Establishing a Reference Model for a Comprehensive University Online Course System:
The Application of CLUE/ORB within the Humanities-based Undergraduate and Postgraduate Program

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　本稿では大学におけるオンラインによる総合的学習システム構築のための参照モデルを提示する。本モデルはまずは教養系学部内のアプリケーションとしてデザインされた機能的および構造的特性について定義されている。それは通常人文系学部と見なされる学科で提供される教育プログラムの戦略的特性、教育内容、および教育内容の配信に重点を置いている。パート I では主としてオンライン学習が教育のあり方を一変させた重要な分野を考察する。本稿はパート II で概観したオンラインモデルが最終的には評価されねばならない本質的な教育効果と教育目的の再検討を意図している。もとより，対面型の教育には自明の卓越したそれ自体の力があるという考えに異を唱えるものではない。パート II の最後では効果的かつ大規模なオンラインシステムが教養学部（あるいは学科）それぞれ、および大学全体にもたらしうる付随的な利点を論じる。この論文の構成は 2005 年 7 月に神奈川大学で開催された「第一回メディア教育シンポジウム」での発表に基づいている。シンポジウムの発表で用いた文章に若干の修正が行われている。特に多くの細かい技術的説明を省略し，特定の学部への言及を修正してはいるが，主要なポイントやその機能的運用の基本的構成はシンポジウムで発表した内容に基づいている。

Introduction

I should begin by saying that the designations CLUE and ORB used in the title are my own. They were devised for the sake of convenience and also for the resonance they would lend to international and online contexts.

CLUE stands for 'Cyber-Learning in University Education', while ORB (denoting 'circle' or 'sphere') stands for 'Online Resource Base'. Their practical and structural implications are discussed in Part II below.

Part I is an outline of what Online Education has done well (and will continue to do well), the points on which it bears most considerably, its strengths as manifested in areas that have for good reason been considered the preserve of face-to-face education. Mark Kassop has provided an excellent schematic inventory of Online education's liberating effects with respect to contexts relevant to face-to-face education. It is an inventory which skillfully resumes the arguments which have become current in recent years. These arguments are reflected in my own discussion, most notably on the subject of interactivity and support features, Online education's structural accommodation of collaborative endeavor, and its necessary reemphasis on writing skills. The most important points I wish to address here, however, concern Online education's inherent advantages when applied to the liberal arts setting; the various infrastructural issues that apply to this setting; the need for reliability and consistency in the IT models put into practice; and, finally, the importance of knowing which questions are to be brought to bear on a given faculty's adoption of an IT model. David L. Smallen's "A Liberal Arts IT Odyssey" is in respect to each of these four concerns an invaluable resource.

I
How well-designed, well-implemented, Online Educational Policies and Programs (OEPP) enhance and revitalize the educational process

I intend here to survey those points which are most relevant in taking measure of Online Education's achievements, its promise, its powerful challenge to standard educational practice within the humanities-based university faculty. OEPP operations are to be considered successful when they achieve the following status:

(1) Restore the integrity of the student and teacher relationship by putting both at the center of that process: Online Education is both student-centered and teacher-centered. The student is empowered to work independently, to seek information by himself or herself. Teachers become responsible for ensuring the high standards of their material and for maintaining productive contacts with their students, i.e. teaching/learning becomes a more genuinely collaborative experience. The isolation of the teacher is broken, but so is the isolation of the learner. (The purpose of the term 'isolation' is not to advance the point that teachers and their students are necessarily remote from one another, but rather to acknowledge the inevitable barriers to productive communication that institutional protocol creates.) The Online learner is more motivated than his standard class counterpart to do two things: To assist other learners and to provide consistent and meaningful feedback to his instructors. In brief, when suitably 'programmed' the learner is put directly into the 'flow of things', so that he or she is made an essential part, an integral agent, of the process.

(2) Deliver and exploit the diversity, and depth of instructional materials and environments in reliable and consistent ways. This is the 'Form Factor': In standard classroom teaching the

student is too often victimized by adverse circumstances: Noise in the classroom, teachers who cannot be heard, teachers whose incompetence cannot be concealed, physical limitations of all kinds, etc. Proper equipment and efficient delivery systems can overcome these limitations. Interactive digital information introduces a different world: Teaching materials that can be recycled and replayed; vast Online libraries of information immediately available, enabling the student to summon up various types of support or to tap immediately into rich data streams. In time the given program will, of itself, create classes of digital libraries suited to the needs of its users and to the infrastructure within which it operates.

(3) Ensure the direct delivery and immediacy of information within a highly-defined and consistent assistance framework of On-demand interactivity: Online Assistance constitutes by definition a reliable and immediate 'support' constant, a system that is integral to the success of the entire operation. Moreover, this assistance can be effectively and efficiently augmented by the teacher's direct intervention in written or spoken communication. The Online Discussion Forum or Board, the interactive communication zone for students and teacher, creates a virtual seminar. Students helping fellow students is another valuable form of Online interaction. It is a process that lends itself to control and monitoring technique. In face-to-face contexts student-to-student assistance, whether or not imposed by the instructor, is normally unpredictable in nature, resistant to monitoring, notoriously difficult to assess.

(4) Enable well-structured asynchronous and therefore convenient access to and sharing of information. People do not lead virtual lives. But the virtual classroom does provide release from the constraints of fixed timetables. 24/7 Online presence breaks up linear time: The individual student is in effect liberated. But so is the institution, so is the teacher. In our daily lives all of us

enjoy the privilege of producing and receiving emails at the times we choose. It is not difficult to make the case that it is the well-structured asynchronous environment that will drive the wheels and thus the prosperity of Continuous Education.

(5) Encourage intensive collaborative endeavor between students, instructors, and researchers: Building and sustaining networked environments is a demanding, labor-intensive business. In the end, it is individual 'professionals' working in close cooperation, teachers and researchers both, who will have to make the decisions bearing on course content, student access policies, learner support systems, costs, security, technical staff recruitment. Intricately constructed courses secured within the structures of well-devised Online planning strategy become are imperative for each department, each faculty. But for the individual who does become involved, this work becomes important and therefore 'self-involving', if not self-motivating. In the networked environment the concept of a 'real working team', is crucial to its successful operation. Each one of its contributing faculty members has greater reason to create ideas afresh and to cultivate productive, even friendly, relationships with team colleagues. The individuals entrusted with the responsibility of training new and experienced users will be key components in the operations around which teams and the 'client' community will organize themselves.

(6) Strengthen significantly the 'institutional profiles, of the individual faculty and the host university: Online image-making for institutional (read promotional) purposes and Online education are not mutually exclusive activities. One needs the other, at least in a practical sense. A vibrant Online and Internet profile should contribute enormously to a faculty's reputation, its prestige its capacity to attract students and funding. The same applies to the university as an institution, its public and corporate face. The Internet can become a platform

for the university's various component parts, its complex mix of academic, promotional and funding activities.

The Internet seems to have enveloped us all very suddenly without our knowing quite how it all happened. It has acquired a kind of mystique, an instant mythology, one that supercedes its practical, functional identity. But this virtual vastness constitutes reality too (or one highly inclusive share of it): The battle for success and ultimately the very survival of institutions of higher learning may well be fought in cyber-space. To cite just one area of paramount institutional concern: The dynamic Distance Learner Community, which now includes the enormous and growing pool of Continuous Education learners. There can be no question that websites designed for the latter must compel the user's (and potential applicant's) attention and respect, must look appealing, work swiftly, work reliably. The New Campus will be a fiber-optic Cable campus wired for virtual expansion. It will extend very far and in many directions.

Here I would like to add one more point to all of the above, a cogent one, I believe, which relates to the first point discussed. It concerns writing as medium. It is hardly necessary to point out to educators that writing skills have declined sharply in the last generation. On-line education revives the art of writing. The written word becomes a requirement for fruitful Discussion Board exchange. In face-to-face education the student's 'voice' is far too often reduced to silence, to testing, to term reports. The Online learner, however, quickly leans that articulate and well-reasoned writing earns attention, earns respect, and will facilitate his or her course progress. The written word supports reflection, it encourages thoughtful exchange, and, in operational terms, it supports and contributes critically to a systematic and thorough review and feedback system.

In short, the lifeblood of Online and interactive learning/course-making is the e-writing connection made between students, instructors, researchers. One could call this connection a 'hot' connection because

it is direct. The discussion board is a mediated device, but the public nature of the board does not diminish the effect of directness in the communication. A key component in the exchange of ideas and data is precisely the public face of the exchange, which holds individuals accountable for their contribution and inspires more ideas, more participation. Face-to-face education, which is so often subject in practice to certain forms of isolation or exclusion in larger classroom settings, is at a clear disadvantage in this respect. It is useful to recall here that the 'historical report', one constituent of Online system monitoring, should also apply to all virtual or real-time written communication, a record of which should be preserved for inclusion in an Online archive.

II
Reference Model Structure: Using CLUE [Cyber-Learning in University Education] + ORB [Online Resource Base] within the humanities-based faculty

It is proposed that each department should produce an Online Resource Base to be integrated within an overall university system of Online courses to be conducted via the Internet (CLUE). I would recommend that the individual department become responsible for itself in terms of Online course development, site-building and site-administration, that is, site customizing and monitoring; in terms of Online file and calendar management; and finally, content creation, which will prepare data for distribution. However, the complexity of such an undertaking would require careful departmental coordination, whose efforts should be structured within the overall resource management system and infrastructure supported by the host university. I will comment on these issues below, with special reference to the nature of the intended audience, streaming technology and the Course Management System (CMS) format.

The Online course audience would consist both of the host

university's campus students and its Distance (or 'outside') learners and researchers. Online education and vigorous Online presence invest the Distance learner community with a particular importance for the academic advancement of the faculty and, indeed, for the evolution of the host university as a whole. The benefits of an internal Online faculty system are in principle the same benefits that would apply to the Distance Learning Community. The on-campus system (through its own Intranet portal) should deliver to the host university's students a multi-media and interactive-oriented body of knowledge that would complement or replace classroom teaching sessions. The material would be on-demand material, control of which (including appropriate time formats) would be the responsibility of the instructor.

It goes without saying that preparing quality materials for the on-campus user will impact significantly the pool of courses destined for the outside or Distance learner. One should expect that in many cases the material will be the same in nature. The Distance learning community itself would consist of four user categories, as follows:

(a) Non-campus students, whether part-time or post-graduate students, or students who are working outside of this area or perhaps campus students studying from home who will need to use course material for special purposes.

(b) Prospective senior high school students, individuals and groups (e.g., special-purpose groups, such as an advanced English-language study group). One would need to include in this participatory process, of course, senior high school teachers.

(c) The crucial Continuous Education adult leaner, who might be working within a traditional degree program or seeking specialized training.

(d) Last but not least is the critical research sector consisting of those individuals (and groups) who are engaged in academic or private industry-related research, for whom the Online connection with corresponding data-intensive interactivity is

today imperative for ensuring successful collaboration between the university and the private sector.

With respect to streaming operations, each department would be expected to host its own multimedia ORB on dedicated streaming-media servers. ORB will consist essentially of the following five multi-media multi-media streamable data as audio, video, graphic image, animation, and text files. Streaming greatly reduces down-load delay time for the receiver, the client computer. These data can originate within the university, i.e. from within the host university's own Intra-net system or they can originate from the outside, that is, from the Internet. An important aspect of departmental or faculty control will be the scalability of the system architecture adopted, that is, the capacity of the system to accept heavier future workloads. That capacity will depend on upward migration paths configured in the early system planning. One would hope that each working group would coordinate its planning, development and maintenance efforts around what might be conveniently called its 'E-Learning Hub'. It goes without saying that an experienced and skilled training team, so essential to the 'good governance' and growth of such a Hub, would in itself constitute a nucleus around which instructors, administrators, students and researchers, will gravitate. In many cases it would be appropriate to categorize the working members of such a team as 'Researchers'.

The adoption of a browser-based Course Management System (CMS) would be essential to ensure reliable course structuring and implementation. Java scripting and monitoring and a Windows- or Unix-based platform would likely be essential components. Client software such as Windows-Media or Real Player would have to figure into the essential range of components. The system would enable file management and creation for uploading/downloading data to folders and text editing. It would also enable quizzing routines and the collation of results. There would be a navigation scheme to assist teachers. While the costs of current commercial CMS operations are

burdensome; and one can safely expect that increasing numbers of institutions among the vast pool that now willingly incur them will seek alternative systems, not only to lower costs, but to build systems designed to be more responsive to particular needs. A CMS 'toolbox' would contain such features as Course Content tools that appear on the course homepage, including a 'content module' with links to course materials:

(a) Syllabus page with course information/requirements/goals.
(b) Index and Content Search mechanisms.
(c) A 'glossary' functioning as a dictionary of terms and definitions applicable to the course.

A 'Companion Website' (integrated within the Course Management System) would be integral to the operation of the Online course. It would function as an interactive zone between instructor and learner. It would offer essential communication features, such as electronic messaging for linking student and instructor. The 'Companion Website' would function as a Forum or Discussion area in which participants exchange views in threaded communications; post and read articles; correspond by private email on course matters; engage in Text Chat in real time mode.

The principal categories/formats of Online media-streamed courses designed by and for the faculty or its individual departments would be Term-Based on-demand ORB/VLC (Video Lecture Course or Video-Recorded Lecture, complemented by audio + text) produced by faculty members for campus and Distance users. A working model for this scheme would in theory consist of the following seven features:

(a) The 2-Semester 90-minute lecture system: 10 weeks + 10 weeks (should this be the periodic system).
(b) Accommodation of the standard-timed semestrial testing/ evaluation procedures, including payment schedules for

distance users.

(c) Preparation in the beginning by each full-time instructor of a 90-minute Video Lecture Course (VLC), a course chosen to represent his or her area of 'specialization'.

(d) Representative Departmental Selection: The individual department might also consider the possibility of producing for itself a 'survey' of departmental expertise in a series of VCL sessions. In such an initiative the department (in reference to the original context of the present paper: The 'Kokusai-bunka-kohryu-gakkai' of Kanagawa University) would produce a series of individual 90-minute lectures by each instructor dedicated to contemporary Japanese history, sociology, philosophy, etc., supplemented by complementary interdisciplinary VLC materials in which those instructors would offer a cross-selection of views. The latter could be culled, for example, from a forum discussion held for that specific purpose. The individual department will have in this way assembled for itself a 'digitized anthology' of materials which could in theory function as a course (or as part of one) that surveys the 'key' interrelated areas of the department.

(e) Self-Paced/Self-Executing on-demand ORB/VLC: To be used on a self-directing basis. While 'asynchronous' in nature, it can also accommodate the standard semesterial system referred to above.

(f) Tutorial ORB/VLC (on-demand): To be aimed at skill-training and implementing review routines. It could complement/ parallel a 'primary' lecture series.

(g) Special Purpose Modules (on-demand): Consists of On-demand material organized around specific themes related to courses (as has been mentioned for the Tutorial material), e.g., an orientation video clip intended for new students or for high school teachers.

The enhancement of department, faculty and university profiles should of course be considered a powerful incentive for innovative and well-funded initiatives that actively promote core institutional interests. These would include the improvement of current academic programs and the creation of new ones, the development of educational technologies, the strengthening of student, and event recruitment programs. Because Online courses expand the potential 'user base' dramatically, vigorous Online course presence would allow departments to cultivate program development (and student recruitment) in consistently effective ways. It may be safely assumed that an 'enhancement' process of this kind would contribute significantly to that end. The reasons and factors that will in time justify this highly optimistic view of the future are sixfold:

(a) A powerful Internet presence attracts people of different age categories, different backgrounds and goals from a large geographical area, to participate in university programs.

(b) People belonging to an Online community stay connected to that community: this same principle of 'once there, always there' applies also to schools and organizations.

(c) A fast start in educational technology translates into a better start, a bigger start, relative to those institutions that wait for others to precede them. Emplacement system speed in IT contexts produces an intrinsic dynamic that will very often convert immediate benefits into greater longer-term opportunities that will deliver future collateral benefits in unforeseen ways.

(d) Where supported by the appropriate designs, infrastructure, and implementation, the number of degree and certificate programs, fee-paid courses, and specialized training programs can expand and improve in ways that should amply justify the effort and costs required.

(e) While it is true that the asynchronous 24/7 framework is

critical, the 'real time' location of the host university is also critical: Should the latter have an urban setting, it becomes a decisive factor in fulfilling the adjunct and synchronous/real time roles that the faculty will also need to adopt. The Online degree student will be expected to visit the campus, to be assessed, to conduct experimental work, to meet with his or her instructors. Students want to meet other students, to engage their once-virtual instructors directly, thus connecting with their peers and mentors in terrestrial space, as it were. The strictly virtual universe remains a theoretical construct, at least in this context.

(f) In departments that require or seek enhanced international orientation, having the range of tools that come with Internet presence and cyber-space course creation must seem like a dream come true. But these are powerful, indeed ideal, tools for accomplishing the following within departments of all disciplines: Attracting more promising students in terms of their suitability to the future planning of the department, faculty or university; forming interest groups of all kinds; instituting regular campus orientation sessions and conferences as part of the departmental calendar; building a particularized academic and public profile of itself; engaging other departments in vigorous cross-discipline exchange.

On the subject of departmental conferences, it is worth noting that Video-conferencing is one more tool now at our disposal for reaching a wider audience. The video dips that will be made from a live conference or broadcast can of course be archived and recycled: That is, the clips of a faculty conference can be edited and formatted as on-demand content for use by each of its departments.

Conclusion

Significant Online and Internet presence will revitalize essential pedagogical structures appropriate to the liberal arts faculty. Such presence will also strengthen the host university as a whole, impacting all of the environments within which it concentrates its activities, namely those within which it must build its authority and influence. These would include the roles it wishes to exercise within the wider community. The direct delivery and immediacy of information when realized within effective assistance frameworks become the instruments, as it were, of the Interactive locus, its operative core. The array of service-related activities to be employed, each with its own band of overseers and technicians, secures the reliable functioning of the Online system. It is therefore critical to the success of the latter. Costs will always exceed expectation; upgrading or augmenting the resources that contribute to good maintenance and continuous growth require significant funding and therefore managerial expertise commensurate to it in scope and quality. It is perhaps appropriate to add here that the number of instructors and researchers attached to my own university now seriously engaged in the multi-faceted realm of E-Learning has grown significantly in recent years. We laud their efforts.

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