

Choosing & Using Assessment Management Systems: What Librarians Need to Know

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The 2010 *Value of Academic Libraries* report highlights the need for libraries to assess their information literacy instructional activities and programs and to demonstrate how their instructional activities contribute to student learning as well as the wider educational and research missions of their parent institutions. As a result, many academic libraries now face the challenge of assessing student learning and determining the best ways to collect, manage, and report assessment data. In order to support these efforts, the *Value* report highlights the potential usefulness of assessment management systems, or AMSs.¹

The aim of this paper is to inform librarians about various features and uses of AMSs in order to help them participate in conversations about the adoption and use of AMSs at their own institutions. Previous work on this topic within the LIS field has identified a number of significant benefits that libraries can reap in using an institution-wide AMS.² This paper endeavors to forward this conversation by providing a more detailed discussion of specific features of a number of commercial AMSs, and by offering examples of how these systems are being used by academic librarians. This paper will provide librarians with key selection criteria for choosing an AMS and will explore the benefits and challenges faced by libraries and their institutions in using AMSs. In so doing, the authors hope that librarians will have a better understanding of how to select and use an AMS for their own needs.

I. Assessment Management Systems: Selection Criteria and Features

An AMS is essentially an “electronic system or structure”³ that enables institutions to collect, manage, and report data related to student learning outcomes assessment. AMSs help educators, including librarians, to list their outcomes, record and maintain data on each outcome, facilitate connections to similar outcomes throughout an institution, and generate reports.⁴ AMSs allow higher education institutions to link outcomes vertically (within units) and horizontally (across divisions, colleges, departments, programs, and libraries).⁵

Several proprietary assessment management systems exist, including Blackboard Learn™’s assessment module, Campus Labs, eLumen, LiveText, rGrade™, Taskstream, Tk20, TracDat/Webfolio, Waypoint Outcomes®, and WEAVEonline. In addition to these commercial systems, some institutions have developed homegrown systems to manage assessment data.

While each AMS has a slightly different set of unique capabilities, all manage, maintain, and report assessment data.⁶ AMSs are “typically organized around a tree structure based first on organizational units (programs, departments, schools, colleges, or the entire institution), then on the goals and/or outcomes of those units. In an AMS, goals and outcomes can cover learning as well as other strategic areas. Permission setting allows different AMS users to access distinct system areas, to reveal either data for large-scale results across programs or to protect information entered by individuals”.⁷

Selecting the best AMS for a particular institution depends on a number of factors. It is important that institutions are clear about what they need the system to be able to do, so they can identify commercial products or consider developing a homegrown system that will most closely match these needs.⁸ R. Stephen RiCharde, in his discussion of data management tools, identifies a number of key considerations for the selection of an AMS. These include:

- cost;
- integration (i.e., how well (and how extensively) the AMS will integrate with other institutional data management tools and incorporate existing data sources);

- disaggregation (i.e., “the level at which one wishes to group data ranging from institutional level down to the school or college, unit, or individual student level”);⁹
- ease of use;
- interactivity (i.e., “how many faculty and staff will use the data management system, and for what purposes?”).¹⁰

In addition to RiCharde’s selection criteria, a review of current AMSs reveals a number of characteristics that can serve as determining factors in AMS selection decisions. They fall into eight categories: 1) assessment ability, 2) outcomes alignment, 3) repository capacity, 4) data management, 5) system integration, 6) support services, 7) reporting, and 8) action-taking support. Each characteristic is made up of a number of facets. In the following paragraphs, each characteristic and its facets are described. These characteristics and facets are also included in the analysis of common AMSs provided in Appendix A.

Assessment Ability

The central characteristic of an AMS is the ability to support assessment. One facet of this characteristic is the type of assessment supported by an AMS. For example, some AMSs focus on supporting summative assessments; others enable tracking of formative assessments as well. In addition, the assessment abilities supported by an AMS may reside at a unit-level; alternatively, some AMSs may enable assessments at the individual student level. If an AMS includes the ability to track student-level data, it may also integrate course-level grading practices. Indeed, some AMSs also offer a system for collecting student-provided course feedback or integrate with existing student course evaluation systems. Furthermore, a growing number of AMSs support the documentation, development, or application of specific assessment approaches, most commonly rubrics that are applied to student-created products. As an additional facet, many AMSs allow assessments to be linked to educational and professional standards, so that assessment information from multiple units can be “rolled up” for reporting and action-taking purposes.

Outcomes Alignment

An important characteristic of any AMS is the ability to connect outcomes across and within institutional units. First, most AMSs support linkages among outcomes used within individual institutional departments, programs, divisions, schools, or colleges. This characteristic enables units to examine the articulation of outcomes throughout their structures. One common representation of this kind of vertical alignment is a curriculum map. Curriculum maps can be supported by AMS information; some AMSs even generate curriculum maps. Second, many AMSs allow outcomes to be linked across institutional departments, programs, divisions, schools, or colleges. Such horizontal alignment provides an overarching view of an institution, revealing where disparate units are working toward similar or complementary learning outcomes. Furthermore, this facet can empower connections among other kinds of outcomes that are common across many institutional units: strategic directions, research priorities, grant seeking aims, development targets, admissions goals, student affairs objectives, library outcomes, etc.

Repository Capacity

Many AMSs provide a repository in which to store assessment evidence, data, and documents. This characteristic has several facets. First, the repository capacity of each AMS is different. For example, AMSs can hold differing amounts of information. Some can import information from existing sources. Some can store a variety of file formats; others are limited in this ability. Second, AMSs maintain assessment evidence and documentation over a period of time. This facet ensures that assessment information is available in the future so that institutions can build an assessment memory over time. Third, some AMSs support the submission of student-created products, either via a learning management system or through some other route, in effect replacing or “backing up” other student document repository systems. Furthermore, an AMS may support

faculty assessment of student-created products within the AMS; this process may be integrated with learning management systems or supported independently within the AMS itself. Finally, AMSs can often store evidence, data, and documents related to faculty productivity in areas of research, teaching, and service. Some even support the development of faculty CVs, tenure and promotion documents, teaching portfolios, and the like.

Data Management

Another important characteristic of AMSs is the management of assessment data. Most AMSs store assessment data, usually at an individualized student-level or disaggregated unit-level. When individual student-level data is collected, AMSs can maintain a record of assessment progress, support individualized interventions strategies to ensure student success, and facilitate investigations of the degree to which institutional practices impact individual students. When disaggregated unit-level data is available, AMS can provide information crucial for making improvements to departments, programs, schools, colleges, etc. A second significant facet of this characteristic is customization. Some AMSs allow institutions to tailor the structure or naming conventions of data management functions to campus norms, and this feature can aid in the integration of the AMS into institutional culture. As a final facet of data management, many AMSs facilitate the statistical analysis of data, either through analysis capabilities within the AMS or via external software such as Excel or SPSS.

System Integration

A fourth characteristic of AMSs is the ability to integrate with other institutional processes and systems. For example, many AMSs facilitate linkages between assessment and institutional processes like strategic planning and budgetary decision-making. Furthermore, some AMSs can link into enterprise-level student information systems, learning management systems, and student portfolios systems. It's worth noting that the

ability for individual AMS users to integrate with these institutional processes and systems is usually dependent on permissions set by AMS administrators. These permissions dictate who can access content, perform assessment tasks, and view assessment results and reports.

Support Services

AMSs provide a variety of support services, and these services deserve consideration as a separate selection characteristic. Some AMSs host and maintain their data on proprietary systems, while others offer an option for institutions to store and manage their own data. Nearly all AMS vendors offer training support, either in-person or online. The degree of customer service support varies. Some AMSs provide online help guides, others offer phone support during business hours, and still others may provide 24/7 support. In cases where institutions need or desire their AMSs to provide more in-depth consulting support, more investigation of vendor-provided options is merited. Some AMSs offer detailed consulting services; some vendors offer this service free of charge, others don't.

Reporting

A common characteristic of AMSs is the creation of assessment reports. In many cases, these reports serve as tools for communicating with stakeholders within an institution. Most AMSs allow different stakeholders to view, edit, and share these reports based on a set of permissions standards developed by the institution. The reports themselves vary in terms of included components and organizational structure, and some AMSs allow reports to be customized or automated. In general, report content can be augmented with links back to institutional strategic documents, unit outcomes, educational or professional standards, etc. Internal AMS-generated reports are typically used for strategic planning, annual reporting, and program review initiatives. Many AMSs also support the generation of reports suitable for external stakeholders including

accreditors. In fact, some AMSs integrate the reporting requirements and templates of specific educational and professional accreditation agencies.

Action-Taking Support

One of the most powerful characteristics of any AMS is its ability to support “closing the loop”. An AMS can support decision-making and action-taking in a number of ways. First, an AMS may aggregate or collate evidence, data, or documents to make assessment information more easily understood. Second, an AMS may create reports or other representations of assessment data that can be tailored to a variety of institutional or external stakeholders. Third, some AMSs can generate assessment plans according to pre-set templates or develop “action lists” or “status reports” that can be used to augment existing assessment plans.

These categories, taken together with RiCharde’s selection criteria, supply a useful initial list of eleven AMS attributes for analyzing AMSs. They include:

- cost,¹¹
- ease of use,¹²
- interactivity,¹³
- assessment ability,
- outcomes alignment,
- repository capacity,
- data management,
- system integration,
- support services,
- internal reporting,
- accreditation reporting, and
- action-taking support.

II. Benefits and Challenges in the Adoption and Use of an Assessment Management System

In order to explore the benefits and challenges associated with AMSs, the authors gathered information about libraries currently using an AMS via emails sent out to ACRL's Information Literacy Instruction (ILI-L) discussion list and the ARL Assessment (ARL-ASSESS) listserv®. In addition, the authors communicated personally with librarians they knew were using AMSs at their institutions. Finally, an email was sent to the Assessment Professionals in Higher Education (ASSESS) listserv®, which is not limited to the library and information science community; rather this listserv® is used by institutional assessment professionals.

Responses to these emails indicate that many academic libraries are using AMSs. These institutions include:

- Virginia Tech - WEAVEonline;¹⁴
- Nazareth College - TracDat;¹⁵
- Keene State College – TracDat;¹⁶
- Cumberland County College - TracDat;¹⁷
- Viterbo University - TracDat;¹⁸
- Florida Atlantic University - homegrown system (Parrish, Schyndel & Erdman 2009);¹⁹
- Western Washington University - homegrown system;²⁰
- Midwestern State University - WEAVEonline;²¹
- Radford University - WEAVEonline and LibPASS.²²

AMS Benefits

At the institutional level, AMSs can make assessment “easier, faster, less intrusive, more useful, and cost effective”.²³ An AMS offers librarians powerful ways to manage their assessment data, and librarians who use an AMS can benefit from features common to many of the systems currently available, including the

“ability to enter time-specific outcomes, enter data on progress/completion, flag for additional follow-up, and attach evidence of meeting/not meeting assessment outcomes”.²⁴ Tracking the assessment of student learning outcomes enables librarians to make improvements to their instruction, both at the individual class level and across an instruction program. An AMS can make more visible the assessments that occur at the individual librarian and class level, thereby facilitating the sharing of assessment data for improvement across the library and institution.²⁵ Peter Smith from Western Washington University notes that tracking the learning outcomes of a core information literacy course using a homegrown AMS system helped to “spark conversations [among librarians] about the different approaches and content each one of uses in our library instruction classes”.²⁶ In addition, many AMSs support the development and use of rubrics, which can help libraries implement a more sustainable approach to assessment. The ability to manage and report data easily, and generate action plans based on assessment results, is also a benefit for libraries.²⁷

Perhaps the key benefit for libraries using an AMS is the opportunity to align library outcomes and assessment data “horizontally” to other units, institutional outcomes, and student data, such as course grades and GPA. By making these linkages, libraries can demonstrate how their instructional activities contribute to the mission of their institution and overall student success.²⁸ This institution-wide approach to assessment, in which outcomes are mapped across campus units and programs, recognizes “the reality that students do not gain knowledge, skills, or abilities from just one course, just in their major, or just in the classroom; rather [AMSs] enable institutions to capture student learning through all their interactions with institutional units”.²⁹ In linking library outcomes to those of their institution, librarians also raise the visibility of their instructional and assessment efforts. According to Gretel Stock-Kupperman, Director of the Todd Wehr Memorial Library at Viterbo University in La Crosse, WI, reporting their assessment results in TracDat means that their assessment results “are visible right along with the rest of the institution’s – it provides visibility into our assessment actions, and includes us in the campus conversation”.³⁰ Using an AMS for strategic planning efforts also enables libraries to link their planning process to that of their parent institutions more effectively: “TracDat allows us to categorize our activities by the intuitional strategic plan headings, which helps our visibility”.³¹

Adopting these systems can also “prompt and inform conversations about teaching and learning”.³²

Viterbo University Library’s experience illustrates this potential benefit: “When we started using TracDat, we worked with the assessment officer on campus to discuss what the assessment practices were, and how we could implement authentic assessment as opposed to just data reporting. So, TracDat has helped us shape our questions and data tracking, as opposed to getting in our way.... TracDat really was the tool that helped us record assessment data; it was the conversation with folks on campus about authentic assessment that drove our changes in reporting and assessment”.³³

AMS Challenges

While the benefits of an assessment management system can be substantial, there are a number of challenges facing the implementation and use of these systems. Adoption of an AMS by faculty and librarians is not assured. McCann found, in her case study of the adoption of one AMS by faculty on one campus, that many faculty did not believe the campus-adopted AMS had a “relative advantage over previous practices,” did not believe that it was “compatible with their work,” did not believe it could be “tried out prior to using it,” did not believe that the AMS “was visible on campus”, and did not believe using it “was a status symbol on campus”. Faculty who *did* adopt the system perceived it as less voluntary and had been tasked with using it.³⁴

A second challenge to the use of an AMS is cost, both financial and staff-related. In addition to costs associated with an AMS, libraries are often tied to decisions made at the institutional level, both in terms of whether to use an AMS and which system to use. Ideally, AMSs are used by an entire institution, which can prove challenging for libraries whose institutions have not yet adopted (or are not prepared to adopt) a system. Even if an institution does have an AMS, librarians and other units/individuals on campus may not be granted access to the system. In cases where there is not an institution-wide system available, libraries may wish to consider using an open source tools. One such tool is WASSAIL, developed by Augustana Library at the University of Alberta. Initially developed to “manage question and response data from the Augustana Library's

library instruction sessions, pre- and post-tests from credit-bearing information literacy (IL) courses, and user surveys,” WASSAIL “has now expanded beyond its original function and is being used to manage question and response data from a variety of settings. Its most powerful feature is the ability to generate sophisticated customized reports”.³⁵ At the University of Washington Bothell, librarians plan to use WASSAIL to input rubric assessment scores, which will enable them to track outcomes assessment across groups of students and courses, and generate reports on student learning outcomes. The “tagging” feature of WASSAIL also enables libraries to add tags that correspond to various learning outcomes (including ACRL, library, and institutional outcomes), and therefore provides librarians with the ability to map their outcomes and assessment to wider program or institutional goals.

When weighing the benefits and challenges of an AMS, it is worth remembering that AMSs are not “magic bullets”.³⁶ Institutions must still do the work of “identifying course and program goals, making judgments about student progress, and using information to improve learning”.³⁷ Librarians need to develop student learning outcomes and plans for assessing those outcomes in order to take full advantage of the benefits on an AMS.

III. Conclusion

This paper seeks to arm librarians with a better understanding of key features of assessment management systems and explore the benefits and challenges of using AMSs. In providing this information, the authors hope to empower librarians to participate in the selection and use of an AMS at their own institutions. As a first step, the authors recommend that librarians begin by investigating which system (if any) their institution is using and explore any institution-wide discussions about this topic. Librarians can also develop student learning assessment plans, outcomes, and rubrics, so they are well prepared to start using an AMS when the opportunity arises. Consideration should also be given to the ways in which the library’s learning outcomes and strategic plans can be productively linked to those of other campus units, programs, and the wider

institution. For those institutions not currently using an AMS, librarians can explore homegrown and library-specific systems to assist in the recording and reporting of assessment information. In the words of one librarian, the best advice for librarians wishing to get involved in their institution's AMS is "Use it! Start small and build on it".³⁸

There is a great deal more to learn about AMSs and the ways in which librarians may leverage them for assessment and planning. Based on the preliminary research undertaken for this paper, many libraries are in the initial stages of exploring the best ways to collect, manage, and report on assessment data using AMSs. Further research is needed to determine how librarians are currently using AMSs and what AMS best practices may emerge. By learning more about AMSs, librarians will be better positioned to participate fully in campus-wide conversations about how such systems can support assessment, teaching, and learning at their institutions.

Appendix A

AMS Characteristics	Facets	Blackboard Learn™	Campus Labs	eLumen	LiveText	rGrade™	Taskstream	Tk20	TracDat/iWebfolio	Waypoint Outcomes	WEAVEonline
Assessment Ability	Supports summative assessments	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Supports formative assessments	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Supports course-level grading	Y	Y	Y	Y	Y	Y	Y	Y	Y	N
	Supports student evaluations of courses, faculty, etc.	Y	Y	N	Y	Y	Y	Y	Y	Y	Y
	Supports building of rubrics	Y	Y	Y	Y	Y	Y	Y	Y	Y	N
	Supports application of rubrics	Y	Y	Y	Y	Y	Y	Y	Y	Y	N
	Links standards to outcomes, rubrics, etc.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Outcomes Alignment	Links/aligns outcomes used within individual units, departments, programs, divisions, etc.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Generates curriculum maps	Y	*	Y	Y	Y	Y	Y	Y	N	Y
	Links/aligns outcomes used across different units, departments, programs, divisions, etc.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Links/aligns outcomes other than learning outcome (strategic, research, grant, development, admissions, student affairs, library, etc.)	Y	Y	N	Y	Y	Y	Y	Y	Y	Y
Repository Capacity	Serves as a repository for assessment evidence/data	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Stores assessment documentation	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Supports submission of student-created products/projects	Y	Y	Y	Y	Y	Y	Y	Y	Y	N
	Supports assessment of student-created products/projects	Y	Y	Y	Y	Y	Y	Y	Y	Y	N
	Integrates new and existing evidence/data sources	Y	Y	Y	Y	Y	Y	Y	Y	N	Y
	Includes faculty productivity evidence/data	Y	Y	N	Y	Y	Y	Y	Y	Y	Y
Data Management	Segments evidence/data for detailed analysis	Y	*	Y	Y	Y	Y	Y	Y	Y	Y
	Incorporates statistical analysis of evidence/data	Y	*	Y	Y	Y	Y	Y	Y	Y	N
	Supports customization of terminology/naming conventions to match institutional culture/procedures	Y	*	N	Y	Y	Y	Y	Y	Y	Y
	Maintains a record of assessment	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

AMS Characteristics	Facets	Blackboard Learn™	Campus Labs	eLumen	LiveText	rGrade™	Taskstream	Tk20	TracDat/iWebfolio	Waypoint Outcomes	WEAVEonline
	progress										
	Captures student-level evidence/data	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Collects/tracks program-level assessment evidence/data	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
System Integration	Integrates budgetary systems into assessment processes	Y	Y	N	Y	*	Y	Y	Y	Y	Y
	Integrates strategic planning into assessment processes	Y	Y	N	Y	*	Y	Y	Y	Y	Y
	Integrates evidence/data from student information systems	Y	Y	Y	Y	Y	Y	Y	Y	N	Y
	Integrates evidence/data from learning management systems	Y	Y	N	Y	Y	Y	Y	Y	Y	Y
	Supports student-level portfolios	Y	*	N	Y	Y	Y	Y	Y	Y	N
	Supports institutional (faculty, staff) assessment of student-level portfolios	Y	*	Y	Y	Y	Y	Y	Y	Y	N
	Supports assignment of assessment tasks/responsibilities/duties	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Allows for role-based or unit-based (department, school, etc.) permissions to be set for individual users	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Support Services	Provides hosting service	Y	Y	Y	Y	Y	Y	Y	Y	N	Y
	Provides institutional-hosting option	Y	N	Y	N	Y	N	Y	Y	Y	N
	Provides consulting/training services	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Provides customer service support	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Internal Reporting	Generates assessment reports suitable for internal purposes (e.g., strategic planning, program review, annual reports)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Enables participation of staff, faculty, and administrators institution wide	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Documents progress toward institutional level priorities, goals, missions, outcomes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Accreditation Reporting	Supports specific accreditation organization's requirements (e.g., CAPE, SACS, etc.)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Includes accreditation and program review templates	Y	Y	Y	Y	*	Y	Y	Y	N	N

AMS Characteristics	Facets	Blackboard Learn™	Campus Labs	eLumen	LiveText	rGrade™	Taskstream	Tk20	TracDat/iWebfolio	Waypoint Outcomes	WEAVEonline
	Generates assessment reports suitable for external purposes (e.g., program or institutional accreditation documents)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Action Taking	Supports “closing the loop” processes (decision-making, action-taking)	Y	*	Y	Y	Y	Y	Y	Y	Y	Y
	Supports reporting of assessment evidence/data and results to stakeholders	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Generates assessment plans	Y	Y	Y	N	*	Y	Y	Y	N	Y
	Generates “action” plans, “to do” lists, and/or status reports	Y	*	Y	Y	*	Y	Y	Y	N	Y

* = No Vendor Response as of March 28, 2013

Note: This data is based on an analysis of AMS email and phone communications with vendor representatives. It is current as of March 28, 2013. However, it should be noted that these products change quickly. Librarians should confirm current AMS characteristics with any vendors with whom they enter into negotiations.

Blackboard Learn™ <http://www.blackboard.com/platforms/learn/overview.aspx>

Campus Labs <http://www.campuslabs.com/>

eLumen <http://elumen.info/>

LiveText <https://www.livetext.com/>

rGrade™ <http://www.rgrade.com/rgrade/>

Taskstream <https://www1.taskstream.com/>

Tk20 <http://www.tk20.com/>

TracDat/iWebfolio <http://nuventive.com/assessment/>

Waypoint Outcomes® <http://www.waypointoutcomes.com/>

WEAVEonline <http://www.weaveonline.com/>

Endnotes

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