# Whitepaper: Eli Review

## The Problem – Good Writing Requires Revision

We become better writers by learning to revise effectively. Research has found that students who frequently engage in revision perform better on writing assessments, and that expert writers revise more than novices. Revision is effective when it focuses on substantive issues of content, purpose, and audience, but it's difficult for writers to assess these factors in their own writing. High-quality feedback is essential for guiding revision, particularly for inexperienced writers.

Unfortunately, getting helpful feedback is difficult. Teachers are too busy to provide substantial feedback to each of their students, and they often use peer review to share that work. Students, however, don't come into a classroom as skilled reviewers and aren't likely to give helpful feedback unless they're explicitly taught how.

Facilitating revision and teaching review are both difficult and time consuming. Teachers often leave school with briefcases or milk crates loaded with student papers. Assessing student writing alone is a herculean task. Attempting to use peer review for feedback increases teacher work. Teachers who try to teach review find themselves examining the comments written in the margins of hundreds of papers or electronic documents, often having to toggle between multiple responses to the same document. No tools exist that facilitate review and revision, the very tasks that make the most difference.

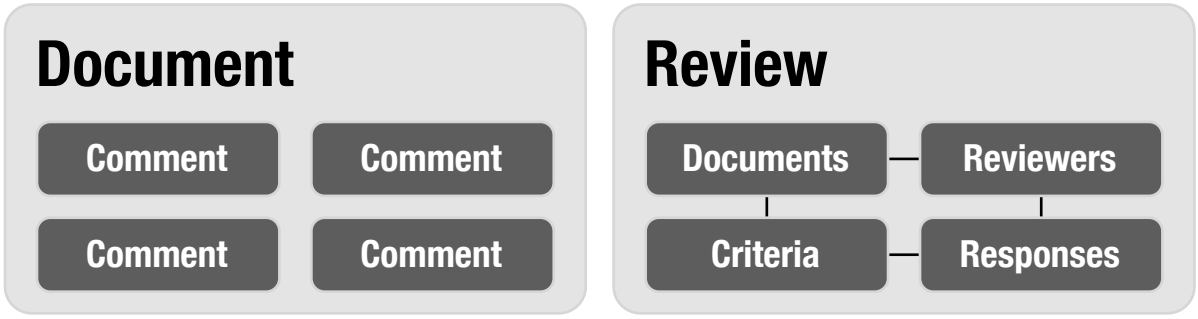
Most software that includes review functionality regards review as an afterthought, an ancillary activity. Something for the margins. Something easy to delete and difficult to save and use. The "track changes" functionality in Microsoft Word, for example, only tracks direct edits made to a document and the original author can choose to "accept" or "reject" them. This can contribute to the evolution of a text, but how does a writer learn to make decisions about which suggestions to accept or which to reject? How does a reviewer learn whether or not their feedback was helpful or whether or not it actually impacted a revised version of that text? How does a teacher know if students are offering helpful feedback, or who their best reviewers are? Most importantly, how does a teacher know if a student has developed a sound strategy for revising their writing?

## The Solution – A Review and Revision Tool

Eli is the solution to the challenges of preparing students to give helpful review feedback and produce high-quality revisions. It is a coordination tool designed specifically to help teachers focus on *teaching* and not the tedious tasks of collecting papers, compiling drafts, comments, and revisions, or trying to facilitate multi-day peer review activities. Eli makes the writing, review, and revision process visible by collecting the products of these tasks in one place and generating analytics to measure student improvement, both as reviewers and as writers.

## A New Review Model (for software, not for writing teachers)

Most writing technologies enable review from a document-centric perspective, meaning that work done by reviewers is saved inside individual documents. While this approach makes it easy to comment on individual files and save them for archiving, versioning, email, etc., this approach to review breaks down when more than one person is involved. Eli is built around a different model, one in which documents are only one part of a larger process:



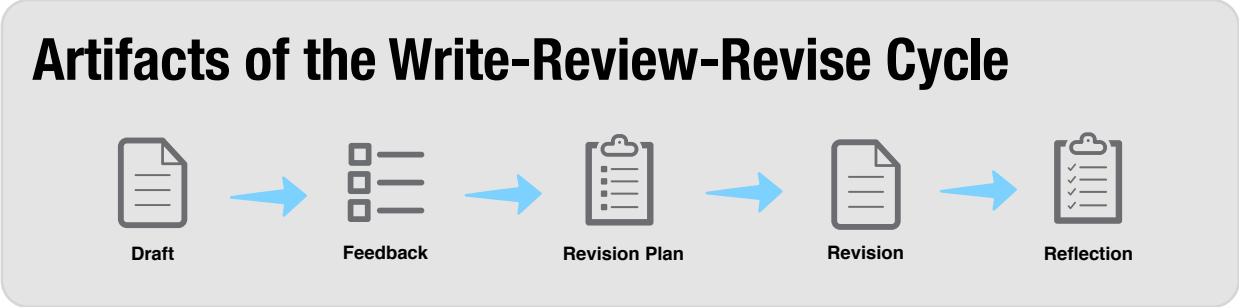

***Left**: the document-centric model of review embodied by most writing technologies*
***Right**: a review model in which documents are one of many connected components*

The Eli model regards documents as a crucial component of the review process, but only one of many components. Responses to documents are stored independently, allowing Eli to generate multiple reports of review data, including all of the responses to a single document or all of the responses made by an individual reviewer. In the Eli model, reviews are as important as documents, and this importance is what enables learning from the review process. Storing review data in this way is transformative, allowing Eli to support a wide range of review activities and analytic data:

- *One review, many texts* – instead of a review happening around a single document, a review may be composed of multiple documents.
- *One review, many reviewers* – easily have multiple people respond to the same review and have their feedback organized and easy to follow.
- *Detailed reports of student work*: storing review data in this way allows for incredibly detailed reports to be generated, not only about students as writers but also on students as reviewers.
- *Responding to reviewers* – instructors and writers can give both qualitatively and quantitatively evaluate the feedback produced by reviewers.
- *Real-time data about the status and progress of a review* – get a heads-up on how many people have responded and exactly what's being said.
- *Responses stored over time for instructors and students* – the storage of responses individually allows Eli to assemble histories of review behavior, making it easy to generate portfolios and reports of review behaviors.

## Artifacts of the Writing Process

Because most existing technologies base review around documents, they do not save review data after writers have 'accepted' or 'rejected' changes. Therefore, instructors cannot easily understand a student's writing process—how writing evolved from point A to point B. Since the write-review-revise cycle is where learning happens, not being able to see what happened during that cycle leaves instructors to guess at how best to guide students.

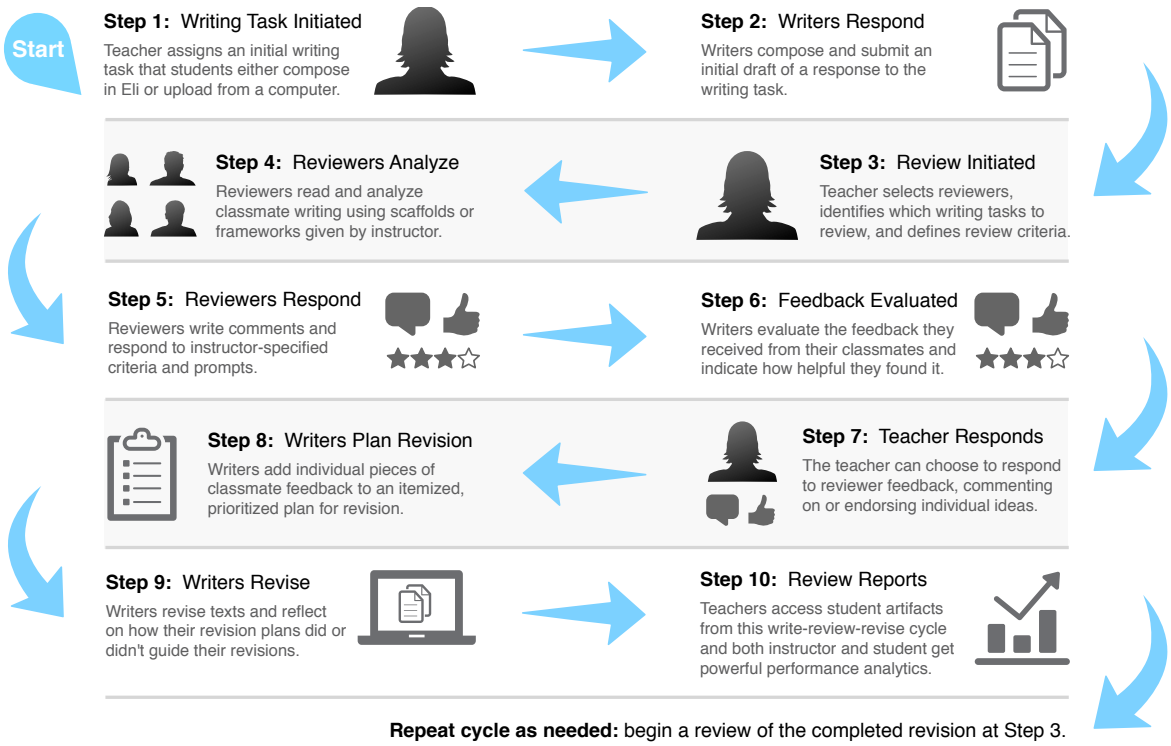



*Artifacts an instructor needs to fully understand a writer's progress. The cycle can be repeated as necessary.*

By implementing the review model discussed above, Eli collects an easy-to-access history of student performance on a writing task from start to finish. The process documents are especially helpful for evaluation. By being able to see a draft of the writing, feedback on that writing gathered during review, the student's plan for creating a revision, an actual revision, and then a reflection on the revision process, instructors get deep insight into the revision moves students make. When instructors attempt to gather these artifacts on their own it is time-intensive and painfully complex. Eli assembles a view of each writer's process automatically, leaving the instructor more time to analyze performance and guide students to developing more effective revision strategies.

## The Eli Review Process: Write – Review – Revise

Eli's operation reflects best practices in teaching writing that most instructors would endorse—write, review, revise—and implements that pedagogy in a series of steps. While the workflow may vary depending on an instructor's learning goals, Eli's workflow generally looks like this:




The purpose of having a structured writing, review, and revision process is just that: to bring some regularity to a process that has traditionally been very labor-intensive to coordinate, and even in the best of circumstances, has never yielded dynamic, useful data. By requiring instructors to explicitly name review criteria and learning outcomes, Eli is able to capture and display data to demonstrate the effectiveness of those outcomes and track the development of students as writers and as reviewers. By enabling students to build an itemized revision plan from their review feedback, and by connecting a revised text to that revision plan, Eli can show teachers how the writer did (or didn't) respond to the feedback they received and how their plans for revision did (or didn't) get followed in their revised text.

# Features and Functions

Eli has three primary activities: writing, review, and revision tasks. Instructors serve as coordinators of those tasks and managers of a course. Students participate in tasks as writers and reviewers..

**In Eli, students can:**

- *Join courses*: enrolling in courses to which they have been invited.

- *Submit responses to writing tasks*: depending on the type of task, students can either compose texts directly in Eli, upload files, or link to an external host like Google Docs or Dropbox to fulfill the requirements of a writing task.

- *Read and respond to classmate writing*: students have the ability to access the texts of their review group members, whether reading directly in the browser or downloading any necessary files. Students are presented with interfaces that allow them to respond to instructor-specified criteria and composing contextual comments.

- *Build a Revision Plan*: students have the ability to select from the feedback they receive and use individual pieces to compose a plan for revising their work. Students can prioritize this list, make notes to themselves about individual pieces of that feedback, and compose additional notes about their plans for changes. Students can also see instructor comments on their strategy, if the instructor wrote one.

- *Submit revised versions of texts*: students can submit new versions of texts that have already been submitted to Eli. When submitting a revision, students are presented with their revision plan (if they have one) and asked to reflect on their revision, particularly indicating which pieces of feedback influenced their decisions.

- *Access data displays*: students have access to detailed reports about various activities in Eli. These reports include a detailed revision report showing all feedback from groupmates and instructors and a complete breakdown of how classmates and instructors evaluated their reviews. These displays can also provide formative feedback, or suggestions about changes they could make in their writing and review behavior that will result in better analytic scores (and thus better review and revision).

**In Eli, instructors can:**

- *Create courses and manage students:* instructors create their own courses and control who is enrolled in them, having the ability to disable access for disenrolled or abusive students.

- *Create and manage writing tasks:* writing tasks are the beginning of the revision cycle. They provide a prompt for which students compose some type of response. These are the artifacts that will go through the review process and ultimately be revised. Instructors specify the parameters of a task, including whether student responses should be composed inside Eli, uploaded as a file to Eli, or linked to an online resource like a Google Doc. Instructors also have a detailed list of which students completed the assignment and the ability to quickly access a student's submission.

- *Create and manage reviews:* instructors have the ability to specify the objects to be reviewed, group the students who will review each other, and define the criteria students will use to respond to the texts they review.

- *Respond to student reviews:* instructors can "endorse" individual pieces of feedback from one student to another, sending the writer a message to "keep this in mind while revising" and also a message to the reviewer to "keep writing high-quality feedback like this." Instructors can also respond textually to student feedback.

- *Access student review data and analyses:* instructors have access to review data compiled in a number of different ways. An instructor might wish to see all of the feedback a student received on a review; inversely, they might wish to see all feedback one student *gave* to their review group.

- *Access to revision data and analyses:* instructors will need access to revision plans, revisions, and reflections completed by students as part of the revision process. In addition to accessing these materials, instructors will have a "final revision report" that connects all of the products in the write-review-revise cycle, from the initial writing draft to the revised version with a reflection.

**What Eli *Isn't***

While Eli may integrate with learning management platforms or other technologies that support many necessary classroom functions, Eli is dedicating to supporting it's three primary activities—writing, reviewing, and revising—and doing so elegantly. Any future functionality incorporated into Eli will support those activities, so it won't include features like a gradebook, a communications system, a mind-mapping tool, a plagiarism detector, or peer *editing* software.