

## Introduction

Artificial Intelligence (AI) in education has revolutionized assessment practices by offering **faster grading, real-time feedback, and scalable evaluation methods**. However, despite these benefits, AI grading raises concerns regarding **fairness, bias, and accuracy**, particularly in subjective assessments such as essays and creative writing.

This case study explores a real-world scenario in which an institution adopted **AI-based grading** to improve efficiency, only to face **unexpected challenges in fairness and equity**. Learners will analyze the case, identify key issues, and propose potential solutions.

---

## Case Background

### Institutional Context

Ridgewood University, a mid-sized institution with **over 15,000 students**, faced increasing challenges in handling **large-scale assessments**. Professors struggled with **delayed grading**, particularly for writing-intensive courses, where manual grading of essays took **weeks to complete**.

In response, the university implemented **AI-powered grading software**—EduGrade AI—to handle **short-answer and essay assessments**. The tool was designed to:

- ✓ **Reduce grading time** from weeks to days.
- ✓ **Provide instant, personalized feedback** for students.
- ✓ **Ensure consistency** in grading across large classes.

After its implementation, **grading time dropped by 65%**, and students received feedback within **minutes instead of weeks**. Faculty workload also decreased, allowing educators to **focus more on student engagement rather than administrative grading tasks**.

However, within a few months, **concerns about fairness emerged**.

---

## The AI Grading Controversy

### Issue 1: Bias Against Non-Traditional Writing Styles

Students from **diverse linguistic backgrounds** reported **lower-than-expected grades** on AI-graded essays.

- Some **ESL (English as a Second Language) students** found their work penalized for **minor grammatical deviations**, even though their arguments were strong.
- Creative writing students noted that **AI favored formulaic responses** over innovative or unconventional styles.
- The system **prioritized structure over originality**, leading to **higher scores for well-organized but generic essays** while **penalizing deep, critical analysis that deviated from traditional formats**.



*Thought Question: Should AI grading prioritize structure and mechanics over originality and depth?*

## Issue 2: Misinterpretation of Nuanced Responses

EduGrade AI was programmed using **machine learning models trained on thousands of past essays**. However, some student responses were **misinterpreted** by the system:

- A philosophy student submitted a **satirical essay** critiquing AI grading, using irony and humor. The AI **flagged the response as off-topic** and assigned a failing grade.
- A sociology student included **culturally specific examples** that **were not recognized by the AI**, leading to points being deducted for “irrelevance.”
- AI **struggled with complex rhetorical structures**, often marking **long, nuanced responses as unclear**, favoring **simpler, more direct writing**.



***Thought Question: How can AI grading systems be improved to better understand complex, nuanced, or culturally diverse responses?***

## Issue 3: Lack of Transparency in AI Decision-Making

One of the major complaints from students and faculty was that **AI did not provide clear reasoning for its scores**.

- Unlike human graders who provide **justifications and explanations**, EduGrade AI simply displayed a **numerical score with pre-written feedback**.
- Some students who **challenged their grades** found that **even when their essays were resubmitted without changes**, AI sometimes produced different scores.
- Faculty had limited ability to **override AI-generated grades**, leading to frustration when they believed AI **misjudged** a student’s work.



***Thought Question: Should institutions allow faculty to override AI-generated grades? If so, under what conditions?***

## Institution’s Response

After an internal review, Ridgewood University **re-evaluated its AI grading system** and made several modifications:

✅ **Hybrid Grading Model:** AI now serves as a **first-pass evaluator**, but **faculty review essays flagged as high-risk (e.g., low scores, unconventional writing styles)**.

✅ **Bias Reduction Training:** The AI model was **updated with more diverse training data**, including **ESL writing samples and non-Western rhetorical styles**.

✅ **Student Appeals System:** Students can **request human review** if they believe AI **misjudged** their work.

While these changes **addressed some concerns**, faculty still debate the **extent to which AI should be relied upon** in high-stakes assessments.

### Case Study Reflection & Analysis

#### Discussion Prompts:

1. *AI grading improves efficiency, but does it come at the cost of fairness? How can this balance be achieved?*
2. *What safeguards should be in place to prevent bias in AI-based grading systems?*
3. *Should AI only be used for formative feedback rather than summative assessments? Why or why not?*
4. *What role should **human educators** play in AI-powered assessment systems?*

#### Instructions

- Write a 250-word essay answering ALL of the questions in the discussion prompts and post in the forum
- Regular forum posting methods apply