

# A Survey on Effectiveness of Video Assisted Learning in Enhancing Knowledge Competencies for Teachers

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## Abstract:

Many educators and teaching institutions consider informatics resources as a possibility for teaching modernization, naming them new technologies. With computerized recordings proceeding to pick up notoriety, it appears to be just regular this renowned and broadly stretches out into the instruction setting. Instructing and learning utilizes the video serves advantage of the understudies, yet in addition instructors and their associated establishments. In this way, every instructive foundation requirements for quality learning recordings, online course contributions and grounds openness. Rather than, a few establishments are deciding to make their very own instructive videos.

**Keywords:** Video Assisted Learning, Tele-Teaching, Video Conferencing.

## 1. INTRODUCTION

Tele-teaching is the technique for learning with the utilization of telematics, that is, the mix of media transmission, data and sight and sound innovation and its administrations. In Tele-instructing innovation:

All the associations among understudy, instructor and instructional material, which are basic for the instructional procedure, can be executed.

- The data and information, which are fundamental for the instructional procedure, are available and lucid.

- The spot, time and the pace of learning are adaptable.

Tele-instructing application on IP organize utilizes video conferencing, which is live sound/video correspondence among a gathering of topographically scattered understudies. The video meeting consolidates the transmission of video screens with great sound to give correspondence offices to a gathering of understudies. Video conferencing is amazing, in light of the fact that it has favorable circumstances, as visual correspondence and the ability of going to exercise from far off areas. To help Tele-showing administrations either a point-to-point video gathering (there are just two taking an interest focuses in the Tele-showing

exercise), or a multipoint video meeting (in excess of two taking part focuses) are utilized. Multipoint videoconferencing utilizes exceptional gear, called a multipoint control unit (MCU).

A successful and student friendly design of information system depends on the proper assessment of student's needs and requirements. Hence understanding of those requirements is of utmost prerequisite for success of interactive system. Figure-1 shows the engineering of the multipoint Tele-instructing innovation with the utilization of IP arrange. This innovation has extraordinary gear, a MCU (Multipoint Control Unit), acting like a reflector. The MCU gathers the sound/video of the considerable number of members and transmit to the member just a single sound/video at once, for the most part the video of instructor during Tele-educating.

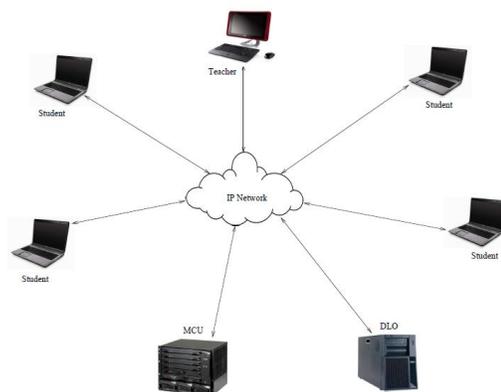


Figure-1: Tele-teaching technology

The following are the functionalities should be modelled in the design phase of Tele-teaching System.

**Interaction:** It can be Synchronous interactions between students and teacher, Asynchronous interactions between student and teacher.

**Tele-teaching session control:** Some researchers define the session control by some control functionalities like Open, Close, Create, Join, Leave, Allow to talk.

**Conference wide resource management:** Conference wide resource management is necessitated as there must be some mechanism to resolve conflicts among participants (teacher/student) request for shared resources in tele-lecture context.

## 2. OBJECTIVES OF THE STUDY

Tele-teaching can be regarded as the process of distance learning system where it is designed to provide a virtual class environment to the participants. Here administrator serves as Distance Learning Organization (DLO). DLO first selects a course after checking their infrastructure. According to the course need, they recruit Teachers ( $T_i$ ) in ageographical independent manner and are allowed to take synchronous lecture at a time. A Student ( $S_i$ ) registers himself in a Distance Learning Organization (DLO), for a particular course. Then Organization provides a routine to all the registered students. The Multipoint Control Unit (MCU) is an endpoint that makes available for three or more terminals to use and gateways to participate in a multipoint conference. Basically MCU is used for synchronization between students and teacher in Tele teaching environment.

**A. Tele-educating/Tele-address:** A Tele-address is transmitted to a few remote passageways. Understudies can interface with the instructor and among themselves by utilizing sound/videoconferencing devices. For introduction of related materials the instructor may utilize a few distinctive remote introduction frameworks.

**B. Lecture Session:** A talk session is characterized as the length for which a tele-address proceeds. The instructor (characterized later) starts and parts of the bargains. A session comprises of an instructor and various understudies (characterized later) who trade sound video correspondence and are associated through system in a dispersed System.

**C. Student ( $S_i$ ):** An understudy is characterized as a hub which is associated in the talk session. An understudy ordinarily

experiences the talk session (both sound and video) and furthermore may take an interest through a discourse or question. For this reason, the willing understudy needs to educate the educator through a solicitation. An understudy can convey his discourse simply in the wake of getting the assent from the instructor. Understudy can take online test, submit task and can likewise download video talk or course material from the framework on request.

**D. Teacher (Ti):** Teacher is one of the members who controls the whole talk session. In an instructor understudy scholarly System, the educator regularly assumes the job of the facilitator. Every one of the solicitations produced by the understudy in time scale are put away in first start things out serve premise yet handled by the instructor, with the goal that all the understudy get the chance to convey the discourse or pose the inquiry in a fitting grouping. The term fitting succession implies that every one of the inquiries identified with a particular setting ought to be talked about in grouping. The instructor can stop any member anytime of time and may pick some other.

### 3. LITERATURE SURVEY

#### 3.1 VoIP Technology

The Internet has prospered into an overall data superhighway during the previous scarcely any years, offering ascend to a large group of new applications and administrations (Saravanakumar AR, Jazeel AM (2014)). Voice over IP (VoIP) is the more skip among PC devotees; VoIP has set off a nourishing furor in both the mechanical and established researchers and can possibly drastically change phone correspondences. BroadVoice is a group of voice codecs created by Broadcom for VoIP applications, for example, Voice over Cable, Voice over DSL (a large portion of the transfer speed) and IP telephone applications [1, 2]. The BroadVoice codec comprises of two adaptations. The main adaptation of BroadVoice, called BroadVoice16 (BV16) and the subsequent form named BroadVoice32. The primary variant of H.323 was endorsed in 1996. Taste is an

application layer convention that was at first determined by the IETF Multiparty Multimedia Session Control Working Group (MMUSIC WG) in 1999 and refreshed by the SIP WG in 2002. Taste, which is depicted in RFC 3261 [3], is utilized for making, altering and ending sessions with at least one members, and was intended to be autonomous of the fundamental vehicle convention. Stanton [4] characterizes the dangers to VoIP frameworks into six classifications: Denial-of-administration (DoS), Theft of administration, Telephone extortion, Nuisance calls, Eavesdropping, Misinterpretation.

#### 3.2 Tele-teaching/Videoconferencing

A portion of the famous Tele-instructing/Videoconferencing systems are recorded beneath. Gathering was created by the Texas A&M University of Laredo. Discussion is an online application and its administrations are accessible through basic internet browsers. The FORUM server needs a Novell arrange server and runs over the Microsoft Windows Platform. Gathering offers the accompanying abilities: Group composing and records handling, document server administration, online content based talk, different sessions, predefined exercise structure for the understudies. Virtual-U offers abilities for configuration, makes and transmits instructive material over the web. It depends on the aftereffects of human and PC connections during system based separation learning. It offers capacities for video gathering, formation of instructive material and organization of understudy's evaluations. Symposium is an online application, which offers both synchronous and nonconcurrent separation learning. Anybody can get to the administration through basic internet browsers. It offers abilities for conveyance of instructive material through the web, joint effort between virtual groups, nonconcurrent separation learning, synchronous correspondence between the members and making of instructive material. Five star was a customer server application that offers capacities for email trade, strung dialog and remote access.

The renowned video-conferencing programming ooVoo is accessible for Windows and Mac. Clients can make fast enrollment and can speak with individuals through content visit, video-sound gathering (up to six individuals) and furthermore to record video messages. Understudies can likewise share up to 20 records on the double to the same number of contacts as you need, up to 25 MB for each document is allowed to download and utilize. The well known video-conferencing application sharing assistance VSee enables understudies to converse with numerous individuals on their PC. They can remotely alter and comment on reports, share applications and work areas, move documents, record and offer recordings, dish, tilt, and zoom remote cameras. Vsee is allowed to use for a boundless number of individuals. The popular cross-stage videoconferencing framework SightSpeed is light, performing and modest. Understudies can utilize it to have video calls with up to 9 individuals, content talk with them, share documents, record their sessions and send video messages. Free for two understudies or rupees multi month for 4 understudies and boundless video stockpiling and new online variant of the program is accessible

PalBee.com is a video conferencing framework, which has recently propelled another variant of the item. Each understudy set up their video gatherings up to 10 individuals, who can all whiteboard, transfer PowerPoint introductions, record for one hour anything that occurs in the meeting and distribute it as a video on YouTube. The administration is totally allowed to utilize. MeBeam is an easyto utilize Flash based video conferencing device that understudy can use to have video calls with individuals without introducing anything on their machine. To begin a video gathering, they simply need to type a name for their room, share it with their companions, and snap interfaces and is totally electronic, allowed to use with no enlistment required. Vidivic is a video conferencing arrangement which enables client to hold online gatherings utilizing a webcam and a pc associated with the Internet. After a free enlistment, understudies can make gatherings as long as 4 hours with 9 members immediately,

where they can see, talk and visit with one another and is totally allowed to join and utilize. The renowned video-conferencing Flash Meeting is application dependent on the Adobe Flash module and Flash Media Server and running in a standard internet browser window, enables a gathering of individuals to meet from anyplace on the planet with a web association. Understudies gatherings are pre allotted by an enrolled client who simply needs to share a URL. Understudies are furnished with video and sound conferencing, alongside the capacity to perform web visits. Uber Meeting, an electronic video conferencing programming. Super Meeting requires no downloading: all our need is a web program, a broadband web association and a web camera or computerized camcorder can seen up to 16 people simultaneously with a boundless number of security.

Wengomeeting is a glimmer electronic assistance that enables understudies to video conferencing gatherings with no product to download. They simply need to enlist, include their partners email address and naturally their web conferencing room is made. A meeting can have up to 5 understudies free. Ekko TV is a free Flash-based help that understudies can use to have video gatherings online with other two individuals. Without even register, understudies can simply enter their name and another room will be made: at that point they spread the URL and trust that companions will go along with them. Ekko TV is totally electronic and allowed to utilize. Vawkr is a video conferencing visit administration that enables understudies to get their own video visit room and converse with anybody. After they register to the administration and make their own room, they can welcome others to join in basically by sending them their room's URL and administration is totally electronic, allowed to utilize.

Huang, et al. [5] have proposed a layered store conspire and a substitution plot for video intermediary, where customer can determine the nature of the mentioned video. To meet the QoS concern, defer factor is considered in this reserve plan to lessen the holding up time at the

customer side, and a relating store plot that does storing as per media's merited stockpiling size is formulated.

### 3.3 Increased use of video in Higher Education

Johnson et al. [6] give a general work of current present moment and long haul patterns, how innovation is influencing Higher Education and thinks about the reconciliation of on the web, half and half and community oriented learning is a quick, it makes change in Higher Education throughout the following one to two years. The employments of video based encouraging medium are expanded and infringing onto conventional eye to eye instructing in Higher Education. This influences teachers, understudies, Universities and Colleges and there is a need to overcome any issues in advanced skills.

### 3.4 Educational video – from cassette to DVD to streaming

Video has changed drastically throughout the years. At the point when the configuration of video was a physical video tape, video seeing was confined by the physical duplicate of the tape. Each educator could get his/her showing video from the library and play it to the class by means of a TV. It has arranging, guaranteeing satisfactory hardware was accessible, and had difficulties certain innovative guaranteeing sound quality and perceivability of the picture. The video innovation has course of events in the study hall is structured by SURFnet/Kennisnet. The course of events underneath is adjusted from Greenberg and Zanetis [7]. Web talks and screen throws have been included alongside live talk catch. The year 2020 will hold for video innovation in the study hall is to be seen soon.

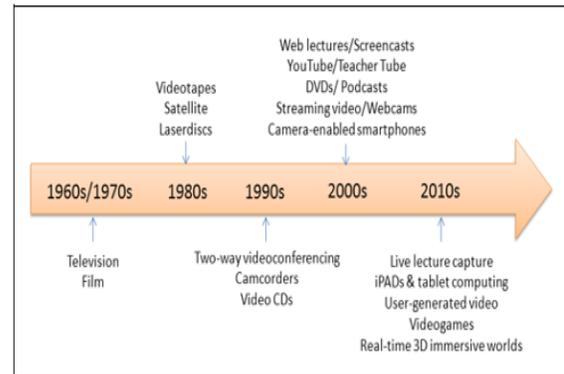


Figure-3: Educational video technology

The process of Figure-3 showing a video within an educational context has become simpler; by including a hyper link to a video in course material, a lecturer can easily share video content.

### 3.4 Now anyone can make and share a video

For as far back as ten years the generation of video has done from a little gathering of specialists, to the general masses. It is workable for somebody with a cell phone to make a video recording. This procedure required experienced experts with smart information, and access to costly authority video hardware, handling and spilling documents. Presently, cell phones are keen, iPads, advanced gadget, and computerized cameras have the standard choice of recording video at a regularly expanding quality. Recorded video documents can be in a split second transferred by means of Wifi to internet based life and to servers in the cloud.

### 3.5 Video is impacting Higher Education and education is changing

Video is a medium that keeps on bestly affecting advanced education, on the job of the understudy, testing the (conventional) job of the teacher and the speaker conveyed course content by means of a video. A few instructors absence of information, backing, direction and preparing in video innovation into their educating, either at a reasonable, specialized level, or at an instructional, educating level. Speakers may not be persuaded of potential advantages, might fear this new innovation, or see no compelling reason to adjust. The recordings innovation has a

propensity for promising a lot, yet without continually conveying.

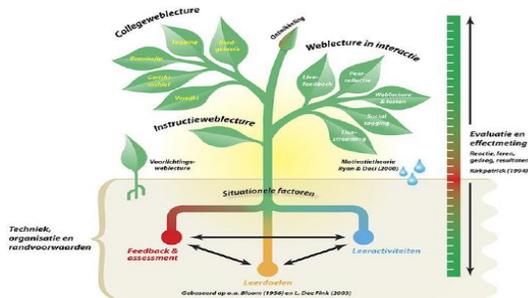


Figure-4: Web Lecture Tree

In Figure-4, the underlying foundations of the plant are spoken to as 'valuably adjusted' training with the clarification that no instruction can prosper except if the training is solidly established in an adjusted instructive setting. The branches are isolated into three sorts of web address (Instructional, College, and Web Lecture in Interaction). The highest point of the shrub, the further developed (compelling) the learning. This representation is helpful in its attention on the significance of the training being solidly established in adjusted instruction and the accentuation on the significance of dynamic understudy inclusion in the learning procedure. The natural and 'thick' nature of the demonstrated that the mapping out of the various types of web addresses is liquid, not completely characterized, and an on-going procedure.

#### 4. METHODOLOGY

Let the teacher  $T_0$  has a lecture session at time  $t_1$ . Each user has their own user id and password for their authentication to enter into the lecture session. So, if a student ( $S_i$ ) is interested to attend the lecture session of teacher  $T_0$  at time  $t_1$ , he has to log in to the system with his respective user id and password at time  $t_1 - \Delta t$ . (Where  $\Delta t$  is a log in time). Figure-5 shows the initialization of the lecture session. After the session established between the node  $S_i$ , the teacher node  $T_0$  will start his lecture by giving his first speech.

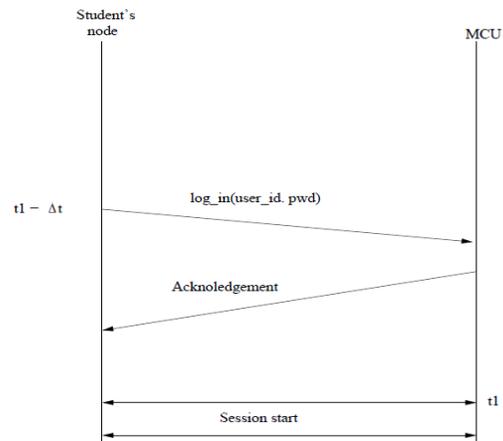


Figure-5: Student and Teacher registered session

The Tele-teaching System design should start from the requirement elicitation for Tele-teaching repository. A good formal model of Tele-teaching should adopt requirementsolicitation methodologies also and it should consider both the user requirements and quality of tele-lecture presentation. This is the only way to prevent critical business needs from being overlooked.

#### 5. EFFECTIVE LEARNING THROUGH VIDEOS

Video content is conveyed through different mechanical arrangements that fit into the human limit with respect to learning and the psychological hard-wiring of the mind. The constructivist hypothesis contends that learning is a procedure whereby the understudy is effectively engaged with the way toward building applicable information, and the more dynamic the inclusion, is potential for learning at an intricate level. The nitty gritty perspective on learning of the individuals is to develop new information and understandings dependent on what they definitely know and accept.

Video can be a progressively personal method for imparting between the teacher and the student (Ravichandran T, Saravanakumar AR, (2014)). While it is significant that understudies appreciate the learning procedure, understudies are not generally the best administrators of their own learning in the computerized world so any

view of understudies guaranteeing improved learning ought to be deliberately analyzed. The way that understudies demonstrate an inclination for a specific learning organization ought not really be likened with the way that it is the best instructional configuration, enough proof is to be given to help some execution of this instructive arrangement.

## 6. CONCLUSION

Towards the development of highly productive student requirements driven Tele-teaching System, a rigorous formalization is required starting from an informal statement of the facilities needed by the teacher and student, the formal model design and upto the implementation of Tele-teaching system in IP network.

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