

**Initial Report of the
WCU Task Force on Learning Management Systems**

**Task Force convened by:
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WCU-LMS Task Force Initial Report

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Overview of the issues

In late 2007, the Provost's Office issued a directive that all WCU online courses be offered from behind a password-protected WebCat (Bb Vista) LMS¹ platform. This directive unleashed a robust debate centering on several issues of management and scholarship, including:

1. Academic freedom to design and conduct courses as faculty see fit
2. Constraints to innovation in teaching and course design related to the creative capabilities in any LMS
3. Intellectual property issues related to restricted versus open-access teaching and learning
4. The legitimate property interests of all stakeholders: faculty who develop materials, students who use them, the University under whose auspices courses are developed, and external intellectual property integrated into WCU online courses.
5. LMS transparency and portability across online courses
6. Functionality that supports multiple learning styles, multimedia enrichment and the social construction of knowledge
7. Integration with existing enrollment services including grading function as a faculty option
8. Security of enrollment-related data for students and faculty alike, with concomitant considerations of law and regulation

The question of WCU's immediate and longer-term future with LMS platforms was taken up by the Faculty Senate on January 23, 2008, at which time Provost Carter announced his intention to convene a small task force of experienced eTeachers and other stakeholders to study the issues related to Western's current and future commitment to a uniform, campus-wide LMS.

Greater detail on Western's LMS history of commitment appears below. In short, the University launched a migration from WebCT Campus Edition (CE) to its successor version, called "Vista" on an early-adopter basis in the summer of 2006. The migration process ended in 2008, representing a decision to transfer from the older to the newer system within the same commercial framework. The release of WebCT Vista did not represent a mere system version upgrade. Vista offered an entirely new and unfamiliar operating environment, necessitating substantial faculty development, infrastructure redeployment, and training for personnel who had become familiar with WebCT-CE.

At the time of WCU's decision to accept the new Vista system, the corporate acquisition of WebCT by Blackboard, Inc. was not known. Moreover, the early adopting faculty members soon discovered that certain essential functionalities of the new platform had not been adequately field tested before Vista was rolled out for the market. Essential platform features (e.g., text chat) simply did not work. Exacerbated by problems of shared hosting,

¹ LMS = "Learning Management System;" CMS = "Course Management System." For the purposes of this Report, the acronym LMS will typically be used, since CMS also refers to "Content Management System," potentially leading to confusion between the two meanings. Screen shots of three LMS products appear in Appendix H.

the system crashed frequently and catastrophically, creating unacceptable difficulties for faculty and students alike, compromising the University's credibility into the bargain.

Well into 2008, two years after initial adoption, certain Bb Vista platform features continue to function improperly or erratically (e.g., view tabs and gradebook). The built-in file management system provides insufficient capacity. Notwithstanding all of the above, BB Vista (dubbed WebCat on this campus) appears to have achieved a reasonable degree of functional stability freeing the eLearning Technical Support Team from what was originally a non-stop climate of crisis to more in-depth faculty training and support. Ongoing 24/7 technical help for faculty and students is outsourced to a Bb-affiliated outfit called *Presidium Learning*, releasing Technical Support Team members for more in-depth faculty development and training activity.

LMS selection or migration constitutes only part of the issue under discussion in this document. Typically, LMS systems manage courses, not learning. Consequently, current LMS tools tend to be based on a rapidly outmoded pedagogy -- lectures and content delivery versus constructivist forms of learning. Some faculty are not able to manipulate the technology well enough to facilitate the newer learning styles if, indeed, they recognize the newer forms of learning as valuable. Faculty who are most frustrated by state-of-the-art LMS protocols tend to be the more innovative teachers. This explains why the majority of faculty members are satisfied with LMS systems if they have access to the technical support to show them how to post their content and do the grades. How to manage the technical requirements for the conventional as well as the technologically innovative teacher, along with the concomitant faculty development, training and support is where the problem of technological advancement emerges.

Within the framework described above, the LMS Task Force has conducted its work throughout the spring 2008 semester.

LMS function/tool gap analysis

Under the leadership of Lori Mathis, the UNC TLT Consortium is currently developing a gap analysis framework as part of its system-wide overall study of the University's future in online teaching and learning. Two rubrics are under development: one for educational functions and the other for technical integration. These rubrics are extensive and thorough. They are linked from the TLT Toolkit Wiki (<http://uncltc.jot.com/>; Username: <*****>; Password: <*****>) and intend to compare and contrast: Moodle 1.9, Sakai 2.5 Bb/LS 8, Bb/AS 8 and Bb Vista 8). There seems little point in trying to recreate a gap analysis here at WCU when we shall have access to the comparative work in-progress at the system level.

Other comparative tools exist. For example, WCET offers searchable side-by-side LMS comparisons. This tool is useful because it includes a [glossary of terms](#) and user narrative reviews alongside its bulleted features. Although this resource outdates itself quickly, beneficial comparisons may be made. Evaluating such comparisons, however, is quite a different challenge because each LMS offers features that appeal to different users,

rendering a clear, uniform preference declaration among all users all but unachievable. The WCET comparison chart may be found at: http://www.edutools.info/item_list.jsp?pj=4

The WCU community, of course, has come to know the joys and tribulations of the platform adopted here: Blackboard Vista (formerly known as WebCT Vista and labeled "WebCat" here at WCU). Western instituted a gradual transfer from the former WebCT Campus Edition to the newer Vista platform in the fall of 2006 with an "early adopter" pilot group that migrated to campus-wide implementation the following spring. Meanwhile, Campus Edition has been phased-out of service, with the last CE courses offered in fall 2007. CE courses were hosted locally at WCU. Vista courses, on the other hand were initially hosted at NC State on behalf of a four-campus consortium. Since then, Western has moved to a Bb server in consortium with UNCC and UNCW.

Since the initial pilot adoption of Bb Vista, WCU has encountered a host of problems – several of them severe – affecting course designers, instructors and students. Some of these issues were traced to server issues; others to design flaws in the LMS platform itself. Perhaps the most serious early adoption problem was the inoperability of the live chat tool for the entire spring 2007 semester, frequent and inconvenient system down-time, and other unanticipated malfunctions that interfered directly with online teaching and learning.

Over several upgrades, the combined server-platform configuration seems to have become reasonably stable. The most-cited remaining platform problems center on a recalcitrant gradebook, a "Teach" tab that often renders a "Student" view, inadequate file handling and storage capacity, and Java-related issues that compromise faculty and student access to the several LMS communications tools depending on it.

Operating costs: total cost of ownership (TCO): Adapted from UNC-TLTC Executive Summary of report on Open Source CMS Systems (See Appendix L)

A University-wide TLT Collaborative's comparison of "open source versus commercial" learning management systems is currently underway. The full Executive Summary appears as Appendix L to this Report. A summary of comparative cost information follows:

- Based on an analysis of data from twelve UNC campuses, current TCO for the Blackboard LMS systems across UNC is approximately \$39 per FTE. (This TCO analysis includes all hardware, software, and staffing costs.)
- The Blackboard LMS software (licensing) costs are approximately \$7 per FTE across UNC, with smaller campuses paying a higher amount per FTE. (Range reported: \$2.25 to \$31.)
- The average TCO for six open source universities interviewed for this report is \$25 per FTE (Range reported: \$10 to \$50.) (Licensing fees, of course, are \$0.) To more accurately determine the cost per FTE, additional data needs to be collected as more universities run open source solutions in full production.
- Regarding costs of transition from commercial to open source LMS systems, the universities interviewed have NOT YET tracked these costs carefully. These costs (e.g., for personnel and infrastructure reconfiguration, new hires, information systems integration, staff training, faculty development, etc.) will be substantial.

Views from the WCU trenches

A charge of this Task Force was to cull perspectives from major University stakeholders. The leadership teams of most colleges and schools have been canvassed in addition to such other major stakeholding units as Educational Outreach and the QEP Office. Reports from two colleges were not secured by the assigned Task Force members. The remaining college/unit reports are summarized below and appear as appendices to this document.

During the spring 2008 semester the CFC's WebCat team administered a LMS user survey to faculty and students using the WebCat system for teaching and learning. A separate survey was offered to each user group (faculty; students), and asked somewhat similar questions related to user experience and satisfaction.

Appendix J contains complete survey results. A summary of salient points appears below:

- Students found WebCat easy to use (>75%)
- Students contacted the course instructor as first line of support (>50%)
- Students who had contacted WebCat support (either local or outsourced) found it helpful (>70%)
- Faculty found WebCat easy to use (>60%)
- 68% of faculty utilized WebCat support (either local or outsourced)

As at mid-June 2008, input has been secured from the colleges of Arts & Sciences, Education, Health & Human Sciences and the Kimmel School. Interviews have been undertaken with leaders in the Division of Educational Outreach and the Assistant Vice-Chancellor for Undergraduate Studies. Documents summarizing these interviews in greater detail are appended to this Report.

Strong, common opinions among them are listed below:

- The cost and institutional stress of another LMS migration at this time are too much for WCU to undertake at this time.
- LMS technologies must be consistently stable for faculty and students alike.
- The migration from WebCT/CT to Bb Vista created an overwhelming faculty sense of unreliability sustained by continued dysfunctionality of certain Vista features.
- An easier-to-learn system than Bb Vista would be welcomed at the time of our next platform migration.
- CFC support, training and faculty development is highly valued.
- Locally-situated, ongoing technical assistance (as distinct from Presidium) is needed by faculty, if not 24/7, at least during the work day.
- Semester-by-semester LMS start-up challenges must be more successfully addressed (e.g., Java-browser configuration).
- The University needs to sustain robust data storage capacity for faculty academic use as a supplement and back-up to Bb Vista.
- On-going Bb Vista-related workshops are helpful and well-received.

Other important concerns, not necessarily held unanimously across the campus emphasize the need for strong security protocols, compliance with FERPA and local privacy obligations, the unacceptable stress of unnecessary LMS migration, the need for improved Banner/MyCat integration.

Interviewed by Dr. Sharon Dole, the College of Education and Allied Professions Leadership Council conveyed a dim view of shared LMS hosting, and called for power links to the TaskStream® student portfolio system. Concerns expressed by the College of Health and Human Sciences include a sense that system downtimes should be limited to low-incidence times of the day and days of the week and announced well in advance.

Anna McFadden and Chris Snyder met with Brad Sims and Ken Burbank of the Kimmel School leadership team. In addition to the cross-college common sentiments outlined above, the Kimmel School leaders recommended that faculty should be assigned course designers, as is done at Appalachian State University, so that they might configure course content and instructional strategy according to technical “best practice” prior to instruction. Drs. Sims and Burbank expressed the strong sentiment that online course configuration should not carry mandatory uniformity, suggesting that this issue is a pressing matter of academic freedom. Not many Kimmel School faculty members are teaching 100% online; Bb Vista tends to be used in hybrid courses.

Through a recent faculty survey on instruction, The College of Health and Human Sciences offered relevant perspectives on desirable LMS system traits to interviewers Claire DeCristofaro and Mary Teslow. To be effective LMS platforms and the networks that support them must be: reliable, high-performing and user-friendly. They should enable instructors and course developers to promote learner interaction, collaboration and engagement. Combined with effective teaching and design, different student learning styles need to be accommodated through the incorporation of diverse media. Faculty development and training are key contributors to effective teaching and should include opportunity to observe peer teaching-in-action.

On April 11, 2008, Laura Cruz and Jeff Kiska interviewed members of the College of Arts and Sciences Advisory Board. Echoing consensus reported elsewhere, CAS Advisory Board members emphatically dismissed any notion of migrating to a new LMS platform -- proprietary or open-source -- at this time. Board members were not aware of major problems among the CAS faculty with Bb Vista as the current WCU platform, except for the possible and minor exception of the WebCat e-mail tool. (This discussion raised the issue of concern with the overall campus e-mail utility which was perceived as problematic.) Moreover, the interviewees sensed that their constituents would rebel strongly against an LMS migration so quickly on the heels of the recent migration to Bb Vista. Rather than surveying CAS faculty for deeper perceptions about Bb Vista, Board members suggested that they take questions back to their membership this coming fall as a means of polling grassroots opinion.

In John LeBaron’s interview with the Division of Educational Outreach Dean and Associate Dean, Pat Brown and Regis Gilman, the strong sense was expressed that WCU is

in no position to afford parallel LMS platforms at this time. That the University will need to confront a migration from the Bb Vista system currently in use was recognized, but the time for such a challenge is not now. Drs. Brown and Gilman stressed the need for WCU to maintain high standards of course design and instruction in order to retain credibility as a first-rate provider of online education.

According to Drs. Brown and Gilman, the most pressing need to maintain such standards is to support on-going faculty development and training at all levels of expertise. They indicated support for current University policy that all courses offered under the WCU imprimatur must be channeled through WebCat. This is not to say that all online courses must use nothing but the WebCat tool set, but that for reasons by law and policy of security and information management, all such courses must use WebCat as a gateway.

On May 9, 2008 John LeBaron interviewed Dr. Carol Burton, under whose responsibility WCU coordination of QEP activities resides. Dr. Burton's primary concerns focused on the capacity of any LMS adopted by WCU to support the primary academic missions of the QEP, most notably highly engaged student learning, strong student-faculty interaction, global scholarly perspectives, and community service. In other words, online learning should simultaneously serve University stakeholder and community needs in a manner no less robust than the best classroom-situated teaching and learning.

Dr. Burton expressed particular concern that the functions of a teaching and learning management system for courses not be confused by students and faculty with WCU's emerging commitment to the "student briefcase." One system (the LMS) actively supports on-going teaching and learning; the other (the Briefcase) supports the progressive documentation of student production as a set of building blocks tracking their scholarly development over the full term of their enrollment at WCU. While there is no reason why these two functions cannot ultimately be coordinated – together and with other scholarly functions – at this moment it is important that students and faculty use the Briefcase and WebCat for the purposes inherent in their respective current applications designs.

In late January 2008, Bob Houghton (at the time Interim Chair of BKEMG and a University technology innovator of long-standing) wrote John LeBaron. Bob raised several concerns; most of them under the umbrella of concern that excessive LMS standardization might constrain the very innovations that can move WCU forward with exciting pedagogical innovations. In short, Bob urged that WCU continue to offer such tools to support them with effective faculty development and training. Bob opined that some LMS-protected course materials should not reside behind a firewall if copyright-holding faculty members indeed wish them to be openly available.

Migration fatigue

At a UNC-TLT session on the TLT Campus Toolkit, Lori Mathis and Faith Dabney discussed certain "stakes" related to campus decision-making on whether to adopt open-source LMS solutions in favor of the proprietary systems. Although TLT has not yet completed definitive cost comparisons related to the competing alternatives, they pointed

out that campuses need to analyze in-depth the meaning of “free” in describing open-source resources. While it is true that open-source platforms cost relatively less to acquire, all costs related to hosting, support, training, systems integration, maintenance and faculty development must be assumed in some manner by the adopting institutions. Thus the "bottom line" cost difference between the two options might not be decisively significant.

This is in addition to the practical and attitudinal consequences of migrating individual course materials, quizzes, assessments and the like from one system to another. At WCU, we have tasted these consequences and have concluded that this is a region not to be visited more often than absolutely necessary. Communal investment in this regard with sister UNC campuses might assuage the cost burdens, but raise the many problems of consortial hosting such as conflicting calendars, information systems integration and the like. The combined technical and ancillary costs of switching from one system to another are substantial.

Within the UNC System, Appalachian State University (ASU) is now in the process of migrating from the WebCT Version 4.1 to the open-source Moodle platform. ASU is strongly persuaded that the migration makes good economic and educational sense. However ASU’s situation contrasts with WCU’s in that its migration emerged from a relatively long-standing prior commitment to an ageing platform. ASU had not made a more recent migration to Bb Vista and was therefore ready to make a change in any case.

When WebCT was launching its corporate phase-out of the Version 4+ LMS series, ASU considered the adopting the Vista upgrade in 2004 but opted out because of disappointment with its functionality and cost. ASU’s migration to Moodle (called “AsULearn” on its campus) has been deemed successful. It includes full integration with Banner, although the Banner integration process seems to have posed some steep challenges.

WCU has just completed its two-year phased migration to Vista, having incurred the significant costs of piloting, faculty development, trouble-shooting the technical pitfalls of a premature platform roll-out, and two rounds of infrastructure/host server re-alignment. Rightly or wrongly, these pitfalls generated high levels of faculty and student disaffection. Some of this frustration continues, as evidenced in an open discussion of this issue at a Faculty Senate Forum in January 2008.

On the question of institutional migration, in mid-April 2008 John LeBaron wrote to ASU’s Greg Simmons, “...At WCU we've already migrated to Vista I'm heading up a task force to consider what our future should be. I don't think we're ready for an[other] immediate migration because we've just done one (I believe that UNCC has done so, as well), but the issue will become much more urgent before long.” Greg responded, “Migration fatigue is a very real problem. It has killed them at UNCC. I think you are very wise to factor that in to your plans, whatever they turn out to be.”

Two members of our Task Force, Claire DeCristofaro and Mary Teslow, have been in touch with Dr. Steve Breiner of ASU to obtain information on their recent WebCT-to-Moodle migration. Additionally, John LeBaron requested other supporting ASU

documentation if any should exist for public review. A PowerPoint presentation on the AsU Learn migration by Breiner and his colleagues may be found at:
http://conference.unclt.org/proposals/presentations/conf4/767_AsU Learn Moodle Final.ppt

On May 2, 2008, Claire, Mary and Chris Snyder visited ASU for an invitational day-long review of Appalachian's migration from WebCT 4+ to Moodle. Their observations are summarized here. If WCU wishes to adopt Moodle (or any open-source LMS) it will have to greatly increase the robustness of our LMS support team. The University would need even more personnel than ASU's large staff, since at WCU entire *programs* are offered fully online, in comparison to ASU much smaller line-up of individual courses. WCU faculty accustomed to the functionality of Bb Vista might not be happy with the technical limitations found in the ASU implementation of Moodle. If faculty undertake open-source beta-testing, a necessary component of open-source product use, they will have to realize that many tools may not work correctly and may require extensive testing and debugging before roll-out to general course use.

Open-source solutions are dependent on a community of IT professionals to support software applications, requiring WCU resource enhancement by more than an order of magnitude. Thus, the cost savings of implementing open source LMS may be more than offset by the cost of new employee positions. Also, it seems that active faculty involvement in open-source solutions is imperative, and this would require a different approach to faculty support than is currently in place. Claire DeCristofaro's more detailed account of the ASU visit appears as Appendix G to this Report.

What the literature indicates

Other universities have confronted the dilemma faced by WCU at this moment. Appalachian State's current migration to open-source is mentioned above. Like ASU, Idaho State University is in the process of migrating from WebCT CE 4.0 to Moodle. ISU's WebCT license will expire this coming June. Intensive Moodle training will occur during the summer so that all online courses will be serviced by the Moodle platform in time for fall. ISU made this move based on factors of price, and the confusion surrounding the 2006 merger of Bb Systems and WebCT.

The rapid worldwide acceptance of Moodle since the launch of Version 1.0, including adoption by the UK Open University, also impressed ISU. Another factor influencing Idaho State includes high student and faculty ratings of the educational qualities of Moodle. Also noteworthy is the perception of long-term stability emerging from a migration to Moodle in the face of confusion surrounding prospective developments emerging from the Bb-WebCT merger and the consequent patent lawsuits launched or threatened by Bb, Inc. against proprietary rivals such as Desire2Learn. More information about ISU's decision-making process may be found at:
http://www.isu.edu/itrc/resources/LMS_Focus_Group_Report.pdf

Rochester Institute of Technology prizes transparency in online learning, making courses visible to peers and administrators and making such visibility a cornerstone of faculty

development. Every quarter, the fifty most highly interactive online courses (measured by comparative posting numbers) are publicly recognized as online instruction "heavy hitters." Our Task Force believes that such a tactic places an excessive value not only on the competitive aspects of eTeaching; but it also sets up false benchmarks to measure learner engagement.

In contrast, WCU's Coulter Faculty Center formally recognizes eTeaching excellence through the annual University-wide Jay M. Robinson eTeaching Award. Moreover, the notion of course transparency, however, warrants attention. WCU attempts to promote transparency through its peer-focused Online Course Assessment Tool, its eLearning-eMentor project and its WebCat Water Cooler. Without awarding competitive points for "hit numbers," adopting the principle of the CFC's Open Classroom project would further promote such transparency.

A summary of an open-source versus commercial enterprise comparison undertaken several years ago at Humboldt State University (California) appears in the next section of this Report.

Open-source? Enterprise systems?

Like post-secondary education everywhere, WCU is responsible for protecting the safety, security and privacy of everyone in its community of eTeachers and eLearners. When online teaching and learning was in its infancy, issues such as these were rarely considered. Pioneering faculty created their own Internet-based vehicles for storing and disseminating course content, communicating with students, assessing and grading, and other basic functions of teaching via networked computing. Student security was only marginally-related to University control of access to academic data transfer. Since the lion's share of communication was through text, issues of copyright and intellectual property were less important than they are today. Currently, the University's stake is exponentially larger.

Notwithstanding these contemporary concerns, WCU continues to support academic communication outside the boundaries of its formal commitment to Bb Vista. For example, Western's iTunes University independently offers a separate channel of networked course management and distribution. The same can be said for WCU's blog and wiki servers. Course-related blog, wiki and iTunes material and communication may be nested from inside a LMS setting, but such nesting tends to be awkward for faculty design and student access. It is not technically required and sometimes remains unheeded.

A quick look at the relative merits of open-source versus corporate course management bears discussion. Such comparison factors out the significant challenges of actual migration because at some future date WCU will have to migrate from Bb Vista to another system, whether supplied by Bb or by some other vendor. From a variety of sources the following relative claims have been advanced:

Open-source LMS system merits

- Low or non-existent licensing costs
- Increasing global acceptance
- Superior customizability
- Access to community of app developers
- Local “upgrade/patch” autonomy
- Freedom from proprietary restrictions
- Autonomous integration of new technology
- Overall cost saving
- Custom documentation
- Open standards

Commercial LMS system merits

- Relatively sophisticated functionality²
- Ongoing technical support for users
- Long-term corporate backing
- Outsourced hosting options
- Lower ongoing maintenance costs
- Technological stability
- “Someone to blame” beyond the institution
- Turnkey installation and operation
- Superior documentation
- Minimal hidden costs

One comparative analysis in particular bears mention (Munoz and Duzer, 2005). Humboldt State University (HSU) in California conducted a Moodle (v. 1.3.2) pilot project to assess student perceptions against the dominant Blackboard (v. 6.0/BE) platform operating as the institution’s primary LMS. Three other California institutions partnered with HSU in carrying out this pilot. First-time online course-takers were randomly assigned on the first day of class: half to Blackboard and half to Moodle. Subjects were asked to rate the platforms in which they were randomly assigned (not comparatively) along the following dimensions:

- Enhancement of instruction
- Organization of materials peer interaction
- Interaction with instructors
- Problem-solving capability
- Provision of resources
- Discussion capability
- Adequacy of technical assistance

In aggregate, student perceptions favored Moodle, although not decisively. The results are ambiguously laid out and key methodological information is not provided. More detailed data from the study may be found at <http://www.humboldt.edu/~jdv1/moodle/all.htm>. Features embedded in both platforms have advanced considerably since the results of this study were reported.

This discussion raises a question concerning the viability of more than one LMS on the WCU campus. UNC-TLT is launching a pilot initiative in 2008-2009 allowing faculty system-wide to “test drive” the Moodle or Sakai open source platforms. From University GA there is some pressure favoring eventual UNC migration to open-source. If WCU faculty were to participate in the pilot, the University would be establishing, de facto, a

² Commercial producers advance such functional merits of their systems as “gradebooks” and MIS integration. In WCU’s case, experience with Bb Vista’s Gradebook tool has been frustrating. Moreover, ASU seems to have successfully solved MI systems integration challenges with Moodle.

dual-track platform availability. Before WCU faculty decide whether to participate in the pilot, a variety of questions need prior resolution, for example:

- Capacity for Banner and MyCat integration of enrollment data
- Training for pilot adopters
- Transferability of exiting course materials from Bb Vista to an open-source platform
- Ongoing faculty development and support before and during the pilot launch
- Day-to-day student support
- Which open-source system options to test, if not several
- Duration of the pilot (will we shortly need to re-migrate to Vista?)
- Likelihood of the pilots leading to long-term adoption

As for the utility of learning-course management systems in general, the most technologically advanced faculty might not need them and indeed may find them unduly constraining. Others, however, need the content and communications frameworks, tracking and assessment tools, and single point of data storage that multiple tools fail to afford.

Who needs an LMS anyway?

From a longer-term perspective, we might ask if the University needs to wed itself to a course management tools that some stakeholders view as contrary to a scholarly vitality that nimbly capitalizes on the latest, most elegant academic potential of technology. While technological advancements leapfrog at a dizzying pace, should we be chained to static tools that outmode themselves almost as soon as they appear in formal LMS platforms? A telling question, therefore, is: How does WCU maintain its place on the cutting edge of technology while maintaining its growing mandates of security and “brand uniformity?”

WCU is hardly alone in its exploration of the newer Web 2.0-based tools for fulfilling its scholarly mission. At Passages 2007, then later at an eLearning Faculty Learning Community workshop, Dr. Milton Tignor of Haywood Community College worked with faculty from both institutions on the emerging possibilities of “beyond-the-LMS-straitjacket” course organization. Many of these tools are Google-based; some of which pose user security concerns, but are powerful and universally-accessible nonetheless. In mid-June 2008, UNCG hosted an event to inform UNC System guests about its Google “Apps for Education” initiative. UNCG has launched a Google email pilot with 2,000+ students, and has decided to outsource all student email to Google by Fall 2008.

For an institution that prizes teaching excellence, the ideal balance may be to provide the core vessels for faculty more concerned with their disciplines than with technology while simultaneously supporting faculty experimentations outside the LMS box. In all cases, privacy and security interests must be protected for faculty, students and the Institution. For the longer term, Western may move away from formal LMS platforms. For the nearer term, however, such platforms appear to be necessary, not only for student-faculty privacy and confidentiality, but also the security of a predictable framework for housing materials, instructional communication, assessment and grading and the integration of critical student information.

Stage One Task Force recommendations

Judging from the overwhelming sentiment from WCU constituencies, it seems clear that the University is not in a position to migrate fully to a new LMS at this moment. This sense is reinforced by opinion from external observers. This is not to suggest that WCU should not participate in pilot trials of open-source LMS platforms, such as the one currently proposed for the UNC System. Embarking such a pilot, however, should be contingent on satisfactory assurances about faculty training, development and support, SIS integration, and student orientation.

For understandable reasons, WCU migrated from WebCT Campus Edition to the newer Vista upgrade. When this decision was taken, the Blackboard-WebCT merger was not known. The former WebCT developer informed WCU that its older CE system would no longer be supported, and the University made a decision to stay ahead of the developmental curve, unaware that the curve was heading toward a cliff. Because the migration to a LMS package that was rolled out before its functionality was adequately tested, University faculty paid a hefty price adopting a marginally functional system. Ironically, the Vista platform is just now achieving decent stability and functionality. The Task Force believes that now is not the time to disrupt such a hard-earned condition.

This sense is reinforced by the impressions brought back to campus from the LMS Task Force team that visited Appalachian State on May 2, 2008. From the observations emerging from that visit, WCU would need to hire several new staff members to orchestrate a migration to open-source, and to retain the greater portion of them simply to keep abreast of technological development and to customize applications for WCU's particular needs. In addition, the Moodle tool appears more primitive and less functional than BB Vista (and, presumably, its successors), potentially resulting in frustration and limitation of innovation among WCU's leading eTeachers. These issues would be exacerbated by Western's considerably higher volume of online offerings as compared with ASU. In short, by migrating to an open source LMS, WCU would be trading off the cost saving of a "free" application for the substantial personnel expense associated with technical support, application improvement, systems integration, faculty development and staff training.

The longer-term situation is quite different. Sooner or later, WCU will need to move away from Bb Vista to a different electronic system for course distribution. It can be credibly supposed that Bb will terminate future development of the Vista strand of LMS, since it originated on the WebCT side of the merger. In any case, technological advances might impel migration toward a tool set beyond the limitation of any formal LMS.

Such factors as overall cost, functionality, adaptability to external tools, file storage capacity, seamless enrollment data interface, system-wide practice, and developments among potential partner institutions on a global scale will come into play. If, for example, WCU is expected to embed more robust cross-border articulation throughout its academic programs, it will need either to adopt technology platforms compatible with those adopted by a critical mass of potential institutional partners.

In achieving such decisions, WCU will benefit substantially from the research and analysis undertaken by the UNC System. Indeed, the mutual benefit of information-sharing between the WCU campus and the University System is already apparent, as evidenced by links to WCU's extensive eTeaching support services on the UNC-TLT system-wide Wiki. (Please see: <http://uncctlc.jot.com/>; log in with username and password indicated at the twelfth bullet immediately below, and link to "Resources" in the left-hand Web site menu.)

Resources and readings to help WCU personnel concerned with course design, eTeaching, eLearning and/or related policy

1. [About Moodle](#) (2008, from the Moodle Web source)
2. [About Sakai](#) (2008, from the Sakai Web source)
3. [About Second Life](#) (2008, from the Second Life Web Site)
4. [Appalachian State AsULearn migration from WebCT to Moodle](#) (TLT Conference PowerPoint)
5. [Gartner Report: eLearning for Higher Education: Are We Reaching Maturity?](#) (2008)
6. [Gollub, Rachel on Second Life in Education](#) (undated, recent)
7. [Humboldt State University research comparing Moodle and Bb](#) (2005)
8. [Idaho State University report on transition to Moodle](#)
9. [Toolbox or Trap? Course Management Systems and Pedagogy](#) (EduCause, 2008)
10. [Tufts University Blackboard faculty survey results](#) (2006)
11. [University System of Georgia Faculty CMS Usage Study](#) (2005)
12. [UNC-TLT Toolkit access](#) (Log-in name = "*****" password = "*****" look under "Resources")
13. [UNC-TLT Toolkit PowerPoint](#) (March, 2008)
14. [WCET LMS comparison Web site](#)
15. [WCU eLearning-eMentor client-consultant home page](#)
16. [WCU Online Course Assessment Tool](#) (OCAT)
17. [WCU Passages to eLearning documentary repository](#) (2006)
18. [WCU Passages to eLearning documentary repository](#) (2007)
19. [WCU WebCat Water Cooler](#) university-wide eTeaching "conversation room" (Log into WebCat, then select "CORE - WebCat Water Cooler" course)

*WCU-LMS Task Force
Initial Report
June 26, 2008*

Appendix A: Task Force charge

CMS Review Task Force (from Provost newsletter, 1/14/08; updated 1/17/08)

A CMS Review Task Force has been established to review the various *course management system* alternatives (e.g. Blackboard, Moodle, Sakai, etc.) and recommend our future direction. The committee membership is:

- John LeBaron (Chair)
- Sharon Dole
- Claire DeCristofaro
- Mary Teslow
- Jeanne Dorle
- Laura Cruz
- Newt Smith
- Chris Snyder
- Jeff Kiska

The Task Force will be seeking input from the campus at large and keeping the campus informed.

Appendix B: Notes on meeting with Kimmel School leadership

CMS Task Force College Leadership Meeting

Kimmel School

Participants: Anna McFadden, Chris Snyder, Brad Sims, Ken Burbank

Date: 3.17.08

Perception of current CMS at WCU

- overhead of learning a new system is often “too much” (Engineering)
- unreliability – dating back to first migrations from WebCT Campus Edition to WebCat (WebCT Vista) (Engineering)
- faculty in Construction management generally aren’t using the system except for hybridizing their face-to-face courses by offering course handouts (PDF’s) and other documents and media to students virtually. A few are teaching online.

Capacity and support

- generally not using the system, so capacity and support not really an issue (Engineering)
- a system that is easier to learn to use would be welcomed (Construction Management)
- NO feedback on Presidium Learning services but both colleges feel that local assistance is EXTREMELY VALUED
- Both mentioned that start-up issues at the beginning of each semester seem to be a big deal. This seems to be pointed at the problems that users face in setting up their computers to work correctly with WebCat (browser issues such as making certain that the correct version of Java is installed, that pop-up blockers are turned off, etc.)
- As a final note, both were in agreement that we need to continue to offer an alternative such as PAWS for faculty to utilize if they choose to NOT use the official university CMS.

When asked if there needed to be a value placed on ***uniformity of experience for courses being offered online***, both responded with a resounding NO! Both clearly felt that as an academic freedom issue, faculty should be able to present their course(s) however works best for that particular faculty member...

Workshops and learning events are meeting expectations in the IT realm. This addresses the sense of support for faculty and student development in the area of online teaching and learning.

Finally, when asked about how they believe they (and their faculty) might react if asked to migrate to a new and possibly completely different CMS, both responded that there is far too much demand on faculty time to re-tool. Both insisted that the Faculty Center (or IT) should offer services where faculty turn over their content to a “course designer” who in turn creates the online course for the faculty member, thereby relieving the time investment on the faculty member. (Anna believes that this type of service is offered at other UNC institutions).

Appendix C: Notes on meeting with CEAP leadership

Meeting with CEAP Leadership Council, 3/14/08

Members Present: Michael Dougherty, Dale Carpenter, Jacque Jacobs, David McCord, Lisa Bloom, *Bob Houghton, Bob Beaudet, Renee Corbin, Janice Holt, Jamel Anderson-Ruff, Kim Elliott, Ken Hunt, Ruth McCreary, Lee Nickles, Elaine Franklin, Mary Rompf

LMS Task Force Member Present: Sharon Dole

Perceptions of current status:

- Faculty has good support from CFC.
- Presently there too many email systems (3).

Considerations for the future:

- We should not be part of a collaborative group as we have in the past.
- If we have limited capacity, online programs should have priority access.
- Consider how students will have access when the server is down.
- FERPA issues
 - When you have open systems you don't have closed access to grades, etc.
 - Institution has to address the security issue that the use of websites entails.
- We should have a single system with the ability to share data between systems.
- Support has to be there 24/7.
- Should have interface with Banner and MyCat.
- Whatever system we select, call it by its original name and not "cat."
- Psychology Department is open to changing CMS because it does not have many courses online.
- Human Services Department is not open to changing CMS because of large number of courses online.
- Advisement should be part of any new system.
- Communicate with Lee Nickles about the integration of TaskStream with any CMS we are considering.

*Bob Houghton's comments were sent to the LMS Task Force via an earlier email.

Appendix D: Notes on meeting with CHHS leadership

WCU College of Health & Human Sciences (Teslow, DeCristofaro reporting)

4-4-2008

Statements from users of current LMS (online teachers):

- Large learning curve with current LMS and once accomplished do NOT want another LMS substituted (which would result in another LMS being learned)
- 24/7 off-campus telephone support is appreciated (some have used, with positive comments)
- Faculty access to local WebCat IT support should be maintained (working hours)
- Stability and reliability of online LMS tools is essential
- Downtime should occur during periods of very-low use (e.g. very late PM or very early AM)
- Downtime should be announced in advance to all users (i.e. faculty, staff & students) so that time management strategies can be applied to studying and course activities
- Some improvements in the current LMS are suggested:
 - “Who’s Online” should indicate in which course the individual is active
 - Automatic transfer to Banner of midterm/final grades should remain the prerogative of the instructor (not a university-wide process)
 - Increasing the file-size limitation so that files such as multimedia or large presentations can be accommodated for both faculty/students (e.g. as email attachments or attachments in other tools)
 - Timing out has become a repeated problem (especially worrisome if students are engaged in an assessment/assignment activity)

Results from Fall 2007 CHHS survey of instructional issues (made available by Dean Stanford):

- Majority agree we should be innovators
- Majority agree that instructional systems need to be user-friendly
- Majority agree that systems must incorporate a high level performance and reliability, even if a premium price must be paid to achieve this outcome
- Many agree that the ability to mesh face-to-face classroom activities with online education are desirable (e.g. record audio/video of lectures, record audio for online delivery)
- Commentary from individual respondents regarding LMS & teaching technologies:
 - Technology should be transparent (so easy to use one forgets it is there)
 - Technology must meet the various learning styles of students
 - Unreliability of equipment and/or LMS impedes teaching & learning
 - Upgrades should be incorporated into LMS (& other software) as they become available
 - Quizzing online needs to incorporate security that is simple and reliable for both faculty & students
 - Laptops in the classroom can utilize LMS for quizzing & other learning activities
 - LMS cannot be used reliably unless wireless access is reliable in the classroom
 - Support staff for developing courses should be readily available, including preparation of multimedia materials to be used in class, so that faculty can focus on discipline content
 - Training sessions should be offered at all levels on a frequent enough basis for convenient access
 - LMS utilization is impeded by outmoded, inconsistent, or difficult-to-use classroom hardware
 - LMS should be able to incorporate recorded classroom activities (audio and/or video of direct observation of clinical encounters, student presentations, faculty presentations, group activities) for current or future use in that course or other learning environments
 - LMS should support student collaboration in real-time
 - Opportunity to observe what other courses are doing for collaborative and faculty development

Appendix E: Notes on meeting with Division of Educational Outreach leadership

We reviewed the two related committees on which Pat and Regis serve: The executive-level Information Technology Policy Committee (IPTC) and the standing Technology Advisory Committee. Since Bil Stahl is involved in both groups, the work of the LMS-TF will interface with these two groups. The following TF-related concerns were articulated:

1. The LMS-TF should anticipate future conditions and offer guidance accordingly, in addition to offering an assessment on current realities. Despite the fact that we are now several years into online learning and teaching, generally we remain very much in an experimental phase, with exponentially higher levels of sophistication before us.
2. Due to resource constraints, WCU cannot currently support more than one LMS at a time. If, in future, we move toward a more diverse LMS universe, we will need to have clearly identified resources to support it.
3. WCU has declared WebCat as the official online LMS gateway. All courses offered under the WCU imprimatur must be channeled through WebCat (whatever LMS happens to be adopted for this brand name at a future date.) This is not to say that all online courses must use nothing but the WebCat tool set, but that for reasons of security and information management, all such courses must use WebCat as a gateway. This is University policy.
4. We already make extensive use of non-WebCat tools for our online learning initiatives (e.g., iTunes U, Second Life, wikis and blogs).
5. Common, consistent “look and feel” across WCU online courses is important to students and to institutional credibility. This is not to constrain faculty creativity; only that when students log into a WCU online course, it is clear from experience with other WCU courses that they are, indeed, at WCU.
6. As in the past, WCU’s development and conduct of online instruction must speak to the highest standards of engaged pedagogy and andragogy. It was recognized that the extensive difficulty associated with migrating to Vista significantly damaged the University’s reputation with faculty and students. This reputation loss warrants further restitution.
7. In light of 6, above, the most important demand on the University is to assure and provide access to continuing faculty training, development and support at all levels of sophistication and in a variety of faculty-friendly formats (electronic and in-person). Summer initiatives are needed to advance this important demand.
8. Adequately supported, cadres of retired faculty could promote effective faculty development and support.
9. We still have a small minority of students accessing WCU online courses via dial-up.
10. The CFC Faculty Fellows are serving the cause of high eTeaching standards well. They need continually to reassess their mission and performance in light of shifting circumstances.

We debated the relative theoretical merits of Bb, Vista, Moodle and Sakai; since none of us has had extensive experience developing or teaching online in open-source settings, our remarks are not included here. WCU participation in the UNC-TLT Moodle-Sakai pilot proposed for 2008-2009 will need to depend on better information about the integration of enrollment data, faculty training, on-going faculty and student support, and the longer-term prospect continuing open-source support for piloting faculty.

John LeBaron
Coulter Faculty Center
April 28, 2008

Appendix F (Correspondence with Bob Houghton, January 2008)

From: John LeBaron
Sent: Friday, January 25, 2008 6:10 PM
To: Bob Houghton
Cc: Chris Snyder; Claire DeCristofaro; Jeanne Dorle; Jeff Kiska; John LeBaron; Laura Cruz; Mary Teslow; Newton Smith; Sharon Dole
Subject: RE: committee for standards for institutional course management system

Hi Bob,

It looks as though you've already sent your concerns to the other committee members, so I'll refrain from forwarding. Actually, the Committee has only just been convened (I received my letter of appointment today) even though it had been announced last week in the Provost's newsletter. I'll respond briefly to some of your points here, and will certainly look forward to your input as part of a deeper conversation later. Please see my comments (in this font color) below, understanding that, here, I am speaking only for myself.

Cheers, John

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Email: jlebaron@email.wcu.edu

From: Bob Houghton
Sent: Thursday, January 24, 2008 11:57 PM
To: John LeBaron
Subject: committee for standards for institutional course management system

John and Committee Members,

If these thoughts are not outdated to the progress that the committee is making, feel free to share them or return to me for further editing. I'm still looking at the January 3 draft and to my knowledge have not seen any email from the committee chair as to updates to that draft. I was hoping to see another draft to view developments. I feel I must respond to the old document though changes may have long ago been made. I see several problems with the two sentences that made up the key position of the proposal in the Jan 3 doc. I am concerned that under the umbrella of defending against the cost of managing multiple CMS systems, policies might emerge that strangle areas in need of long term intellectual development and clobber academic freedom.

"All electronically-delivered course content must be accessed and delivered via the University's CMS. Content that resides on other networked digital resources must be accessed thru the CMS."

At yesterday's Faculty Senate, this issue was raised and discussed. It is true that the University is committed to standardization on a CMS gateway. This is due to concerns about student privacy, consistency of CMS access for students, faculty/institutional legal protection, IT systems

integration, etc. Not clear in the memo you referred to, however, is the intention that WebCAT (or its successor if one is selected) be seen as a gateway through which other tools and procedures could be used by faculty and students. As I think you know, the University is sponsoring iTunes University, blog and wiki servers, etc. Moreover Wimba tools are power-linked inside WebCAT, and Elluminate use is encouraged and supported. Thus WebCAT could be used as a comprehensive toolbox or simply as a shell for managing and tracking the administrative aspects of teaching WCU courses – or anything in-between. We may still be facing some problems and the Task Force will hear about these, but the situation is not as bad as what the earlier memo might have implied.

This raises some questions to share that I hope the committee is considering.

The rationale suggested “a uniform CMS” has great value. I brought up the first web server on WCU’s campus on October 31, 1994, and ran the first web server for CEAP for years. I have spent some 14 years both enjoying and exploring the multitude of creative options that web design and the Internet have brought to rethinking what a digital book might become. It is part of my own research agenda to explore and test out what is possible and functional. I see the tentative statement as the equivalent of Library of Congress saying to book authors and publishers that a company called Blackboard has come up with one standard uniform system for the book and all must conform. Would not this greatly diminish the intellectual and creative freedom of authors and diminish the options for students?

I think that my comment above addresses some of these concerns, and of course your raising the issues helps the Task Force consider them. Your long-standing contributions are well recognized and highly respected.

Would not such a statement imply that if McGraw-Hill offered a digital book thru their system that we could not have students pay for access because it was not inside Blackboard?

Is it not possible that tools like Blackboard are the equivalent of training wheels on a bicycle for those who are not yet capable of doing the composition and design work on their own? It really is not that difficult. Would it not discourage those who could and should explore the creative potential of the Internet for new designs and approaches? Would such a policy not appear as a kind of intellectual strait-jacket for those with creative Internet capacity that we would want to hire as faculty in the years and decades ahead?

Again, I think that this concern is addressed above. I agree with you (except with WebCAT doesn’t work; then I don’t think it is so easy). I’m mixing issues, here, I know, but my own sense is that many faculty need a straightforward tool and do not see themselves as designers and composers. They are committed to their disciplines and to finding the best ways, consonant with their abilities and interest, to teach and conduct research in the most effective way possible. You are on the cutting edge of technology design, and will always be operating at a level that many peers will not – and rightfully may not want to – achieve.

The rationale noted that such policy provides “access to course materials only to students enrolled in courses”. Long before MIT adopted their policy of totally open access to course materials, I had adopted such a open policy. My course textbooks have been open to the world since I authored them. This policy would appear to deny me that option. It would put my digital books behind a wall that Google and other search engines cannot crawl and index and thereby remove easy access to my public contributions to global scholarship. It would thereby in turn deny me the rich set of contacts that such openness has brought me. If the Internet has removed the middleman of the publisher between faculty and learner why would we want to put it back in place by some other name?

I don't think that University policy prohibits you from making anything that you developed and for which you own copyright accessible on the open Internet, even if you place the same material behind a PW-protected wall in a formal course. Some faculty might rightfully want the protection that you eschew. But you raise a good point. The TF should look at this.

The policy also implies that a CMS is needed to manage an online course. I use WebCat as an experiment to see what value it adds to what I am already doing but I really don't have to have it. To the extent that one might want to use its online quizzes and testing features, it does add something that I prefer not to do myself but it is quite possible to create an online course without such features as there are many other ways to evaluate student effort and achievement. A digital book (a web site or more) combined with Elluminate is more than ample for creating spectacular online courses.

I think, though, that the University has to consider the integration of instructional management with associated database management, and to conform with FERPA laws and regulations while doing so. The challenge is to prevent the administrative necessities from constraining instructional creativity and academic freedom.

The book publishers that I have spoken with over the years have been considering or building their own CMS systems or were eager to do so when the market opportunity is right. We have bought books from these publishers for decades. They would be likely to handle all support themselves. When their books come with online wrappers, will we have an iron curtain policy up to keep them out? When faculty sell their digital books to these publishers would we be unable to use our own authorship with our own students?

Hm-m-m, interesting point. Conflict-of-interest policies already touch upon the issue you raise. To the best of my knowledge, many academic copyright agreements contain waivers for authors to use for non-commercial educational use in the context of the institutions where they are employed.

I have been able to proceed with my coursework blissfully or at least largely without impact by the hiccups of the Blackboard servers, taking or leaving them depending on their availability. Our campus servers have been far more reliable than the community services of the UNC Blackboard system. Let's step up to higher quality and do it ourselves. If cost is keeping us from doing so, then can we not test Moodle or Sakai or other open source free CMS designs and use the funding we save to take our own systems to a higher level?

One of the main TF tasks will be to explore cost-benefit, technical, and utility issues related to the use of open-source applications. We will look at models extant at other institutions (e.g., Idaho State, Humboldt State). If you know of other models, please don't hesitate to let the TF know.

In highest regard,

Best wishes, Bob. Many thanks for your thoughtful perspective.

Bob

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Appendix G: Notes from May 2, 2008 visit to Appalachian State University

Moodle Showcase at Appalachian State (5/2/08)

Report from Claire DeCristofaro (notes from the meeting – IT & Faculty sessions)

Regarding the showcase:

- The AM meeting, which was billed for “IT” only, was very informative, so I am glad that we attended the entire day (not just the “faculty” session in the afternoon).
- Multiple LTS (Learning Technology Services) personnel were present – it was apparent that there was a large contingent needed to support maintenance of this system and also faculty support.
- Programmers and LTS personnel were hired *before* implementation of Moodle, and there was a *tripling* of overall LTS personnel.
- Three instructional designers assist faculty in *basic* implementation of courses, each time.
- The LTS personnel repeatedly made reference to frequent travel to conferences, etc. where they interfaced with other IT persons; this enables them to keep current on Moodle and the needed “patches” and “modules” that are plugged in to improve functionality. Without IT travel and networking, it seems that Moodle usefulness would be severely limited. An *example* of this is the need to *design* a patch to cross-list courses – the IT staff had to write their own software solution. They actually stated that many solutions to Moodle issues have been found “by accident” due to fortuitous meetings with other IT folks at conferences and other venues. Continuous monitoring of Moodle blogs and forums seems to be needed to keep Moodle current and functional.

Regarding the LTS (IT) & Faculty presentations:

- Comments regarding faculty acceptance had a large focus on the lack of “migration weariness” and “migration fatigue” – the faculty have gone from one system (WebCT implemented in 1999) directly to Moodle. They have had only one learning curve. Also, many faculty using Moodle now are actually teaching online for the FIRST time, so they have no “migration fatigue” at all... they are coming to Moodle as the only LMS they have ever used.
- Looking at examples of actual courses, the Moodle shell looks very similar to eCollege (another system I have taught in). For those faculty who are now used to the many enhanced features of WebCat (Vista), moving to Moodle will feel like “gutting” their courses. For example, in order to have a whiteboard or chat, one must use Elluminate or Centra for these features.
- The LTS personnel indicated that “not much” student support was necessary – when discussing this issue, they also stated that they had *turned off* many of the features that come with Moodle (for instance, they *turned off the mail function*). Additionally, they only are running 320 sections in Moodle, and most of those are hybrid classes with F2F teacher/student interaction on a regular basis (only 20 are fully online). Faculty mentioned that they often help the students with Moodle-associated issues.
- There is very little faculty control over the appearance of a course – installation of modules/functions ALL require extensive IT testing before roll-out to general use.
- Faculty repeatedly praised the “ease” of use of Moodle; it seemed that those faculty who were most happy with Moodle were those who did not have extensive experience of online teaching and in fact stated that WebCT was “too complicated” for them.
- Faculty repeatedly praised the ease of access to LTS personnel – this is real-time, direct access to local support – with immediate response to both large and small issues. Again, necessary IT/LTS personnel for this level of support is mandatory.

Technical issues of importance regarding Moodle:

- Only works partially with Respondus (the QTI personality). Only multiple-choice questions seem to work well. And, you CANNOT publish directly to the course! This may improve as Respondus upgrades, but it is not functional now for the majority of users.
- Migration of courses from prior LMS requires instructional designer or IT support to implement a functional course in Moodle (each time, each course).
- Implementation of enhancements requires extensive LOCAL testing by IT and faculty before roll-out to general use.
- Moodle shows when an assignment was “created” and confuses students since it appears that a current assignment may have been created months or years ago.
- The hosting server for ASU is *Remote Learner* corporation. ASU has a long history of using their services. On many occasions, LTS personnel referred to making “direct phone calls to the president” of *Remote Learner* in order to take care of problems. Again, this implies a need for an ongoing LTS relationship that is daily and direct with any hosting company.
- If faculty decide to temporarily or permanently hide content from students (as they redesign their courses), associated grades are *also* hidden!
- There is NO method of secure testing. Respondus Lockdown Browser does not work in Moodle.
- Currently, there is no selective release option for content or assessments or other learning activities.
- Multiple complaints about the limitations of the gradebook from all involved, although they indicate that they hoped this to be at least partially remedied in the new version 1.9.

Final Summary:

- *IT services:* Based on the IT issues and the faculty comments, it is apparent that if WCU wishes to adopt Moodle (or, probably, any open-source LMS) we will have to greatly increase the robustness of our LMS support team. This will include software designers, faculty/student/staff support personnel, and instructional designers. We would need even more personnel than ASU’s large staff, since at WCU we have entire *programs* that are fully online, in addition to at least a thousand more active online courses overall.
- *Faculty issues:* faculty who are used to the functionality of WebCat (Vista) will not be happy with Moodle’s limited tools and design capabilities. Those who have prior online teaching experience will probably feel that their teaching methods are severely impacted. If faculty become involved in open-source implementation beta-testing, they will have to realize that many tools may not work correctly and may require months/years of testing before roll-out to general course use.
- *Open source solutions:* it seems that open-source solutions are very dependent on a community of IT professionals to implement, maintain, monitor, and upgrade these software applications. Although I certainly support the idea of university-level LTS teams being current and involved to this extent (technology scholarship is exciting), the culture and resources at WCU would need to be enhanced both quantitatively and qualitatively by more than an order of magnitude. Thus, the cost savings of implementing open source LMS is more than offset by the costs of new employee positions. Also, it seems that active faculty involvement in open-source solutions is imperative, and this would require a different approach to faculty support than is currently in place.

Appendix H: Screen shots: Bb Vista (WebCat), Moodle and Sakai

1. Blackboard Vista (WCU)

The screenshot shows the WebCat interface for the course EDCI-811 - EDCI-811-50 (Spring 2008). The header includes the WebCat logo and navigation tabs for Build, Teach, and Student View. A left sidebar lists Course Tools (Course Content, Announcements, Assessments, Assignments, Calendar, Chat, Discussions, Mail, Search, Web Links, Who's Online) and My Tools (My Grades, My Files, Notes). The main content area features a banner for Coulter Faculty Center @ Western Carolina University. Below the banner, the course title "EDCI 811: Curriculum Theory (technical help links at bottom of page)" and instructor "Instructor John LeBaron's Web site" are displayed. A grid of icons provides quick access to various resources: Assignments, surveys, grades; Content modules; EOC Student Course Evaluation; Instructor welcome; Read this stuff early; Student/TA bios; Syllabus; Text chat; What is EDCI-811? Who is J.LeB?; and WIMBA voice. At the bottom, technical help information is provided, including the WebCAT Tech help phone number (828-227-7487), after-hours contact, and online web help links.

2. Moodle (U Birmingham, UK)

The screenshot displays the Moodle interface for UCE Birmingham. The header features the Moodle logo and the text "UCE BIRMINGHAM". A login status indicator shows "You are not logged in. (Login)" and a language dropdown set to "English (en)". The main content area is divided into several sections: a Login form with fields for Username and Password; a navigation bar for various faculties (BIAD, Education, Business School, Health, Conservatoire, Law, Humanities, Development & Society, Technology Innovation Centre); a Course categories list showing counts for Staff Courses (19), SSDD Academic Courses (11), SSDD Moodle Courses (6), Moodle Practice Area (67), Non-faculty Student Courses (3), Central PDP (6), FCEAP (1st Semester: 5, 2nd Semester: 5), Library Courses (4), and MELD (1); a Calendar for January 2006; an Upcoming Events section listing "courseGenie Training" and "An Introduction to Moodle"; and a Remote News Feed section with a "BBC NEWS" logo and the headline "UK diplomats in Moscow spying". A search bar is located at the bottom of the course categories section.

3. Sakai (UC Berkeley)

UC Berkeley
bSpace
Connect. Learn. Collaborate.

Powered by Sakai

User id: Password:

Tools
Welcome
Features
Sites
Training
Help

Welcome!

Collaborate

bSpace Poll

We know that people do not always create material on their own computer. How do you usually move files from one computer to another for campus related work?

- I email the file(s) to myself
- I put the file(s) on a flash drive
- I put the file(s) on my iPod
- I upload the file(s) to WebFiles
- I upload the file(s) to bSpace
- I upload the file(s) to CalShare
- I rarely work on a computer other than my own
- ** View Results ** (no vote)

To log in to bSpace, enter your CalNet ID or guest account ID and password in the fields above.

bSpace is designed to work with the following browsers:

Windows
[Firefox 1.5 and newer](#)
[Internet Explorer 8 and newer](#)
[Netscape 8.0 and newer](#)

Macintosh
[Firefox 1.5 and newer](#)
[Netscape 8.0 and newer](#)

Other
[Firefox 1.5 and newer](#)
[Netscape 8.0 and newer](#)

Spring 2008 System Maintenance:
Sunday, Feb. 17: DONE
Thursday, March 27
Friday, May 2

Appendix I: Notes on Meeting with College of Arts & Sciences Advisory Board

Meeting with Arts and Sciences Technology Advisory Board

April 11, 2008

3:30-5:00 Stillwell 425

Task Force Members Present: Laura Cruz, Jeff Kiska

Advisory Board Members: David Butcher (Chair), A. Jamir, N. Smith, J. Williams, D. Connelly, C. Hoyt, J. Lawson, S. Huffman, M. Takeda

Members were provided with a list of courses being taught (in whole or in part) via WebCAT by instructors in the college for Spring and Summer 2008. List exceeds 200 courses.

Laura Cruz asked the board how best to collect input on current and future use of WebCAT in the college. Asks board to catalogue any problems/complaints/issues.

Response 1: Strong urge to not change content management providers any time in the future. Faculty have had a sufficiently difficult time learning current system and should not be forced to learn another.

Response 2: Sees no serious problems with WebCAT system and the only weaknesses are minor. This includes working with off-campus and non-student users.

Response 3: Would like to see improved e-mail function within WebCAT. (Leads to general discussion of broader e-mail issues on campus).

Response 4: A survey at this time of year is not necessary and probably will not produce representative results. Suggests that we allow board members to take questions back to their faculty. [General agreement]

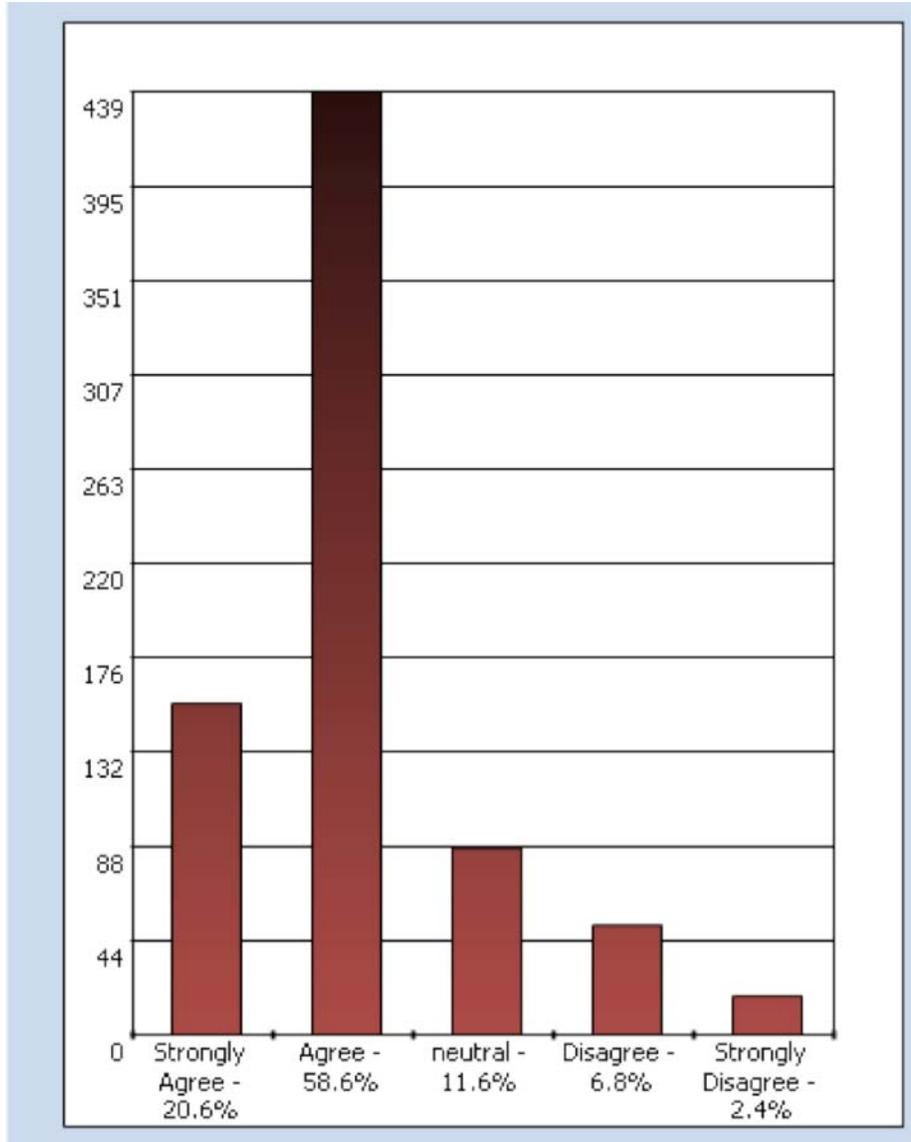
Response 5: It is unlikely that we will be able to take this question back until early Fall.

Response 6: Instructors in this college are not heavy users and this list includes many exceptional cases, such as internships. If there are problems, the heavier users should be consulted, especially those with on-line programs or degrees.

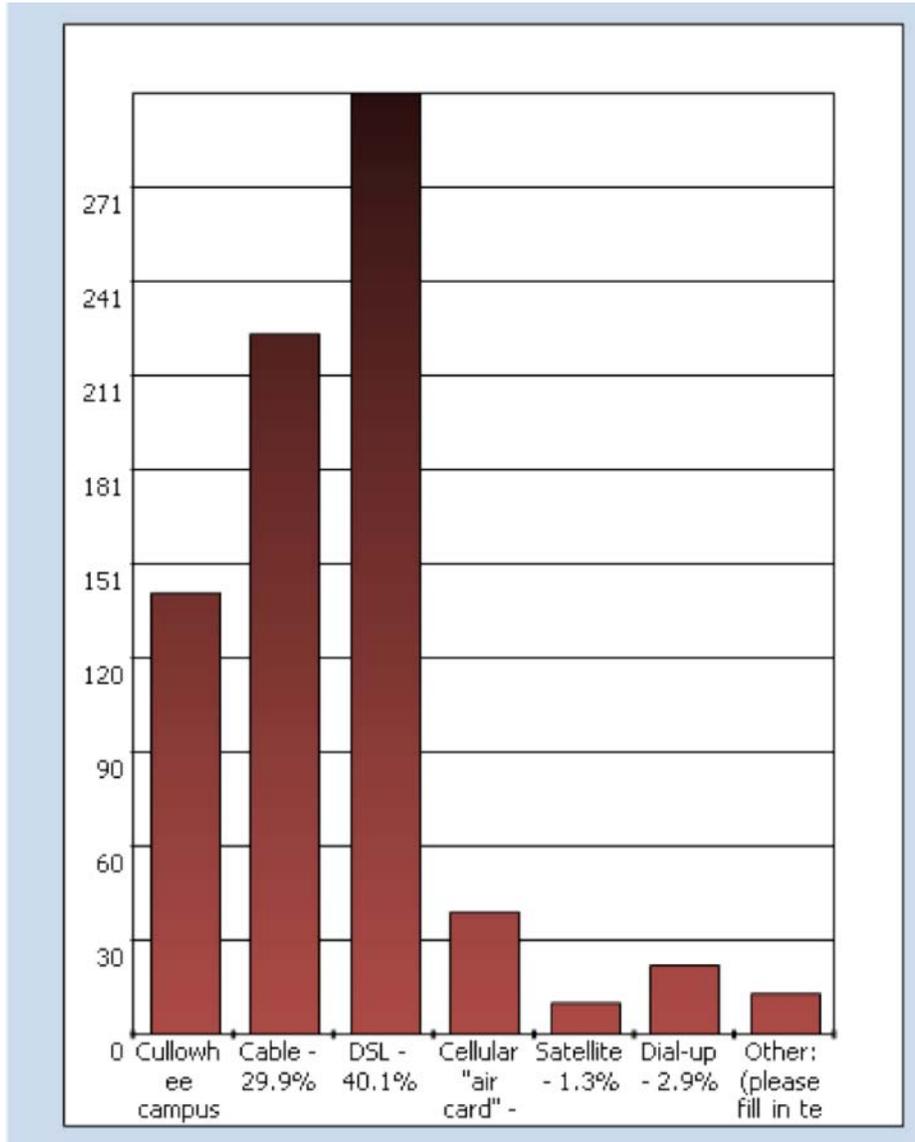
Appendix J: WebCat Spring 2008 Student Survey

Overall I found WebCat easy to use.

Response count – 749

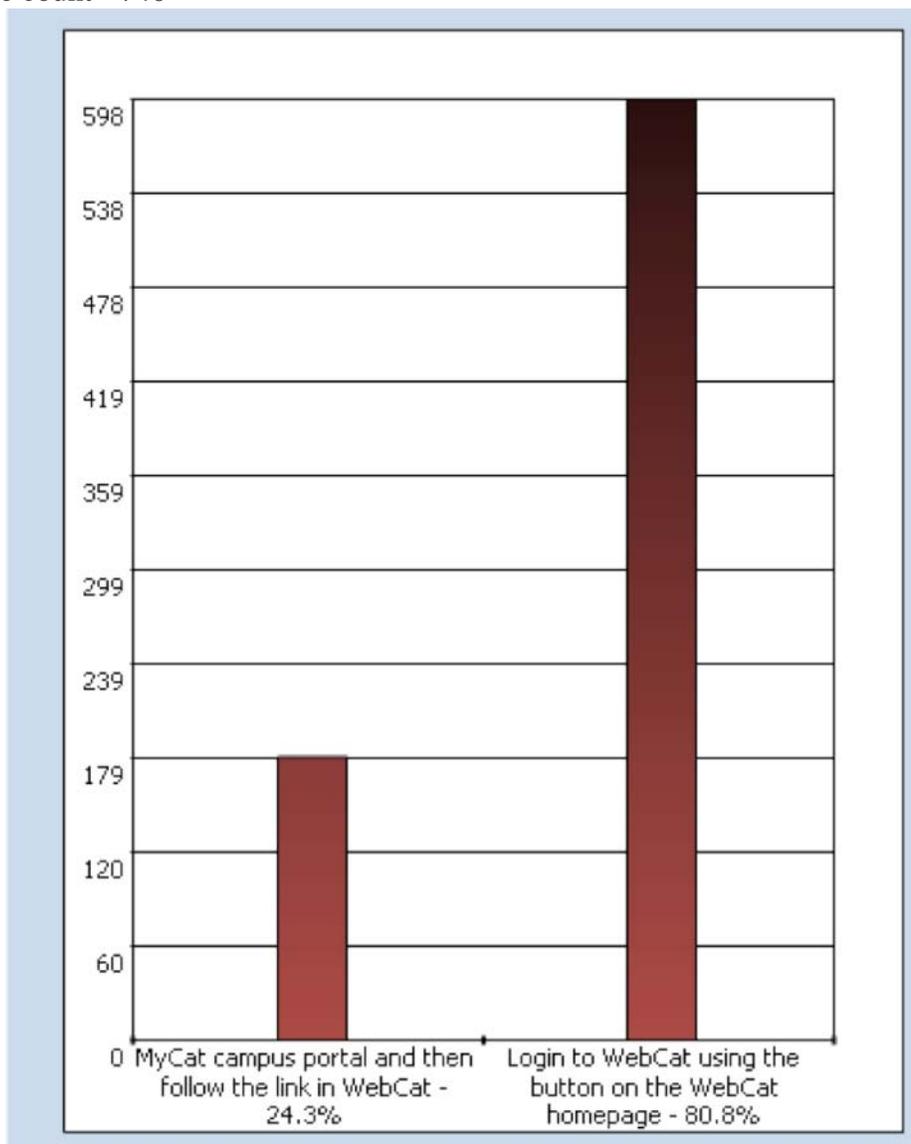


What kind of Internet connection do you use to access WebCat most of the time?
Response count - 750

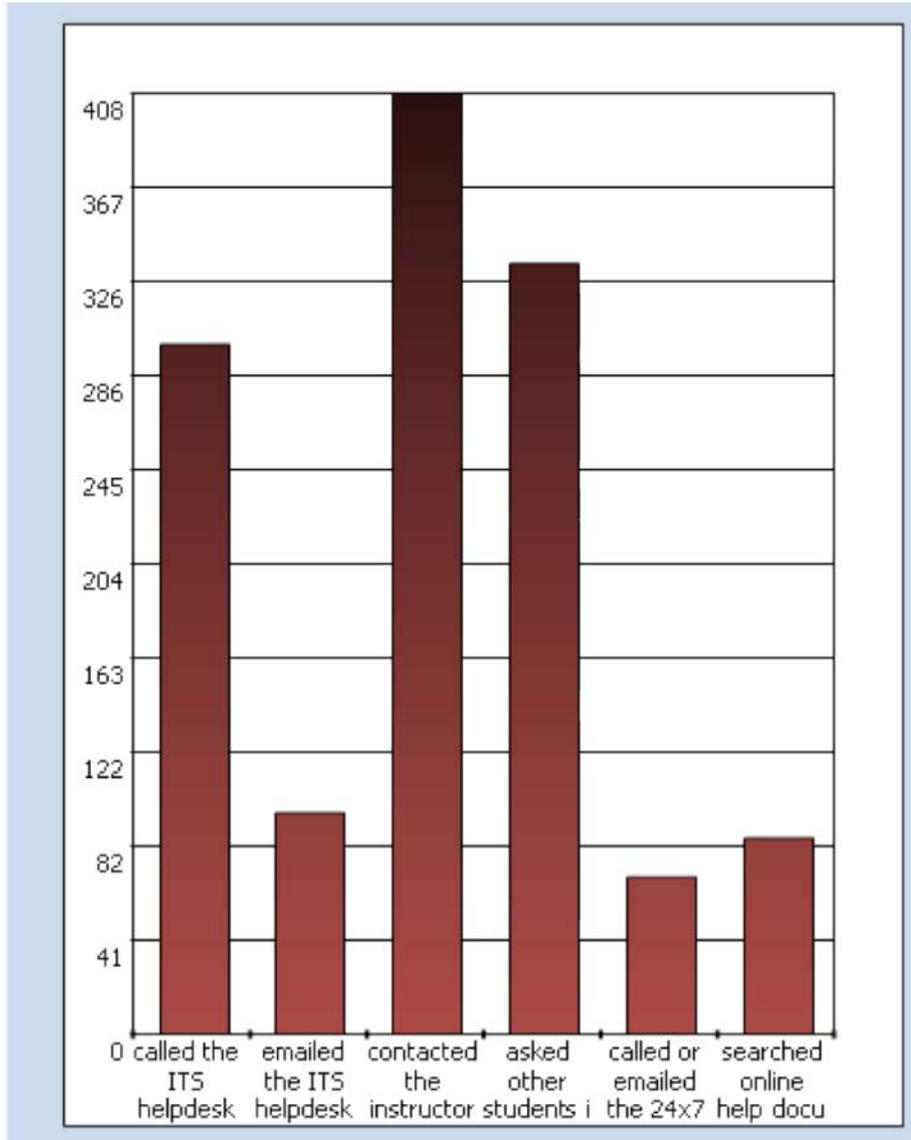


How do you log into or access WebCat?

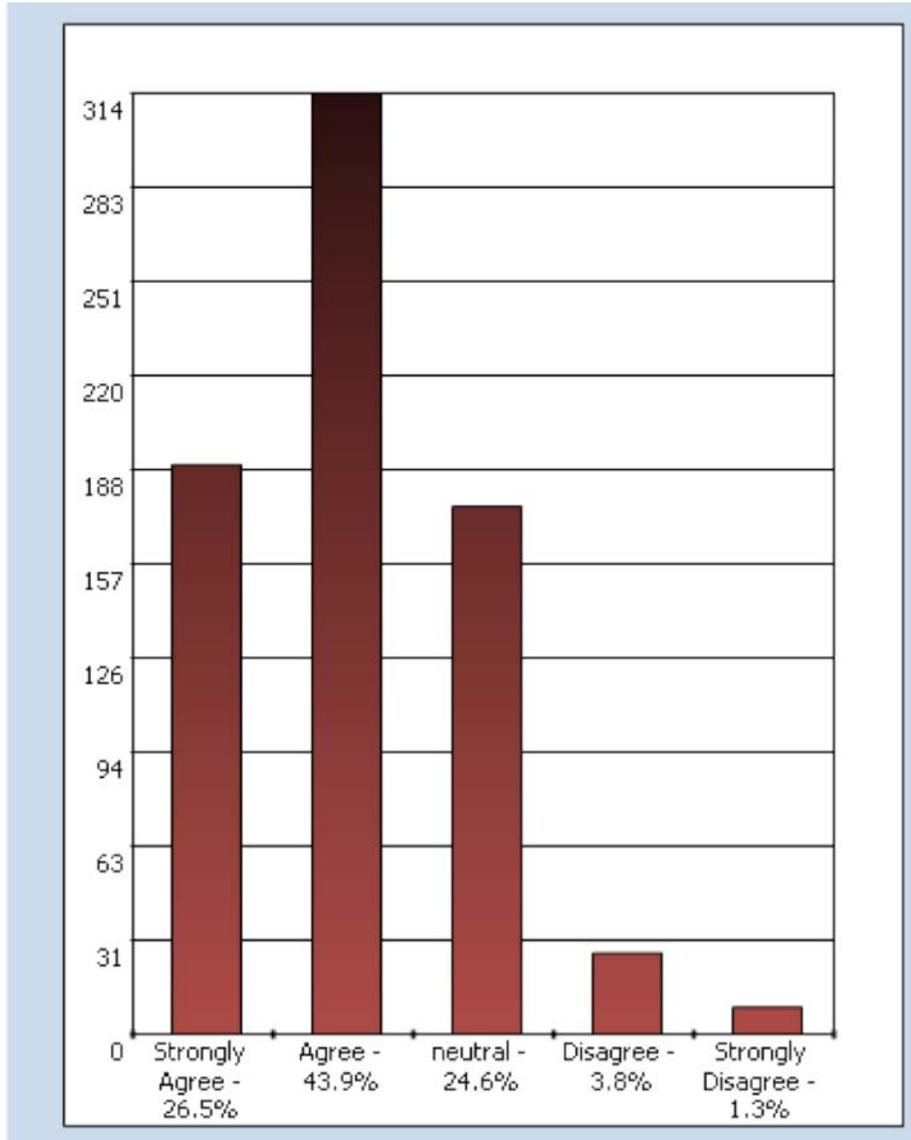
Response count - 740



When I had a technical problem or question with WebCat, I:
Response count - 694



Overall I found WebCat support helpful.
Response count - 716



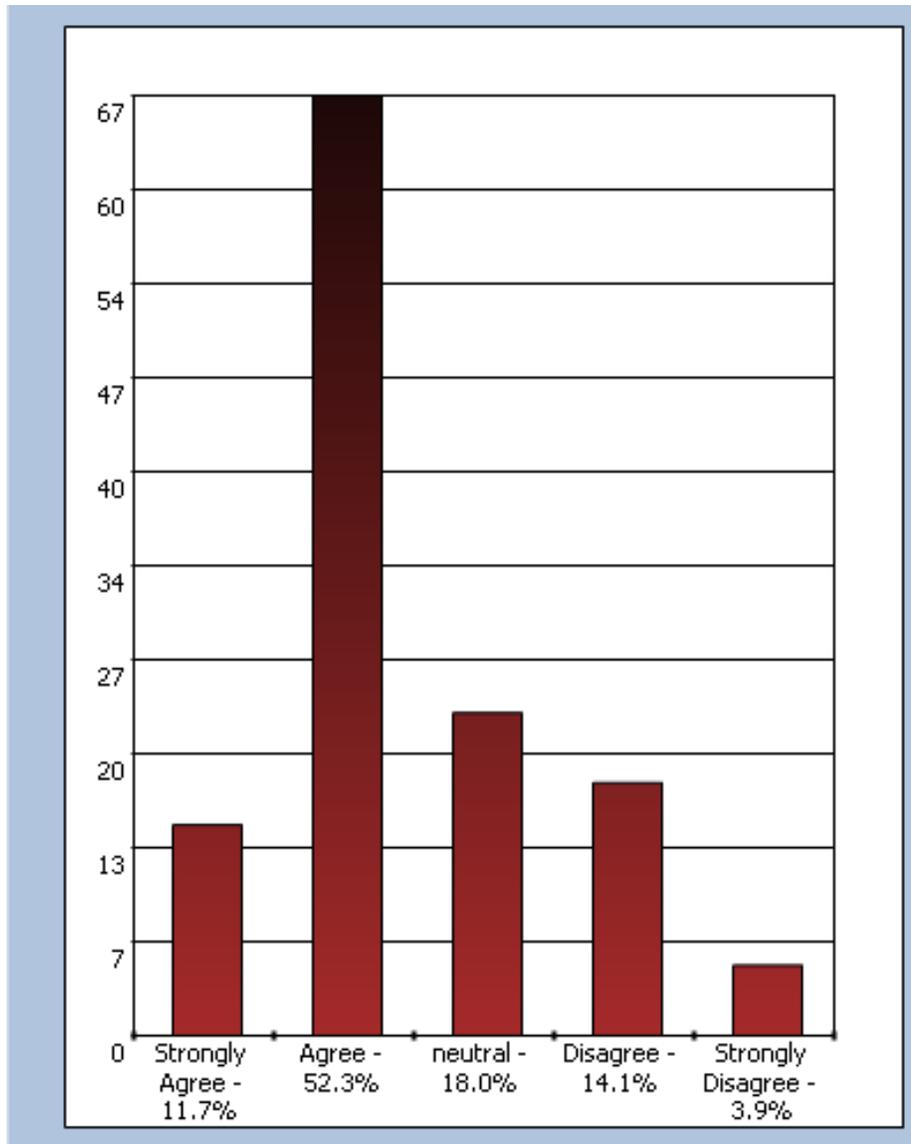
Please let us know about the tools that you use in WebCat

	Easy to use, no problems	Not comfortable with this tool, had some problems	Difficult to use, frequent problems with this tool	I did not use this tool
Announcements	78%	6%	4%	12%
Chat	34%	12%	7%	47%
Discussions	71%	11%	3%	15%
Mail	78%	13%	5%	4%
Who's Online	68%	6%	4%	22%
Assessments (Quizzes and Tests)	69%	12%	5%	14%
Assignments (Drop Box)	73%	16%	4%	7%
Web Links	62%	14%	7%	17%
My Grades	82%	10%	4%	4%
Wimba Voice Board (Chat and White board)	27%	11%	6%	56%
Learning Modules	67%	10%	4%	18%
Roster	45%	5%	2%	49%

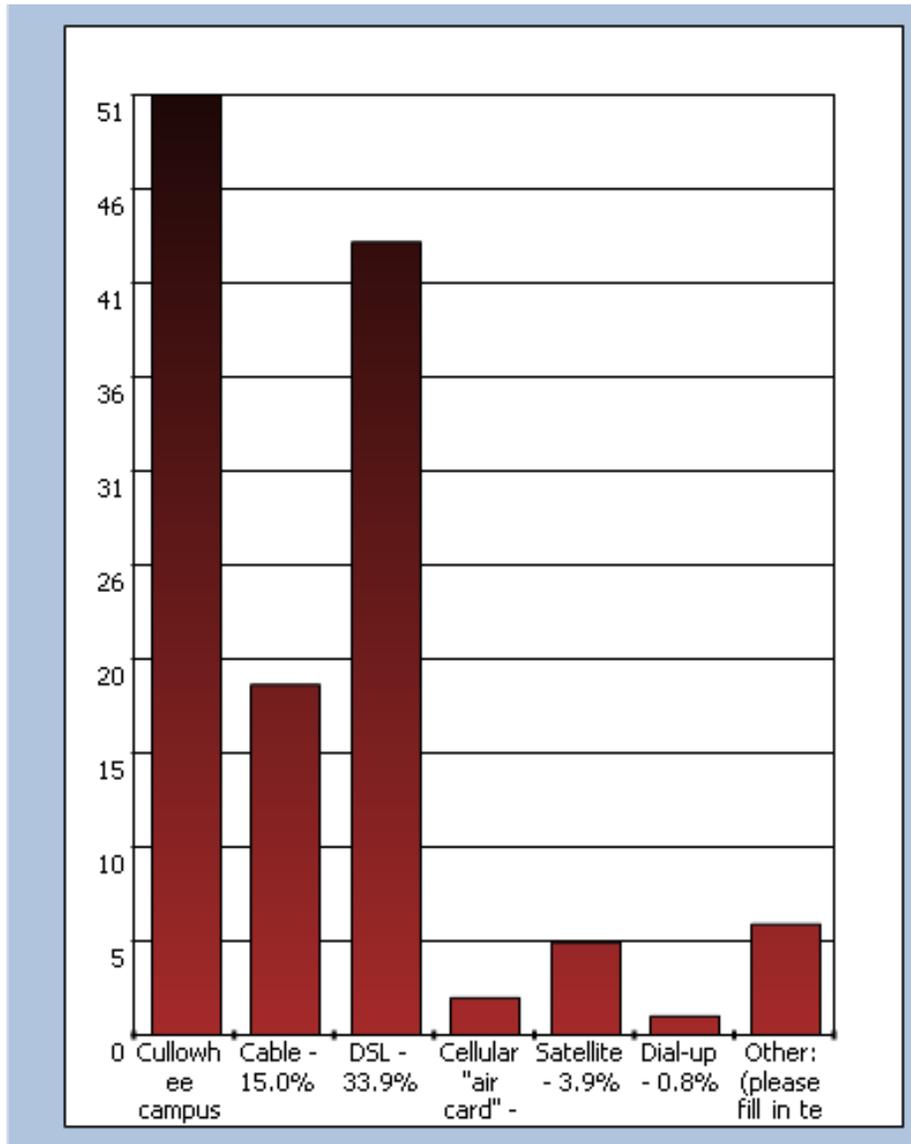
Appendix K: WebCat Spring 2008 Faculty Survey

Overall I found WebCat easy to use.

Response count – 128

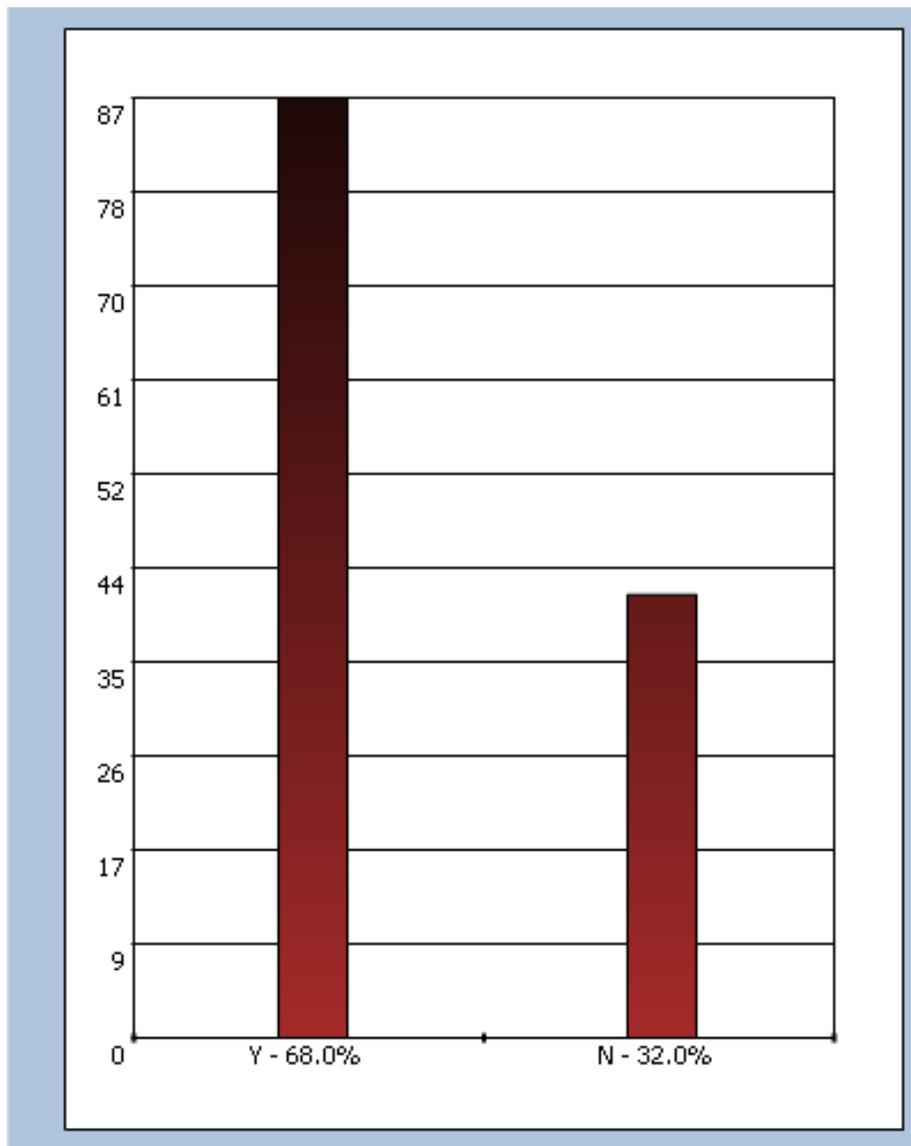


What kind of Internet connection do you use to access WebCat most of the time?
Response count - 127



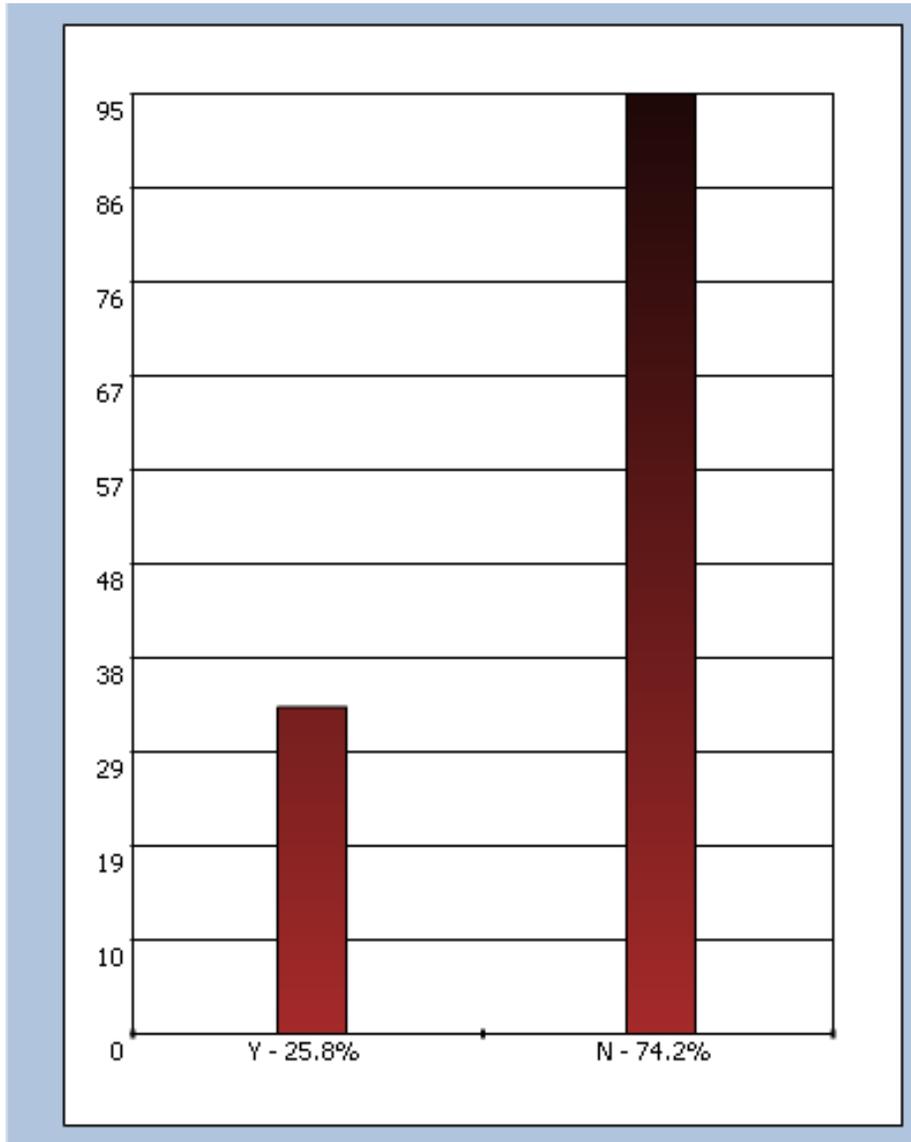
Did you attend a workshop, use online documentation, or receive local 1-on-1 consultation or support to develop your course?

Response Count: 128



WCU began working with Presidium Learning at the start of Spring 208 to provide 24x7 – 365 support for WebCat. Have you utilized this service yet?

Response count - 128



Please let us know about the tools that you use in WebCat

	Easy to use, no problems	Not comfortable with this tool, had some problems	Difficult to use, frequent problems with this tool	Do not use, but would with more support	I did not use this tool
Syllabus	43%	7%	3%	2%	45%
Announcements	68%	4%	2%	5%	21%
Chat	24%	2%	3%	9%	62%
Discussions	52%	9%	2%	6%	31%
Mail	66%	4%	10%	1%	19%
Who's Online	37%	2%	4%	1%	56%
Assessments (Quizzes and Tests)	33%	8%	6%	9%	43%
Assignments (Drop Box)	50%	11%	12%	7%	21%
Learning Modules	45%	5%	2%	8%	39%
Web Links	61%	5%	2%	3%	28%
Grade Book	39%	10%	23%	4%	23%
Wimba Voice Board (Chat and White board)	15%	1%	5%	17%	63%
My Grades (for students)	48%	5%	9%	5%	33%
Roster	35%	6%	5%	6%	48%
Goals	8%	1%	0	8%	83%
Calendar	38%	7%	6%	4%	45%
Grading Forms	5%	1%	1%	12%	82%
Group Manager	21%	1%	0	7%	63%
Selective Release	29%	9%	6%	6%	52%

Appendix L: Executive Summary of Report on Open Source Course Management Systems (as requested in the PACE Report – Information Technology Idea 11)

The purpose of the TLT Collaborative's (TLTC's) investigation of open source course management systems (CMSs) is to determine the viability for instruction and the potential cost savings for UNC campuses to move to an open source solution (notably Moodle or Sakai) from the commercial Blackboard CMS (Learning Suite or Vista) currently utilized.

Where the Campuses Are Now: Fall 2008 Production CMSs within UNC

The following are the production CMSs on UNC campuses as of Fall 2008:

- Moodle (ASU, UNCA, NCSSM)
- Blackboard Vista (NCSU, UNCC, UNCW, WCU)
- Blackboard Learning Suite (remaining ten campuses)

Campus Evaluations

In 2007-08, the following campuses formed faculty and staff committees to evaluate open source solutions:

- ASU elected to migrate to Moodle instead of migrating to Blackboard Vista
- ECU is completing an in-depth study of both Moodle and Sakai
- NCSU is continuing an investigation of Moodle, planning to make a decision in 2008-09
- UNC-CH, after an initial study, is piloting Sakai campus-wide in 2008-09
- WCU, after conducting an open source study, has decided to remain with Blackboard Vista

In 2008-09, the following campuses will run production courses in Moodle and/or Sakai on pilot production facilities provided by the TLTC: ECSU, NCSA, UNCC, UNCP, UNCW, and one department at UNCG.

Functional Viability for Instruction

Detailed spreadsheets regarding CMS functional features were completed by vendors, service providers, and TLTC staff. While there are certain differences in functionality among the four CMSs examined, analysis of the spreadsheets - as well as the fact that a number of universities nation-wide are utilizing open source CMSs - demonstrates that both Moodle and Sakai are viable alternatives to commercial CMSs. The evaluation results from UNC faculty members who taught in Moodle or Sakai this year also demonstrate that open source solutions are a viable alternative to Blackboard.

Operating Costs: Total Cost of Ownership (TCO)

A summary of cost information follows:

- Based on an analysis of data from 12 UNC campuses, current TCO for the Blackboard CMSs across UNC is approximately \$39 per FTE. (This TCO analysis includes all hardware, software, and staffing costs.)
- The Blackboard CMS software (licensing) costs are approximately \$7 per FTE across UNC, with smaller campuses paying a higher amount per FTE. (Range reported: \$2.25 to \$31.)

- The average TCO for six open source universities interviewed for this report is \$25 per FTE (Range reported: \$10 to \$50.) (Licensing fees, of course, are \$0.) To more accurately determine the cost per FTE, additional data needs to be collected as more universities run open source solutions in full production.
- Regarding costs of transition from commercial to open source CMSs, the universities interviewed have not tracked these costs carefully. (The TLTC is collecting this data as UNC campuses transition.)

Preliminary Conclusions

Remembering that eight UNC campuses will be completing/conducting in-depth open source investigations in 2008-09, and therefore will be providing extensive and important additional data which the TLTC will collect, the following preliminary conclusions may be drawn to date:

- Moodle and Sakai are now viable open source alternatives to Blackboard, while individual campuses may determine that particular feature differences make them more or less attractive than Blackboard.
- Initial decisions by UNC campuses (for example, ASU electing to transition to open source and WCU not) demonstrate that a campus' selection is based on many campus-specific situations and criteria, including faculty preferences.
- UNC campuses can save, on average, \$7/FTE in software costs after transitioning, with the smaller campuses realizing the larger savings. (Changeover and development costs, however, may offset part of these savings and are still being investigated.)
- There are major differences in the underlying architecture of Moodle and Sakai that lead to important support considerations as a campus makes a selection/decision.

2008-09 Investigations

The TLTC will collect additional data from the following studies in 2008-09:

- The eight UNC campuses completing/conducting open source studies next year
- Common-hosting investigations of open source CMSs
 - The TLTC is project managing, beginning June 2008, the implementation of a commonly-hosted production-level instance of Moodle at MCNC for several NCCCS campuses. This project will provide important data on the cost, viability, and potential advantages of a large commonly-hosted Moodle installation. (UNC campuses have expressed interest in "buying-in" to the services of this facility.)
 - The pilot production instances of Moodle and Sakai that the TLTC is providing to the six campuses mentioned previously will provide information on cost and operability for a commonly-hosted instance used by UNC campuses.