Developing a Playbook of Equitable Grading Practices

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ABSTRACT

Traditional points-based grading can have negative impacts. As a result, many educators are experimenting with alternative grading practices that are more equitable for students. However, educators often face challenges in implementing equitable grading practices due to a lack of clear, practical descriptions of techniques and the fact that not all techniques are universally applicable. This working group addresses this problem using a three-pronged strategy: conducting a systematic literature review to gather documented techniques, compiling "recipes" or concrete descriptions of these techniques, and publishing them in an open-source, online "playbook" of equitable grading practices as a community resource for educators. This approach aims to make such practices more accessible and adaptable to various classroom situations.

CCS CONCEPTS

• **Social and professional topics** → **Computer science education**; **Student assessment**.

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KEYWORDS

Computer science education, Student assessment, Equitable grading, Specifications grading, Grading practices

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1 INTRODUCTION AND GOALS

Grading student work is a core aspect of education. Traditional grading practices using points-based systems are ubiquitous, where numeric scores representing individual assignment grades are combined using variations of weighted averaging to determine an overall course grade. However, educators are more frequently recognizing that such approaches may have negative consequences [2, 8, 10]. As a result, educators are exploring alternative approaches to grading that aim to address drawbacks of traditional practices.

Such approaches are often labeled *equitable grading practices* (EGP), because they are less subject to the implicit biases embedded in traditional grading practices [2]. They also offer increased opportunities to accommodate factors outside the classroom that can negatively affect students, including work schedules, family life situations, or caretaker roles. These factors can disproportionately affect students from marginalized communities. By providing

greater opportunities to reduce the grading impact of such external factors, which have nothing to do with content mastery or learning outcomes, such alternative practices can be more "equitable."

However, educators interested in EGPs often do not know where to start. While many educators would explore alternative grading if they knew how, lack of easy access to clear descriptions of practical techniques is a significant obstacle. This situation is complicated by the fact that not all techniques work in every situation, with trade-offs causing some to be more advantageous for particular class sizes, or particular learning tools, or particular course content, etc. This working group addresses this problem by compiling a readily available collection of recipes for applying the most common equitable grading practices using a three-pronged strategy:

(1) Perform a literature survey to collect documented techniques and the source materials necessary for deeper study.
(2) Use the literature survey together with experiences from members to compile "recipes" or tactics grouped around thematic problem areas typically addressed by EGPs.
(3) Publish an open-source, online *playbook* of these tactics using GitHub pages to provide a community resource for educators learning about equitable grading practices.

2 BACKGROUND

Traditional grading practices can reduce achievement, discourage students, and suppress effort [2, 8, 10]. Equitable grading practices aim to level the playing field for students of diverse backgrounds. Common core aspects that recur in many EGP approaches include:

- A *reduced grading scale* that approximates pass/fail grading, eliminating partial credit. Often, a grading scale may have only 2-4 distinct levels, rather than using a 0–100 scale.
- Direct ties between the grading scale and the learning outcomes for each assignment, where "passing" the assignment means demonstrating the required learning outcomes.
- Avoidance of zero scores for missing work, instead encouraging students to revise and resubmit work that does not meet expectations until mastery has been achieved.
- Avoidance of using grades to reward or punish "behavior" (rather than learning) by separating concerns for time management, process, effort, etc., from the grading scale.

Feldman [2], Rapaport [7], and Nilson [5] advocate for reduced grading scales. These proposals address the disadvantages of 0–100 scales [2, 4, 5, 7, 8]. Nilson suggests a pass/fail grading scale, while Rapaport proposes a three-valued grading approach [7]. The EMRN (or EMRF) scale [9] uses a four-level grading scale.

EGPs emphasize handling late, missing, or insufficient work by allowing resubmissions, rather than assigning a zero score. This approach lowers the stakes, aligns with learning outcomes [5], and provides additional practice opportunities. Moreover, it supports reduced grading scales by enabling students to rework assignments until they demonstrate the required level of achievement, an approach that Bowen [1] argues is best for learning.

3 METHOD

The **working group goals** are to **conduct a literature survey** that will be used to **compile recipes** of how EGPs are deployed and **publish an open-source, online playbook** of these recipes.

3.1 Phase 1: Literature Review

Using techniques for systematic reviews [6], the working group will define the scope of the search, use structured search techniques to identify candidate papers, and screen them for eligibility. The resulting references will be synthesized in Phase 2.

3.2 Phase 2: Compiling "Plays"

From the systematic review, we will identify specific deployment strategies for individual EGPs and group them into thematic categories. Individual plays (or recipes) will be described in the spirit of design patterns [3]. The identified categories will form "chapters" in the playbook. The playbook will be organized as an online HTML book, implemented through a jekyll-based repository hosted on GitHub and automatically rendered to HTML through GitHub's "pages" feature (https://cs-equitable-grading-practices.github.io/playbook/). Using a GitHub repository provides a direct path for community-driven contributions, updates, and future evolution.

3.3 Phase 3: Reviewing, Traceability, and Reporting

Each play in the playbook will be assigned one group member as the primary author for describing each play. Then two reviewers from the working group will review, critique, and revise the section in coordination with its primary author. In addition, the working group will use a traceability matrix that maps each reference produced by the systematic literature review to its corresponding play(s). This will ensure that all literature review results are included where appropriate. The summary report will describe the process and highlight the most important elements of the playbook.

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