When Students Love Exams (Happy Quiz): Reducing Tension and Increasing Learning Rate

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When Students Love Exams (Happy Quiz): Reducing Tension and Increasing Learning Rate

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Background

Exams or tests are vital part of teaching and good exams serve 4 goals [1]:
1. Help students organize their academic efforts.
2. Help students by identifying skills or topics that need more attention and mastery.
3. Help instructors recognize students mistakes and misunderstandings of topics so that they can adjust their teaching to address these issues.
4. Used as an indication of whether students are receiving the correct information.

There are many testing strategies, types of tests, and alternative testing modes, which are designed to help both instructors and students in doing a better job [1]. However, with exams comes tension and anxiety that hinder students' performance and may prevent students from learning and passing the course.

To reduce tension and make students feel more relaxed, the following strategies are used by many instructors [1]:
1. Advise students on how to study by helping them identify important concepts and guiding them on how to take notes.
2. Let students work and study in teams since many researches have shown that students learn more when studying in groups rather than studying alone.
3. Ask students if they need help such as explaining some questions in the exam or provide other options when students perform poorly in exams.
4. Help students by providing accommodations as required and especially for students with disabilities. Giving more time on exams or provide other options when students

Objective

The aim of this poster is to propose a novel testing approach that we called "Happy Quiz", which lifts tension and anxiety from students during test while increasing the learning rate.

Introduction

The basic idea behind the proposed approach or "Happy Quiz" is that the student lose no points when answer a question incorrectly while get points when answer it correctly. In other words, students will experience a risk free test and will dare to attend lectures and take exams. The happy quiz model since some models have fixed small portion of the total final grades while other models use a ratio of the specific assignment or test.

Happy Quiz - Grading by Students Model

In this model of the happy quiz, either students grade other students or grade themselves. In either case, students will be in control of grading with the right for instructors to do adjustments.

According to Supiano [3], this approach is very positive and makes students think seriously about it. In addition, students will learn how to criticize themselves. Benefits of this model is shown in Fig. 2.

There are two versions of the feedback model. In one version, the instructor grades an assignment then returns it to students. Next, students use the feedback to resolve the assignment after taking care of their mistakes. This version helps students identify their errors and learn how to correct them. To be fair, the final grade of the assignment is computed as the average of the grade before feedback and the grade after feedback.

In the second version of this mode, the instructor use the happy quiz in three different times in the course. First, it is used in the beginning of the course to ask students about their prior knowledge of the covered topic and expectations and they get extra point by answering these questions. Second, it is used in the middle of the course to ask students about teaching and grading to adjust accordingly. Finally, it is used in the end of the course to evaluate the performance of the course and adjust the syllabus for next semesters.

In this model of the happy quiz, the instructor is responsible for grading students. As a result, the instructor can analyze students' answers to discover their thinking pattern, how they relate what they learn to solve the given problem, and their learning rate.

Instructors can use this model to get true and reliable feedback from students since they write with no constraints. Consequently, students' response guide the instructor on how to help every individual student in the best possible way. In fact, this approach can be used in hard and complex problems in STEM classes to find out how student struggle with such problems.

Happy Quiz - Feedback Model

The name itself help students by reducing stress and let them focus on the problem. Although happy quiz and extra-credit approach in general adds substantial burden on the instructor for spending extra time in designing, grading, and analyzing tests, the impact on student learning is significant. However, the happy quiz is designed to give student extra-credits during the course and not at the end of the semester. Moreover, to keep a fair balance of grades and their usage, the extra-credits gained depends on the happy quiz model since some models have fixed small portion of the total final grades while other models use a ratio of the specific assignment or test.

We used all the aforementioned models of the happy quiz in CS 2000 (Python Programming) and CS 1200 (Programming in C for Engineers). We used 3 exams during the course distributed evenly over the period of the course. We utilized the happy quiz after the first exam since the students' performance were low. Results after using the happy quiz are very promising as student were more engaged and motivated.

References


Conclusion

In this poster, we proposed a testing approach called Happy Quiz that foster creative ways to reinforce learning objectives to produce high academic outcome by reducing tension while increasing learning rate.

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Quantitative Results

In Fig. 3, we show the average class grade for the 3 exams in CS 2000. The figure shows enhancements in students' grades in Exam-2 and Exam-3 since the happy quiz models are used after the first exam (Exam-1).

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