

Learning Analytics Features In SAKAI

1. Contributors

Eamonn Fitzgerald is an Educational Technologist and Education Systems Manager with the I.T. Division at the University of Limerick. He is focused on developing pedagogically aware services to support blended and online learning and to enhance engagement in the traditional classroom environment through the use of technology.

Eamonn has extensive experience in the management and deployment of software solutions in an enterprise environment ensuring robust 24/7 delivery of online services. He is interested in providing/facilitating environments that maximise learning outcomes through the effective leverage of technology tools.

2. Introduction

This resource presents a high-level overview of the learning features available in SAKAI. It is intended as a brief and concise overview of the features and tools in SAKAI that contribute to learning analytics data gathering and presentation. There is also a reference to future developments and plans.

3. Course site Data Logging in SAKAI

Module data is well defined and reported and is generally available to site instructors. This is achieved through the Statistics Tool. From within the Statistics tool data reports can be generated on:

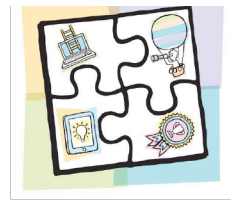
- Visits - All user interactions with a course site.
- Activity - Interactions with Course toolsTools
- Resources – Curriculum material uploaded by course leader

Summary reports are presented graphically. More detailed text reports can be customised for specific analysis. Default text reports are available on:

- Show activity in site, with totals per event.
- Show activity in site, with totals per event.
- Show top 10 users with less activity in site.
- Show top 10 most accessed files.
- Show top 10 users with most activity in site.
- Show top 10 users who have visited the site the most.
- Show users with no activity in site.
- Show users who have never visited the site.

https://longsight.screenstepslive.com/s/sakai_help/m/26029/c/91777

Reporting is achieved via a print friendly output or via export.



4. Instance wide Data Logging in SAKAI

University wide reports are less well catered for from within the application. Admin views give some system wide reports similar to the Statistics tool. Default server-wide reports are available under the following headings:

- Monthly Report
- Weekly Report
- Daily Report
- Regular Users
- Hourly Usage
- Top 20 Activities
- Tool Analysis

http://longsight.screenstepslive.com/s/sakai_help/m/29674/l/287528-what-is-sitestats-admin

5. The Delegated Access Tool

This tool can be used to delegate access to special interest users such as Student Success Officers and Faculty or Department Student Academic Support Units. Access may be delegated by faculty, department or course.

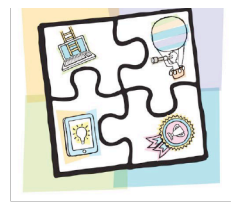
The delegated access tool has five primary functions:

- Provide a friendly interface for administrators to delegated user access to specific sites or department levels.
- Provide a friendly interface for administrators to delegated shopping period admin privileges for users at the site or departments level.
- Provide a friendly interface for delegated users to view, search and access their delegated sites.
- Provide a friendly interface for delegated shopping period admins to adjust shopping period data within their scope of privileges.
- Allow a user, that has been granted access to sites, to use the direct URL for the site to access it.

6. Targeted Messaging in SAKAI.

In recent student consultations, students cited email overload as a top 5 issue in their interactions with the university. Sakai allows for targeted messaging based on logged in user type. Presently the following categories are configured.

- Staff
- Taught Undergraduate Students
- Taught Postgraduate Students



- Research Postgraduate Student

Rich text messages can be configured for each of these groups in the logged in homepage.

7. Evaluation Gathering in SAKAI

Evaluations, questionnaires and surveys can be achieved through the Evaluation Systems Tool. It's a flexible tool with the following options and can be course bound or accessible to/from the entire student cohort.

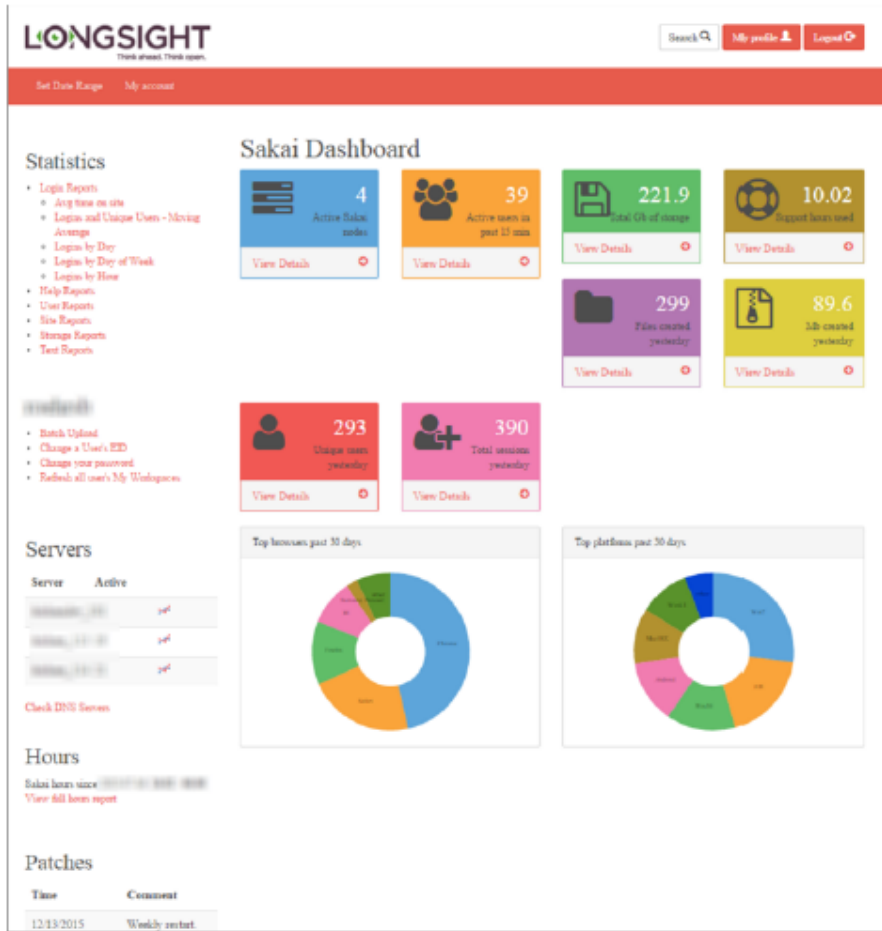
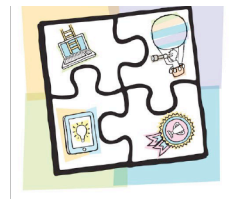
- Create scaled (rating) questions, multiple choice questions with single or multiple answers, and/or freeform-text questions.
- Create your own rating scales for questions.
- Create evaluation templates, each of which may include questions you have already created, "expert" questions created by others for your use, and/or new questions that you create during the template creation process.
- Create evaluations based on your templates and/or templates that have been created for others for your use.
- Choose groups of evaluators for each evaluation, automatically notify these evaluators of upcoming evaluations, and remind them to complete active evaluations they have not yet taken.
- Require central authentication by evaluators or allow them to take evaluations without logging in.
- Set the time period during which an evaluation will be available.
- View results online for a single evaluation or a series of evaluations conducted during a time period you specify. (You may access results only after evaluations close.)
- Export evaluation results to an Excel spreadsheet, a comma-delineated (CSV) file, or a PDF.
- Access all questions, templates, and evaluations you have created for multiple sites.

8. LMS Hosting and Support Provider Offerings – An Example

Far more data is gathered in SAKAI than is reported on. Common approaches to leverage this data is to link in with Analytics Platforms to visually present data depending on the requirements.

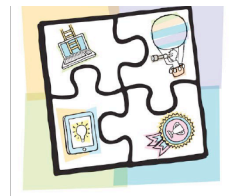
Some hosting and support providers offer back-end live data dashboards to give overviews on instance wide activity over defined periods e.g. such as daily logins.

The hosting and support provider to the University of Limerick offer the following live dashboards.



The following are details reported on via live dashboards.

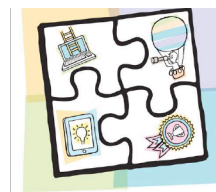
Login Reports	Help Reports	User Reports	Site Reports	Storage Reports
Avg time on site	Top Help Searches	Mobile Usage	Most Installed Tools	Largest Files



Logins and Unique Users - Moving Average	Top Help Searches	Top Platforms	Sites Created	Largest Filetypes
Logins by Day		Top User IPs		Largest Sites
Logins by Day of Week		Unique Users by Role		Total Storage
Logins by Hour		User Event History		

Detailed text reports can also be extracted to excel or other applications for analysis.

Text Report Title	Details of data output
All Sites	All course and project sites including term, creator, published status, and number of students/instructors/members
Course Site Enrollment	All course sites for the currently-defined term with enrolled users and user role within site.
Non-Course Site Enrollment	All non-course sites with enrolled users and user role within site.
User Last Login	All users including most recent Sakai login date
All Users	All users including email address, type, name, and creator. LDAP users are listed but do not include user details like email, name, creator
Site Activity Report	A row for each instructor in a course site including description, published status, created date, last user activity, count of user presence within site, instructor id, and megabytes of disk storage used
Weekly Attendance Report	Term-limited list of course sites including all students and last student presence, last activity, and amount of presence within site.



Aggregated Site Activity	Term-limited list of course sites for current term including event counts for distinct actions
User Presence in Sites	Course sites from currently-defined term including count of users and number of presence events in the site.
Event Activity in Sites	e events in the site. Event Activity in Sites, - Course sites from currently-defined term including number of events in the site, number of users in the site, and pipe-delimited list of instructors.
Tests & Quizzes Attempts	User attempts to take Samigo assessments including username and IP. Includes all attempts over the past 30 days.

While the about listed services come as standard with the hosting and support service, an add-on subscription includes data connections to the live dashboard for up to 10 ip's, user activity LTI tool, and 2 accounts to AWS Quicksight BI when released.

Sakai

Useful articles on Institution readiness for Learning Analytics

- <https://www.unicon.net/about/articles/trends-unpacked-organizational-challenges-and-learning-analytics-part-1>
- <https://www.unicon.net/about/articles/trends-unpacked-four-things-senior-leaders-need-know-about-their-role-learning>
- <https://www.unicon.net/about/articles/trends-unpacked-technical-challenges-and-learning-analytics-part-3>

9. SAKAI Developments

[The Apereo Foundation](#), Sakai's parent organization, fosters a [Learning Analytics Initiative](#) to support analytics work, in line with open standards including xAPI and IMS Caliper.

The Apereo Learning Analytics Initiative (LAI) aims to accelerate the operationalisation of Learning Analytics software and frameworks, support the validation of analytics pilots across institutions, and work together so as to avoid duplication where possible.

Work is underway across the learning analytics domain to realise an open analytics infrastructure. Institutions and companies are partnering to build a solid learning analytics foundation, in order to enable institutions to ask and answer strategic questions about learners – and take action on those insights.