This chapter discusses the extent of course management system (CMS) use within the University of Wisconsin System (UWS), how faculty CMS adoption has changed over time, and what factors contribute to changes in faculty adoption and use rates. It also describes which CMS features and tools faculty use most heavily and what factors shape those choices.

**Overall CMS Use at the University of Wisconsin**

CMS use among UWS faculty and staff is extensive, although it varies considerably by campus. Table 6-1 shows how many courses\(^1\) used a CMS in fall 2002.

**Tools and Features Used Most Often**

Although overall CMS use is extensive and growing rapidly, most CMS use concentrates on a few specific tools. Faculty members typically start using the CMS to post syllabi and static content. Use of communication tools such as discussion boards, the gradebook, and quiz tools is much less prevalent. This becomes apparent in the breakdown of tool use\(^2\) within the CMS at UW–Milwaukee in spring 2002 (Figure 6-1).

We see a similar distribution at UW–Stout over a two-semester period (Figure 6-2).

At UW–Whitewater, we measured use over five semesters (Figure 6-3).

When we group CMS tools into four functional categories\(^3\)—content tools, communication tools, gradebook, and quiz tools—the emphasis on content becomes clearer, as Figure 6-4 shows.

The emphasis on content presentation and organization also shows in data collected in the online UWS faculty survey. Figure 6-5 shows how faculty ranked the different tools’ importance within a CMS.

**Analyzing CMS Tool Traffic Patterns**

Faculty members use CMS tools primarily to organize and deliver static content. An analysis of CMS traffic (that is, how often faculty and students access certain CMS tools) sheds light on which tools they rely upon most heavily. Using Analog\(^4\) analysis software, we were able to produce reports based on data contained in the Web server logs. The reports reflect two different kinds of traffic: use based on initial entry point (access reports) and overall use (usage reports).

To get an overall picture of CMS traffic, researchers analyzed the usage reports for the three campuses\(^5\) constituting the most extensive users of one particular CMS over two semesters, fall 2001 and spring 2002.
### Table 6-1. Number of UWS Courses Using a CMS, Fall 2002

<table>
<thead>
<tr>
<th>UW Campus</th>
<th>Number of Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Madison</td>
<td>1,667</td>
</tr>
<tr>
<td>Milwaukee</td>
<td>553</td>
</tr>
<tr>
<td>Colleges</td>
<td>310</td>
</tr>
<tr>
<td>Eau Claire</td>
<td>234</td>
</tr>
<tr>
<td>Green Bay</td>
<td>70</td>
</tr>
<tr>
<td>La Crosse</td>
<td>363</td>
</tr>
<tr>
<td>Oshkosh</td>
<td>221</td>
</tr>
<tr>
<td>Parkside</td>
<td>64</td>
</tr>
<tr>
<td>Platteville</td>
<td>179</td>
</tr>
<tr>
<td>River Falls</td>
<td>278</td>
</tr>
<tr>
<td>Stevens Point</td>
<td>96</td>
</tr>
<tr>
<td>Stout</td>
<td>481</td>
</tr>
<tr>
<td>Superior</td>
<td>46</td>
</tr>
<tr>
<td>Whitewater</td>
<td>558</td>
</tr>
<tr>
<td>Extension</td>
<td>40</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>5,160</strong></td>
</tr>
</tbody>
</table>

### Figure 6-1. CMS Tool Use, UW–Milwaukee, Spring 2002 ($N = 342$)
Figure 6-2. CMS Tool Use, UW–Stout, Fall 2001 (N = 126) and Spring 2002 (N = 166)

Figure 6-3. CMS Tool Use, UW–Whitewater, Fall 2000–Spring 2002
Figure 6-4. CMS Tool Use by Functional Category, UW–Whitewater, Fall 2000–Spring 2002

Figure 6-5. UWS Faculty Ranking of CMS Tools’ Importance (N = 540)

Faculty Use of Course Management Systems
Vol. 2, 2003
The usage logs show which CMS tools faculty and students used, and to what extent. Table 6-2 reflects the total number of page requests, or “hits,” within each tool across all three campuses over both semesters, expressed as actual numbers and as a percentage of overall use.

Table 6-2. Traffic Analysis of CMS Tool Use in Three Campus Instances

<table>
<thead>
<tr>
<th>Tool</th>
<th>Number of Page Requests</th>
<th>Percentage of Total Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Quiz</td>
<td>6,903,284</td>
<td>69.65</td>
</tr>
<tr>
<td>Student Discussions</td>
<td>1,739,599</td>
<td>17.55</td>
</tr>
<tr>
<td>Faculty Quiz</td>
<td>382,997</td>
<td>3.86</td>
</tr>
<tr>
<td>Student Content</td>
<td>245,836</td>
<td>2.48</td>
</tr>
<tr>
<td>Student Calendar</td>
<td>195,756</td>
<td>1.98</td>
</tr>
<tr>
<td>Student E-Mail</td>
<td>157,406</td>
<td>1.59</td>
</tr>
<tr>
<td>Student Assignment</td>
<td>75,522</td>
<td>0.76</td>
</tr>
<tr>
<td>Course Listing</td>
<td>53,909</td>
<td>0.54</td>
</tr>
<tr>
<td>Forgot Password</td>
<td>46,408</td>
<td>0.47</td>
</tr>
<tr>
<td>Student Syllabus</td>
<td>24,588</td>
<td>0.25</td>
</tr>
<tr>
<td>Faculty Help</td>
<td>12,430</td>
<td>0.13</td>
</tr>
<tr>
<td>Log-In Hint</td>
<td>12,139</td>
<td>0.12</td>
</tr>
<tr>
<td>Student Help</td>
<td>11,409</td>
<td>0.12</td>
</tr>
<tr>
<td>Student Chat</td>
<td>11,135</td>
<td>0.11</td>
</tr>
<tr>
<td>Administer Course</td>
<td>10,816</td>
<td>0.11</td>
</tr>
<tr>
<td>Faculty Assignments</td>
<td>10,192</td>
<td>0.10</td>
</tr>
<tr>
<td>Change Password</td>
<td>9,650</td>
<td>0.10</td>
</tr>
<tr>
<td>Faculty Syllabus</td>
<td>6,184</td>
<td>0.06</td>
</tr>
<tr>
<td>Faculty Discussion</td>
<td>2,286</td>
<td>0.02</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>9,911,546</strong></td>
<td><strong>100.00</strong></td>
</tr>
</tbody>
</table>

Table 6-3 itemizes how students use the CMS.
Table 6-4 describes the traffic generated by faculty’s CMS tool use.

We can draw several conclusions from this data. First, although content tools receive heavier use than other types, analysis
of the traffic generated by each kind of tool reflects the roles that quizzing (for students and faculty) and discussions (for students) play in CMS use. To some extent, these numbers reflect the fact that using a discussion board or a quizzing tool generates far more page requests than simply posting or using a syllabus or lecture notes. Nonetheless, usage log analysis demonstrates that faculty and students both use the quiz tool heavily. The discrepancy between faculty and student use of discussion boards was somewhat surprising.

As the survey data demonstrated, overall CMS use is growing rapidly. Use is skewed toward content provision in the form of syllabi, course documents, staff information, and announcements. Although fewer faculty use discussion and quizzing tools, these tools account for the bulk of actual traffic within a CMS.

**What Encourages Increased Use of CMS?**

Most faculty said their CMS use has increased over time (Figure 6-6).
Several factors emerged as drivers for encouraging faculty to use a CMS more often or more extensively:

- Faculty members became more aware of how the CMS might be useful in teaching or in their departments or organizations.
- Familiarity and comfort with the software increased as they began to use the CMS and became accustomed to it.
- Faculty who were already using a CMS received more training, often in the use of specific tools such as discussion boards or quiz tools.
- More features became available within the CMS as the products improved and were upgraded.
- Students began to request that faculty use the tools more often or more extensively.
- Department chairs or other administrators requested that faculty make greater use of a CMS.
- Distance education offerings that relied on CMS use increased.
- Faculty and staff wanted to save money and paper by cutting down on the number of photocopies distributed to students.

Figure 6-7, which summarizes results of survey questions asking faculty what caused them to increase their CMS use, shows faculty’s assessment of these factors’ relative importance. Figure 6-8 shows a breakout of the “Other” category in Figure 6-7.

**Awareness of Potential CMS Uses**

As faculty members use a CMS, they begin to see further uses for the software. This might stem from additional training, but discussions with faculty also indicated that even absent any training from the campus Learning Technology Center, they would frequently see new uses for the CMS and try them out. Numerous respondents reported that they had started using a CMS quite cautiously, perhaps by putting up a syllabus, some announcements, and maybe some content. As they continued to use the software, they began to try new things, such as the assessment tool, gradebook, or discussion boards. In fact, conversations with faculty and CMS support staff suggest that many faculty follow a fairly typical path in their CMS use as their experience and comfort with the CMS begins to increase.

They start using the CMS content tools by posting a syllabus, course documents, assignments, staff information, and announcements. This provides a structure for the course and lets faculty become familiar with the process of populating course materials. Then they use the quiz tools (including question pools) and the gradebook,
Figure 6-7. Factors Contributing to Increased CMS Use among Faculty ($N = 362$)

Figure 6-8. Other Reasons for Increased CMS Use among Faculty ($N = 16$)
discussion boards, groups and grouping tools, file-sharing tools (such as the digital drop box), and other tools such as the calendar, whiteboards, chat, and task lists.

Occasionally, faculty will reduce their CMS use. Sometimes this occurs in response to the frustrations of using the software, sometimes because they no longer like working in the CMS's course-centric environment, and sometimes because they want to share aspects of their course with an audience beyond the students registered in the course. (Course management systems are designed to grant access only to those registered.)

**Familiarity with the CMS**

As faculty become more comfortable and agile with the CMS, they tend to use it more extensively. The more they use it, the more they rely upon it. This finding, which emerged from both the survey and the interviews, partially explains faculty reluctance to change from one CMS to another.

**Training**

In their responses to the online survey, 12 percent of faculty said their CMS use increased once they received training. This percentage is lower than might be expected when compared with the qualitative data. In interviews, many faculty spoke of how they had been encouraged and inspired to use new tools within the CMS or to use it in different kinds of classes (for example, in smaller, advanced classes as well as in the large freshman classes in which they were already using it). Bill Cerbin, assistant to the provost at UW–La Crosse, suggested that faculty don’t always see the need for technology until they attend presentations or training and learn how to apply it. During our study the need became clear for training to focus more on the pedagogical applications of the course management systems and less on the nuts and bolts of setting up courses. However, CMS administrators and staff at campus learning technology centers report mixed results on their efforts to attract large numbers of faculty to training advertised in terms of pedagogical CMS applications.

Interestingly, faculty appear to learn as much from their peers in this training as they do from the trainers. Researchers interviewed UW–Milwaukee faculty who had participated in training as part of their preparation for teaching small freshman seminars. Several faculty members remarked that the training helped them increase the number of tools they used within a CMS. They said that because they were in the natural sciences, for example, it had never occurred to them to use online discussions in their classes. Thanks to the training they received and to conversations they had with humanities faculty at the training sessions, they began to see the pedagogical value of using online discussions in their discipline. Similarly, UW–Colleges staff found that one of the most effective training strategies is to ask faculty members to demonstrate how they have used a CMS in an actual class. This encourages other faculty to try new tools and techniques, according to Dick Cleek, chief information officer for UW–Colleges, and Pat Fellows of the UW–Colleges Learning Technology Center.

One striking factor is the extent to which faculty CMS use reflects the priorities and strengths of the campus Learning Technology Center. Jay Caulfield of the UW–Milwaukee Learning Technology Center explained that “faculty use of the course management system reflects the preferences of the staff … for example, I like groups, so we end up seeing a lot of group work by faculty in [the CMS]…. Alan Aycock from UW–Milwaukee Learning Technology Center likes bulletin boards, so we see a lot of
that too. It’s partly a matter of us steering faculty to those sorts of things, but also our workshops on these issues tend to be a whole lot better…. If the Learning Technology Center trainers like it [the CMS tool], they will make it look cool.”

Faculty CMS use reflects not only Learning Technology Center staff preferences but also the path that individual faculty members take in learning about the technology and setting up a course site. Whether and how the faculty use a CMS is strongly shaped by what they felt needed addressing, whom they spoke to, and where they obtained help in getting access to a CMS, said Alan Wolf of the UW–Madison Division of Information Technology and Center for Biology Education. Thus, use can reflect the priorities of campuses, learning technology centers, departments, and colleges, or some combination of these.

**Feature Additions and Upgrades**

Faculty have responded well to CMS upgrades and improvements, particularly those made to improve ease of use and enhance the functionality of tools such as the gradebook. It will be interesting to see how faculty respond to the new generation of course management systems currently being released and how this affects use. However, while faculty are responsive to improvements, they are also leery of changes to course management systems, because migration from one product version to another has frequently meant more work for them.

**Student Requests**

Surprisingly, student requests do not play a major role in increasing faculty CMS use. There is a widespread perception that students appreciate faculty CMS use (as one form of technology use in higher education) and encourage and even demand that faculty use these systems. While students certainly appreciate the increased access to course materials, most faculty report that students are far from enthusiastic about CMS use. As the survey data shows, few faculty (8 percent) increase their CMS use in response to student requests. Barry Cameron of the UW–Milwaukee geosciences department said students had asked him about the CMS site for their class because every other class had one.

More often, though, faculty spoke of increasing their use of a CMS as an indirect response to student needs. As course management systems gain wider use within the university, students become increasingly familiar with the software. It thus becomes convenient for faculty to provide content and activities through the CMS without issuing special passwords or providing new training. In general, students are not driving the process and, in fact, discourage faculty from using course management systems, according to Claudia Barreto of the UW–Milwaukee biological sciences department and Cheryl Frye and Catherine Roraff of the UW–La Crosse Department of Computer Science.

**Administrative Requests**

In addition to compelling faculty to start using course management systems, departmental or administrative pressure or persuasion induces faculty to use the CMS more extensively or more often. Administrative efforts to increase CMS use vary in their effectiveness. Faculty respond better to leadership by example and efforts to facilitate their use of the software.

**Increased Distance Education Offerings**

Many distance education courses rely on CMS use. Even those that are not offered primarily online—for example, those that
Faculty Use of Course Management Systems

Vol. 2, 2003

use compressed video or interactive television—sometimes use a CMS to offer students access to content, discussions, grades, and online assessment. The UWS, like many higher education institutions, has been steadily increasing its distance education offerings to maximize access to higher education within the state and beyond. As distance education offerings have increased, so has faculty CMS use.

CMS Use for Cost Reduction

This factor is far more important than the quantitative survey results suggest. From faculty interviews, we learned that a desire to reduce costs drives some faculty to start using a CMS and drives others to increase their use. Faculty provide content such as documents and quizzes to students online to save on departmental photocopying costs. Essentially, this means that printing and reproduction costs are passed on either to the students themselves or to the campus computer facilities where students can print without charge. But Cheryl Frye and Catherine Roraff of the UW–La Crosse computer science department note that in some courses the situation appears to have gotten out of control, with students being expected to print out (or read online) many hundreds of pages per course. There are reports of growing resistance to this on several UW campuses, and in some instances administrators have directed faculty not to require students to do extensive amounts of printing.

Why Does Faculty CMS Use Decline?

Most faculty indicated that their CMS use had increased. However, a few faculty reported that their use had stayed the same or decreased. Some faculty stop using a CMS altogether after trying it for a while. Why does this happen? Several factors account for this:

- Course management systems prove to be too time consuming for many faculty members to use.
- Many faculty members find course management systems inflexible.
- Students find course management systems difficult to use. In response, faculty use them less in their teaching.
- Faculty members are concerned about product reliability, whether or not the products will continue to be supported, and what CMS product changes will mean for them.
- Some faculty find course management systems difficult to use.
- Many faculty members have problems using a CMS because the technology is unsuited to their discipline or cannot accommodate the tools they need for teaching in their discipline. This was particularly the case with mathematics and science subjects.
- Numerous faculty found course management systems to be unsuited to their teaching goals.

Figure 6-9 illustrates the reasons faculty offer for using a CMS less often or less extensively.

Time Requirements

The survey reflects many faculty members’ belief that using a CMS is too time consuming, which is a key reason why more faculty do not use a CMS extensively. In interviews, faculty members were quite eloquent on this issue. Those for whom this was a concern felt that all the various CMS parts required too much time, but the gradebook and quiz tool received the largest number of complaints.

Many respondents also spoke about the time spent using a CMS, focusing on two different aspects. First, faculty must put in time up front to get their course ready for a CMS. This often requires that they substantially redesign course materials and gather...
the necessary resources. Next, they must load the materials into the CMS itself. Many individuals spoke in positive terms about this process, stating that it made them better organized and actually helped them become better teachers. Importantly, though, faculty found the time required to load materials into the CMS to be onerous, and this was the time expenditure they strongly resented. Tom Smith of the UW–Madison Department of Engineering Professional Development and Engineering Outreach described the distinction between the two types of time expenditure as being “like night and day.”

**CMS Inflexibility**

Many faculty became frustrated using a CMS because of its inflexibility. Their complaints fall into three areas. First, the software’s highly structured nature limits faculty creativity. This structure is, in many respects, a double-edged sword: it helps faculty manage courses and instruction, but it also becomes highly constraining and even discourages some faculty from using the software. Regan Gurung of the Department of Human Development/Psychology at UW–Green Bay said the inflexibility of the structure gets in the way of good pedagogy. Other faculty simply get frustrated at the lack of customization capabilities in many course management systems. As Ann Zarinia, Department of Educational Foundations at UW–Whitewater, put it, “They constrain you through idiocy.”

Second, the CMS or its tools may lack many features faculty want or need. Faculty interpret a feature’s absence to mean that they cannot do what they want to do. The problems many faculty face in using CMS gradebook and assessment tools fall into this category. Finally, faculty noted problems or deficiencies in the CMS with regard to file management, and especially the ability to easily move content around within the CMS or into and out of it.
Faculty Use of Course Management Systems

Student Use Problems

Not only are students not driving faculty to use course management systems, but in addition many faculty are dissuaded from using the technology, or they use it less than they otherwise might, because of problems students have in using and accessing the software. Faculty and staff noted that student CMS problems fell into four areas:

- access,
- technology skills and proficiency,
- expectations, and
- opinions and preferences regarding CMS use.

Access

This appeared to be a significant factor in dissuading faculty from using a CMS, in limiting their use, or in making their use more difficult. In interviews and in the online survey, numerous faculty spoke about the problems that students have in accessing the CMS once they are off campus. This complaint came from faculty at larger commuter campuses (such as UW–Milwaukee and UW–Madison) as well as at smaller four-year campuses (such as UW–La Crosse). The major issue seems to be that many students do not have reliable access to computers or Internet service at home. Thus, faculty are unwilling to build CMS use into a course as a requirement. Many faculty also mentioned that where students do have access to a computer, it may not be sufficiently powerful to access a CMS or its content. Some faculty also mentioned that Internet service reliability sometimes made it difficult for students to complete tasks, such as taking a quiz or exam, using a CMS.

Technology Skills

In interviews, numerous faculty and staff raised the issue that students had poor technology skills and that this slowed down or discouraged faculty CMS use in teaching. Claudia Barretto of the UW–Milwaukee biological sciences department and Peter Burkholder of the UW–Stout social science department noted that students were not tremendously technologically literate, though some faculty, including Scott Cooper of UW–La Crosse’s biology department, did say that student technology skills were improving. Faculty complaints about student technology skills came from a wide range of campuses, including the two doctoral/research institutions and even from UW–Stout, which has a long history of technology-related programs and is now a laptop-required campus. Some faculty argued that primarily older, nontraditional students lacked the technology skills to comfortably use a CMS, though numerous other respondents said that all students, regardless of age or standing, ran into similar problems.

Student difficulties with CMS use seem to focus on file management skills and general problem-solving skills. Although today’s undergraduates have much experience using digital technology to download music and games from the Internet and to chat with their friends using instant messaging software, these skills do not necessarily translate into those needed to use a CMS comfortably and effectively.

Some UWS campuses now offer student training in CMS use along with the programs they offer to faculty. Staff members associated with these programs or involved in CMS support suggest that these training programs reduce the number of calls to the help desk and dramatically improve CMS use, according to Karin Bast of UW–La Crosse Information Systems and Saundy Selness of UW–La Crosse Information Technology Services. Where no user support or training for students exists, complaints arise, said Alan Aycock, a member of the UW–Milwaukee Department of Anthropology and Center for Instructional and Professional Development.
Interestingly, some programs take steps to address students’ technology skills even where students might not appear to need training. UW–Madison has a successful online Master of Engineering Professional Practice degree program for engineers already working in the field. Despite the fact that they enroll qualified engineers in the program, all students must complete a one-credit, 50-hour class on the technology skills necessary to study online effectively, according to Tom Smith of UW–Madison’s Engineering Professional Development and Engineering Outreach program.

Student Expectations and Responses

Faculty and staff spoke of two quite different problems relating to student expectations. Some noted that many students are apparently unmotivated to use the CMS, or they use it unreliably. One online survey respondent commented that “students who are unmotivated will not seek help with difficulties logging on to [the CMS] … not a faculty problem clearly, a student motivation problem.”

Others spoke of students’ relying too much on the CMS, resulting in reduced class attendance,10 passivity, or decreased attention. In the online survey, one respondent noted, “Students began to have unrealistic expectations, expecting all of the course content to be posted on the Web at their convenience. I also found that when students had access to the in-class materials ahead of time, they were less active in class.” Faculty reiterated these problems in interviews. Taggert Brooks, UW–La Crosse economics department, contended that when students had access to the course materials in the CMS, they tended not to pay as much attention in class.

Student Preferences

Faculty members commented in both interviews and the online survey that students sometimes complained about having to use the CMS in their classes. It appears that while students may appreciate the access to course materials that a CMS offers (and especially that it reduces the number of necessary trips to the library), many simply do not like having to use it and do not always appreciate the pedagogical role it may play. Some student complaints reflect their discomfort with having to access content online when they would rather have printed handouts and a course reader, said Meredith Weiss of the Department of International Studies at DePaul University. Other students did not seem to make the connection between the parts of the course in the CMS and the face-to-face component. Ann Riall of the UW–Whitewater Department of Special Education said she received a comment in her student evaluations that read, “She didn’t really instruct in the class, it was all on the Internet.”

Reliability Concerns

In interviews, many faculty expressed concerns about the reliability of course management systems and spoke of how these concerns dissuaded them from using the software. These concerns have several different facets. First, faculty have a straightforward concern about whether the CMS will work when it needs to. Periodic downtime and outages make some faculty loathe to rely on the CMS. These periodic failures also seem to dissuade their faculty colleagues from starting to use a CMS at all. Second, faculty wonder about the speed and strength of the system in use. Numerous respondents complained in interviews and the survey about how slow course manage-
Faculty Use of Course Management Systems

Vol. 2, 2003

Faculty concerns about reliability flowed into concerns about what changes in the technology or in institutional support for the technology might mean. Faculty expressed concerns that institutional support for course management systems would be withdrawn and that the software would no longer be available to them. To some extent this is a function of the context in which UWS found itself at the time this study was undertaken. UWS Administration was doing a request for proposals to identify and purchase a new CMS upon which the UWS could standardize. News of this process and rumors about UWS withdrawing support for one or another CMS product filtered down to the faculty around the state and no doubt sparked some of the fears about the CMS’s no longer being available.

But faculty fears about this also reflect issues in the higher education technology environment. One feature of that environment is frequent marketplace changes. This has certainly been true in the area of course management systems. Several products used within UWS since 1997 have disappeared from the marketplace because the companies that made them went out of business or were purchased. This happened with the product Web Course in a Box, which was widely used at UWS until the company was purchased by Blackboard. The product is no longer available.

A second feature of the higher education technology environment is that funding for technology is scarce and at times unreliable. Universities thus sometimes have to withdraw support for a technology because of funding shortages or because use may no longer justify the expenditure. This has happened several times on various UWS campuses, and some faculty are concerned that the same fate might befall course management systems. Rebecca Stephens of the UW–Stevens Point English department noted that “if people could be assured that technology would be kept around, then they would be far more enthusiastic about using it [and we] would get new adoption.”

Difficulty of Use

Some faculty members report finding course management systems simply too complex to use consistently or effectively. Faculty complaints tend to focus on a few specific areas and tools within a CMS, particularly the gradebook and quiz tools. Some faculty also find discussion boards difficult to use. Figure 6-10 illustrates faculty members’ levels of satisfaction with the different course management tools.

The weakness of several CMS tools and faculty’s dissatisfaction with them act as disincentives for many faculty members to use or increase their use.

Unsuitability for Particular Disciplines

Numerous faculty mentioned in interviews or the online survey that their CMS use was limited by the fact that course management systems were ill-suited to dealing with the languages and programs required in their disciplines. This was particularly pronounced among mathematics and chemistry faculty. The problems that most course management systems currently have in dealing easily with mathematical notation limit their use in mathematics, physics, and other equation-dependent disciplines. Several respondents in other disciplines also complained about the inability of course management systems to cope with the programs, plug-ins, and notation they required.

Incongruity with Teaching Goals

Faculty sometimes limited CMS use because they felt the technology interfered with good pedagogy or got in the way of
their teaching goals. Many of these complaints appear to focus on particular CMS tools, such as the quiz tool or discussion boards. Some faculty were unhappy with the quiz tool in part because it offers inadequate assessment options (“Multiple choice quizzes are bunk!” as one faculty member commented in the online survey) and also because it lacks proctoring and thus permits cheating.

**Encouraging CMS Use**

Many faculty members have come to use course management systems, and their ranks are growing rapidly. However, much faculty CMS use focuses on content presentation and management (defined narrowly). Faculty use rates for communication, assessment, and grading tools are much lower, though they, too, are increasing. Faculty CMS use rises in response to several factors, including growing familiarity with the program and seeing increased uses for it in teaching. Both of these factors depend on faculty’s having access to training. Faculty are dissuaded from making more use of course management systems by product inflexibility and a lack of functionality, and by problems in student use and access.

How can faculty members be persuaded to make greater or more effective use of course management systems? In interviews and in the online survey, respondents identified several factors that would encourage them to use course management systems more than they do currently:

- increased ease of use and functionality—particularly for the gradebook, file management and exchange, and assessment tools;
- more training for both faculty and students;
- greater product reliability, including faster access;
- more certainty that the university will continue to support the products they use; and
- more time to develop courses using the CMS, or recognition from administrators of the time they spend enhancing their teaching using the software.

Figure 6-11 shows which CMS changes will most likely encourage greater CMS use among faculty.
Figure 6-11. Changes That Would Encourage Faculty to Increase CMS Use (N = 521)
Endnotes

1. CMS administrators collected this data by counting each active course site in all course management systems used on their campus. An active course was defined as one with at least one student enrolled. Different sections of the same course were counted separately if they had separate course sites.

2. We used two strategies to gather information about which CMS tools (features) were being used on the campuses. At UW–Milwaukee and UW–Stout, we opened each CMS course for the semester in question and checked to see which tools had been used. At UW–Whitewater, we polled faculty members with CMS course sites to assess which tools they had used for each course in each semester. Faculty responded for 62 percent of the course sites, and site administrators measured use in the manner described above for the remaining 38 percent of courses.

Unfortunately, the ephemeral nature of some CMS tools’ use—e-mail, chat, and the digital drop box (file sharing) do not record use—meant we couldn’t get an accurate picture of these features’ use. Therefore, we’ve omitted these tools from the description of tool use in the figures and discussion here.

3. For this analysis, we defined content tools as announcements, syllabus, course documents, staff information, and assignment tools. We defined communication tools as e-mail, discussion board, external links, and groups. We defined quiz tools as the actual assessment tool and the group tool.


5. We analyzed data for UW–Madison, UW–Green Bay, and UW–Eau Claire. There were at least 1,000 page hits per day per semester at each of these campuses. The CMS analyzed is not used extensively at the UWS institutions.

6. Free printing is available to students on many UWS campuses.

7. Many faculty see course management systems as being a time saver. Chapter 7 discusses how faculty use a CMS to save time.

8. For example, one respondent to the online survey commented that “course management systems can be difficult for students to access if their own systems are inadequate.”

9. For example, another respondent to the online survey commented that “the major disadvantage is problems with Internet service providers’ making use difficult for student, i.e., disconnects in the middle of an exam.”

10. In the online survey, one respondent stated, “Students rely on announcements to let them know when I do ‘something important’ such as giving a quiz in class. They are more apt to cut class than they used to be.”

11. The ability of numerous major course management systems to easily handle scientific notation appears to have vastly improved in recent releases.

12. For example, one faculty member in the online survey commented that the “CMS cannot incorporate software/files/structures that are essential for my course (chemistry, biochemistry).”