

Songbird Leverages AI to Categorize Text for L&D

Authentic Learning Labs

Best Advance in AI and Machine Learning

June 2022



Company Background



Company-at-a-Glance	
Headquarters	Chicago
Year Founded	2017
Employees	40+
Global Scale	Global SaaS
Customers/Output, etc.	Professional education, publishers, and corporations that train extended enterprise audiences.
Industry	Education
Website	Authenticlabs.io

Value Proposition

Many education and training organizations use surveys/evaluations to capture user feedback. These instruments are valuable. However, one detriment in their use is that the increased volume of survey feedback puts more burden on the receiving organization to build the capacity to review the survey responses.

This is especially pronounced when surveys include open response (open text) feedback where participants can provide their comments in a text box.

Some training and education publishers, especially in healthcare and professional certification domains, must track feedback to avoid content that involves infractions of ethics, Intellectual Property or bias and conflicts of interest.

Challenge: Build a way for organizations to review feedback and highlight key concerns quickly. These organizations receive thousands of responses and this complicates the review of potentially valuable feedback.

The Solution

Songbird Learning Analytics offers a report that visualizes all survey feedback and categorizes open response text to determine positive, negative, and neutral feedback.

It acts to “roll up” key indicators that may reveal trouble or issues in courses.

How it works:

- Upon submission, survey responses are imported into Songbird Learning Analytics.
- Songbird then organizes participants; responses to each course, allowing broad reviews of responses across courses or any selection of course(s).
- In addition to the typical charting of survey responses, Songbird categorizes the responses and allows quick scanning of overall performance.
- The output file options include PDFs; this format displays multiple responses on one page, allowing an editorial board or group of authors to quickly scan feedback that's organized in the document. (See example below).
- Songbird's trained, built-in Artificial Intelligence takes the open response text from surveys that contain such question types and categorizes the feedback.
- Text is organized into positive, negative, neutral or mixed sentiment, designating the overall “tone” to the text.
- The text is then categorized into additional subcategories that organize the text into the “theme” mentioned in the feedback. To help standardize this, a few key sentiment themes are focused on:
 - **Presenter:** Content was about the presenter/speaker in the course.

- **Technology:** Some issue with the course or navigation was the theme
- **Content:** Feedback mentions something related to the content itself.
- **Length:** The text mentions an issue with the length of the course.
- These charts and visuals are available per course or multiple courses allowing participant responses to be viewed across courses.

This information is clearly charted and reports are made in downloadable format. These reports are also sent via -mail pushes automatically to admins in charge of marketing and content, giving them consistent, reliable feedback to help planning.

Product or Program Innovation

Advanced functionality: Songbird provides Advanced Visualizations and AI-powered “insights” that “roll up” the critical indicators, such as “flags” that spot issues in surveys without the need for heavy labor or resources.

Key differentiation: Songbird uses software and AI to organize Surveys and Survey Text responses, presenting it in multiple ways to save time and resources.

AI-powered Advanced Views of Survey Data: All survey data is charted, and responses are grouped to allow easy viewing of aggregate responses across courses and within specified dates.

AI-Automated “Categorization”: Survey responses for open responses are categorized in terms of positive, negative, neutral or mixed sentiment. These items are then aggregated to generate overall views of “Sentiment” across courses selected.

Training the AI: the results of the current Songbird categorization of open text reflect an ongoing refinement and training or “machine learning” efforts to teach the AI to seek specific patterns.

Sub-categorization and Specialization: Sentiment is also then sub-categorized to determine “What” the sentiment was about. This is done to understand further positive and negative feedback that may be related to the presenter/speaker, content, navigation/technology, or length of the course. This is the result of many rounds of machine training of the Artificial Intelligence to understand the nuances of learner feedback.

Domain Specialization: Specific verticals, such as medical fields, also seek further information to determine what is being discussed in the feedback. To do this additional AI capabilities were integrated which classify the feedback in categories related to medical topics, such as, anatomy, alternative treatments, and medication.

Simplified Outputs and Methods of Distribution: Survey reports are available in multiple ways. Spreadsheet format allows further analysis and sorting, PDF format in optimized layouts where responses are grouped on a page and within sections to help reviewers, and via *e-mail*.

Detection of Keywords: Because of the high sensitivity certain organizations have towards bias, fraud, infringement, and other possible professional infractions, Songbird also scans for “keywords” such as bias, copyright, and extreme language (ex. expletives) that may indicate trouble in courses. This is so important to clients that this is now an automated “push” report that goes out monthly (or more frequently) to subscribed clients.

Pushed Reports: Because of the importance clients place on “Red flag” issues, such as copyright infringement or professional misconduct, an automated Sentiment report is now pushed via e-mail to subscribed clients.

Cost of Ownership model: Flat-tiered pricing facilitates the distribution of reporting access. The market approach is to charge per “eyeball” of viewers and creators of reports. Songbird provides flat, predictable pricing, encouraging more reporting adoption by stakeholders beyond core executive level staff that typically holds the rights to such advanced dashboards.

Unique Differentiators

AI-automated classification of all survey responses and aggregate view of "Sentiment" across selected course(s)

Figure 1: Sentiment Overview

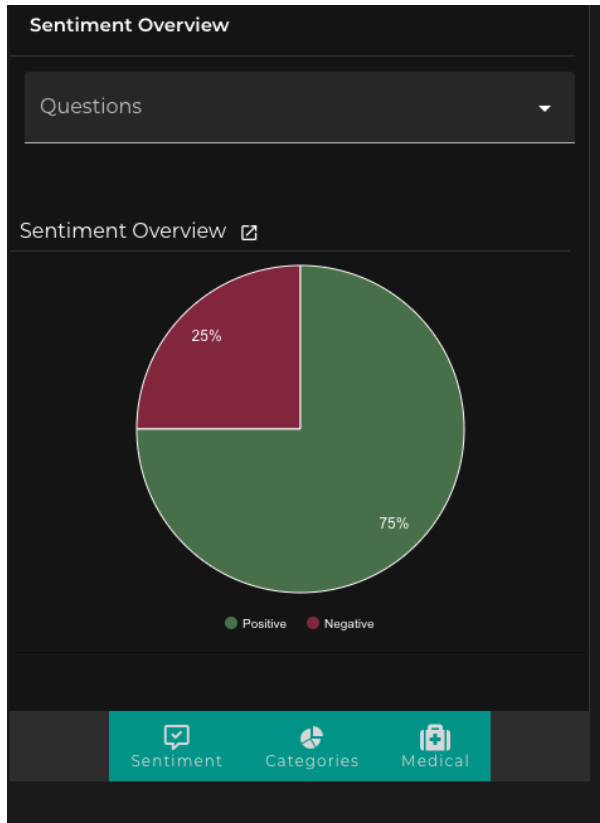


Figure 2: AI-enabled Sentiment






10/17/2021	9. Please share any...		Nice activity. Thank you.
10/17/2021	9. Please share any...		Enjoyable activity. Thank you.
10/17/2021	9. Please share any...		Useful review, though rather superficial. Not very well written or edited, with some redundancies yet other topics glossed over, and some confusing statements: "most common manifestation of CNS tuberculosis is meningitis." then "Tuberculoma is the most common parenchymal involvement... in the CNS...". Thankfully the tables contain a lot of the salient points.
10/17/2021	9. Please share any...		Great presentations! Thanks!
10/17/2021	9. Please share any...		There are multiple grammatical and factual errors in this article - sloppy writing and sloppy editing.

Figure 3: Sentiment Sub-categorizing

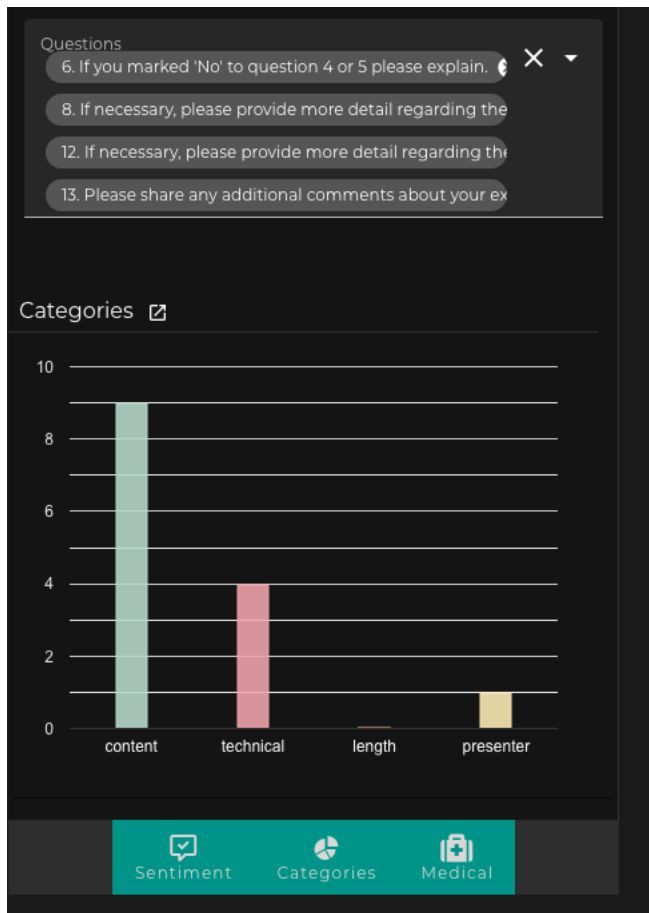


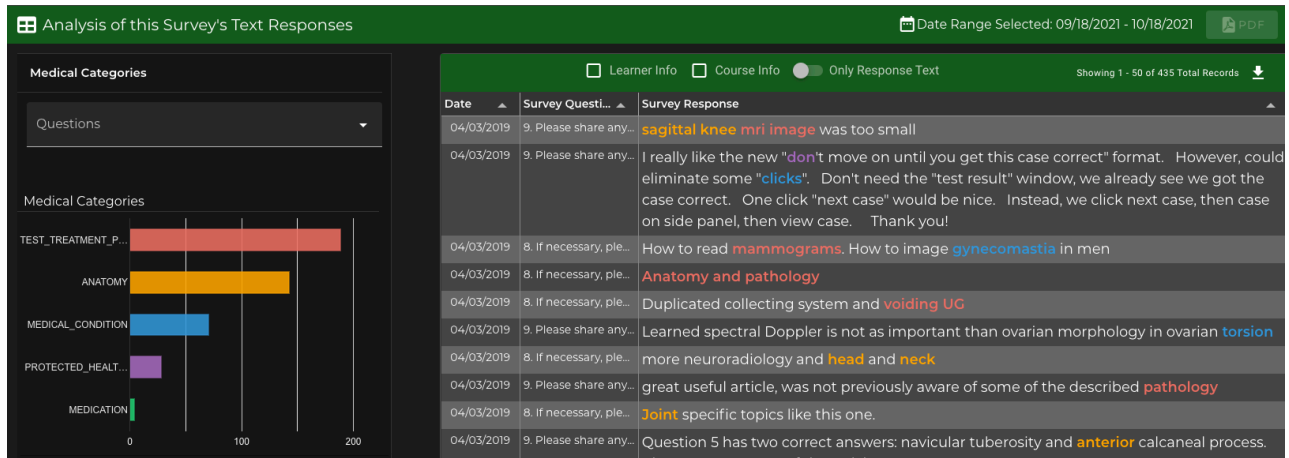
Figure 4: Sentiment Analysis


Figure 5: Automated Alerts

General Sentiment

Participant submissions to open response survey questions are “scored” using artificial intelligence to categorize them into positive or negative feedback. Please take these scorings as best attempts to categorize- detailed responses appear in a downloadable file below.



Positive	237
Negative	173

Top 3 Courses Most Positive Responses

Anonymized course 1 name here (RESULTS AVAILABLE THROUGH 12/31/2021)	45
Patient Safety: Informed Consent Course	8
Anonymized course 2 name here	7

Top 3 Courses Most Negative Responses

Anonymized course 3 name here (RESULTS AVAILABLE THROUGH 12/31/2021)	36
Anonymized course 4 name here	4
Anonymized course 4 name here Journal assessment	4

*The same course may appear in both the most positive and negative sections, as more popular items may also attract a larger count of responses in either category

All illustrations provided by Authentic Learning Labs

Measurable Results

ASPS: The American Society of Plastic Surgeons (ASPS) and other major clients use the output of two reports, the Sentiment Analysis report, and the survey aggregate, in their critical programming.

Use 1: ASPS receives automated Sentiment Analysis e-mails with key highlights and summaries on sentiments. ASPS tracks doctors to ensure their presentations in webinars are free from vendor bias and conflicts of interest.

Impact: speakers of client programming are monitored to avoid presenting on topics in favor of a vendor or manufacturer. Any mention of the word bias or “conflict of interest” in the survey responses (of participants who attend webinars) are flagged by AI, and presented in reports.

Results: Instead of reviewing thousands of individual surveys one by one to find the key “findings” and “nuggets” of feedback, ASPS gets key insights sent to them.

Songbird saves clients' time and resources as reports are pushed to them regularly in a frequency they decide. The reports via e-mail quickly summarize overall trends, which can be downloaded as organized responses in their respective categories.

The client stakeholders quickly gain key insights as Songbird highlights potential red flags.

Use 2: ASPS distributes the survey aggregate report to their education board, which meets regularly to review the feedback on critical programming.

Impact: A PDF output of all survey open text responses consolidates the feedback and provides clear indicators of the course and participant comment.

Results: Reviewers quickly scan and highlight feedback, making notes of courses and comments to plan for future edits. The PDF output is organized, separating positive, negative, and mixed feedback for ease of review. Thus, greatly reducing the time for review, allowing the education panel of expert doctors to quickly point out trends and make plans on revising content.

The American Academy of Orthopaedic Surgery (AAOS)

Use 2: The American Academy of Orthopaedic Surgery (AAOS) is the flagship global organization for Orthopaedic surgery. In its role, AAOS is the organization to set the curriculum for Orthopaedic residency programs worldwide.

AAOS runs a critical program for all surgeons in training (Residents).

Tracking sentiments in resident feedback within the Resident Orthopaedic Core Knowledge (ROCK) curriculum is facilitated thru the Sentiment Analysis report geared explicitly to the program in question. This way all data will be geared to this course series alone and sent to key stakeholders who need to manage the program actively.

The Sentiment report system allows sentiments to be tracked on all or particular courses, and in this case, the client is focused on tracking sentiment for one program due to its high profile.

Impact: A sensitive program of high-profile nature can be tracked without burden. The team of admins and the editorial board can quickly and frequently build a review of comments that are categorized, while also immediately reacting to “red flag” comments.

Songbird looks for “extreme” language and highly negative terms that may also include expletive language – therefore attempting to classify feedback that may require faster reaction.

Results: Reviewers quickly scan and highlight feedback, making note of courses and comments to plan for future edits. Due to the new nature of the digital platform that holds the curriculum, the timely survey data pushed to inboxes is critical to react to immediate needs during an evaluation year.

About Brandon Hall Group

With more than 10,000 clients globally and 28 years of delivering world-class research and advisory services, Brandon Hall Group is focused on developing research that drives performance in emerging and large organizations, and provides strategic insights for executives and practitioners responsible for growth and business results.



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