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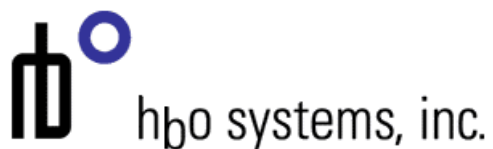
# E-Learning Assessment Summary Report

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By: the University of Iowa E-Learning Core Group

## **E-Learning Core Group Members**

This report was written under the guidance and input of the E-Learning Core Group at the University of Iowa. Members of the Core Group include:

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## **Introduction**

Use of course management systems (CMS) at Iowa has grown steadily since the introduction of WebCT in the nTITLE workshops in the summer of 1996. The capabilities of CMS software have also increased dramatically, along with faculty members' understanding and use of the functionalities available through these systems. The ability to add a new tool with a single click, or easily upload a file of information for students, has allowed faculty to use technologies that would otherwise be available only to the few who are technologically experienced, or willing to take the time to become so. In a recent research study released by EDUCAUSE, Glenda Morgan states, "The relevance of course management systems to higher education is indisputable."

As more and more faculty use CMS's as a means of providing course-related information to students, and as CMS's continue to expand their functionality and inter-operability with other information systems (such as electronic library reserves, student information systems, content management systems, digital asset management systems), questions arise as to the continuing role that these various systems will play on our campus. While we know much about the technical and financial issues of CMS's, we know less about how faculty are currently using these systems and how they want to use them in the future. Absent this information, decisions about future directions for CMS support on our campus are missing a critical component.

The danger of treating the overall issue by focusing exclusively on specific vendor products is that such efforts tend to degenerate into feature wars – comparing low-level features from each vendor, each with their own proponents. Such feature wars puts the focus on the individual technologies, and not on the academic priorities of the University. The result will move Iowa farther and farther away from the real focus of the E-Learning Assessment project – the academic needs of the University.

The goal of the E-Learning Assessment project (Fall 2003) was to assess the current state of e-learning at the University of Iowa. One of the key conclusions from the July meeting of the Core Group was that we needed to study and document the current usage and perceived needs of e-learning. Without this basis of understanding, it will be difficult to determine any real strategy. The essential purpose of the assessment is to build a foundation for determining how Iowa should be using e-learning in the future.

Our goal is to move beyond simply "which CMS do we use/support" to examining and understanding all the processes associated with electronic learning — creating, preparing, teaching and taking a course with electronic components.

### **Objectives**

- Assess how University of Iowa instructors currently use technology to support teaching and learning.
- Assess how instructors and colleges envision using instructional technologies in the future.

Subsequent decisions about specific e-learning implementations, such as whether the University should centrally support one or two CMS's, can effectively be made once we have the assessment and strategy in place.

## Scope and Organization of Report

This report provides an overall summary of the E-Learning Assessment Project, with summaries and references to the component reports. We should first provide a definition of the term 'e-learning' for clarification on the project's scope:

**We are defining “e-learning” as the technology and related academic services directly involved in the process of teaching and learning.**

Within this framework, e-learning typically incorporates the following five segments that enable teaching and learning:

- content and associated search engines
- course management systems
- other presentation and delivery software
- academic services and consulting
- a significant portion of an institution's portal (due to the increased usage of portals to access learning content, such as digital library systems)

At the University of Iowa, our assessment looked at specific examples of e-learning usage. These examples include WebCT, Blackboard, TWIST, publisher-provided content management systems, home-grown course web sites, Mathematica, Adobe PDF, and discipline-specific software packages. While this list is by no means exhaustive, it does give an indication that e-learning encompasses more than one type of technology at the University of Iowa.

The following section is a [summary and reference](#) to each of the individual research methods (collegiate interviews, usage pattern analysis, data analysis, and faculty focus groups). Following the summary section is a [set of key findings](#) based on the four research methods. The final section is a set of [recommendations for next steps](#) in the University's advancement of e-learning.

## Summary of Research Methods

A unique challenge of selecting software systems is ensuring that the *right* system is deployed: the one that will make users' lives easier, and consequently will help the institution succeed. Traditional vendor-focused software selection processes (focusing on what their systems do and how they are better than the competition) are not really designed to solve customer problems. Thus, institutions should evaluate their unique needs, rather than just look at the products being offered by vendors. Understanding *where* systems are being deployed, *who* uses them, *how* they need to integrate with existing and future systems, and *what* specific educational tasks they automate is important to deploying a successful system.

Given this perspective of understanding the true user needs of a software system, the E-Learning Core Group designed an assessment project intended to discover usage patterns, and key user and stakeholder needs. There were four individual research methods involved in the University assessment project. The four methods are summarized below. Detailed reports for each of these methods are included in attachments 1 – 4.

### [College Interviews](#)

The report [Interview Summary](#) presents a summary of the interviews that were performed with the various colleges at the University of Iowa. The methodology for collecting the information used in this report is based on a series of small-group interviews with campus administrators, deans, IT leaders, college staff and faculty, and ITS staff. We found significant variations between colleges on how they use e-learning, and what strategic goals they have for e-learning. Indeed, it was at the collegiate level where we found the strongest strategic view of e-learning's potential.

### [Faculty and Student Usage Patterns](#)

The report [Usage Patterns](#) presents a summary of the interviews that were performed with various faculty and students at the University of Iowa. The methodology was to collect information in a series of small group interviews, and to document the results, as well as to document the emergent set of usage patterns surrounding e-learning. We found a strong desire by both students and faculty to improve the effectiveness of e-learning usage, by combining technology and pedagogy issues.

### [Course Management System \(CMS\) Usage Data](#)

The report [CMS Data Analysis](#) presents a summary of the data collected and reported by ITS Academic Technologies, on CMS usage at the University of Iowa in fall 2003. We discovered that the available data at the college or department level is insufficient to reliably report CMS usage, due to vendor product capabilities and academic processes at the University; however, the data also showed a sizeable portion of the student body in fall 2003 (at least 2/3) taking at least one class with on-line technology.

### [Focus Groups](#)

The report [Focus Groups](#) presents a summary of the six focus groups held on campus during late October and early November 2003 for both faculty and teaching assistants (TA's). The faculty focus groups were broken down by the level of each individual's usage of e-learning tools, and there was one focus group for TA's. We found a desire for stronger leadership at the collegiate and university level for making e-learning decisions.

## **Key Findings**

Some patterns have emerged during the course of the e-learning assessment from the different sources represented by our research methods. Below are some of the key findings based on these patterns. The key findings roughly fit into four groups, as follows.

### **Effects of Decentralized Culture**

- 1) At the individual faculty, departmental and collegiate level, there is a diversity of needs, knowledge of what can be accomplished with e-learning, understanding of how it can be accomplished, and awareness of where to find assistance to begin using e-learning in teaching.
- 2) Select colleges have a strategy in place for the value of e-learning; however, we did not find evidence of a centralized strategy at the University level. Faculty reported trepidation about spending time and energy finding innovative uses of e-learning technology when they don't know the future of e-learning or the extent to which it is valued by the University. Although resources are being spent at both the university and college level, there is not a clear understanding of where e-learning adds value to the academic mission of the University.
- 3) There are clear discrepancies in IT support from college to college. The availability of resources for e-learning implementation varies between colleges, partially as a function of the college's IT staffing, and partially as a function of whether student fees are used for e-learning.
- 4) The perceived value of e-learning appears to vary dramatically among individual departments and colleges. For instance, some units and individuals view e-learning as revolutionizing their discipline and are actively seeking to incorporate e-learning in their curricula. Others find it more tangential and perhaps damaging to their core pedagogical strategies.
- 5) There is misunderstanding in stakeholders' perceptions of one another's views about e-learning. For example, collegiate administrators we interviewed felt that faculty value e-learning primarily for the administrative efficiencies it can lend to teaching, yet the faculty interviews and focus groups did not reflect this sentiment.
- 6) There was a lack of awareness among faculty we interviewed about how the library resources and services can be integrated into their courses.
- 7) Although Teaching Assistants play a key role in teaching and learning at the University, those with whom we spoke were generally unaware of the technology resources that are currently available to them and their students and how to access them.

### **Close Relationship of E-Learning and Pedagogy**

- 8) Although some faculty with whom we spoke have a clear pedagogical strategy for integrating e-learning in their teaching, they were not among the majority in our interviews. Many of our interviewees indicated that they are uncertain about how different pedagogical strategies affect teaching and learning in general. Technology has not created a lack of understanding regarding the value of different teaching and learning strategies; it has merely raised awareness of the issue.

- 9) Faculty with whom we spoke want to be effective in their teaching role (and care more about teaching and learning as opposed to administrative efficiencies), and administrators want effective teachers.
- 10) Although there is a common assumption that faculty do not want central administrative units (e.g. ITS) telling them how to teach, faculty did express a strong desire for more training in how to use technology in teaching. Teach faculty *how* to integrate and apply the technology, as opposed to teaching them *about* the technology. Teaching how to use technology should include discussions and training on pedagogy.
- 11) Many faculty and administrators perceive that the current promotion and tenure system does not reward innovation in teaching as a high priority. While quality teaching and innovation are valued, research and publication are thought to be higher priority in tenure considerations. Innovations such as integrating technology into teaching and learning require a time investment by faculty, which may take time away from these other higher priorities.

### **Moving Beyond the Early Adopter Phase of E-Learning**

- 12) Given the current deployment of multiple CMS's at the University of Iowa, with no central associated policies related to student registration and course archiving, it is very difficult, if not impossible, to accurately determine CMS usage on a per college basis.
- 13) There was a consensus at the collegiate administrative level that using technology to improve the learning process is important, and all colleges are dedicating resources to this effort.
- 14) In general, there is a willingness to spend resources on e-learning, and an interest in pursuing e-learning to add value to teaching and learning; however, it was not apparent during the assessment that these efforts consistently result in improvements in teaching effectiveness.
- 15) We found no evidence of evaluation methods in place at the University of Iowa to systematically assess e-learning usage or effectiveness.
- 16) To tackle many of the issues identified requires significant human support.
- 17) We are only 8 years into web-based e-learning (its infancy), along with high expectations for the future, yet the technology is not a silver bullet and in many cases is not ready to meet the expectations that faculty may have.
- 18) Students have access to a level of information that would have been unimaginable just a few years ago. Some faculty recognize this fact and have used it effectively in redesigning their courses.

### **Multiple Course Management Systems**

- 19) No individual contacted has yet mentioned one CMS vendor's features over another. In addition, a consistent pattern from college administration, faculty and students has indicated that the University should pick one CMS system to support, make the hard choice, and move on.

- 20)** Given the current and future state of tight budgets for the University, several colleges voiced a concern about the University supporting two centrally-supported CMS's, and paying for the associated support costs of both systems.
- 21)** Particularly on the ease-of-use issue, it does not appear that the primary factor in CMS experiences is based on the vendor's features. It appears that the primary factor is whether the college provides secretarial or technical support to faculty as they develop course content.

## **Recommendations**

Based on the assessment project, we believe the University is now ready to move into a transition phase for e-learning. As stated in the introduction of this report, the fall 2003 assessment should help the University understand the current state of e-learning usage, and should provide a foundation for developing an e-learning strategy. Now that the assessment is complete, we believe that there are several processes that the University should put in place as part of this strategy development.

### **Strategic Recommendations**

There are several improvements that could be made to the University's organization, policies and IT architecture which will enable a strategic vision to be developed for effective e-learning practices.

#### **1) Standing Committee for E-Learning**

There are still many tasks and decisions which could benefit from a committee actively involved in understanding e-learning usage over time and setting strategic guidance. The University should establish a standing committee reporting to the Provost's Office with the goal of helping to guide e-learning strategy.

Along with guiding e-learning strategy, the standing committee should provide services which will enable the de-centralized innovation to continue. Part of the group's mission should be to establish an on-going method of sharing both effective and ineffective practices among faculty and administration, and to encourage local innovation. The committee should also be available as a resource to consult with the Colleges on evaluating on their use of e-learning. All efforts should be measured against the objectives of using e-learning to improve teaching and learning.

#### **2) Policy Review**

During the course of the assessment project, it became clear that there are several areas where the academic policies relating to e-learning are not clear. For example, the Registrar's office is currently reviewing the policy for faculty to archive the graded components of each course – the current policy does not answer this question. There are other examples to consider, such as understanding who owns intellectual property, especially in cases where course content is jointly created or shared between courses. Tuition policies related to continuing education, distance education, and shared courses with other Iowa universities, have a significant impact on the usage of e-learning.

In these cases, it would not be appropriate to design a technical solution to a problem for which there is no clear policy guidance. A review is needed to determine which areas have clear policy guidance, and which areas do not have such guidance. Where appropriate, the University should clarify the policies, whether at the university or collegiate level.

#### **3) Quantitative Data Collection**

The University should conduct quantitative e-learning surveys in a repeatable fashion to support future e-learning decisions, and adopt a process that ensures the credibility of the data. The University should perform a more thorough, quantitative assessment of University e-learning usage and needs at the college level, by using an on-line

survey for administrators, faculty, staff, and students. This survey would then provide on-going method for gathering faculty and student input on e-learning decisions.

The University should also develop a reliable system for measuring e-learning usage through software tools. The implementation of this tool-based quantitative measurement should be designed with the University's processes in mind, and may require policy changes to make the measurement effective. It is not clear at this point what combination of tools and policy are the best solution.

#### **4) IT Architecture Review**

The University should determine whether the current IT architectural components in place or in the planning stage will address key e-learning needs. E-learning may be more effectively implemented if the academic systems supporting e-learning are able to seamlessly interface with administrative systems. For example, from the student perspective, it is important to have one place to go on-line, for all courses. Should this need be addressed via an enterprise portal spanning both administrative and academic functions, or should this need be addressed solely by a unified CMS as in the first recommendation? Even if the University selects one CMS that is officially supported by ITS, how should other CMS systems be addressed?

## Tactical Recommendations


The strategic recommendations of this document will take time to discuss within the University. These discussions should be geared towards building a long-term view of effective e-learning strategy. While the overall goal is to improve the art of teaching and learning through effective use of technology in the long-term, the University should also work actively to make improvements in the near-term.

The following recommendations are based on feedback from the project, and are actions that could begin immediately. These 'low-hanging fruit' will both make improvements to e-learning effectiveness over the next few years, and will help establish a collaborative process for decision making in this area.

### 5) Consolidate to One Centrally-Supported CMS

The University should adopt a single centrally-supported CMS with full enterprise integration. Other CMS's may be used by the colleges as necessary, but only with minimal central support. The selection process itself will be critical to the success of the project – ensuring that we understand collegiate needs and that we use faculty and student input. In other words, *how* we select a CMS vendor is as important as *which* CMS vendor we select.

The selection process should have the following attributes:

- The process should be open, with the overall process and key decisions widely disseminated through a coordinated communications effort; faculty, staff, and students should be able to give input to the process, and they should know the criteria used for decisions. 
- The Provost Office should make the final decision, based on a recommendation of a task force comprised of key stakeholders.
- During the process, the task force should report to a steering committee represented by collegiate administrators (deans or designates), the Library, and the Registrar's office.
- Do not limit selection to on-campus CMS's.
- ITS should coordinate the task force and provide staffing.
- Most of the selection process could occur in the spring / summer, with a decision in early Fall 04 (including final hearing for input).
- During the process, an evaluation should be done for total cost of each solution, and this total cost estimate should be used as a key part of the selection decision.

### 6) Support and Training Enhancements

It should be apparent from the assessment project that direct support for the people creating and using e-learning systems is a crucial success factor in whether the e-learning usage is both adopted and leads to improved learning. The University should expand its training and support programs, directly targeting all users of e-learning systems. College staff and Teaching Assistants should be included in these training and support programs.

Faculty training programs, including nTITLE, should be expanded to include pedagogical design support, including discipline-specific design. There should be a significant focus on effective use of technology, in the context of effective pedagogy.

## **7) Move Towards Enterprise Integration**

Although we are recommending the move to a single centrally-supported CMS as soon as 18 months, we believe that specific integration projects which would add immediate value should be completed as soon as is feasible. As we are moving beyond the early adopter phase of e-learning, back-end integration will become more and more important, and system users will see real benefits.

These integration projects must use good judgment, however, to minimize the amount of rework that will be necessary once we have in place the single centrally-supported CMS. We also believe that the efforts spent on the tactical integration projects will enhance our understanding of how to select and implement the future CMS, as well as provide benefits to other non-CMS e-learning systems.

- Library systems should be integrated with Blackboard and WebCT. This effort should address the 'just-in-time' provision of library resources in the context of a course.
- ITS should pursue a solution for listing all CMS courses in one place (presumably an extension of the ISIS portal).
- Ensure that the Registrar - CMS integration project meets the following faculty and student needs: eliminate redundant entry of final grades (allow for verification); expedite the release of grades to students.
- Ensure that the Evaluation and Exam Services (EES) – CMS integration project meets the following faculty needs: eliminate redundant entry or correction of testing grades, direct input of EES grades into CMS gradebook (allowing for verification).
- Expand the automatic registration options to more thoroughly and generally deal with non-UI students, including options for self-registration of guest accounts with appropriate security and digital rights management in place. This registration should be available for all e-learning systems, and not just for CMS's.