Anonymous Grading: A Win/Win for Faculty and Students

An anonymous grading policy is one most law schools have strategically employed for decades. This Paper will briefly address the major advantages of employing such a policy as well as some of the criticism; ultimately I will argue that anonymous grading is beneficial, even desirable, at the collegiate level in a variety of disciplines as it has been of significant pedagogical benefit in my undergraduate and graduate courses over the past twenty-five years.

At the core of the anonymous grading system is the elimination of bias. In academics, the potential for biased grading is at the heart of student assessment reliability.[1] Bias in essay grading may come in the form of a "conscious decision to boost the grades of students to whom instructors are favorably disposed, whether because of past academic performance, effort, or personality."[2] For students who do not have the past performance to enhance their credibility, bias may deny those students the "benefit of the doubt" when on the borderline between grades.[3] Bias may also be more generally placed on a group of students defined by immutable characteristics like race, gender, sexual orientation, age, and religion. [4] Thus, "if an instructor knows the identity of the student whose essay he or she are grading, that instructor may use past performance as a 'shortcut' to assigning an easy grade."[5] Clearly, anonymous grading benefits students in a variety of ways, and as educators, our role is to provide to the student an assurance of objectivity. In addition to guarding against bias by withholding the student's identity until after grading is complete, anonymous grading also "[p]rotect[s] teachers from accusations of bias" and "gives teachers (and students) more credibility when teachers want to endorse or support students who have done well in a class for admission to higher levels of education or for jobs."[6] Some criticism to anonymous grading include "making it harder for a teacher to reward classroom participation," inapplicability in settings where student projects are unique, and chilling student-faculty interaction;[7] however, a teacher can simply adjust the overall grade in light of classroom participation after anonymous grading is complete and, as such, students can still effectively interact with faculty.

Beyond those assertions, there are no major drawbacks to anonymous grading. A study at the United States Military Academy at West Point found that bias did exist in the context of non-anonymous grading.[8] Given the clear benefits, it makes sense for undergraduate and graduate instructors to continue with anonymous grading policies and for a variety of academic disciplines to adopt such policies. As a win/win, I have found that it provides for more open class discussions as students feel free to openly express their opinions and it instills in the instructor a sense of objectivity which is clearly understood and appreciated by the students.

Notes

[1]Robert Person, *Blind Truth: An Examination of Grading Bias*, United States Military Academy, 1, 1 (2013), http://www.usma.edu/cfe/Literature/Person_13.pdf.

[2] *Id.* at 2.

[3]*Id.*

[4]Vikram David Amar, *Why "Blind" Grading Makes Good Sense, and Should Be Used More Extensively Outside of the Context of Law School Exams*, Verdict, Jan. 17, 2014 https://verdict.justia.com/2014/01/17/blind-grading-makes-good-sense-used-extensively-outside-context-law-school-exams.

[5]Person, *supra* note 1, at 2.

[6]Amar, *supra* note 4.

[7]*Id.*

[8]Person, *supra* note 1, at 10.

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Pump in a Bucket: A Method for Teaching Teachers and Students Solar Energy Concepts

Introduction

Solar energy can be infused in many agriculture science courses at all levels. Pumping water with solar energy can be included in both plant science and animal science courses. Solar energy projects fit readily into a STEM career path curriculum. Topics include electricity, chemistry, physics, math and project design (engineering). Components for assembling and

demonstrating a solar-powered water pumping system are available online or from local DIY building centers. Curriculum (lesson plans, projects) for teaching solar energy are available online. The simplest system to assemble is called "PV-direct". The load (12 volt DC pump) is matched to the source (a 17 volt DC module). The voltage of the load and source need to be the same (12 volts).

Procedure

Materials for the project include a 20-watt solar module (designed for charging 12 volt batteries), a 12 volt DC bilge pump (300 gph), a five gallon bucket, and various pieces of ½ inch diameter PVC pipe and pipe fittings. Use no glue. Let your audience pick and choose fittings to assemble their project. The key is to assemble a structure which connects to the submersible pump, and moves water up and out of the bucket, and letting it return. A two-inch piece of 5/8-inch clear poly tubing is used to connect the barbed pump fitting to a poly barb x male pipe fitting (mpt) that screws into a PVC female pipe adapter.

When teaching the subject, introduce the audience to an operating system. The leads of the module are connected to the leads of the pump outside of the bucket of wire with wire nuts. When the module is exposed to the sun, DC current is sent to the pump. Adjusting the tilt angle of the module toward the sun affects the performance of the pump. Teachers and students are drawn to the sight and sound of the flowing water. Working in small groups, have several sets of PVC components on tables with pumps and buckets. Some audiences will go back to the working model and attempt to copy or replicate. Others attempt to create their own model. Demonstrate how to safely connect the ends of the pump leads to the bare ends of the pump leads. Wire nuts can be used to secure the ends. Be sure the leads are outside of the bucket and not submerged in the water.

Any hands-on activity involving electricity needs to include a discussion of personal safety. A solar module exposed to the sun can produce electrical current. Use a digital meter to measure power output (voltage and current). Make sure modules are positioned face down when making connections to the ends of the leads. Have your audience ask what the expected level of voltage or current is before taking the measurement. Follow this with the taking of the measurements. Is your meter functioning correctly? Be familiar with functioning of the meter. Solar energy produces Direct Current (DC) electricity. A clamp on meter can measure electrical current by clamping around the leads.

Assessment

Several opportunities to assess student learning exist. A pre-activity survey can measure student knowledge and skill set working with solar energy systems. Compare the findings with a post-activity survey. Another method is to have a prepared worksheet with questions. Have your audience illustrate the flow of electrical current, and/or draw a pictorial diagram. Expand on the activity. Wire multiple modules in series (+ to -) or in parallel (+ to + and – to -) to see the effect of altering the flow of electrical current. What happens when the module is shaded? Develop a student solar fair competition. Have groups of students demonstrate methods of using solar modules to move water for various projects such irrigation, hydroponics, aquaponics and livestock watering.

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Bringing the world to your classroom: Using WebEx™ conferencing to bring experts to your course

Introduction

When we, as educators, step into the classroom, we are the experts for the day, but each of us also knows that there are others that usually know at least part of that day's topic better than we do. When I was asked to develop a Nutritional Genomics course for students in our Agriculture and Life Sciences College, I had taught basic Animal Genetics for 10 years at another university, and certainly used many genetic and genomic assays and approaches in my own research. However, I also appreciated the fact that there were other experts in the areas I was going to cover, and so I thought about ways to bring these experts to my students. However, the cost of bringing experts to my classroom from all over the world, each with speaking fees, hotel and airfare expenses and per diems was not feasible to propose to my department. So, I started thinking of other ways that we could bring experts to the classroom using online conferencing technologies.

There are several different conferencing platforms that can be used, each with strengths and weaknesses. Several online sites provide a ranking of online conferencing tools, including G2 Crowd [1], Online Meeting Software Review [2], and Capterra [3] among many others. PC Magazine recently reviewed 10 of the top web-based conferencing tools for price, ease of use and meeting features [4]. Our university contracts with Adobe Connect™, Skype, Google Hangouts™, and WebEx™ Conferencing. For this course, I decided to use WebEx™ Conferencing because I was already familiar with using it during my summer online course, it had tech support from both our university and the company, and it allowed me to have multiple users join the conference and share audio, video and file sharing from anywhere in the world. Also, once I had created an account, I had my own private meeting room which allowed for immediate set up of meetings.

Procedure

Once I had decided on the topics for my course, I started looking for guest speakers for the Friday interactive sessions. My course is at 8 AM in the Eastern time zone, so this limited me to those in the Eastern, Central, and European time zones, as I was quite sure scientists in California would not want to give a 5 AM lecture. I was able to find scientists from the University of North Carolina, University College, London, University of Madrid, Spain, University of Cambridge, London, University of Pisa, Italy, and a company-AFB International in St. Louis Missouri, as well as several speakers who were at my home institution of Virginia Tech and gave the traditional in-class seminars. For all speakers using WebEx™, I sent a WebEx™ "quick start" document, and the link to my personal WebEx™ meeting room at least one week in advance. We then set up a 15-30 minute time prior to their class session to test the system. Speakers did not have to load any software, but simply copied the web address into their browser window and virtually entered my meeting room. They then connected the audio and video, which was easily done through a series of clicks on graphics within the meeting room, and we were ready to go. To share a PowerPoint file, another interactive graphic allowed them to click and either share their desktop, which was showing the PowerPoint presentation, or share their file, which would show their PowerPoint in the meeting room window. Most of my speakers had never used WebEx™ conferencing prior to our meeting and all of them were able to quickly set up in my meeting room within about 15 minutes during our test session. During this time I also asked speakers if I could record their presentation, using the WebEx™ record feature, and most agreed. Students likewise used the link I provided and entered the meeting room during class time, setting up their audio and video for use during the session.

The WebEx™ class sessions were run as follows: The speaker and I usually met in the room at least 10 minutes prior to class start time, and students entered within 2-5 minutes of class start time. Note that students did not come to our regular classroom, but logged in from home, the library or the coffee shop. Once I saw that everyone was in the meeting room, I would start the recording (if the speaker had previously agreed to it) and would introduce the speaker. I would then ask the students to answer a question related to the day's topic as they introduced themselves—for example, on a day were the topic was the genetics of lactose intolerance, I asked the students to tell everyone whether they were lactose tolerant, or intolerant. This question got the conversation going between the speaker and the students, and sometimes, short discussions around that question arose during this introduction time. The speaker then started their 20-25 minute presentation. During the presentation and any time that students were not talking or asking a question, I had everyone but the speaker turn off their mics. This reduced the background noise in the meeting room. To preserve bandwidth, I also had everyone turn off their videos, except the speaker so that we could see him or her doing the presentation. The class ended with a question/answer period, which usually went over class time as most of the speakers were able to generate a lot of interest in their topics. I posted the recorded sessions on our learning management system for students to review.

Results

Most of the speakers have agreed to speak again next year, even though I did not offer any pay or compensation for their time. Following each WebEx presentations I did have the students write a brief thank-you note on VT/Hokie Bird paper, and sent the student notes, my own personal thank-you note, and a VT/Hokie Bird pen to each speaker (even those at Virginia Tech). In the end of the year course reviews, students commented that "it's been one of my favorite classes over my entire college career so far" and that "The weekly guest lectures were awesome - I learned so much from these professional researchers in diverse fields and, importantly, I gained new perspective on some very relevant issues by listening to their talks". In summary, using WebEx™ or any other web conferencing software can allow professors to bring experts directly to the classroom with little to no cost, very little time commitment, and very few problems. As an aside, I've also run my class from home or during a business trip using WebEx, and I've used WebEx conferencing to virtually meet with students who had questions about course materials, and graduate students who wanted to talk on a weekend about a new finding. I highly recommend using web conferencing in the classroom or other facets of academic work, and can envision this technology used in many different disciplines in Agricultural Sciences.

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The Student-Developed Quiz (or Exam): Scaffolding Higher-Order Thinking

Introduction

Active learning can facilitate students' absorption and integration of classroom material (See, for example, Myers & Jones, 1993; Prince, 2004). Active learning can include problem-solving exercises, group work, case studies, and roleplaying, among other activities. In these strategies, however, the assessment of such learning typically remains the domain of the instructor. The dynamic is clear: students learn, teachers assess. In employment situations, however, students must regularly assess their own competencies and performance. For example, employees must continually assess their on-the-job performance and, when given new projects, must assess the extent to which their current knowledge is sufficient. Teaching students how to assess their own knowledge and learning, therefore, is a valuable skill.

One way to teach student how to assess is to invite students to build their own quiz or exam. The act of creating a quiz is both a fun in-class activity and, also, a valuable pedagogical practice. Including students in the process of developing a quiz or exam invites students to higher-order thinking: Rather than just memorize or apply the material, they must think about how to evaluate the material (For more information, see Bloom, 1956). This activity provides what Hogan and Pressley (1997) describe as scaffolding: instructional support that encourages students to function at their highest cognitive capacity.

Procedure

This Teaching Tip outlines one procedure for having students build their own quiz. This procedure was designed for a large undergraduate classroom. The steps are as follows:

Step 1: Approximately two class periods before the quiz or exam, instructors should provide a brief in-class review of the material to be covered on the quiz or exam. Then, give each student an index card, preferably a card that is at least four inches by six inches. Instruct students to create one potential quiz question each, and to write that question on the notecard. The question may be of any format (i.e., multiple choice, true/false, essay, etc.). Students must also write the answer. Students may work alone or in pairs, but must write their name on the card. When finished, students turn in the index cards to the instructor. The cards can be used to note attendance and/or award participation points.

Step 2: During the next class period, the instructor can use the students' suggested questions to help students prepare for the quiz or exam. This can be done by displaying the best questions on a PowerPoint and discussing the answers as a class. The instructor should take care to praise the students' questions and to note any patterns the instructor observed when reviewing the students' questions. For example, the instructor might note that many of the questions revolved around a particular topic or theme, or that none of the questions addressed a particular topic or theme.

Step 3: Develop and administer the quiz. In developing the quiz, the instructor will want to use as many of the students' suggested questions on the quiz as possible. Of course, the instructor may edit, adapt, and/or combine the students' suggestions as needed.

Step 4: During the class period immediately following the quiz, ask students about their experience developing and, then, taking the quiz. Some students will appreciate the learning challenge and will feel a sense of accomplishment. Some students will appreciate the shift in dynamic from teacher-driven assessment to student-driven assessment. Other students will be uncomfortable with this process and the ambiguity inherent in such a shift in roles. Take care to encourage both positive and negative responses, and to validate all students' experiences.

This procedure may be modified as appropriate. For example, students could work in small groups of three to four students to develop a number of quiz questions (e.g., 10 questions per group).

Assessment

This teaching exercise is effective on three levels. First, it is engaging. Students enjoy the challenge of thinking up quiz questions and the pride of seeing their questions on the actual quiz. They often find that it is harder than they would have imagined. Second, the process is itself a form of assessment. The type and difficulty of the questions generated by students give instructors another opportunity assess students' comprehension. For example, instructors may see areas where students are still confused or, alternatively areas where students may be encouraged to think more critically. This information can be used to review material or update teaching methods. Finally, this exercise improves students' analytical skills. In thinking about potential quiz questions, students must approach the course material from a fundamentally different perspective—that of the evaluator or assessor.

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