ac.in/>
- [3] Webinar Definition, http://www.pcmag.com/encyclopedia_term/0,2542,t=Webinar&i=54380,00.asp
- [4] Home Page, <http://www.webex.com/>
- [5] Home Page, <http://www.gotowebinar.com/>
- [6] Webinar Field Guide V1.0, Infosys Technologies Ltd., 2006
- [7] Anuradha Verma, Anoop Singh, "Leveraging Webinar for Student Learning", *International Workshop on Technology for Education*, 2009
- [8] <http://www.intercall.com/>

- [9] <https://www1.gotomeeting.com/?Portal=www.gotomeeting.com>
- [10] <http://www.ibm.com/lotus/sametime>
- [11] <http://www.meetingbridge.com/>
- [12] <http://www.readytalk.com/>
- [13] <http://www.webmeetlive.com/>

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