MULTI-SCREEN VIDEO COMMUNICATION FOR BUSINESS AND ECONOMICS: LESSONS FOR MBA SCHOOLS OF THE 21ST CENTURY

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Abstract:
Responding to a global trend to extend methods of communication and teaching, considerable attentions have been paid in industries of various types as well as in education on the use of multi-screen video communication methods. Yet, in spite of its great potentials, cautions and negativism on extending conventional teaching platform to multi-dimensional levels persists at various levels, (Green, 2010, Green & Wagner, 2011, Edmundson, 2012).[222] This paper reports experiments in several classroom settings of Business and Economics courses conducted in the summer of 2012. The main conclusion of the study is that the need to use the extended platform is heavily activity dependent. Indeed, MBA schools aiming to embrace multi-screen video communication technology will be unwise to adopt a one-size-fits-all solution. Parallel development also has the advantages of offering easier matching of platform with activities, enabling gradual adoption and possibly a more effective way to manage obsolescence crucial in technology management of an organization.

Key Words: Multi-screen video, business, MBA Schools

Background and Motivation:

Extending audio-visual platforms for education is nothing new. Online learning has gone through early stages of implementation around the turn of the century in its promise for greater flexibility (asynchronous, anytime, and anywhere), higher quality (more intensive, easier updatability, student-centered), wider scope of community (no country border line, access to rural areas where traditional education may be underfunded, students and professors can be recruited worldwide), and more cost-effectiveness (saving of traveling time, printing costs, physical infrastructure, etc.). [223] However, considerable doubts exist after more than 10 years with still ongoing experimentations, even in light of credible and very careful reaffirmation that extending education platforms via E-learning is heading in the right direction.[224]

For a long while, E-learning has taken a route deliberately avoiding the use of video. This was understandable, given that the high bandwidth costs, when compared with a low marginal contribution of image for knowledge enhancement, could easily rationalize its suppression in the early stage of online learning. This sentiment was particularly pronounced in the Master of Business

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[222] As a 2010 National survey conveyed, 60.5% of Campus IT officials in US strongly believed that "Lecture Capture is an Important Part of Our Campus Plan for Developing and Delivering Instructional Content." Professor Edmundson' open letter on challenging the effectiveness of E-learning was widely read, though receiving rebuttals from the online community as well.

[223] The transition of knowledge distribution from Lan based methods to Web based methods complemented the underlying macroeconomic fundamentals of society, moving from an industrial to a knowledge economy, emphasizing scale economies in logistic management, increasing globalization, building a learning community rather than learning in isolation, etc., all being well recognized in the literature.

[224] See Andrews & Haythornthwaite (2007), Allen and Seaman (2008, 2010), Means,Toyama,Murphy,Bakia,Jones (2009).

Administration (MBA) programs where the case approach to learning has been the traditional norm.[225] With analytical rigor, critical thinking skill, and soft communication skill development being in one form or another the programmable goals adopted in most schools, the case approach, complemented with powerpoint presentations and possible in-class Socratic interactions between instructors and students, constitutes most classroom activities in various programs offering MBA education.

There are reasons to believe that technology and economic environment have progressed to a stage where a higher expectation is now highly wanted. Firstly, bandwidth costs are falling substantially while the macro forces of the type mentioned in footnote 2 are increasing. Secondly, events in the world are challenging the instructor/student thinking paradigm in rather unpredictable ways.[226] What may constitute *good* business skills (reasons for studying for an MBA) can change as business practices themselves are changing. Thirdly, there is an on-going landscape change in lifestyle affecting the way students perceive knowledge in the 21st century, emphasizing mobility, social and gaming. Stories addressing to how professors confront with such distractions in conventional classroom are abundant. However, if curbing measures are ineffective, the best strategy may be to embrace the change and to develop distinctive features for a competitive winning of students' attentions. Fourthly, our perception of reality may go beyond numerical capturing of statistics and analytics. Indeed, there may be a need as well as arguably a more effective way for describing reality via a multi-dimensional audio-visual interpretation.[227]

Already, new models of online deliveries emphasizing rich media are emerging, e.g. http://scu.svbs.co/, extending beyond conventional case study methodologies. New learning models such as those provided by Udemy, Empowerucla, etc. all point to a need for new format of interactions. Even leading MBA schools of the world, such as Harvard, is trying new format for their MBA education, promoting new methodologies such as *Fieldwork*, taking students outside the classrooms, prompting commentators to remark that "'learning by doing' will become the norm, if a radical overhaul of the MBA curriculum succeeds. "[228]

No one would argue that multiple-screen video conferencing should be, or will be adopted for all MBA programs. Different MBA programs have different niches, each program belongs to the vision with a mission that the university hosting the program may wish to promote. For example, to list a few, there are the Commercialization MBA and Clean Technology MBA (Oregon State University), Technology Management MBA and Global Executive MBA (University of Washington), MBA in Sport Business (University of Oregon), MBA in American Indian Entrepreneurship (Gonzaga). The very popular, but expensive, Executive MBAs (EMBA) is the grand daddy of all. First introduced at the University of Chicago in 1947, it was designed for professionals who can't take time off for regular classes because of their full-time professional engagement (usually with years of working experience) and still wanting to achieve higher levels of organization's leadership. Students in these programs have tight time schedule that require a very knowledge intensive interactive engagement. The schools offering these programs compete in delivering innovative combinations of on-campus and online studies.

Yet, ultimately, it is the activities designed and chosen in and out of classrooms, and the execution by the instructors of chosen activities, that could shape a particular niche of a program. Activities can intertwine with various technologies emerging; if managed well, the activities will enhance a good learning experience. This paper focuses on the technological backbone of multi-

[225] Leading teaching tools are the Harvard Business Review and the IVEY case library. Many MBA professors also created specific case studies for and with their students in various schools.

[226] The reflective milestone of 2008 financial crisis of the world is particularly revealing. Paradigm shifts are also evident in academic conferences organized around the theme of *Capitalism 2.0, New Economic way of Thinking (INET), new curriculum/program development(CIGI)*, etc..The current Euro crisis is yet another socio-political economy exercise waiting to be unfolded.

[227] Aside from the widely success of various reality shows on TV, added complexities in audio-visual extension in 3D, special effects, ala Cirque du soleil (e.g. Las Vegas show embellishing Beatle's "Love") and the London 2012 Summer Olympic opening ceremony kind of presentations, all point to the same conclusion: People are willing to pay for a better enrichment of audio visual experience.

[228] See the several reports in Economists on these new developments. http://www.economist.com/node/16067747?zid=316&ah=2f6fb672faf113fdd3b11cd1b1bf8a77 http://www.economist.com/node/21541045?zid=316&ah=2f6fb672faf113fdd3b11cd1b1bf8a77

screen video conferencing infrastructure. Anticipating a rich-media-knowledge intensive demand of a 21st MBA education, experimental activities for particular courses in MBA in a particular program were designed, probing how knowledge delivery can more effectively utilize the emerging technology. The approach used in this paper is suggestive and reflective, rather than rigorously set up as social experiments subject to hypothesis testing, although surveys of participants were conducted.

Infrastructure: Vendors' Landscape

Technological advances in the last decade were not only in terms of bandwidth, but in new software and hardware. The later have emerged increased by leaps and bounds in both areas of document sharing platforms as well as in audio-visual products. The focus in this paper addresses only to audio-visual products, as they are the frontier of technology on our younger generation will be perceiving the reality. Reality can be an approximated real time (in the moment) and/or virtual (graphic, imaginary, documentary) experience. Virtual reality opens up new dimensions for us to communicate and perceive knowledge. Undoubtedly sacrificing in terms of conventional method of acquiring knowledge, i.e. *reading,* 21st century communication moves towards getting ideas quickly and effectively, e.g. new vocabulary such as "lol". Technology in communication has run faster than how we can effectively utilize it.

Among many emerging technologies, videoconferencing has becoming more and more an important tool of communication. According to Cisco's 2012 VNI Forecast, "desktop videoconferencing is projected to be the fastest-growing service, with 36.4 million users in 2011, increasing to 218.9 million users in 2016". (Cisco, 2012). A Parks Associates webcast in June 2012 proclaimed that "multiscreen video services have become widely available in several global markets. Operators, broadcasters, OTT service providers, CE manufacturers, and others have all joined in the battle for their share…"[229]

Three broad categories of vendors currently exist in the videoconferencing industry. They are web based free platforms (e.g. Skype), web based paid platforms (e.g.GoToMeeting), and room based platforms(e.g. Polycom). The appropriate business model suitable for a business obviously depends on the business model of the enterprise. Although the web based platform has been growing, and argued by some to be the most significant trend for video calling, the popularity of which platform suitable for education is highly debatable.

Platform Evaluations:

Free Web-based--Free web-based platform provides cost effective communication and collaborative tools for homes or offices. A platform can be easily downloaded and installed on computers, laptops, ipads, or mobile phones. However, free web-based platforms are not consistently stable, even with upgrades of premium version. Calls dropping and echoes can happen if the audio speaker system of either one of the two sides in a communication is not set up properly. The assumption that the other side of a call is as familiar with the platform as you is often wrong, and thus, considerable preparatory work may be needed to assure a good conference session, especially for people using it the first time. The revenue model of free web-based vendors is also questionable, as it depends on users changing their communication habit by getting out of a more conventional communication mode of landlines or mobiles, e.g. SkypeOut products. [230] All "free" business models have to ultimately rely on advertising revenues. For education usages, it could be quite distracting. For an information focused session, it can diffuse a subject matter to be learned because of various piggy begging of advertisement . Last but not least, free products are not particular suitable platforms for any organization (including education institutions) to build a brand image. Free web-based platforms do, however, have one advantage in that they are widely used by many people. For a product such as Skype, virtually, most students (existing or prospective) have some experience with it already. Although not reliably stable sometimes, it can serve very useful functions for institutions'

[229] "Multiscreen Video: Growth and Challenges" Webcast by Brett Sappington, Director, Research, Parks Associates, June 21, 2012.
[230] Rao (2011), Harris (2011).

instructors and recruiters to approach individuals outside of their institutional environments, particularly at the level of an informal interaction.

Fee Web-based--Typically, a fee-based platform allows the user to schedule a meeting in advance by sending a group notification email to attendees, announcing the time of meeting, and an url for them to click to join a meeting. Participants to the meeting can click on the link of the email to gain access to a meeting room that is hosted on the server of the vendor. However, both the organizer and the attendees need to download some application software, and updated process is needed every time a new meeting is conducted. Fee web-based platforms, although more stable than the free web-based platforms, can suffer from the same 1st time user panic experience that free web-based users encounter. The learning curves of free versus fee web-based platforms are similar, but fee web-based platform allows brand design and its embedment into an existing organization's website. Many training companies such as Dale Carnegie Training may find this platform to be suitable for their business model.

Another consideration for fee web-based products is their costs. Most of them are offered on a monthly subscription basis, with the number of clients an increasing step function based on the monthly subscription fee. Some of them also offer 800 ip phone services in addition to video conferencing. However, subscribers to a fee web-based vendor do not have to worry about bandwidth costs, as they are included in the subscription fees. Fee based vendors use their own servers, although many of them also provide software that can be permanently installed on their client's server.[231]

Room-based--The distinguishing features of room-based methods are the audio-visual hardware used and the signal for the transmission. The audio-visual hardware usually includes higher end microphones, cameras, and a codec. The system is usually connected to a single or a dual screen large size HD monitor, aiming to provide conversations and presentations over internet without requiring participants to wear individual headsets while achieving audio clarity on both sides of the communication. The camera also has zoom-in features with pre-set options that can highlight specific speaker in a video meeting. Thus, the interactive experience of a live-room can be more effectively provided by a room-based method, as long as the system(s) on the end point(s) allow H. signal transmissions.

Room-based method offers the highest degree of user friendliness because participants can just show up to a room where there is a H.signal system as if one is attending a regular meeting. It avoids the learning costs of web-based platform. The later requires each participant must at least know about the computer he/she is using to access the meeting. Whereas for a room-based method, all the participants need to do is to show up. The presenters/organizers of a meeting, however, do require prior training and some understanding of the operation of various features of particular system such as screen sharing, the control of the camera angle and zoom-in. Operating these audio-visual features can be distracting to a presenter/organizer when he/she often wants to concentrate only on the content to be delivered.

The costs of using room-based method, aside from the physical room itself, are the upfront investment costs of the audio-visual equipments. Depending on the vendors, such set up costs can range from a few thousand dollars to many tens of thousand dollars. Usually, an IT support crew is needed in addition to the presenters/organizers of meetings in order for the session to be conducted effectively. The days when presenters/organizers can approach a meeting or a presentation with self learned instinct of a linkup of laptop on the internet is still far ahead in the future.

Looking ahead, future multi-screen video conferencing systems will be competing on the dimensions of quality, costs, user-friendliness and versatility. The state of art of computer devices generally are not yet to the mature stage of Hi-Fi and other electronic equipments where high stability

[231] Users are not completely free in that they do need to download certain "plug-ins" in preparation of a meeting. Although the downloading time generally does not exceed a minute, but it can be a psychological obstacle to first-time users who expect a "one-click" quick access. An exception of that is Vyew, which does not require downloading as the platform is http based.

and reliability can be achieved. Unless the users' perceptions are prepared to accommodate glitches, video conferencing is still a far distance away from mimicking reality.[232]

Although challenging, video conferencing technologies have also promised an increasing higher degree of versatility that may transform future methods of conducting business and education. Already, room-based methods are seeking to add mobility and inter-system functionalities to expand on the scope and space of communication. This entails expanding the traditional concept of classroom to a transitional process of a "learning space".[233] Thus, the room-based concept is looking to branch out to holding video conferencing out of the physical boundary of a room, while enabling also communication with desktops, laptops, possibly with other web-based platforms, etc.. For these possibilities, the question needs to be examined should not be limited only to dual-screen presentations, and indeed the value added of multi-screen presentations would definitely come into play. However, the experiments conducted in this paper were limited only to dual-screen.

Reflecting on the whole smorgasbord of technologies in the market and those that may be up and coming, the question for MBA schools to ask is a self-reflective question of its own program's attitude towards integration of these technologies, whether the technologies match can their teaching missions. As pointed out in earlier sections, MBA schools differ in the niches they want to build. Some may want to perceive these technologies as future highways—waiting for others to build but they themselves are not to use them until the technologies are fully developed and widely used. Others may wish to pursue a progressive strategy insofar that it will complement the mission of the program. For example, specific MBA schools may want to embrace an emerging technology in the same way that any niche cultivation of an organization would require its stakeholders to endorse and participate, with a strategic development direction in a certain direction. The issue is philosophical as well as pragmatic. There is definitely a distinction between the attitude of "building the highway—and people will come", with one that envisions that a highway should be built specifically suitable for certain niche usages. Again, the answer in the choice of one versus another would have to depend on the necessities of having activities in existing (or to-be-designed) classroom suitable for the mission of the program. We now turn to some suggested activities possibly suitable for business and economics for an MBA program in the next section.

Activities and Learning Objectives

Activities cannot be designed independent of learning objectives. The MBA School hosting the experiments in this paper has the following programmable learning objectives[234]:

General Learning Goals:
(1G) Work collaboratively in groups;
(2G) Recognize socio-economic issues, and establish and defend a position supported by ethical reasoning; and
(3G) Lead effectively, particularly in an uncertain global environment.
Management Specific Learning Goals:
(1M) Utilize technology support systems to strengthen organizational decision processes;
(2M) Conduct industry, company specific, or environmental business analysis using appropriate data and informational resources to bridge the gap between abstract theory and practice; and
(3M) Identify and analyze country/region-specific contemporary business issues; establish and effectively communicate and support recommendations.

[232] There are high end telepresence products that are aiming to achieve close-to-reality experience. This paper does not have a budget to experience that however. Undoubtedly, the set up costs of such devices are expected to be exponentially higher those evaluated in this paper.

[233] The concept of Learning space has been discussed in writings of Oblinger (2005, 2006). Many interesting concept development in this direction can be found in a work space magazine 360Steelcase, Fall 2010, Issue 60 entitled *Rethinking Higher Education Spaces.*

[234] New York Institute of Technology, School of Management internal document: 09_08_03_MBA_Programmatic_Learning_Goals(f)

In the summer of 2012, dual screen presentations were conducted in a branch campus of the school of the following activities:

- Pairing of powerpoint with photo displays, animated flash, and internet current event reports
- Pairing of powerpoint with DVD (for providing a more vivid atmosphere, e.g. trading floor of Wall Street, life of J.P.Morgan, featured film relevant to a topic , played muted except for specific segment)
- Pairing of cross reference sources to re-enforce ideas
- Pairing of instructor's display and participants' (students') display
- Guest speakers through internet and collaboration of working documents
- Distant collaborations of class via desktops
- Distant collaborations of room to room
- Education Gaming/Competition via desktops and rooms

These activities were spread out over four business and economics courses, Micro and Macro Economics, Business Enterprise Environment, and Business Policy and Strategy. The economics courses are considered to be condensed accelerated courses for MBA students coming into the MBA program without prior knowledge of economics. They are structured as undergraduate economics courses "on steroid". The Business Enterprise Environment course is studies of regulations and laws on old and new economies across country borders. Business Policy and Strategy is a course on strategy formulation and execution. Most MBA schools have courses that cover these components with perhaps different course title. Students participated in the experiments were asked to express opinions with a survey in Appendix I. For the course on Business Policy and Strategy, students participated in a hypothetical exercise of formulating a strategy for a task force on video communication for an education institution that has a global vision at the corporate administrative level. Students were asked to formulate strategies on the business and functional levels that may enhance the corporate vision.[235] They have also been asked to evaluate infrastructure vendors' platforms as provided in Appendix II. The general purpose of the exercise was on how to utilize multi-screen video communication to build a *Distinctive Competence* for a Global University for the 21st Century.[236]

Evaluations of Activities:

At the forefront, the experiments proposed and conducted were in fulfillment of programmable objective of (1M): utilize technology to support decision making. The small class sizes (ranging from 3 to 9), however, cannot permit evaluations to be done with statistical rigors. Thus, the use of the survey was largely for reflective and interpretative purposes. Also, implementation of dual screen presentations could run into technical glitches that when a session does not go well as planned, it is often unclear whether the less than anticipated performance was due to the technical niche or the content. Nevertheless, four activities experimented can be highlighted to show the promise of dual-screen/video delivery:

• Pairing of visuals with concepts expressed in words

Students uniformly like this, as visual examples are easier to digest, and can serve to bring out questions and discussions. This is particularly important given that certain disciplines, e.g. economics, have over delved into mathematical rigor into their classroom activities in the past. Students of business do not walk out from a class engagement satisfied by listening to an eloquent proof of proposition that many considered to be simple intuition. Students look for applications, thinking

[235] The methodology of differentiating corporate, business, and functional strategies can be found in *Strategy: Core Concepts and Analytical Approaches*, 2nd Edition, 2012, by Arthur A. Thompson.

[236] Distinctive Competence is a common lingo used in business strategy courses for the purpose of identifying specific investment needed for a company to build specificities that cannot be easily duplicated.

vehicles for them to reflect on real world happenings. Visual examples often serve that motivation better than mathematical models. Nevertheless, this delivery method requires heavy preparations for the instructors, as conventional powerpoint summaries provided by textbook publishers lack emphasis on audio-visual elements. Video communication of this activity can also be a challenge, as most dual screen distant model allows a presentation screen shot of powerpoint separated from a room camera shot of the speaker or the audience. The presentation screen of powerpoint broadcasts only one screen (not both screens) from the broadcasting point. This activity is not recommended for distant delivery. It aims at making abstract complicated concept simple, and does not serve any of the programmable objectives except (2G) on the dimension of recognizing socio-economic issues.

• Pairing of instructor's display with student display

This activity is particularly suitable for collaborative learning, on lessons to be learned from current events, on theoretical concepts soliciting examples from students, offering a platform to provide students/participants on an equal footing with the instructor/organizer. There are various methods of using powerpoint to prompt class activities for motivating meaningful class discussion and deep learning (Berk, 2011). For MBA education, it is particularly important as the programmable objectives outlined earlier in the section specifically require students' articulation of complex issues and problems, notably (2G) and (3M). Indeed, the whole concept of collaborative learning coincides with the (1G) objective of "work collaboratively in groups".[237]

In at least two ways, collaborative learning via dual screen can be useful for a class of international MBA students. Firstly, international students being familiar with websites in their own countries, but not with how a current event is described or commented upon in another country, comparison of alternative interpretive paradigm can broaden scope and prompt discussions for students wanting to do business globally. This is particularly relevant for a course on Business Enterprise Environment, which requires comparison of countries along the dimensions of global competitiveness, ethics, politics, physical resource, and societal constraints.[238]

Secondly, and arguably more importantly, international MBA students often are handicapped in their communication using a non-native language. They can be weak and slow in a group discussion among native English speaking students. Yet, their thinking and ideas can have much to contribute to a discussion in a class. Allowing students to complement their arguments, in the same way that instructors can use their powerpoints, and their selection of websites to communicate a point, will put a student on equal footing debating in class with others and the instructor, strengthening their confidence to communicate.

Technically, collaborative learning of the type described can be conducted without the infrastructure improvement such as video conferencing system or room re-configuration. There are many ways to go from any point A to any point B. The fact that something can be done does not mean that it can be done well. Imagine an instructor adopts the collaborative learning in the form suggested. He/she can certainly ask each student wanting to speak to take turn to go to the podium, load particular page that the student wants to articulate, and take turn to make sure that everyone has the chance to speak. That takes a lot of class time, and actually NOT achieving the purpose. The purpose is to encourage communication based on the merits of their ideas, not merely an opportunity to equalize speaking opportunities, which often result in discontinued and disjoint dialogue. Students need to learn how to contribute constructive criticisms, not just expressing their own opinions, and be active as well as reactive in a group decision making process. Instructors in this context should be

[237] Almost all MBA classes have group projects. Instructors often leave a group's organization structure to the discretion of the group. Although there are learning platforms that allow instructor to mentor individual groups in real time, there are no specific provisions in these platforms to provide *examples* and *training* on *how to* work in groups. Mentoring on these platforms at best can only be monitored by limited dimensions of efforts. What students need in a group efforts sometimes is immediate response, corrections and modifications, and recognizing issues and a point of contention that can be rephrased to achieve more effective delivery. Face to face, including virtual, thus provide an opportunity to experience group in action with effective mentoring for direction.

[238] See NYIT School of Management, Master Syllabus, MGMT 630.

reminded of the programmable objectives of (3G), i.e. ideally, identifying a leader from the group discussion, seeking equalization of time should not be the objective.

Infrastructure set up in terms of system used as well as room configuration can play an important role in generating dynamic group discussions. A large class will not do it well. A room with dual screen far apart will not do it well. A mechanical switch that allows up to a maximum of 4 computer/laptop hook up to a monitor will not do it well. A video conferencing system that allows easy screen sharing is the way to generate dynamic discussion. For this capability, alternative systems differ considerably in terms of costs, speed, and user friendliness.

• Guest speakers invited through internet with Q&A (not a one-way broadcast)

The convenience of inviting guest speakers via video conferencing to a class is self-evident. In an age where audience's attention span gets increasingly short, having new faces and new voices in a long classroom session can be like having an ice lemonade in a hot humid summer afternoon. Especially if invited speakers are commenting on the very subject matter of the day, whether they are pro or against the position of the instructor, students always find invited speakers refreshing.

The particular invited speaker for the class experiment in this paper was from a vendor of the video conference system of which the class were asked to evaluate. The course was Business Policy and Strategy. The assignment was for formulating a business and functional strategy for a Task Force as described in earlier paragraphs. The engagement was highly successful because it was equivalent to a field trip to the vendor without incurring the time and expense had the trip been physically taken. Especially if the *Fieldwork* methodology reportedly used in elite schools such as Harvard MBA is to be embraced, the use of video conference to proactively and reactively formulate strategies as class exercises or as service performed to outside classroom institutions is evident. With respect to the programmable goals under study, (2G) and (2M) were aimed in the particular activity used. The engagement between the invited speakers and the students helped achieved a better understanding of the industry and the specific firm being studied, and generally also touched upon socio-economic issues helpful to both the students and the invited speakers.

Discussion in class also suggested the use of invited guest speakers be extended to case studies in general. Currently, most MBA schools utilize a case study approach where students are asked to study an industry and/or company addressing to a particular episode, usually the more recent the better. The thought of acquiring a niche in bringing a case closer to reality by having industry person commenting on particular case being studied is what schools such as IVEY, and to some extent the teaching material embedded in 2012 E-book version of textbook used in the Strategy courses, are moving towards adopting. Yet, video recording of a one-way presentation by a speaker is never the same as a real time Q&A. Even if book publisher producing videos of such nature attempted to use a structured Q&A format in featuring a reporter together with the industry person in a video, it is never quite the same as questions initiated from the students in a dynamic way happening real time. This will serve to engage, rather than push students toward indifference, as one-way broadcasts often seem to result in shaping an education experience. Real time Q&A, if managed well by an instructor, most likely can enhance the learning experience of both the invited speakers and the students.

- Desktop illustration of competitive education game (tried on a platform called Glo-Bus only, but the potentials of this activity have much room to explore given consumer trend on mobility, social media and games)

At the outset, competitive education game is never good being taught in a conventional classroom. The illustration of a computer screen entailing inputs of numbers and data, even projected to large screen, can hardly be read by students even sitting close to the front row.

Conducting the class in a computer lab where students each face the desktop can alleviate the viewing problems. However, they are not effective for group discussion. Instructor also has no way of knowing whether individual student is following the screen selection of the instructor. A class allowing students to raise hands to seek individual help in finding particular location of data input on his/her screen consumed class time inefficiently, and if not managed well, can easily turn into chaos.

The screen sharing feature of most video conferencing system has the advantage of overcoming the deficiency of computer lab with a better working environment for small groups working on the Glo-bus game. Video conference of a small group allows better mutual enforcement of individual member's contribution, as the computer screen of each can be easily conveyed to the other members of the group, without requiring everyone to cluster around a single desk top screen which often measured not anything more than a 21". For the Glo-Bus game where data entry to one screen can change the condition of another screen, having members of a group to communicate those changes immediately and in real time is essential. In a computer lab, group communication, even by placing students in the same group together in designated area, cannot achieve mutual monitoring as well as video conferencing.

The paradox here is that distant communication can work better than reality, which is handicapped by physical capacity. The concept of *virtual* reality is what education game is hoping to bring out. It is different from the *real time* sense of reality that the other three activities emphasized. Pedagogical consideration suggests the use of alternative platforms such as *Second Life* can provide a better learning experience over reality.[239]

The activity chosen for this experiment fulfilled the general learning goal of (1G) and (3G). It also promoted the specific management goal of (1M).

Reflections:

Educators of the 21st century face an increasing communication threat: our students know more and utilize more about technologies than we can. Our credibility as a source *of* or even as a vehicle *to* knowledge is challenged. Surely, we can shrug our shoulders and call anyone camping out for the latest iphone foolish. But unless we are willing to think ahead to accept the challenge, we will be facing a widening communication gap.

Critiques to online education may want to challenge the usefulness of the internet and the emerging technologies. Supporters of that position may be as out of touch with reality as supporters who totally embrace the other extreme. The relevant question to ask is not which education delivery mode is more superior, but whether a designed activity can achieve the goals of a program effectively. Matching activities to specific features of goals should be an instructor's challenge. On that, this paper tried to demonstrate how that can be done for some MBA courses in a program that serve an international vision of a world university.

A final note addresses to an ethical question educators may wish to contemplate before embarking on similar experiments for their programs. Although in many ways, *teaching* of all forms is experimental once it goes beyond *reading*, unless the teaching is done as unaltered recordings--play over and over again when the same course is taught, students consensus on the extent of the experiments as a proportion of the content of the course should be respected.

Appendix I:

Dual Screen Presentation and Video Conferencing Survey:

Dual Screen Presentation refers to the simultaneous usages of 2 screens in a presentation. Rank a dual screen presentation in the following dimensions in relationship to a single screen presentation.

1. Information Conveyed:
    a. Intensified
    b. About the same
    c. Distracting

2. My attentiveness to a presentation:
    a. Intensified
    b. About the same
    c. Distracting

[239] A Second-Life extension of MBA school, at least for one instance that the author knows about, had been a failure, however.

3. The importance of Visual Image for Economics:
    a. Very helpful in understanding abstract concepts
    b. Explanation more important than visual images
    c. Discussions more important than visual images
    d. Reading a text slowly more important than visual images.

Comments:

4. Dual Screen may be useful for the following activities:
    a. Conventional Lectures
    b. Collaborative Works
    c. Works entailing Internet searching
    d. Video Conferencing

Others:

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5. Technology used in the Dual Screen Presentation:
    a. Important because it can be counterproductive if not done effectively.
    b. Marginally important because it is the interest of the subject matter that attracts.
    c. Not important because more information is definitely preferred over less information.

Comments:

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Perception on Video Conferencing:

1. Arguments against teaching using video conferencing:
    a. Audio and visual images cannot be effectively communicated
    b. Distant attentions likely to be less
    c. Difficult to monitor reaction
    d. Equipment dependent

Others:

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2. Arguments for teaching using video conferencing:
    a. Facilitate convenience in inviting guest lecturing
    b. Potential reduction in transportation costs
    c. Sessions can be recorded
    d. Interactivity dilutes the boredom of long lecturing

Others:

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3. Balancing the pros and cons of video conferencing:

a. I do not want to take a course involving video conferencing

b. I think a course with some sessions of video conferencing for the right activity may be good

c. I can see video conferencing to be the way of the future, and want to get used to participating more in it, even though I don't like it so much now.

d. The option of video conferencing can only increase communication productivity without downside risks because if it found ineffective, the convention communication method can still be used.

Other Comments:

AppendixII:

Video Session Evaluation Sheet:
Date:_____ Computer Type and Model you're using: _____

Description of the Session:
Rank the session performance on each of the items below from a scale of 1 to 5, 1 being unacceptable and 5 being identical to face to face communication and beyond (e.g. an inviting new high tech feeling).
Leave BLANK if the session does not have features for a particular evaluation.

I. Call reliability and quality:
   a. Image clarity
   b. Audio clarity (check echoes)
   c. Audio synchronized with Image
   d.
   e. Calls dropping
II. State of the Art
   a. Screen outlay design
   b. Vendor's knowledge
   c. Sustainability of vendor's business model
   d. Recognition in the market (industry)
   e.
III. Ease of Use:
   a. Easy to install and access for the meeting
   b. Menu prompts design
   c. Clarity of user interface
   d. Flexibility of managing a meeting/program
IV. Integration:
   a. Use of accessories (e.g. ppt) for your communication
   b. Can communicate with other video systems
   c. Confidence in the backbone technology used
   d. Vendor's awareness of competitors

V. Value
   a. Pricing formula suitability
   b. Software future upgradability
   c. Tech support to be expected

References:

Andrews, Richard, & Haythornthwaite, Caroline, (2007). *E-Learning Research*, Teller Oaks, CA: Sage Publications

Allen, I. Elaine & Seaman, Jeff, (2008). *Staying the course: online education in the United States*, Babson Survey Research Group, The Sloan Consortium.

Allen, I. Elaine & Seaman, Jeff (2009). *Learning on Demand:Online Education in the United States 2009*, Babson Survey Research Group, The Sloan Foundation.

Berk, R. A. (2011). "Powerpoint® engagement techniques to foster deep learning." *Journal of Faculty Development*, 25, 45-48.

Edmundson, Mark. (2012). "The Trouble with Online Education" *New York Times, July 19, 2012*.

Green, Kenneth C. (2010). "IT Budget Cuts Slowing: Campus LMS Strategies in Transition" *The 2010 National Survey of Information Technology in US. Higher Education*, www.campuscomputing.net

Green, Kenneth C., and Wagner, Ellen (2011). "Online Education: Where Is It Going? What Should Boards Know?" *Trusteeship* , January/February 2011,No 1, Vol. 19.
Harris, Jim. (2011). "Video calling will dominate within seven years: And Skype will rule the market." *Backbone*, Nov/Dec 2011, p.17.
Means, B., Toyama, K., Murphy, R., Bakia,M., Jones, K. (2009). *Evaluation of Evidence-Based Practices in Online Learning: A Meta-Analysis and Review of Online Learning Studies.* U.S. Department of Education, Office of Planning, Evaluation, and Policy Development
Oblinger, Diana (2005). "leading the Transition from Classrooms to Learning Spaces." *Educause Quarterly,* no. 1, p. 14-18._____(2006). *Learning Spaces*, Educause E-book.
Rao, Leena. (2011). "Skype Revenue Up 20 Percent To $860M In 2010; Paid Users Up 19 Percent." http://techcrunch.com/2011/03/07/skype-revenue-up-20-percent-to-860m-in-2010-paid-users-up-19-percent/
Sappington, Brett (2012). "Multiscreen Video: Growth and Challenges" Parks Associates, June 21, 2012.
Thompson, Arthur A. (2012). *: Core Concepts and Analytical Approaches*, 2nd Edition. Online at www.glo-bus.com
Cisco's VNI Forecast Projects the Internet Will Be Four Times as Large in Four Years Annual Cisco VNI Forecast Expects Worldwide Devices & Connections to Grow to Almost 19 Billion— Nearly Doubling From 2011 to 2016 http://newsroom.cisco.com/press-release-content?type=webcontent&articleId=888280
Economists, Business education: Case studies, May 6th, 2010, Field of Dreams: Harvard Business School Reinvents its MBA Course, Dec. 3rd, 2011.
New York Institute of Technology, School of Management internal document: 09_08_03_MBA_Programmatic_Learning_Goals(f), Master Syllabus: MGMT630 (2012)