“Today, half of students quit college before earning a credential. Proponents [of data-mining] feel that making better use of data to inform decisions, known as ‘analytics,’ can help solve that problem while also improving teaching.”

Before students even enter the classroom, twenty-first century professors can assess student learning processes and change in-class motivation by utilizing data, often provided in real time, to influence classroom pedagogy, to tailor learning to each student’s experience and learning style.

Opponents to analytics reject the “‘Moneyball’” approach to teaching, wondering if students may feel manipulated in their educational experiences when they learn that statistical data about them has informed the pedagogy in the classroom, much as it does for us shoppers as we purchase items in online stores. They also worry that students may sacrifice creativity for Pavlovian responses to instructor/software-led prompts.

For example, one software, Learning Catalytics (Mazur, Harvard), used prevalently in current college classrooms, records (with the software installed on their smart phones or computers) the decisions students make as they answer the professor’s questions in class — questions, for example, based on the previous night’s lecture, also provided on their computers. Savvy professors, who want to enliven their class discussions on the lecture, then use the wisdom of those who answered questions correctly (and who are, therefore, more likely to understand the concept being taught), by assigning these students to teach others in the class who did not. With the software, the professor assesses student answers to his/her questions in real time.

After peer-to-peer instruction, directed by the software to each student, the professor again questions for concept understanding, assessing by percentage, those who now got the answers right. It is as if each student within the classroom has received individual private instruction with real time assessment. Some claim the results are very effective.

Continued on page 3
One approach for improving student engagement, satisfaction, and learning involves the integration of emerging (Web 2.0) technologies into blended and online courses. For example:

- **Voki** ([www.Voki.com](http://www.Voki.com)) is a fun way to promote student engagement when used for opening announcements and short instructions. Each week, students easily access the Voki which highlights the main points while adding interest.

- **Quizlet** ([www.quizlet.com](http://www.quizlet.com)) is a vocabulary study site. It is set up to practice new terms and words in a flashcard type style. There are currently two million pre-loaded flashcard sets (on a huge range of topics) to choose from, or you can create your own. You can have them just for your own private use, or share them with others, including groups. It is possible to upload audio as well.

- **Prezi** ([http://prezi.com/index/](http://prezi.com/index/)) offers a free version specifically for teachers and students. This is a useful presentation tool that allows one to zoom in and out, allowing students to see the big picture, as well as the details.

- **Adobe Connect** is a useful tool for both larger virtual classrooms as well as for smaller rooms used for discussion and project work. While it does not have the capacities of some name brand platforms such as WebEx or GoToMeeting, it requires almost no downloads, which makes it immediately very usable.

- **Poll Everywhere** ([http://www.poll everywhere.com](http://www.poll everywhere.com)) is a Student Response System (SRS) or polling system that can be used at no charge for up to thirty students. You must only create an account to begin. Students can respond to a poll via cellphone text message, twitter, or through a web page accessible via a mobile device or a standard desktop browser. The results from Poll Everywhere (PE) can be displayed in real time on a web page or directly in a PowerPoint Presentation on a computer with a live internet connection. PE results can also be imported into Blackboard and linked to individual student IDs if desired.

- **Cacoo** ([www.cacoo.com](http://www.cacoo.com)) not only lets you make and embed flowcharts, and so on, but also allows multiple users to work on a project. It is a useful flowchart/story board tool for an online environment. Students may chart their progress on projects, show interrelationships between concepts, and brainstorm solutions. For a video introduction, go to: [http://www.youtube.com/watch?v=19FAS4IT2U](http://www.youtube.com/watch?v=19FAS4IT2U)

- **Bubbl** ([www.Bubbl.US](http://www.Bubbl.US)) is another good tool for brainstorming and mindmapping, but has fewer features than Cacoo. These web-based tools are great in that students don’t have to install software.

- **Aviary** ([www.aviary.com](http://www.aviary.com)) is another suite of online tools that can be used for a variety of tasks, including image editor, screen capture, vector editor, effects editor, music creator, audio editor, et.al. all without installing any software.

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**Online Course Evaluations Summer 2012 Pilot**

The Office of Academic Assessment is working with CTEL to pilot-test an online course evaluation. This summer, USM will pilot Campus Labs Course Evaluations (Ce), an online tool for the current green course evaluation form. Ce will transform time-consuming paper-based tasks into an efficient online process. We believe this tool will reduce costs, provide more instruction time, increase response rates, and increase the quality of feedback. Reports will be available as soon as the evaluation window closes and/or when grades are due. Faculty can login and view their own reports, which will also be e-mailed automatically.

Of particular note, all kinds of classes will use the same tool, so your online/blended classes will not have a separate process to follow! Students will receive automatic e-mails about the evaluation tool so you do not have to spend classroom time handing it out. (You can also give them time to do it in class, if they have a mobile device.) The system can also be used for any other non-copyrighted evaluation forms at USM. The SIRS II form will still be distributed on paper for those face-to-face classes that continue to use it. Questions? Contact Susan King, Academic Assessment, on the Portland Campus.
Is Your Course a “Hurdle” or a “Launching Pad”?

Is your entry-level STEM course still a “weed-out” class, offering hurdles such as a traditional lecture setting with minimal interaction”?

Do you still grade on a curve, which research experts now attribute to encouraging all but the best prepared to leave science, if not drop out of college? If so, you are missing out on the latest research-proven best-practice: Interactive teaching.

Engagement and learning doubled in objective assessments, from 41% to 74%, and attendance improved by 20% in a large undergraduate physics class in British Columbia using interactive teaching, as research teams studied them. With 270 students in this class and with a number of classes studied at Johns Hopkins, “students received no formal lecturing, but rather were guided through activities proven by educational research to enhance learning, such as paired and small-group discussion, active learning tasks, which included “clickers” for feedback to in-class questions, pre-class reading assignments and quizzes... All activities required more work from the students,” but they reported that they felt they had learned more and were more vested in their learning.

When students were asked what they needed from a traditional STEM lecture course, they said they preferred personal interaction with the professor and the other students, and more collaboration.

What is the latest innovation currently being devised for college science courses? Providing certain lab courses online with assessment completed in class: yes, the web has made it possible.

Read more than this synopsis at:


“Technology can become the handmaiden of effective assessment when rightly used.”

What’s Innovative at USM?

In the Fall of 2012, USM’s new nationally recognized core curriculum will continue to innovate. General education at USM is dynamic for a number of reasons, including that it is vertical and thematic; students approach single issues and problems from multiple academic perspectives. For first year students, these academic and intellectual connections will be built through links classes on a variety of themes, including education, food, the outdoors, and gender.

These linked classes will be the basis of learning communities, some rooted in the residence halls and others in co-curricular activities and service learning.

Adam-Max Tuchinsky and Susan McWilliams, January, 2012

Adam-Max Tuchinsky, PhD, is the Associate Dean of the College of Arts, Humanities, and Social Sciences at USM.

Susan McWilliams, PhD, is Assistant Provost, Undergraduate Programs and Core Curriculum at USM

Assessing Learning Outcomes

Whether instructors collect direct evidence of learning through embedded assessments, performances, portfolios, pre-and post-testing, or other methods, at some point faculty come together to interpret the learning outcomes that they have observed. Then the assessment process takes on meaning.

Data collecting is really a means to an end: to stimulate the conversation among colleagues, so that the results might provide factual information which can be used to improve ongoing class and/or program development. Want to make those learning-outcomes conversations productive? Here are some tips:

Focus on specific outcomes and drill down into the data:
- What are you pleased with?
- What concerns do you have?
- What do criteria-level data suggest about your concerns?
- What do you see when you review examples of student work?
- What do faculty think, based on their own experiences with students?

What action plans, based on the conversation and the data, will you develop? How will your course evolve and improve?

Educational Data-Mining to Assess....

(continued from page 1)

“The power [in the software] lies not in the technology, but rather in the pedagogy. It’s the concept of divorcing the class time from teacher-delivered explanation, and of using students in the class as...tutors, that is the powerful learning enhancer... But the underlying pedagogy can be used without any technology.”

To read more on analytics, data “clickstreams,” color-coded student success predictive algorithms, and other innovative methods, see:


College at Long Beach, College of Education, California
The Office of Academic Assessment has completed the following tracking and assessment studies for USM in the past year. If you are interested in looking at the full reports, or reviewing previous assessment newsletters, please see our website at: www.usm.maine.edu/assessment/assessment (USM Assessment Reports and Studies).

- Academic Alert Program Assessment
- Early Year Experience (EYE) Course Assessment studies
- ENG 104-100 Assessment Fact Books
- FRS 180 Course Assessment
- Graduating Senior Survey Results
- Math Placement Exam Results and Follow-up studies
- National Survey of Student Engagement (NSSE) Reports

The Office of Academic Assessment assists the Office of Institutional Research in conducting assessment studies and processing data requests.

Any academic department that has a data request or wants assistance with a course or program assessment, please go to the Office of Institutional Research and Assessment website: www.usm.maine.edu/oira

Click on “Request for Information” to complete a data request.

Our Mission
The Office of Academic Assessment supports institutional effectiveness initiatives, and assists university departments with continuous program and course improvements by offering education and consultation regarding the assessment of student learning and development.

Who We Are
Susan King, Director
Aimee Backiel, Project Associate (on leave)
Kristen Beahm, Testing Coordinator
Mariah Cunningham, Graduate Assistant
MC (Denise) Jones, Data Processing Coordinator
Kate Mitchell, Staff Associate in Assessment

Testing: 240 Luther Bonney Hall
Academic Assessment: 253 Luther Bonney Hall

View Our New Fact Book
To review our Fact Book and learn about USM’s recent retention and enrollment counts, go to www.usm.maine.edu/oira, and click on “Fact Book.”

NSSE-FSSE 2012 Surveys
All first year and senior students will receive the NSSE 2012 (National Survey of Student Engagement) online survey. The survey consists of a number of questions about their engagement at USM during the past year. E-mails will be distributed asking for their responses, beginning in mid-February through late March. Any instructors teaching freshmen or seniors may want to encourage students to check their school e-mail for the NSSE survey. A high response rate from students will help academic programs obtain useful information about how USM can improve the educational experience.

Also, all faculty members teaching this academic year will receive the FSSE 2012 (Faculty Survey of Student Engagement) online survey. This survey parallels the NSSE survey and asks for feedback from faculty about how they view the student engagement at USM. The survey will be distributed by e-mail beginning in March. Responses from the faculty would help academic departments examine the faculty perceptions.