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## Replacing Face-To-Face Classes by Synchronous Online Technologies: The HOU Experience

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### Abstract

Since 2009, HOU has been providing live virtual classes for various distance learning programs. This paper will provide an opportunity to look at the issues involved in the use of these multimedia-enabled delivery approaches, the technology behind them, the logistics involved, and to provide an HOU perspective of the experiences encountered. The goal of research was to provide a systematic methods to implement the highly interactive live session. The additional goals was to design the portable hardware and easy to use software toolset as well as easy to follow guidelines on how to propel the lectures from the conventional dull chalk and talk and to minimise the number of staff required to give the lectures. Through a combination of surveys and feedback from lecturers and students, we are able to better understand the obstacles and to continuously improve on the effectiveness of these interactive delivery approaches.

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### 1. Introduction

Hanoi Open University in Viet Nam is one example of higher education institution that entirely employs ODL system. The university was established in 1993 and is now serving more than 70 thousand students. Since the first semester of 2009, HOU has been replacing several classical face-to-face sessions with the use of various synchronous technologies.

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Along with the use of the traditional printed materials and face-to-face tutorial supports, various kinds of technologies have been used to enhance students' learning at a distance, including online tutorials, web based materials, online examination, and other online services.

As the information and communication technology (ICT) advances, ODL practitioners begin to emphasize on the importance of interaction during the distance learning process. This new paradigm is characterized with a belief that education is basically a two-way communication between students and tutors, students and study materials, as well as students and the institutions/education providers.

Launched in 2008, HOU E-Learning Program at Hanoi Open University is the first institution in Vietnam to enter E-Learning and synchronous technology research through a joint project with scholars from MIT, Duke and Ohio University. The research project is part of an effort to leverage e-Learning's advantages in developing a high quality ODL program. HOU e-learning undergraduate program is developed by the E-learning Center (ELC) at HOU, with participation and support by corporations and organizations including Microsoft, Qualcomm, Hewlett Packard, USAID and Hanoi University of Technology.

## 2. Blended Learning Architecture

HOU applies interactive teaching methods in its training process. Group discussions, role play, practice, games are applied frequently in both online and offline lessons. More than 250 industry trainers has been mobilized to handle of more than 80% subjects, both online and offline. The best practices have been improved with the participation and support of managers who come from enterprises.

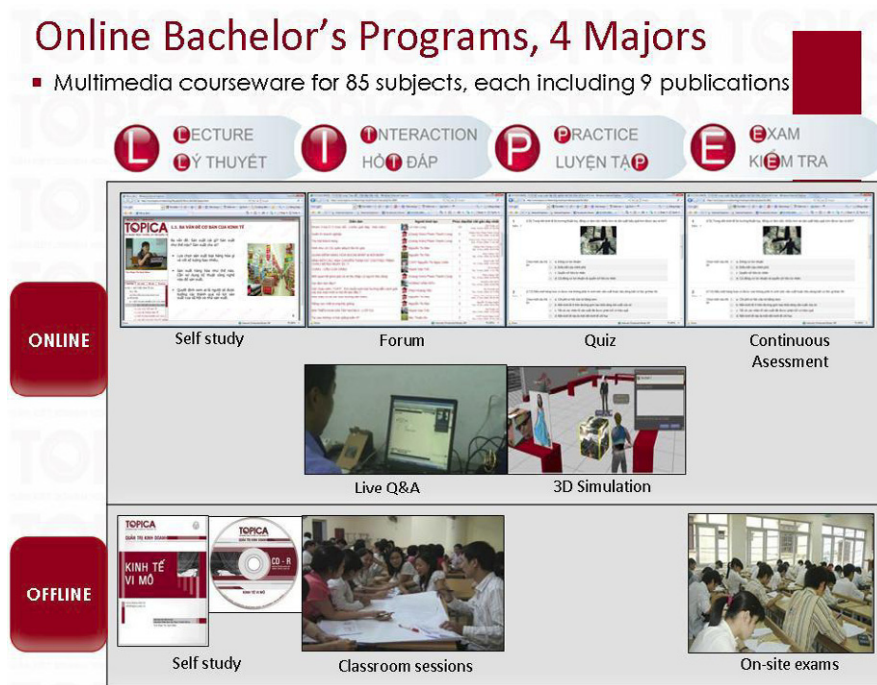


Fig. 1. HOU blended learning architecture

Access to a variety of learning support services by distance students has to be improved to ensure quality learning process so that students have the motivation to develop independent learning capacity through self-direction. The institution responsibility is to design effective learning support system which encourages students to initiate learning and develop independent learning culture using a variety of methods and appropriate technologies involving capacity building of students, study groups, provision of various kinds of learning and support services for students, and use of new technologies.

The blended learning architecture includes a Learner Interface, which facilitates access to the learners' functionality. The Learner Interface supports all the features that are available in existing state-of-the-art e-Learning. HOU has implemented and improved its online services, including those designed for tutorials, web-based self-learning materials, self-exercise, examination results dissemination, online helpdesk, information dissemination, and paper-based examination. Other online services are being developed to improve teaching and learning as well as administrative services for students.

### 3. Uses of synchronous class elements

**Chat (text only):** Synchronous chat rooms (Vbulletin and ViTalk chat) are integrated directly to HOULMS (moodle 1.9.3) and Forum. They allow multiple students and teachers to log in and interact. For the on-the-flight chatroom on the course interface, moodle chat activity module allows students to have a real-time synchronous discussion in each course. This is a great way to ask questions and to share resources and insights. The only drawback is that when there are a lot of students logged in, and everyone's trying to chat at the same time, the conversation can break off into tangents.

**Video conferencing:** Point-to-Point video conference sessions are usually designed, planned and held at the HOU Study Centers throughout the country. This system is integrated into the distance education program with minimal adaptation to the curriculum and course and is designed to support two-way video and audio communication between HOU main campus and one Local Center.

**Voice-over IP:** Microsoft Skype and Google Gtalk webclient are integrated into HOU VLE. VOIP tools help our students and tutors to collaborate in their project works. It's also a place for teachers to connect with each other, find partner classes and share inspiration

**Web conferencing or Virtual classroom:** HOU web-based instructional tools provide 24/7 access to online classrooms along with shared learning resources and activities. Teachers can enhance and extend classroom instruction while providing students opportunities to research and collaborate, anytime and anywhere. Nowadays, HOU tutors are using two versions of virtual classrooms. Adobe Connect Professional for small group presentation and Authorized wqiz for large class teaching.



Fig. 2. Students can join virtual classroom sessions from 6 PM everyday

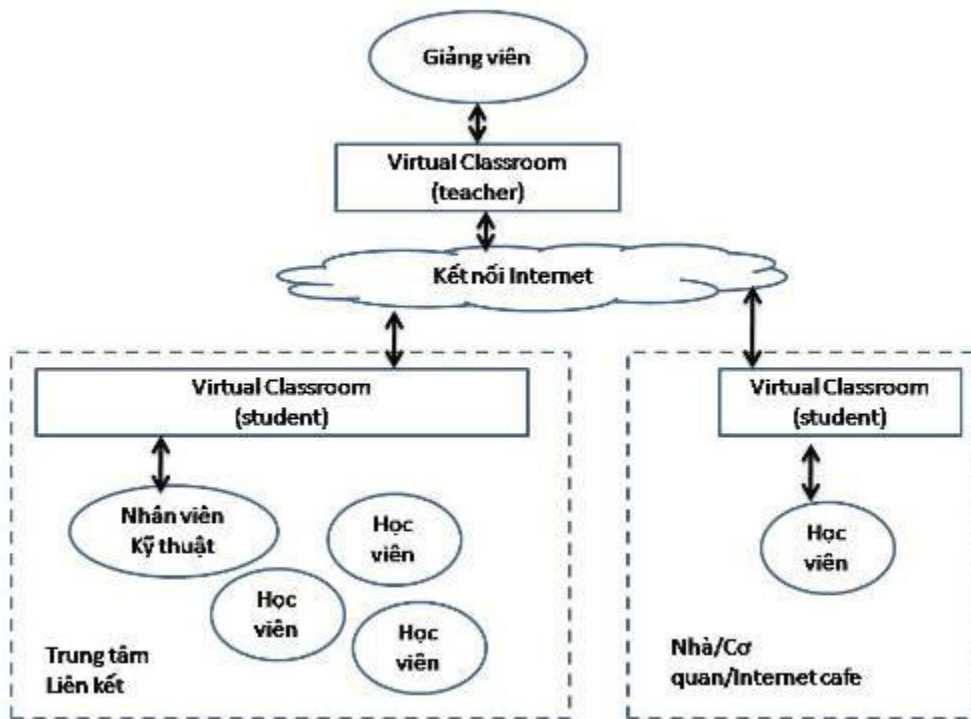


Fig. 3. Flexible web conferencing for both learners with and without internet acces ( centralized webconferencing at local centers)

**Internet radio/podcasts:**

HOU has been broadcasting more than 100 radio subjects since 2008 via Voice of Vietnam Radio. This consists of ready-made 45 minute direct teaching and learning exercises to the classroom on a daily basis. The radio lessons, developed around specific learning objectives at particular levels of maths, science, health and languages in national curricula.

Beside the broadcast lessons, Instructors might stream the audio over the Internet using the VLE built-in online radio module. Ideally, the mp3 audio file would be archived for students to access and review later as well. The nice thing about Internet radio / streaming audio is that students can send chat messages while the event is happening.

**Virtual worlds:** Educational simulation in virtual worlds like Second Life are wonderful places for students to meet "live" and to interact. They're ideal for learning languages because it's possible to speak with each other through headsets and VoIP.



Fig. 4. HOU Practice session with role playing

Second Life technology offers a surprisingly efficient solution to these challenges. The number of students enrolled could be enlarged beyond the “seat capacity” of classrooms and computer labs. Increasing numbers of university students own their own computers and have access – at home – or through Internet cafes – to high-speed connections capable of running graphics-intensive programs like Second Life. This would enable universities to reserve places in their labs for those students without such outside access, allowing other students to join the class remotely. Thus many of the practice activities could be organized in Second Life, where students log in from their own computer, join others in the common practice areas, and engage in the simulated workflow processes. Teachers can also join in to supervise and evaluate students from computers and locations convenient to them. In some simulations in Second Life, there can be automatic instructors and evaluators. This is especially critical given the financial necessity for university teachers to seek additional employment to supplement their university salaries. Besides, universities can reach cost efficiency in education budget.

The authors have selected three workflow processes, each representing a HOU Elearning program, to simulate in Second Life: sales management, accounts payable and software development. In the case of software development, the simulation will be informed by the findings of the Vital Lab project. Development will require more extensive conceptual design in the cases of sales management and accounts payable. As the most straightforward workflow process, accounts payable has been chosen for the first pilot simulation. The following table describes the different skills, how they are simulated, and how they are evaluated (quantitatively or qualitatively).

Table 1. Simulated skills

Factors	Skills	Scenario on Secondlife
Attitude	Customer and service quality focus	In-world lectures with interactive case exercises
	Professional ethics	Difficult to present in Secondlife
	Professional image	Provide some choices on office costumes (casual costumes which are used in schools, sport activities; office costumes)
Soft Skills	Teamwork skills	Measured through teamwork performance indicators: - Customers served/hour - Average waiting time/customer - Longest waiting time (top 10% percentile) etc.
	Telephone and face to face communication	Choose effective communication ways (spot wrong behavior subconsciously expressed by avatar): - Fold arms, laugh when customers come in. - Answer the phone and use curt expressions such as Yes, No etc. - Anxious, bewildered expressions. - Failure to welcome customers
Domain Knowledge	Guide customers through procedures and paperwork	- Spot customer mistakes in writing contract (date, payment terms, amount paid, transportation terms, etc. Eg. choose 1 incorrectly contract out of 4, then spot mistakes. - Procedures to cooperate between accountant and cashier, chief accountant, procurement officer, etc Eg: to identify whether the accountant follow correct procedures or not.

**Mobile learning apps:** HOU uses MLE-Moodle and in-house developed apps to realize m-learning for customize learning scenarios:

- make quick surveys or quizzes in the classroom with the mobile phones and see the results instantly
- provide mobile chat for students and tutors using vtalk, yahoo clients.
- Send instant SMS for class events and notes.

#### 4. Conclusion

Overall synchronous services delivery method has opened up numerous possibilities for both HOU staff and students and would undoubtedly be built upon to create huge savings, innovation, learning and collaborating opportunities. The synchronous virtual classroom, 3D virtual world, VOIP tools once considered "the technology of the future" are now very much established as an integral part of HOU blended learning portfolio.

HOU responds to the increasing uses of synchronous technology as a part of state-of-the-art blended learning environment to enhance teaching and learning at distance through various subjects. In the future, new open and distance learning will depend upon greater uses of technology, and HOU has to continuously innovate and improve its learning and teaching technology, invest in new technologies, and develop its human resources to suit the needs for new technology uses.

Any ODL institution, including HOU, should anticipate advances in new synchronous technologies, and wisely use appropriate new technologies for teaching and learning that meet the needs and requirements of the students which it serves.

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