

Whitepaper - Eli Review

Version 3 - June 22, 2018

The Challenge - change is hard

Change is *the* indicator of learning. If a learner changes her mind, improves her performance, or grows from an experience, we see evidence of learning in those changes. Instructors spend entire careers developing best practices for structuring, coaching, and motivating change.

For writing instructors, the name for “change” is “revision.” Teaching revision is challenging but transformative. Research has found that learners who frequently engage in revision perform better on assessments, and those who improve the most revise more than their peers^{1,2}. The key is making sure learners have ample opportunity to *practice* revision and enough revision *fuel*—that is, timely and helpful feedback—to revise effectively.

One difficulty in teaching for change is that instructor feedback does not scale. Instructors can give great feedback, but getting each learner the feedback they need when they need it is labor- and time-intensive. Even if instructors sustain the workload, research shows that learners often focus on the easiest changes to make³, while others disregard summative feedback entirely⁴. Peer review is a common way for instructors to make feedback more timely and efficient, but—and this is a big but—for that feedback to be good enough to drive change, learners must also be *taught* to give feedback that is descriptive and goal-referenced.

Instructors need to see what learners are thinking if they’re going to teach for change, but visualizing that kind of change is difficult. There are tools that make it possible for instructors to observe revision (the “track changes” feature in many word processors, for example), but few tools that will help an instructor understand the learner’s thinking behind those changes. Most of these tools regard feedback (e.g. marginal comments) as a means to an end (e.g. a new text), not as an artifact of learning, which is why most of these tools discard feedback once the recipient has responded. Instructors need tools that help them see a learner’s thinking, to see the intellectual work that helped a learner go from point A to point B.

¹ Graham, S., & Perin, D. (2007). A meta-analysis of writing instruction for adolescent students. *Journal of educational psychology*, 99(3), 445.

² Hayes, J. R., & Flower, L. S. (1986). Writing research and the writer. *American Psychologist*, 41(10), 1106-1113.

³ Hyland, F. (1998). The impact of teacher written feedback on individual writers. *Journal of Second Language Writing*, 7(3), pp.255-286.

⁴ Laflen, A. and Smith, M. (2017). Responding to student writing online: Tracking student interactions with instructor feedback in a Learning Management System. *Assessing Writing*, 31, pp.39-52.

The Solution - a company and a technology that help instructors see and teach change

Eli Review (or “Eli” for short) is the solution to the challenges of organizing and facilitating a change-rich classroom. It automates much of the time-consuming and laborious work of facilitating feedback while generating useful data about learning and improvement. Eli’s efficiencies and analytics empower instructors to make evidence-based decisions about what’s working, what’s not, and where they can most effectively make interventions.

Why Eli Review (the software) Exists

Eli Review enables a focus on change in the learning experience in these ways:

1. **It puts revision at the center.** Revision, our language for change moments, is Eli’s primary focus, and this includes the valuable processes for how learners and instructors get there: how thinking changes, how learners respond to new ideas, and how practice improves. Eli facilitates the revision process for learners while making it possible for instructors to see into that process.
2. **It detects signals of change.** Instructors need to be able to see indicators of change. Machines excel at providing us with signals, though not so much at interpreting them. Eli is built to help instructors identify signals of change and then watch for those signals, making it easier for instructors to see change and coach it.
3. **It enables evidence-based teaching.** Eli makes it easier for instructors to see patterns in feedback data, making it easier to know who’s struggling and who needs support. Basing teaching on evidence of learning—and on evidence related to the instructor practices that produced that evidence—is the goal of all instructors.
4. **It automates the laborious parts of facilitating feedback.** Managing peer learning (e.g. collecting drafts, organizing groups, collecting and collating feedback) is time consuming. Computers are particularly well suited for doing routine tasks, and Eli allows instructors to offload these routines, freeing them to focus on *learning*.
5. **It makes it easy to fit in more practice.** Deliberate practice is a key to learning, and Eli makes it easier for instructors to schedule more feedback and revision practice, giving learners more opportunities to give feedback and to use it to revise.

6. **It supports a culture of feedback.** Eli helps instructors frame feedback as deliberate, actionable, and as something everyone can get better at.
7. **It supports evidence-gathering as a learning activity.** Eli makes it possible to utilize artifacts of the learning process (e.g. drafts, feedback, exemplars) as distinct learning activities. Instructors can process feedback and create a debriefing, while learners can assemble the most important feedback they received to develop a plan for change.

How Eli Review Support Learning

While the technology powering Eli Review can operate as a standalone service, the company behind Eli Review is made up of teachers and scholars with very specific goals for promoting learning and development. The company's primary objectives are:

1. **Supporting instructors where they are.** Eli Review's features are content and discipline agnostic, letting instructors from many fields and of varying experience to use them to good effect. Eli supports instructors who want to replicate their existing practices in an online space, affording them the conveniences of automation and aggregation.
2. **Supporting power users.** While Eli Review fits naturally into many existing pedagogies, the technology includes advanced features that let instructors take their practice to the next level, particularly those who want to fit in more feedback and revision practice or make use of advanced analytics to practice evidence-based interventions.
3. **Facilitating the development of instructors as professionals.** Eli makes an array of resources available to instructors that can help them advance their skills as professionals. From workshops lead by Eli's support team to analytics that can help instructors understand their practices, Eli is a data-driven platform dedicated to the professional development of learners and instructors.
4. **Facilitating the development of teacher-researchers.** The data generated when learners and instructors utilize Eli Review has tremendous research value. Instructors have access to raw data about all aspects of engagement via downloads, making it possible for them to research their own practice. However, Eli Review is also a platform for research at the programmatic, institution, or field level. Eli Review partners with instructors and institutions studying writing and learning and does so in compliance with all ethical (e.g., Institutional Research Boards) and legal requirements.

Feedback as Revision Fuel

Feedback is a key driver of revision. When learners are taught how to give timely, criteria-driven feedback (perhaps using a scaffold like [describe-evaluate-suggest](#)), the feedback they exchange is a rich source of learning fuel for everyone.

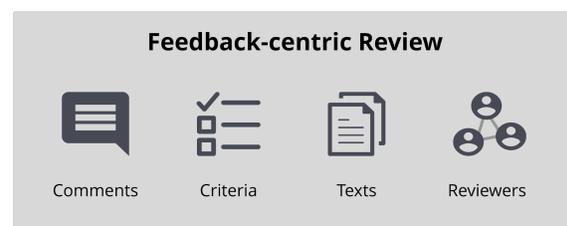
- **For the recipient**, feedback gives them an outsider’s perspective on their thinking as well as useful, directive advice they can utilize to drive effective revision.
- **For the giver**, feedback offers two great learning opportunities: it helps them see how others have solved similar problems, and it also gives them the opportunity to apply learning criteria to someone else’s work, which can help them bring that lens to their own revisions (we call this phenomenon “givers gain”).
- **For the instructor**, feedback is a window into how learners are thinking, helping them see not only if the feedback giver understand the criteria of the task and can talk about it coherently, but also if the recipient has the fuel they need to make effective revisions.

Most technologies support feedback from a document-centric model, meaning that feedback takes the form of marginal comments saved inside individual documents. This model traps feedback within a single file, making it difficult to use and easy to lose. It also limits the possibilities for quantitative responses, like checkboxes, rating scales, and likert scales. All of this limits the ability of instructors to see what’s happening in peer feedback at the macro level, making it exceptionally hard to notice trends or patterns that might help them make decisions.

Eli Review is built to facilitate a different feedback and review model, one in which texts are only one part of a larger process:



Technologies that focus feedback around documents produce a lot of files with comments embedded inside those files. These documents tend to be printed sheets of paper or attachments that fill email inboxes.



In Eli Review, texts are only one component of a review. Qualitative data (comments), quantitative data (criteria responses), and a network of reviewers drive the process and Eli stores and aggregates everything.

Eli regards texts as a crucial component of the feedback process, but only one of many components. “Comments” are stored as independent artifacts, allowing Eli to generate multiple reports of qualitative feedback data, including all of the responses to a single document or all of the responses made by an individual reviewer. This model also allows for quantitative responses to live alongside qualitative comments, giving instructors maximum flexibility in designing feedback exercises that can yield useful signals of learning.



Text Bits



Comments



Criteria



Plans



Revision



Reflection

By focusing on more than one type of signal, or more than just one type of revision fuel, Eli Review gives instructors more detailed indicators that help them see where learning is (or isn't) happening.

This model of qualitative and quantitative feedback allows Eli Review to support a wide range of feedback activities and analytic data:

- **Detailed feedback reports** – storing feedback this way allows for incredibly detailed reports of reviewer engagement, not just on feedback they get but also feedback they give.
- **Responding to reviewers** – instructors and learners can 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.
- **Feedback stored over time** – the storage of feedback as an important artifact allows Eli to assemble histories of review behavior, making it easy to generate portfolios and reports of review activity.
- **Interaction with individual comments** – treating comments as independent objects makes it possible to interact with them in distinctive ways. Comments can have metadata attached to them, like a rating by the recipient or an endorsement from an instructor. Additionally, they can be added to a compiled document like a revision plan or a post-review debriefing.
- **Uptake of feedback** – this method makes it possible to know which comments were added to revision plans or even contributed to a revision, making it possible to know which reviewers have given the most influential feedback.

Critical and Distinctive Functions of Eli Review

- **Aggregated feedback** – seeing all comments from a feedback activity in one place
- **Learning outcomes** – instructors can name and track learning indicators to measure performance and uptake
- **Actionable feedback** – recipients can rate the helpfulness of feedback, instructors can endorse important comments, and writers can select from their feedback to build reports or revision plans.
- **Debriefing** – instructors can comment on trends and patterns, identify exemplars, encourage next steps
- **Planning** – evidence-gathering activities based on discreet artifacts, e.g. using multiple comments and explanations and exemplars to build a revision plan
- **Revision** – seeing how feedback has been acted upon, whether or not a recipients acted on feedback and planning (follow-through)
- **Iteration** – seeing evidence of learning across activities, everything assembled into project views
- **Downloads** – all users have access to a downloadable version of all of the data they've created while using the app, for transparency but also for research purposes
- **Analytics** – generating useful stories about engagement that can help instructors make evidence-driven decisions

What Eli Review Doesn't Do

Eli Review's focus is a very narrow one. It does not generate a grade. It is not a robust evaluation of writing ability. It does not effectively separate excellent from good contributions in peer learning. It is designed to detect when too little practice is happening, where learning can be expected to have happened, and it seeks to identify reviewers whose feedback is below the threshold of improvement.

While Eli Review may integrate with learning management platforms or other technologies that support many necessary classroom functions, Eli is dedicated to supporting its three primary activities—writing, reviewing, and revision—and doing so elegantly. All functionality incorporated into Eli will support those activities, meaning that it won't include features that distract from them, including features like a gradebook, a communications system, a mind-mapping tool, a plagiarism detector, or peer editing software.