# **Plugin Use Case Document**

# <feedforward>

Overview   
Our solution gives learning providers a clear, interactive view of course performance through sentiment analysis, urgency flags, and actionable insights. A built-in chatbot makes feedback exploration simple, allowing stakeholders to ask questions and get instant answers.

Problem Statement

Learning providers often lack a clear, consolidated view of how courses are performing. Online reviews are meant to fuel continuous improvement, yet the valuable insights they contain are buried in raw text and not easily extracted. Ratings provide a useful snapshot, but far richer understanding can be gained from sentiment analysis. Until recently, pulling these insights was a manual, time-consuming process, often so difficult it was ignored. Without a way to surface actionable feedback quickly, providers risk missing opportunities to improve courses and add value to learners.

Another challenge is that even if one specific theme can be unearthed through manual effort, the next user may have a completely different question. Traditional review analysis doesn’t scale to these diverse needs. A conversational RAG Agent can solve this by allowing stakeholders to query the data directly and receive tailored insights on demand.

Proposed Solution

The proposed solution is an **interactive dashboard** that transforms raw learner reviews into actionable intelligence for learning providers.

* **Sentiment Analysis**  
  Reviews are automatically analysed using LLM-based sentiment scoring, with results displayed visually for each course. This gives providers an at-a-glance understanding of which courses are performing well, and which may be at risk.
* **Actionable Insights & Summaries**  
  Reviews are synthesised into clear, actionable suggestions per course. Each course also includes a concise summary so providers can quickly grasp key themes without reading through every comment.
* **Urgency & Negative Reviews**  
  Reviews that fall below a defined sentiment threshold are flagged with urgency indicators. These are clickable from the dashboard, enabling providers to drill into problem areas immediately.
* **Interactivity**  
  Users can click into any bar in the graph (representing a course) to explore recommendations and detailed feedback.
* **Conversational Bot**  
  A RAG agent is integrated directly into the dashboard. Stakeholders can interrogate the data by asking their own questions, for example, “Which courses have the most negative feedback this month?” or “What are the top suggestions for improvement?” and receive instant, tailored answers.

Plugin Details (Moodle → Next.js → Snowflake)

A **custom Moodle plugin** is the foundation of this solution. It automates the process of capturing student feedback at the moment of submission and ensures it flows seamlessly into the analytics pipeline.

* **Automatic Feedback Capture:**  
  When a student submits feedback in Moodle, the plugin listens for the event and collects details such as course information, student details, instructor, and all submitted responses.
* **Instructor Context:**  
  The plugin enriches the payload with the course’s assigned instructor, linking student responses to responsible faculty members.
* **Structured Data Packaging:**  
  All feedback is packaged into a standardized JSON payload containing course, user, instructor, and response data.
* **API Integration:**  
  The plugin automatically sends this data to the Next.js API endpoint (/api/trigger) over HTTP, ensuring real-time synchronization with Snowflake.
* **Seamless Data Flow:**  
  From this point, the Next.js backend stores the data in Snowflake, enabling downstream AI enrichment, dashboards, and chatbot queries without any manual intervention.

**In short:** The plugin transforms raw Moodle submissions into structured, API-ready data streams that fuel the entire Feedback-as-a-Service pipeline.

Benefits

* Learning providers get a **single, dynamic view** of course performance, enabling faster decision-making, targeted interventions, and a stronger feedback loop for continuous improvement.
* It allows learning providers to instantly tell which course are performing well.
* Reviews that are rated as extremely negative can be identified to identify worrying issues before they escalate.
* The solution automates a manual text mining process, using the power of AI and LLMs
* Scales to thousands of reviews without extra admin burden
* The bot allows users to interact and tailor their information requests.

Impact on Non-Profits

Like all learning providers, non-profits are under pressure to deliver high-quality, accessible, and trouble-free learning experiences. But unlike commercial institutions, they often operate with tighter budgets and limited staff capacity. Manual review analysis is impractical in this context as non-profits rarely have the funding to hire staff dedicated to combing through thousands of learner comments.

Non-profits carry an added responsibility to their learners and communities: ensuring that resources are inclusive, reliable, and effective without creating additional barriers. This solution can also be tailored to focus on retrieving specific issues in a course that may be relevant to that community.

Competitive Advantage

The competitive advantage is that this solution doesn’t just *measure* feedback, it makes feedback *actionable, interactive, and accessible at scale*.

Conclusion

Learning providers face mounting pressure to deliver high-quality, accessible, and continuously improving learning experiences. Reviews contain the insights needed to meet this challenge, but until now those insights have been locked in raw text, costly to extract, and often overlooked.

Our solution changes that. By combining sentiment analysis, actionable insights, urgency flags, interactivity, and a conversational chatbot, we provide a powerful yet practical tool that transforms feedback into intelligence.