



A BENEFITS OVERVIEW:

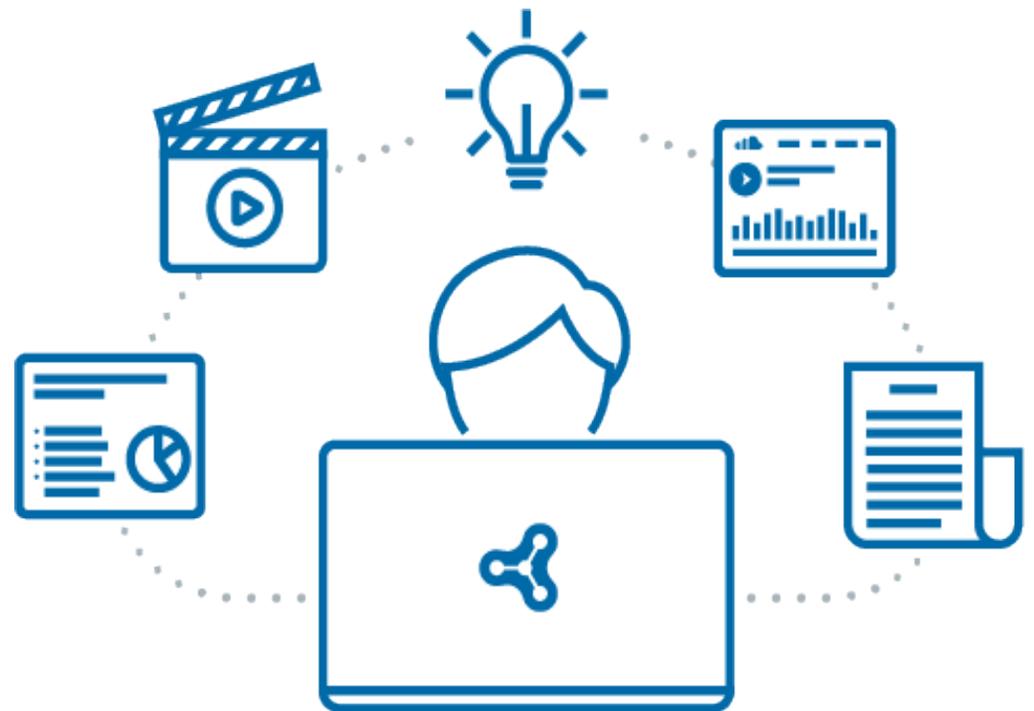
Peer to Peer Learning in Online Courses

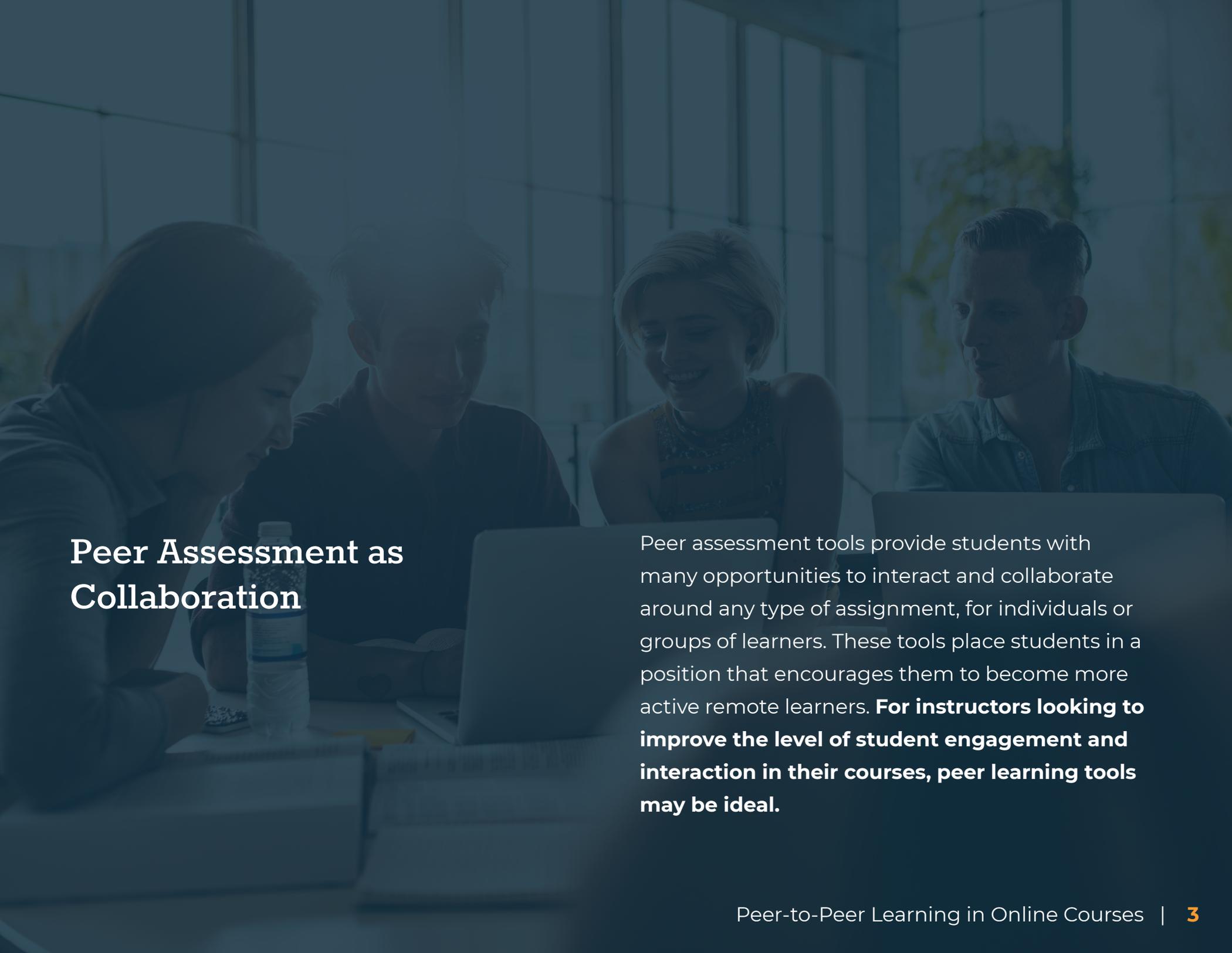
Introduction

Online learning poses many challenges for educators. Most of these obstacles long predate the global pandemic and have much in common with the struggles of instructors of higher enrollment courses in traditional classrooms. These challenges prevent effective learning scalability and make it very difficult to provide active rather than passive exercises. **Many instructors don't have the time, resources, or data to promote active learning or offer the kinds of evidence-based formative assessment so essential to student success.** Too many students tune out, fall behind, and drop out.

A proven solution is to build learning communities, creating an environment that encourages students to learn from each other through high-level academic dialogue.

So many of the challenges facing online education today are best addressed through collaboration—students actively engaging with their peers in ways that incentivize productive communications on both sides of the feedback loop.



A photograph of four students (three women and one man) sitting around a table, looking at laptops and papers. The image is dimmed with a blue overlay. The students appear to be in a collaborative learning environment, possibly a classroom or a study area. One student is pointing at a laptop screen while others look on attentively.

Peer Assessment as Collaboration

Peer assessment tools provide students with many opportunities to interact and collaborate around any type of assignment, for individuals or groups of learners. These tools place students in a position that encourages them to become more active remote learners. **For instructors looking to improve the level of student engagement and interaction in their courses, peer learning tools may be ideal.**

The highest value in peer-to-peer learning is realized through active student engagement on the giving side of the feedback loop.

Technologies available today are able to grade students on the accuracy of their scoring and helpfulness of their feedback, incentivizing them to apply themselves in their interactions with peers.

In a recent case study at Texas A&M, entomology professor Craig Coates was able to improve engagement and decrease cheating in a course of 500 students — 200 in person and 300 online — using a peer assessment tool. The AI analyzed peer scoring on assignments to generate grades that correlate highly with how the instructor would grade those same submissions. Students were actively engaged in a variety of assignment types despite the high course enrollment, and the professor could focus attention on the submissions and students that required his immediate attention. The student response was “overwhelmingly positive.”¹

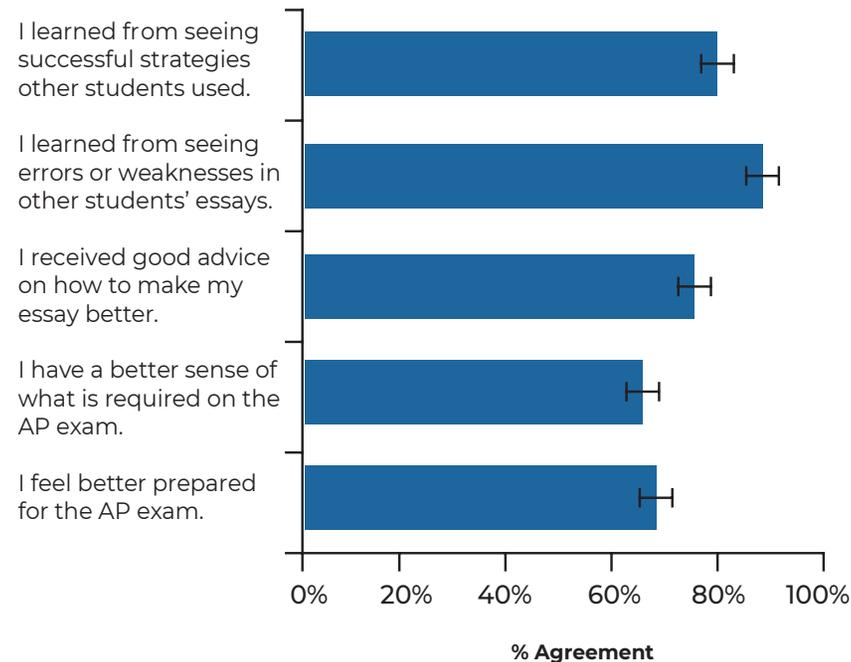


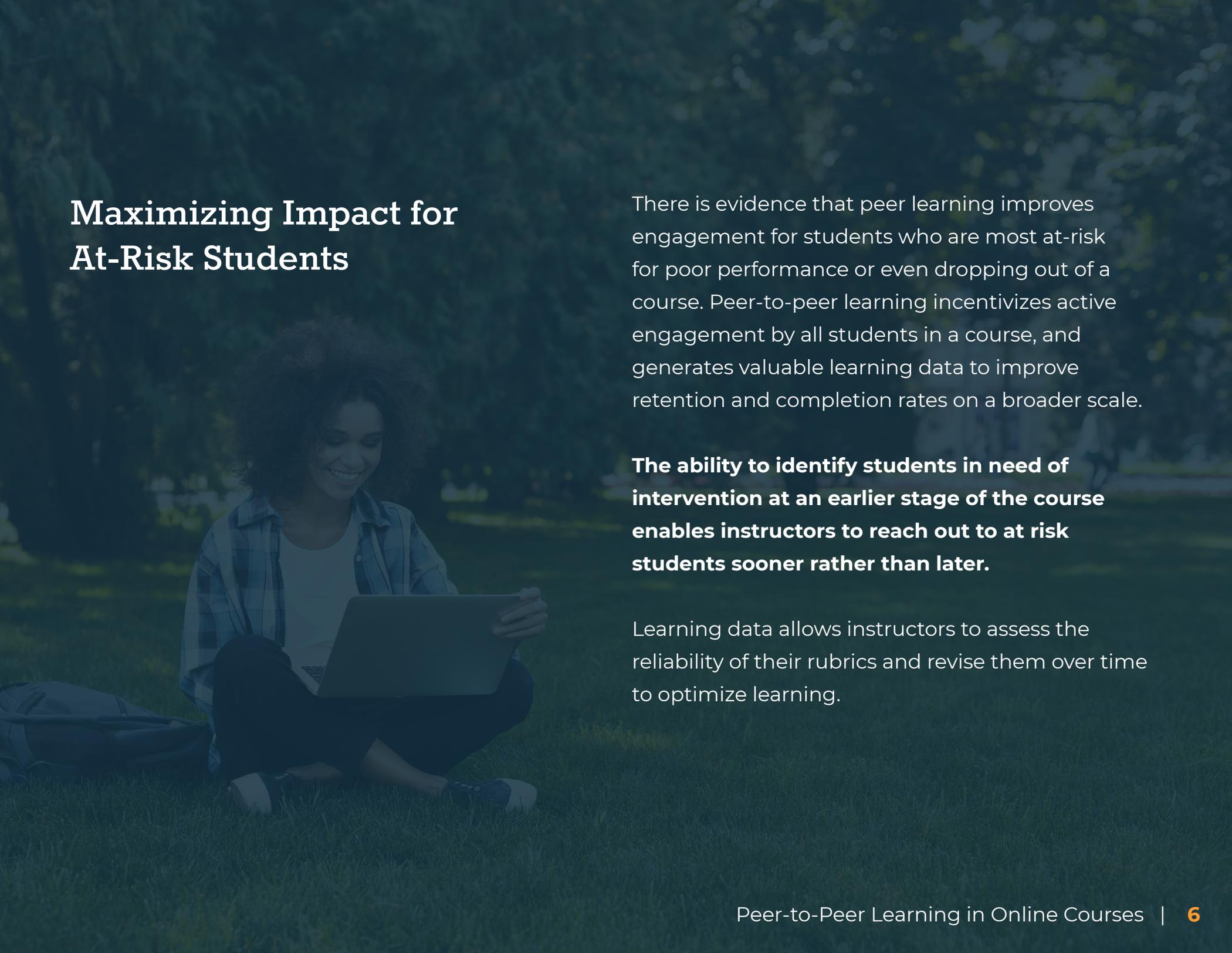
GAINING A NEW PERSPECTIVE ON COURSE MATERIALS THROUGH PEER LEARNING

When students are reviewing and commenting on the work of their peers they are presented with fresh perspectives and can gain valuable insights they might not have otherwise considered if they were passively receiving feedback from a single professor.

If a course is being conducted 100% online, whether by design or as a precaution, peer-to-peer learning tools can supplement learning management software to enable remote collaboration and facilitate a more active engagement in the course.

Percentage of students agreeing or strongly agreeing with each possible benefit of peer assessment of writing (with standard error bars).²



A student with curly hair, wearing a plaid shirt over a white t-shirt, is sitting cross-legged on a grassy lawn. She is smiling and looking at a laptop computer. A backpack is visible on the grass to her left. The background shows a blurred green lawn and trees.

Maximizing Impact for At-Risk Students

There is evidence that peer learning improves engagement for students who are most at-risk for poor performance or even dropping out of a course. Peer-to-peer learning incentivizes active engagement by all students in a course, and generates valuable learning data to improve retention and completion rates on a broader scale.

The ability to identify students in need of intervention at an earlier stage of the course enables instructors to reach out to at risk students sooner rather than later.

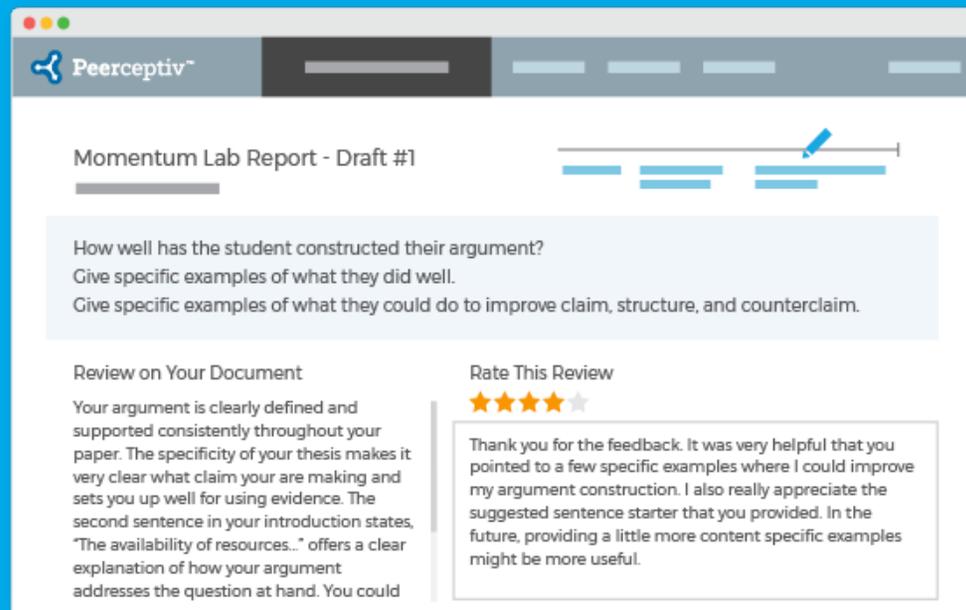
Learning data allows instructors to assess the reliability of their rubrics and revise them over time to optimize learning.

CREATING AN ENVIRONMENT THAT STIMULATES PRODUCTIVE COLLABORATION

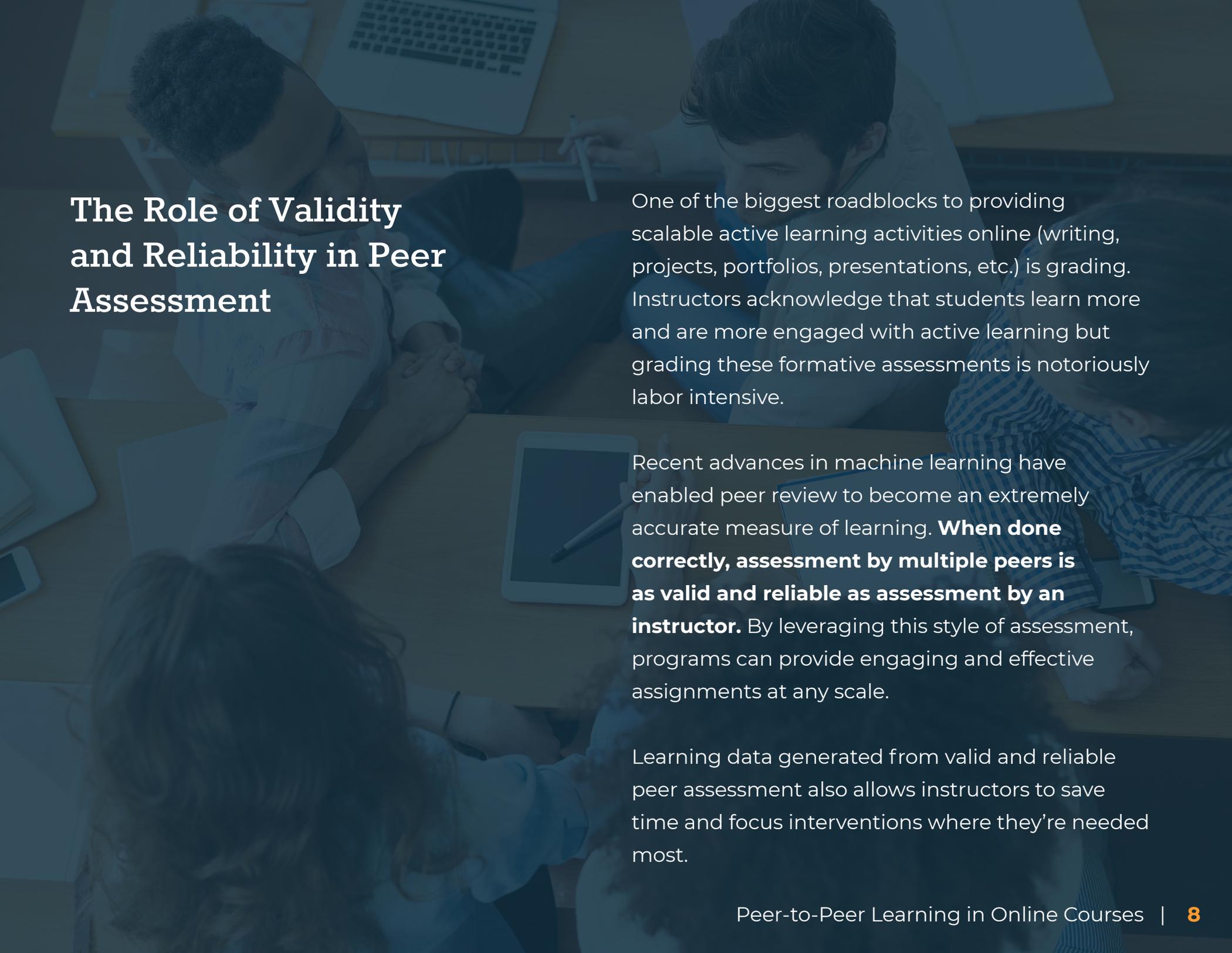
Research-based practices provide a framework that allows students to provide accurate and helpful feedback to one another when reviewing peer work products. The collaboration process should include peer feedback opportunities with clear examples of how the revisions should (and should not) be structured.

When students think critically about the work of their peers, they are able to engage with learning material on a higher level, as well as compare and contrast the work of their peers to their own.³

Guided instructor-created commenting prompts encourage students to provide high-quality, constructive, and specific comments to one another.



The screenshot shows the Peerceptiv web interface. At the top, there is a navigation bar with the Peerceptiv logo and several menu items. Below the navigation bar, the main content area displays a review prompt for a document titled "Momentum Lab Report - Draft #1". The prompt asks the reviewer to evaluate how well the student has constructed their argument and to provide specific examples of what they did well on and what they could do to improve. Below the prompt, there are two sections: "Review on Your Document" and "Rate This Review". The "Review on Your Document" section contains a paragraph of feedback from the reviewer, praising the clarity and specificity of the student's thesis and evidence. The "Rate This Review" section shows a five-star rating and a thank-you message from the student, appreciating the feedback and suggesting improvements for future reviews.

A group of students are gathered around a table, looking at a tablet. One student is pointing at the screen while others look on. The scene is dimly lit with a blue tint.

The Role of Validity and Reliability in Peer Assessment

One of the biggest roadblocks to providing scalable active learning activities online (writing, projects, portfolios, presentations, etc.) is grading. Instructors acknowledge that students learn more and are more engaged with active learning but grading these formative assessments is notoriously labor intensive.

Recent advances in machine learning have enabled peer review to become an extremely accurate measure of learning. **When done correctly, assessment by multiple peers is as valid and reliable as assessment by an instructor.** By leveraging this style of assessment, programs can provide engaging and effective assignments at any scale.

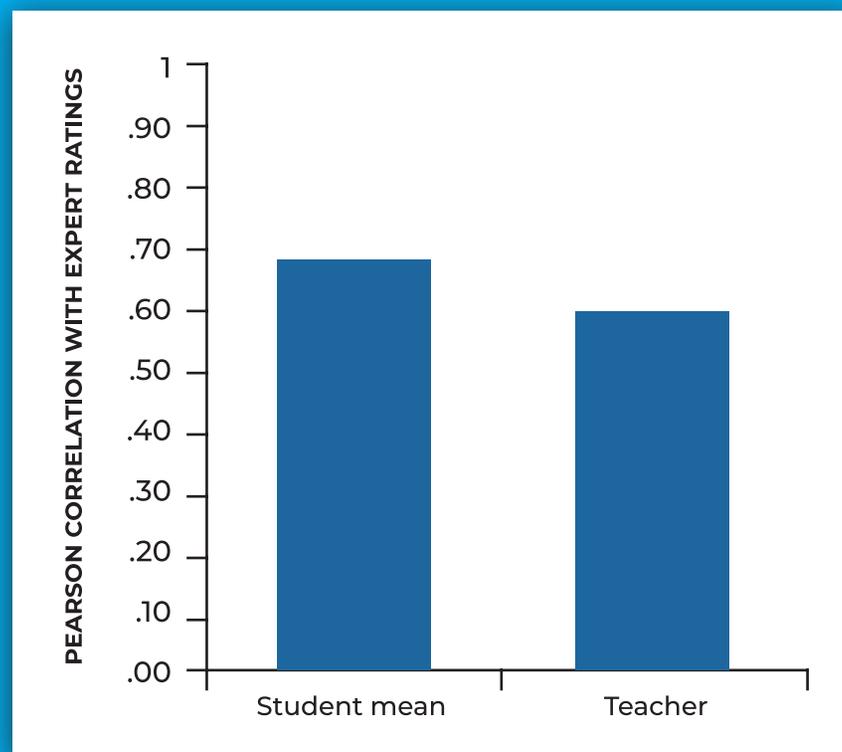
Learning data generated from valid and reliable peer assessment also allows instructors to save time and focus interventions where they're needed most.

WELL DESIGNED RUBRICS PROMOTE VALIDITY AND RELIABILITY

When an instructor uses the findings from peer assessment to inform their rubrics, the student engagement is improved and over time the course becomes increasingly more effective.

A recent study demonstrated that when using a carefully designed rubric, students provided ratings that were more valid than the ones provided by a single teacher and equally valid to the ones provided by expert AP scorers. When asked, a majority of students found their peers' feedback to be helpful.

Correlations with advanced placement expert ratings for mean student ratings and individual teacher ratings.²



A man in a light-colored suit and dark tie is shown in profile, looking down and to the right with a thoughtful expression. He is in a library, with bookshelves filled with books visible in the background. The entire image has a dark blue overlay.

Introducing Peer Assessment to Learners

Educators now have access to technologies that have significantly enhanced students' abilities to review the work of their peers. While some of these technologies guide students and instructors through the entire process, it is important that instructors introduce the concept thoughtfully.

According to one study, anonymity plays an important role in allowing for higher-level criticism and ultimately a more productive peer review process.² With a little guidance, students can gain (and provide) inspiration from peer feedback, improve how they communicate change to others, and ultimately improve the quality of their work.⁴

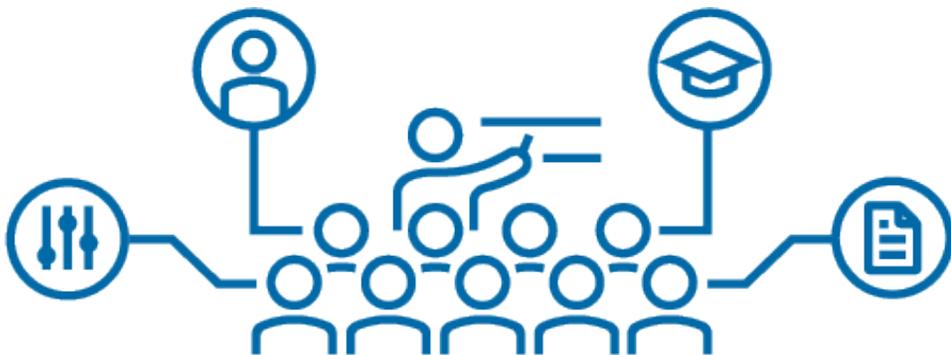
By keeping these four concepts in mind, instructors can expect to launch a successful peer assessment strategy in their courses.

1 Communicate the benefits of the process to students. They will appreciate the decision to include collaborative learning by understanding that they learn on the giving side of the feedback loop, improve their 21st century skills, and be better prepared for higher level courses or the workplace.

2 Maintain anonymity throughout the process. Students feel more comfortable and thereby provide more constructive feedback in a double-blind environment.

3 Use rubrics that clearly define the expectations for the assignment. Student facing rubrics should be constructed differently than expert facing rubrics and should help students internalize the standards on which their work is being assessed.

4 Have students peer review a variety of assignment types. Modern peer review tools allow for any type of assignment to be assessed. By having students submit presentations, infographics, and other interesting assignments, you are helping them become more familiar with the peer review process and enabling them to demonstrate mastery of the content in ways other than strict academic writing.



HIGHLY VALID AND RELIABLE PEER ASSESSMENT IS THE ENGINE THAT SUPPORTS SCALABLE ONLINE LEARNING

Instructors at all levels have long understood the learning value in actively engaging students in the role of teachers to their peers. The challenge has always been how to do this in an unbiased, consistent way, with the internal processes in place to allow it to self-sustain without constant instructor oversight. Today's peer learning tools now offer the validity, reliability, and learning data to generate meaningful outcomes regardless of learning model, discipline, or enrollment size.

If implemented and utilized correctly, peer learning can be the launchpad for successful learning communities that extend far beyond the virtual classroom.



Sources

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