

# AI-Enhanced Writing Self-Assessment: Empowering Student Revision with AI Tools



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This lesson won the 2024 JTILT Technology-Rich Lesson Plan Competition. It was not peer reviewed.

## OVERVIEW

This technology-rich, three-day lesson for 9th-12th grade English Language Arts students leverages artificial intelligence (AI)-enhanced rubrics and writing analysis tools (Ouyang & Jiao, 2021) to improve student writing and self-assessment skills. Students explore AI-enhanced digital rubrics, use AI tools to analyze their writing, and apply AI-generated feedback to revise their work. This approach enhances current writing assignments and develops critical thinking skills and digital literacy. Assessments include AI-generated feedback reports, peer evaluations, and final revised writing samples demonstrating improvement based on AI and peer input, equipping students with valuable skills for future writing tasks.

Topics: AI-Enhanced Rubrics, Peer Review, Revision Strategies, Writing Self-Assessment

Time: Three 50-minute class periods

## MATERIALS

- Computers with internet access (one per student)
- Access to a student-friendly AI writing assistant (e.g., [MagicSchoolAI](#), n.d.)
- [Student guide to understand AI-Enhanced rubrics](#)
- [Student-friendly AI prompts for self-assessment](#)
- [4-step process to ace AI-enhanced rubrics](#)
- [AI-Informed Peer Review Worksheet](#)
- Student writing samples from recent assignments or a teacher/AI-generated sample essay
- Projector or large screen for demonstrations
- Whiteboard or digital space for class discussions

## CONTEXT-AT-A-GLANCE

### Setting

Hawaii's public secondary schools, serving diverse students in a formal educational environment.

### Modality

In-person classes over three 50-minute sessions

### Class Structure

Flexible classroom setup with options for U-shaped or small group arrangements for collaboration.

### Organizational Norms

The schools reflect Hawaii's push for technology integration, driven by geographical isolation and the need for global connectivity. Most schools have 1:1 device programs and internet access.

### Learner Characteristics

The learners were 9th-12th grade students across content areas with varying levels of English proficiency and diverse linguistic backgrounds.

### Instructor Characteristics

Teachers should be familiar with AI writing tools and digital rubrics and be able to guide students through technology-enhanced writing assessments.

### Development Rationale

This lesson was created to address key challenges in writing instruction: a limited teacher time for detailed feedback, the need for immediate guidance on revisions, and varying English proficiency levels.

### Design Framework

Collaborative elements reflecting Pacific Island cultural values; leveraging AI tools to provide equitable access to writing feedback

## SETUP

Prior to the lesson, complete the following items:

- Ensure all devices are charged and connected to the internet.
- Test the chosen AI writing assistant on school devices to confirm student access.
- Prepare digital handouts (e.g., via a learning management system or shared drive) or print handouts for easy distribution.
- Arrange the classroom to allow for both individual work and pair discussions. Consider a U-shaped or small group setup to facilitate collaboration.
- Set up the projector or large screen for demonstrations.
- Create a digital collaborative space (e.g., Padlet) for class discussions and sharing insights.

## STANDARDS

This lesson aligns with the following Council or Chief State School Officers and National Governors Association (2010) standards for Writing, Grades 9-12:

- CCSS.ELA-LITERACY.W.9-12.5: Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.
- CCSS.ELA-LITERACY.W.9-12.6: Use technology, including the Internet, to produce, publish, and update individual or shared writing products.
- CCSS.ELA-LITERACY.W.9-12.9: Draw evidence from literary or informational texts to support analysis, reflection, and research.

## LEARNING OBJECTIVES

By the end of this three-day lesson, students will be able to:

- Interact with AI writing assistants.
- Engage in peer reviews informed by AI feedback.
- Produce revised essays.

## INSTRUCTIONAL STRATEGIES

This three-day lesson supports the following instructional strategies:

### Guided Practice

The teacher demonstrates the use of AI tools and guides students through initial interactions, providing scaffolding for new technology use.

### Collaborative learning

Pair work for rubric analysis and peer review encourages discussion and multiple perspectives, leveraging diverse student backgrounds.

### Individual Application

Students apply AI feedback to their writing, promoting ownership of the revision process and personalizing the learning experience (Su & Yang, 2023; Panadero & Romero, 2014).

### Reflective Discussions

Regular reflection helps students process new concepts and consider the role of AI in their writing practice, developing critical thinking skills.

### Scaffolded Technology Integration

Gradual introduction of AI tools, from demonstration to independent use, accommodates varying levels of tech proficiency.

### Culturally Responsive Teaching

Incorporating collaborative activities and allowing for multilingual support respects the diverse backgrounds of Hawaii's students.

### Differentiated Instruction

The AI tool provides personalized feedback, allowing students to focus on specific areas for improvement.

## CONTEXT AND SETTING

Hawaii's public secondary schools serve a uniquely diverse student population, presenting opportunities and challenges in writing instruction. The state's push for technology integration is driven by geographical isolation and the need to prepare students for a globally connected world. Many schools have a 1:1 device program, making this technology-rich lesson feasible across various settings.

AI tools in writing instruction address key challenges: limited teacher time for detailed feedback, the need for immediate guidance on revisions, and varying levels of English proficiency among students (Su & Yang, 2023). This lesson introduces AI-enhanced rubrics to provide more equitable access to high-

quality writing feedback and demystify AI as a tool to enhance human judgment in writing (Ouyang & Jiao, 2021).

The lesson is adaptable to different classroom setups, which is crucial given the varying technological resources across Hawaii's schools. It incorporates collaborative elements like peer review and group discussions, reflecting Pacific Island cultural values. AI tools can provide feedback in multiple languages, respecting students' diverse linguistic backgrounds.

The three-day lesson structure fits well within typical school schedules, allowing time for reflection and revision between classes. This three-day time also accommodates busy high school students who may need more time outside of class for extensive writing assignments. *In this article, italic text identifies questions or prompts for the learners.*

## LEARNING REPRESENTATION

### DAY 1: INTRODUCTION TO AI-ENHANCED RUBRICS (50 MINUTES)

#### OPENING DISCUSSION (10 MINUTES)

To start the Day 1 lesson:

- Engage students in a discussion about their experiences with rubrics and self-assessment.
- Prompt students with questions such as: *"How do you usually evaluate your own writing?" "What challenges do you face when trying to improve your essays?"*
- Introduce the concept of AI-enhanced rubrics and their potential benefits in developing self-regulation and performance (Panadero & Romero, 2014). See A Student Guide to Understanding AI-Enhanced Rubrics for benefits.

#### AI-ENHANCED RUBRIC DEMONSTRATION (15 MINUTES)

After the opening discussion, spend some time demonstrating an AI-enhanced rubric:

- Display a sample AI-enhanced rubric on the main screen (see A Student Guide to Understanding AI-Enhanced Rubrics).
- Compare it to a traditional rubric utilized in your classroom/school. Highlight key differences. See A Student Guide to Understanding AI-Enhanced Rubrics for a comparison of traditional and AI-enhanced feedback.
- Explain how AI can provide more specific and actionable feedback.
- Open/display the AI tool on the projector/large screen.
- Demonstrate how the AI tool analyzes a sample essay. Utilize similar prompts found in the Student-Friendly AI Prompts for Self-Assessment for this AI analysis. Point out the detailed feedback AI generates.

#### GUIDED PRACTICE (20 MINUTES)

After the demonstration, allow students to explore the AI-enhanced rubric:

- Distribute A Student Guide to Understanding AI-Enhanced Rubrics digitally (or via printouts).
- Have students analyze the rubric in pairs, identifying key criteria and performance levels.
- Using a shared document or collaborative digital space, ask pairs to rewrite one criterion to be more specific and measurable.
- Circulate to provide support and encourage critical thinking about rubric design. It is helpful if the teacher ensures students stay on task and are ready to share in the closing reflection.

#### CLOSING REFLECTION (5 MINUTES)

At the end of the lesson:

- Facilitate a brief class discussion on the potential benefits and challenges of AI-enhanced rubrics.
- Have students share one insight they gained about writing assessments.
- Preview the next day's activities, asking students to bring a piece of their writing to class. You can pre-load this piece of writing by implementing this three-day lesson near the end of a writing lesson/unit. It is helpful if students complete self-assessments of their writing prior to Day 2.

## DAY 2: USING AI FOR SELF-ASSESSMENT (50 MINUTES)

### REVIEW AND INTRODUCTION (10 MINUTES)

To start the Day 2 lesson:

- Recap the AI-enhanced rubrics.
- Introduce the Student-Friendly AI Prompts for Self-Assessment showcasing prompts that can be used in AI.
- Open/display the AI tool on the projector/large screen.
- Demonstrate how to input a writing sample and rubric into the AI tool.
- Address any student questions or concerns about using the AI tool.

### AI TOOL EXPLORATION (15 MINUTES)

After the review and introduction, guide students in an exploration of the AI tool:

- Distribute a digital sample writing/essay and rubric for students to practice with as a whole group. Have students open/download the sample writing/essay and rubric.
- Have students log into the AI writing assistant.
- Guide students through inputting the sample writing/essay and rubric in the AI tool.
- Analyze the AI-generated feedback as a class, discussing the strengths and limitations.
- Highlight how to interpret different aspects of the feedback (e.g., grammar, structure, content).
- Distribute and review the 4-Step Process to Ace AI-Enhanced Rubrics.

### INDIVIDUAL PRACTICE (20 MINUTES)

After guiding students in the exploration, have students practice individually:

- Students should access their piece of writing they completed after Day 1 or prior to this three-day lesson.
- Have students input their piece of writing and the corresponding AI-enhanced rubric into the AI tool (see A Student Guide to Understanding AI-Enhanced Rubrics).
- Students should review and take notes on the AI-generated feedback, focusing on identifying

patterns and key areas for improvement. Have students use the 4-Step Process to Ace AI-Enhanced Rubrics to assist them with this review.

- Encourage students to compare the AI feedback with their self-assessments (if completed).
- During this individual practice, the teacher should circulate the room supporting any technical needs and guiding students on how to read and understand their AI-generated feedback.

### REFLECTION AND SHARING (5 MINUTES)

At the end of the lesson:

- In pairs, have students share one insight from their AI feedback.
- Facilitate a brief class discussion on the usefulness of the AI feedback and any surprising discoveries.
- Assign homework: Students should review their AI feedback in detail and come prepared to discuss their revision plans. This three-day lesson could be extended and/or modified for this detailed review if homework is not feasible. Have students continue to use the 4-Step Process to Ace AI-Enhanced Rubrics to assist them with this detailed review.

## DAY 3: APPLYING AI FEEDBACK AND PEER REVIEW (50 MINUTES)

### OPENING DISCUSSION (5 MINUTES)

To start the Day 3 lesson:

- Discuss the importance of critically evaluating AI feedback.
- Explain the revision and peer review process.
- Emphasize the role of human judgment in the revision process.

### INDIVIDUAL REVISION (20 MINUTES)

Prior to peer-reviewing, have students individually review their AI-enhanced feedback and writing:

- Students should review their AI feedback and identify 2-3 key areas for improvement.
- Using the AI suggestions and their judgment, students should revise their writing samples.

- Encourage students to track their changes and note their reasoning for accepting or rejecting AI suggestions. It is important for students to maintain their original work, so they have an original and edited/revised version for the peer-review.
- During this individual revision, the teacher should circulate the room supporting any technical needs and chat with students on the 2-3 key areas for improving their writing. Teachers should support students in making decisions on accepting and rejecting the AI suggestions if they need it.

### PEER-REVIEW (15 MINUTES)

After students had time to individually revise their writing, they should begin the peer-review process:

- Introduce the AI-Informed Peer Review Worksheet explaining how to use the worksheet and what the students will do. Distribute this worksheet to students digitally (or via printouts).
- Have students get in pairs and exchange their original work, AI feedback, and revisions.
- Using the AI-Informed Peer Review Worksheet, students should offer additional suggestions and discuss the effectiveness of the changes.
- Prompt peers to consider “How well did the writer address the AI feedback?” “What human insights can you add?”
- Have students exchange the completed AI-Informed Peer Review Worksheet to one another and provide time for students to reflect on the feedback provided to them by their peer. It is helpful if students write a brief reflection for teacher review.
- During this peer-review, the teacher should circulate the room to ensure students are on task and providing constructive feedback to one another. It may be helpful to facilitate peer-review feedback in prior classes to support students in giving constructive, deep feedback to one another.

### FINAL REFLECTION (10 MINUTES)

At the end of the lesson:

- Facilitate a class discussion on the benefits and limitations of using AI for self-assessment.
- Have students share how they plan to use AI-enhanced rubrics in future writing tasks.

- Collect final revised essays, AI-Informed Peer Review Worksheets, and student reflections on the revision process.

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