Introduction

The Academic Technology Steering committee (ATSC), comprising 8 Provosts and 5 CIOs, is advisory to the Executive Vice Chancellor Ephraim Smith. During the 2012-2013 academic year, ATSC decided to examine how the use of Learning Management systems (LMS) are promoting best practices that lead to CSU student success. ATSC gathered data through two separate LMS surveys, one to the Provosts in December 2012 followed by a more detailed utilization survey to all part time and full time faculty in April and May 2013. The surveys were intended to examine the use of LMS in promoting best practices that lead to student success.

This document provides an executive summary of key findings from both surveys as well as more detailed additional findings from the surveys.

Phase I LMS Survey: Enabling Student Success through the Effective Use of LMS

The Phase I LMS survey focused on campus use of the LMS for implementing innovative instructional practices and predictive data analysis. The ATSC LMS Phase I survey, “Enabling Student Success through the Effective Use of LMS”, was submitted in December 2012. The survey was submitted to Provosts at all 23 campuses, asking them to work with others on campus, as necessary, to complete the survey and submit only one response per campus; all 23 campuses completed the survey.
The survey of campuses reveals that while campuses may wish to enable advanced features such as predictive analytics and personalized learning using their LMSs, most do not yet have these tools or abilities. In the few cases where some CSU campuses have begun to implement more advanced functionality, most do not yet have outcome data regarding impact on student success.

The ATSC had anticipated that campuses would not be far along with advanced LMS use; however, the committee decided to conduct the Phase I survey in order to capture a baseline against which future findings could be compared. LMS functionality is changing very fast, and ATSC anticipates that the findings may to look very different next year, especially if campuses change or adopt newer LMS platforms to achieve quantum leaps in functionality.

**Phase II LMS Survey: Faculty satisfaction, effectiveness, and frequency of feature use of CSU LMS**

The second ATSC LMS survey focused on CSU faculty, seeking information about faculty satisfaction, effectiveness, and frequency of feature use of CSU campus Learning Management Systems. This Phase II LMS survey was targeted at directly surveying CSU faculty members to find out details on how specific LMS features are used for learning, as well as to discern faculty perceptions and satisfaction regarding use of the LMS.

Results are reported for both aggregated data across all twenty-three CSU campuses and for comparison of responses between the two major learning management system platforms (i.e. Blackboard and Moodle). The survey was conducted in April and May of the 2013 spring semester and resulted in 4,062 responses from CSU faculty members. Of the total number of valid responses, 83% of respondents indicated they were current users of their campus LMS and the more detailed analysis below is based on survey data provided by those approximately 3,400 faculty users of a campus LMS.

Survey results clearly indicate that most CSU faculty members who use a campus LMS are satisfied with their general use and reliability, as well as with training and support available to faculty members. Although faculty members rate student satisfaction somewhat lower, a very small percentage think that students are dissatisfied with their LMS experience. CSU faculty members are also quite sanguine about the efficacy of the LMS for tracking progress of their students, helping students connect to faculty and course materials, and engage with the course. Although perceptions are not as positive regarding the effects of the LMS on learning outcomes, a significant minority still agree that the LMS helps both student learning and the definition of course learning objectives. Less than a quarter of survey respondents disagree with the statement that “Students...seem to learn more in my courses.” Only a third disagree with the statement that the LMS “helps me better define learning objectives.”

The most heavily used LMS features focus on administrative organization and management of instruction and instructional materials, but faculty members still perceive these administrative helps as important for fostering student learning. Significant minorities of CSU faculty (20%-40%) also make use of course management tools in the LMS that are more directly related to student learning such as quizzes, library resources, and plagiarism tools. The data on perceived efficacy of LMS features for student learning indicate that there may be recognition by many CSU faculty members that increased use of those LMS features that are currently least used will better foster student engagement and interactivity.
**ATSC Conclusions and Next Steps**

Despite predications that learning management systems may be going away, they remain the central backbone for delivery of course materials in hybrid, online and even face-to-face courses and shows no sign of declining in importance. However, the LMS is evolving rapidly; however, with newer entrants into the market providing environments that are more intuitive, cloud-based, more integrated with eTexts, multimedia, social media and web-based tools and apps, and better able to support peer collaboration, predictive analytics and personalized learning.

As these surveys of campuses and faculty found, faculty are relatively satisfied with LMS use and reliability; however, the vast majority of campuses have yet to use LMS analytics to personalize learning or to employ any kind of predictive analytics. Given the burgeoning interest in customizing education for students, we anticipate that this will change as some of the newer LMS tools come within reach of faculty and administrators. Moreover, given the ongoing desire to increase student engagement and interactivity, we anticipate growing demand for platforms that seamlessly integrate with eTexts, lecture capture, social networking, and video conferencing services.

As provosts, CIOs and other academic technology leaders look forward, they will need to carefully weigh the options of the added functionality and usability that new LMSs provide against faculty tolerance for change. A more clear picture into the crystal ball of the value of new LMS technologies might be obtained by identifying a pool of innovative faculty and staff who could (a) run pilots with these new LMSs, (b) inform administrators about the value of these new options in the classroom, and (c) assist with LMS change management processes. The upside is that as LMSs become easier to use, supporting them focuses less on technology training and more on aligning them with course materials to further support the attainment of student learning outcomes.

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**Appendices**

**Appendix 1: LMS Survey I** – Enabling Student Success through the Effective use of Campus Learning Management Systems

**Appendix 2: LMS Survey II** - Perceptions of Faculty Satisfaction, Efficacy, and Feature use of Campus Learning Management Systems
Appendix 1: CSU LMS Survey, Phase I

Enabling Student Success through the Effective Use of Campus Learning Management Systems

This executive summary reports key findings from the recent ATSC survey, “Enabling Student Success through the Effective Use of LMS.” Twenty-three (23) campuses were surveyed in December 2012. The survey was submitted to Provosts at all 23 campuses, asking them to work with others on campus, as necessary, to complete the survey and submit only one response per campus; all 23 campuses completed the survey.

All 23 campuses completed the survey. The summary highlights key findings from the survey results and in addition, some follow up calls were made to several campuses that reported particularly innovative practices in their survey responses.

The survey of campuses reveals that while campuses may wish to enable advanced features such as predictive analytics and personalized learning using their LMSs, most do not yet have these tools or abilities. In the few cases where some CSU campuses have begun to implement more advanced functionality, most do not yet have outcome data regarding impact on student success.

We anticipated that campuses would not be far along with advanced LMS use, but conducted the survey regardless in order to capture a baseline against which future findings could be compared. LMS functionality is changing very fast, and we anticipate the findings to look very different next year, especially if campuses switch or adopt new LMS platforms to achieve quantum leaps in functionality.

Key Survey Findings:

- Blackboard and Moodle are the prominent LMSs used on CSU campuses, with Blackboard (11), followed by Moodle (10) and Desire 2 Learn (2).
- Most campuses (13) produce some kind of report from their LMS, but do not yet have evidence of that using the reports impacts student success.
- Approximately half (11) of campuses have merged LMS data with data from other systems (e.g., student information systems, non-academic resources) but most have not yet produced analytics based on these integrations.
- The vast majority of campuses (19) have not yet used LMS analytics to enable personalize learning.
- The vast majority of campuses (20) do not currently do any kind of predictive analytics with their LMS.
- The majority of campuses (16) are satisfied with their LMS’ aesthetic appeal (the way it “looks and feels”).
- The most common integrations with the LMS is anti-plagiarism software (19), video conferencing (13), lecture capture (11), and eTexts (10). Other integrations include clickers, Google Docs, YouTube, MERLOT, and Respondus (a tool for managing exams and quizzes).
- At most campuses (18), the LMS does interact with the Library, but none have evidence that the Library’s integration into the LMS has enhanced student success.
At most campuses (11), the LMS allows for or promotes social networking to some degree, only a handful (5) have evidence that the social networking dimension of the LMS engages or changes the way students study, or the way faculty teach.

About half of the campuses that use eTexts (7) allow for the sharing of notes or annotations, either among students or from faculty to students. The rest (8) do not know whether these features are available in their eText integrations.

Examples of Innovative Practices

Below is a sample of innovative practices gleaned from qualitative data provided from the survey responses, enhanced with information from follow-up phone calls with these campuses.

Intervening. Some universities are generating data from their LMS that can be used to “intervene” when students are in trouble. At Cal State University Long Beach, for instance, data from the LMS enables online instructors to set up “intelligent agents” that signal when student are falling behind -- e.g., when they have not logged in for a long time, not accessed specific content, or are not meeting certain grade criteria. Such information can also be sent to advising units so that a student can be contacted and invited in for tutoring. This practice is now being implemented for the first time in a partnership between the Sciences and Advising.

Personalized Learning. LMS’ are also enabling personalized learning through adaptive release. At San Diego State University, in order to gain access to the rest of the online materials, students must first pass a quiz that demonstrates they have read and understood the contents of the course syllabus before they can proceed to other parts of the course.

Graphic Indicators and Prediction. Universities are also beginning to use LMS data to enable rich graphic indicators and prediction by tying to other systems. At Cal State Fullerton, for example, activity indicators provide students and instructors with a graphical depiction of students’ current performance compared with others in the course, as well as their total participation and grade. This data is also tied to successful completion of the course to enable prediction at the course and institutional level.

Social Networking and Collaboration. Universities are also leveraging social networking and collaboration tools in their LMSs to enhance learning. At Cal State University Long Beach, for instance, the ability to share notes and course materials is available through a shared folder called a “Locker”, which is a small cloud storage folder embedded in the LMS, Desire2Learn. The Groups tool provides synchronous and asynchronous communication tools for 24x7 interaction. Finally, an e-portfolio tool in the LMS allows students to share and comment on one another’s work.
Appendix 2: CSU LMS Survey, Phase II

Perceptions of Faculty Satisfaction, Efficacy, and Feature Use of Campus Learning Management Systems

This report provides complete details of results for the 2013 survey of CSU faculty on satisfaction, effectiveness, and frequency of feature use of CSU campus Learning Management Systems (LMS). Results are reported for both aggregated data across all twenty-three CSU campuses and for comparison of responses between the two major learning management system platforms (i.e. Blackboard and Moodle). The survey was conducted in April and May of the 2013 spring semester and resulted in 4,062 responses from CSU faculty members. Of the total number of valid responses, 83% of respondents indicated they were current users of their campus LMS. The analysis below is based on survey data provided by those approximately 3,400 faculty users of a campus LMS. Survey methodology, demographics, and representativeness are fully reported in Appendix A attached to this report.

The Phase I LMS survey focused on campus use of the LMS for implementing innovative instructional practices and predictive data analysis. A summary finding of the Phase I survey was that:

“The survey of campuses reveals that while campuses may wish to enable advanced features such as predictive analytics and personalized learning using their LMSs, most do not yet have these tools or abilities. In the few cases where some CSU campuses have begun to implement more advanced functionality, most do not yet have outcome data regarding impact on student success.”

This Phase II LMS survey was rather targeted at directly surveying CSU faculty members to find out details on how specific LMS features are used for learning, as well as to discern faculty perceptions and satisfaction regarding use of the LMS. This survey thus asked questions of CSU faculty aimed at measuring the following five factors of CSU LMS utilization: 1) What is the frequency and length of use of the campus LMS?, 2) What is the level of faculty satisfaction with various aspects of their LMS use? 3) What is the perception of the general effectiveness of use of the LMS for student learning and engagement? 4) What is the frequency of use of a comprehensive set of LMS features? and 5) What is the perceived effectiveness of various LMS features for learning?

Frequency and Length of Use of the Campus LMS

Faculty respondents to the Phase II LMS survey tended to be more experienced faculty who had used their campus learning management system for three years or more. In fact, more than half of respondents (53%) had used the LMS four or more years. This is not surprising, in that about this same proportion of survey respondents indicated they were either Professors or Associate professors, who would be expected to typically have four or more years of experience on campus.

The average respondent logged into the LMS quite frequently, with the mean use being between a few times each week and daily. Nearly half of respondents say they log in ‘daily’ (47%), while another third (32%) log in several times each week. Only seven percent indicated they log in to their LMS less than weekly.
Satisfaction With the Campus LMS

As shown in the chart below, the level of satisfaction with campus LMS platforms is quite high, with two-thirds of faculty reporting being somewhat or very satisfied (68%) and only 12.5 percent being dissatisfied. Interestingly, faculty members report significantly lower student satisfaction with their campus LMS, compared with their own satisfaction (54% of students were reported as being satisfied). This finding is dissonant with Educause surveys of student satisfaction with their LMS, wherein students themselves report much higher rates of satisfaction. However, faculty members also report levels of student dissatisfaction even lower than the already very low rate of faculty dissatisfaction.

![Overall Faculty Perception of Satisfaction Chart]

As shown in the chart on the following page, CSU faculty members who are LMS users also report quite high levels of satisfaction with support, training, reliability, and features of their campus LMSes. Faculty members are most satisfied with the reliability of the LMS, with 66% satisfied and only 16% dissatisfied. Levels of satisfaction almost as high were reported for Support of Faculty for LMS Use (67% satisfied/11% dissatisfied) and Faculty LMS Training (63% satisfied versus 11% dissatisfied). Satisfaction with LMS features was also high (60% satisfied and 16% dissatisfied) although faculty satisfaction was lowest for this factor. Considerably more detail about faculty perceptions of LMS features later in this report will further illuminate this general satisfaction with features.
Faculty Perceptions of General Efficacy of the LMS

Faculty members across the CSU also have a positive perception of the value of their LMS for helping students “…feel more connected to me and my course materials”, with 59% of faculty LMS users agreeing with this statement of the value of the LMS and 16% disagreeing. A similar level of agreement was found with the statement “Our LMS helps me track student progress in my course” (56% agree/16% disagree). Somewhat lower, but still high, levels of agreement were found for the statement “Our LMS makes my students feel more engaged with my course.” Forty-two percent of CSU respondents agree with the value for engagement and 20% disagree. These survey findings about general efficacy of the LMS are summarized in the chart below:
Faculty users of a campus LMS were also asked for their opinion about the perceived efficacy of for both fostering student learning and defining course learning objectives. As shown in the chart on the following page, CSU faculty are less certain about this question, with one-third (33%) reporting agreement and 22% disagreeing. There is an almost equal split of opinion regarding the efficacy of the LMS for defining learning objectives, with one-third agreeing (34%) and one-third disagreeing (33%).

![Faculty of Perception of Student Value](chart)

**Frequency of Faculty LMS Feature Use**

The survey results clearly indicated that CSU faculty members most heavily use the two administrative LMS features that support document distribution and collection. That is, Document Posting and Submission of Assignments by Students were by far the two most used LMS features. Seventy-eight percent (78%) of faculty LMS users reported posting documents ‘very frequently’ and thirteen percent did so ‘somewhat frequently’ (13%), indicating that more than 90% CSU LMS users use these document handling features. Nearly as many (64% very frequently and 18% somewhat frequently) used the LMS to accept document submissions from students.

As shown in the next chart, the second highest use tier of LMS features (50-70% utilization) was also largely administrative in nature. That is, the most frequently used LMS features in this second use tier were the Class Roster, Gradebook, Email, and Announcements.
Two additional LMS features in this second tier do seem to relate more directly to fostering student learning (Assignments To Students and Website Links), but just more than half of our faculty used those learning support features. Note that for all of the LMS features in Tier 2, less than 25-30% of faculty respondents indicated that they ‘did not use’ those features.

A third tier of seven LMS features that are often used to directly manage course curriculum and learning objectives, were used substantially less frequently than the previous features, with frequent use by only 20% to 40% of CSU faculty LMS users. Also, it’s noteworthy that for each feature in tier 3, more than half of faculty members indicated they did not use most of these features at all. Tier 3 features are shown in the following bar chart:

On the other hand, ten to fifteen percent of faculty respondents indicated use of most of these LMS features at least infrequently.
Prevailing conventional wisdom about fostering student learning often assumes that use of newer social and interactive technologies will engage students and enhance learning the most. However, as indicated in the Tier 4 chart below, only 3% to 15% of CSU faculty members indicated that they use such newer technologies within their campus LMS.

In addition, most CSU faculty members (60-90%) say they don’t currently use these features at all. As with tier three LMS functions, the most frequently used interactive features in this category are legacy instructional features that have long been used by faculty members outside the LMS environment. Those two legacy LMS features are Surveys (15% frequent use) and Library Reserves (12%). The other LMS features in this final utilization tier are often cited as especially effective for fostering student interaction, but utilization of most of these LMS features by CSU faculty members fell well below 10% frequency of use.

**Perceived Effectiveness of LMS Features For Learning**

One of the primary intentions of this Phase II LMS survey was to begin to measure how CSU faculty members perceive the effectiveness of use of various learning management system features to facilitate student learning. The above data on frequency of LMS feature use tend to indicate that the most used LMS features primarily focus on support of course administration and management. Respondents to the Phase II survey indicated that they highly valued the use of these administrative features for fostering student learning as well, with efficacy rated at levels similar to utilization levels. That is, for example, if a feature was used by 70% of faculty members, about the same percentage indicated they thought that feature was valuable for fostering student learning. This same pattern of near parity of frequency of use with perceptions of learning efficacy held true for all the LMS features in Tiers 1 and 2. Respondents indicated that they highly value posting of class announcements, course assignments, website links, and library resources to enhance student learning, as well as communicating with students via email in the LMS. At the same time, these are among the LMS features most frequently used by CSU
faculty members. That is, the high rate of use of these features is matched by the faculty perception of the effectiveness of those features for learning.

As shown in the charts on the following two pages, this pattern begins to change for the LMS features in Tier 3 that seem to be more directly designed to engage and foster student learning. For those Tier 3 LMS features that are less administrative in nature, more faculty respondents indicate that they think these features are valuable for fostering student learning than indicated that they frequently use those same features. For example, while 25% indicate they frequently use the Plagiarism feature, 34% indicate they think this features assists learning. Similarly, while only 20% say they frequently use Links to Library Resources, 30% say these links facilitate student learning.

These differences in faculty responses to questions about the effectiveness of LMS features for learning versus frequency of use seem to indicate that our faculty members differentiate between LMS features that more passively support learning through course management and those features that may more directly support student learning and interaction. For all of the Tier 3 LMS features shown in the efficacy chart below, more faculty respondents indicate that the features are effective for learning than had indicated they frequently use those features:

<table>
<thead>
<tr>
<th>LMS Feature</th>
<th>Frequent Use Reported</th>
<th>Rated Important For Learning</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discussion Board/Forum</td>
<td>39%</td>
<td>45%</td>
<td>+6%</td>
</tr>
</tbody>
</table>
Of particular interest in the survey results was the consistent tendency for faculty LMS users to rate those least used features in Tier 4 as being significantly more important for student learning than current utilization levels would suggest. These LMS features seem inherently related to fostering student interactivity and learning (e.g. surveys, library reserves, wikis, group creation, etc.). As shown in the two charts on the following page, faculty survey respondents consistently indicate higher efficacy for these Tier 4 features than their current use would indicate.
Although utilization of the LMS features in Tier 4 is generally quite low, faculty perceptions of the efficacy of those features for student learning is consistently stronger. Also note that few faculty respondents indicated that the least used Tier 4 features were ineffective for learning (5% or less).

Although the overall percentage of faculty rating the efficacy of these less used interactive features was still low relative to other LMS features (and many respondents still had no opinion about these features) this differential between frequency of feature use and perceptiveness of the efficacy of these features for learning was especially stark for these least used interactive features. For examples, reported frequency of use for Blogs was reported at only 7%, while the perception of the importance of blogs for enhancing learning was reported at double that percentage (i.e. 14% thought blogs were important for student learning). A similar 2X difference in perceived effectiveness versus current utilization was reported for Group Creation By Students, Journals, Wikis, Lecture Capture, Web Conferencing, Glossary, and Instant Messaging. This seems to be an indication that many CSU faculty members may believe that these LMS features should be used more frequently than they are currently used to foster student learning.

**Comparisons Between Blackboard and Moodle**

In general, the pooled responses from faculty users of Blackboard were remarkable consistent with the pattern of the pooled responses for Moodle. General satisfaction levels and perceptions of LMS effectiveness were comparable, with no significant differences in response across most factors. However, T-Tests did indicate a significant statistical difference at 99% confidence levels between levels of faculty satisfaction with training and support for faculty use of campus LMSes. In both cases, faculty satisfaction fell in the Satisfied range, but satisfaction with training and support on Blackboard campuses was significantly higher.

Differences in the frequency of use of specific LMS features would be expected, since the feature sets of major LMS platforms, while similar, may vary in significant respects. T-Test comparisons of the frequency of LMS
feature use indicate that the frequency of use of the following LMS features was significantly higher (at the 99% level of confidence) for Blackboard for the following LMS features:

- Gradebook
- Announcements
- Email
- Web Conferencing
- Groups By Instructor
- Tests
- Plagiarism

On the other hand, the frequency of use of the following features was significantly higher for Moodle users:

- Wiki
- Calendar
- Document Posting
- Assignments To Students
- Chat
- Website Links
- Library Reserves
- Surveys
- Glossary

While the above differences in frequency of use are statistically significant at a high confidence level, the practical significance should not be exaggerated. In nearly all cases, the real difference in frequency of use was relatively small, with frequency of use typically varying by no more than 15-20%. The largest differences in frequency showed an advantage for Blackboard in frequency of use of the Gradebook, Announcements, Email, and Tests. Moodle showed a particular advantage for frequency of use of the Wiki, Calendar, Website Links and Chat.

Summary of Conclusions

Survey results clearly indicate that most CSU faculty members who use a campus LMS are satisfied with their general use and reliability, as well as with training and support available to faculty members. Although faculty members rate student satisfaction somewhat lower, a very small percentage think that students are dissatisfied with their LMS experience. CSU faculty members are also quite sanguine about the efficacy of the LMS for tracking progress of their students, helping students connect to faculty and course materials, and engage with the course. Although perceptions are not as positive regarding the effects of the LMS on learning outcomes, a significant minority still agree that the LMS helps both student learning and the definition of course learning objectives. Less than a quarter of survey respondents disagree with the statement that “Students...seem to learn more in my courses.” Only a third disagree that the statement that the LMS “helps me better define learning objectives.”
The most heavily used LMS features focus on administrative organization and management of instruction and instructional materials, but faculty members still perceive these administrative helps as important for fostering student learning. Significant minorities of CSU faculty (20%-40%) also make use of course management tools in the LMS that are more directly related to student learning such as quizzes, library resources, and plagiarism tools. The data on perceived efficacy of LMS features for student learning indicate that there may be recognition by many CSU faculty members that increased use of those LMS features that are currently least used will better foster student engagement and interactivity.

Appendix A
Survey II Methodology

The survey was conducted in late April and early May of 2013 by having provosts on each of the twenty-three CSU campuses send the same sixteen item survey form to all faculty members on each campus. On behalf of the Academic Technology Steering Committee, a request to solicit survey responses was sent to the provosts by the Vice Chancellor for Academic Affairs for the CSU (Ephraim Smith). Each provost crafted an individual message to faculty on their campus asked that the LMS survey be completed. A reminder to faculty was sent out by provosts halfway through the three-week response period.

The first survey question asked the respondents to identify their faculty status (i.e. Professor, Associate, Assistant, Instructor, Part-Time Instructor). The second question asked respondents to indicate whether they were a current user of their campus learning management system. Respondents who answered ‘No’ were asked to finish the survey by skipping the rest of the questions about LMS use and provide comments indicating why they did not use the LMS. Further survey responses from those who indicated they did not use the campus LMS but nevertheless filled out the survey questions about LMS use, were eliminated from the data analysis. Less than twenty percent of survey respondents (18%) indicated that they did not currently use their campus LMS, allowing use of 3,400 of just over 4,000 completed surveys across the 23 CSU campuses. Although this suggests that the average LMS utilization rate across the CSU is 82%, independent records from campuses indicate that the utilization rate actually varies in a range from only 50% to perhaps 75% of faculty members. Apparently, many faculty members who do not use the campus LMS chose to not fill out the survey at all.

The survey was distributed electronically by creating a separate instance of the same survey for each campus in the Select Survey tool. A separate survey link for an individual campus was then sent by the CSU Academic Affairs Office to the provost on each campus. Survey data from each individual campus was collected into a separate data pool for that campus, with those data available for separate analysis of LMS survey data for that campus. For the purpose of the overall CSU survey, the data from the twenty-three campuses was aggregated into a common pool, using the Statistical Package for the Social Sciences (SPSS). The pooled data was then also split into data pools for Blackboard users, Moodle users, in order to allow comparison of differences in responses between the two major LMS versions. Data from the few campuses using other LMS platforms was not adequate for statistical comparison. SPSS was also used to show frequencies for each of the sixteen survey questions, both in the aggregate and for comparison of Blackboard/Moodle users. SPSS was also used to show applicable cross-tabulation data, as well as to perform T-tests to ferret out significant differences based on comparisons of Blackboard and Moodle LMS users.
Representativeness

As noted above, the survey over-represents users of campus LMS platforms (as opposed to non-users), in that the percentage of respondents indicating they use the campus LMS was far higher than actual campus LMS utilization rates. However, since responses from those who do not use the LMS were filtered from the analysis, this skew likely did not affect the representativeness of the valid LMS users who responded.

The chart below shows that survey data was received from all twenty-three campuses. Although response rates varied based on the character of individual campuses, in general the number of responses was roughly proportional to comparative campus FTES. A valid number of responses to allow independent analysis of individual campus data was received for all but one of the 23 CSU campuses.

The proportion of survey respondents from each category of faculty status was very similar to the proportions of those faculty categories found across the CSU system. In fact, the percentages of respondents for Professors, Full-time Instructors, and Part-time Instructors was virtually identical to the percentages found across the CSU (i.e. 33%, 9% and 27% respectively). The percentage of respondents identifying themselves in the survey as Associate Professors was slightly lower than the actual percentage in the CSU (14% to 17%), while the percentage of Assistant Professors in the survey was slightly higher than actuality (17% to 15%). The 50% of survey respondents who say they have been using their campus LMS for five or more years is a close match for the 50% percentage of respondents who say they are more experienced associate and full professors and who would be expected to have been on campus at least five years.
The chart below shows the distribution of responses by version of LMS used by survey respondents:

This distribution seems broadly representative of use across the CSU, in that it shows that Blackboard and Moodle use predominates, with Blackboard used by the largest percentage of faculty. This matches the actual incidence of use of Blackboard and Moodle across the CSU, wherein eleven campuses that are somewhat larger on average use Blackboard and ten campuses which are on average slightly smaller use Moodle. Since Desire To Learn is used by only two CSU campuses and Canvas by only one, the percentages shown for their use also seems to be a close match for the actual utilization. One potential problem with the data is that 17% of respondents indicated “Other” in identifying the LMS they used. However, in the vast majority of campuses, these seemed to be faculty members on a Blackboard or Moodle campus who could not identify the actual name of their LMS and indicated ‘Other’ instead. Since many campuses use an alternate nickname for their LMS, this result is not surprising and is not likely to skew the data in a negative fashion.

Overall, the pool of respondents across the CSU seems to be quite representative of the total population of LMS users.