CRES Programs for Legal Education

David Bogen (with Eric Sherbine)

CRES Programs for Legal Education

Students complain that they do not get enough feedback on their progress through the year. Faculty members complain that students cannot write, although they often mean that students cannot analyze in writing. But mid-semester examinations are a pain to grade and often do not cover enough material to challenge students in recognizing the issues. Multiple choice examinations are weak choices for issue spotting, time consuming to construct, and offer no opportunity for writing. Most forms of examination grading do not really help the student understand exactly what they should be doing. Sample answers alone may or may not be read, but are likely not to be internalized. Wouldn't it be nice if there were a mechanism for students to analyze multiple issues with complex answers that the instructor need not grade, but that gave the student feedback on their progress and tools to improve their analysis in the future?

The CRES Program

Alan Tyree of Sydney University developed such a mechanism over a decade ago, which he called the Critical Review Examination System [CRES]. Tyree wrote about the theory and the analysis, and he implemented the test at the University of Sydney across a variety of law school courses for several years.[1]

> [Multiple choice examinations'] perceived limitations suggest the use of more traditional problem type tutorial questions where the student is required to write an advice. The technical problem, of course, is how to handle the free form response from students. The solution adopted by the CRES method is so simple as to be embarrassing: after the student answer has been "submitted" the computer asks the student a number of simple yes/no questions about the submitted answer. The practical effect of these "critical review" questions is that the student marks their own answer. The "critical review" questions may be arranged in a tree structure so that a variety of possible student answers will result in a pass, thus facilitating the use of questions which have no "right" answer.[2]

Tyree argued that such a test was much easier to create for complex issues than traditional computer assisted learning. Multiple choice exams can test specific points of learning and application, but have difficulty in dealing with complex issues. By asking for traditional essay answers, the teacher can test for the same analysis and reasoning that is usually tested. Students enjoyed the tests Tyree and his colleagues created and did marginally better on final examinations there than those who had tutorials with professors and did not use the quiz.[3]

---

[1] Tyree has made a number of presentations on his theory and methodology which can be found on his web page. http://austlii.edu.au/~alan/teaching.htm

[2] Alan Tyree, *The CRES Tutorial Method* at http://austlii.edu.au/~alan/teaching.htm

[3] "The first use of CRES as a pure tutorial system was in International Law at the University of Sydney in 1992. Students were given a choice of using the CRES tutorial system or attending ordinary tutorials. Almost exactly half

The Educational Threat

Then, nothing. The nuisance of test creation and the failure to get credit for working on the test combined with inertia to end its use. Another factor may have been the comprehensive teaching theory that accompanied it. Professor Tyree was spurred to this development by his appreciation for the Keller Plan or Personalized System of Instruction. This proceeds from traditional learning methodology commonly understood at schools of education.

> Mastery learning assumes that our students can learn the material which we teach. Under that assumption, the basic concepts of mastery learning involve only two things. First, we tell our students what it is that we wish them to learn. Secondly, we provide them with the means to evaluate their own performance, that is, to determine if they have in fact learned the material.[4]

Getting law professors to state precisely what their students are to learn is not easy. Law professors are much happier with vague notions - "getting to think like a lawyer" or "understanding the issues and reasoning intelligently about them." While there are areas of definition or uncontroverted law – e.g. a contract is an enforceable promise, or defendants have twenty days to file an answer to a complaint – those are not considered the "important" things being taught. For better or for worse, insisting that teachers be able to articulate what they are teaching in law school does not have much of a history or find a receptive audience. Professors are likely to respond with pejoratives and give little heed to the message.[5]

Tyree's theoretical basis is threatening at an even more basic level. The Personalized System of Instruction methodology is self-paced, so students during the course of the year would be at different points of the material, making the traditional classroom lecture format unworkable. Thus, theoretically the teacher would either have all the lessons online or would film lectures so that students could view them on their own time. Recognizing that students would get no experience in oral skills, Tyree would have personal tutorials to develop those skills. Nevertheless, the title of Fred Keller's seminal article may explain part of the resistance to his ideas - Keller, FS, *"Good-Bye Teacher..."* (1968) JOURNAL OF APPLIED BEHAVIOUR ANALYSIS 179-189.

But, in fact, the simple technique that Professor Tyree developed can be divorced from concerns over the educational theory behind its initial creation. Freed of that baggage, perhaps more people may find it useful and try it. It does not require students accept a single answer as correct, but can be used by instructors to show how arguments can be made both for and against

---

of the students chose computer tutorials. The 'computer' students did marginally but consistently better in two examinations." *Id.*

[4] Alan Tyree, *The Keller Plan at Law School*

[5] I think it is for worse. Faculty probably can describe a process of reasoning and argument essential to learning as well as specific principles and reasons behind doctrine in specific subject areas. Whether a student can make different types of arguments and make the application of facts to argument in that subject area is something that we can test and the student can determine whether they have mastered it.

a given proposition. As a supplement to class, it helps students check on their understanding and gives them personalized feedback.

How to Construct a CRES Program

The construction of a question for the program is simple. The instructor needs to construct an essay question with a model answer, although the answer may simply involve discussion of a variety of opposing arguments. For example, a damages question may be posed with an essay question that has arguments for both sides. **(Damages #6)**

> Our client, a semi-professional clown who appears at birthday parties, has entered into a two year agreement with the National Tobacco Company to play the role of "H.R. Snuff-n-Puff" in a series of print ads and personal appearances. Three months into the agreement, National scraps the campaign, and offers your client a settlement that she considers to be too small. National says "O.K., you can sue, but don't expect us to pay for you to sit around for 21 months when there are plenty of birthday parties to do." She's tired of birthday parties, and is actively seeking another hard-to-find position as a corporate mascot. Once you have made it clear that you will not accept "play money" for your fee, how would you advise your client?

The student then writes an essay answer in the box that should discuss whether damages will be reduced by the amount she could have earned as a birthday clown. At the conclusion of the answer, the student will hit a button labeled "submit" (or F4 on the keyboard). This produces a prompt that asks "Have you advised that being a clown at birthday parties is not substantially similar work with which your client can mitigate damages?" There are "yes" and "no" buttons to click. If the student clicks on "no", she will be taken to a box that asks whether she advised that being a clown at birthday parties is substantially similar work. If she still clicks on "no", the program tells her "you were asked to advise!" Then it says to click "yes" to proceed so that the program will have an answer to deal with.

If the student had clicked on "yes" to the original question, she would be taken to a box that discusses reasons for making that argument, e.g..

> "You will argue that your client has no duty to mitigate, and that recovery may be reduced by the amount that a party could have reasonably avoided. Birthday parties are not similar to being a corporate spokesperson, and your client was reasonable in not seeking such work. Have you explained this in your answer?"

Whether the student says "yes" or "no" to this question, she will still be taken to a box that discusses the counter-arguments to the proposition that being a clown is not substantially similar work, e.g.

> "National will argue that your client is a first and foremost a clown, in the business of dressing funny and cavorting around. It is reasonable for her to accept birthday parties rather than attempt a low probability job search. Have you explained why this does not apply to the present fact situation?

If the student had said "no" to the original question, and "yes" to whether she advised that working at a birthday party is substantially similar work, she would be taken to a box that raised the argument that should be made in favor of similarity and asked whether the student addressed why she thought the argument did not work, e.g.

> You will argue that your client has no duty to mitigate, and that recovery may be reduced by the amount that a party could have reasonably avoided. Birthday parties are not similar to being a corporate spokesperson, and your client was reasonable in not seeking such work. Have you explained why this does not apply to the present fact situation?

Whether the student said "yes" or "no" to this question, she would still be taken to a box that discussed the argument that being a clown is not similar work, e.g..

> National will argue that your client is a first and foremost a clown, in the business of dressing funny and cavorting around. It is reasonable for her to accept birthday parties rather than attempt a low probability job search. Have you explained this in your answer?

At this point, the student has been able to determine whether she addressed the crucial issue in her essay answer and made arguments on both sides to support her conclusion. However she responds to the last question, she will be taken to a box that discusses the question, e.g.

> This is an issue of mitigation of damages. While your client has no duty to find other work to replace her National engagement, she cannot recover for a loss that she could have avoided without undue risk, burden, or humiliation. Restatement of Contracts §350. The argument will involve defining your client's profession. National will attempt to portray your client as a clown who, by turning down birthdays, does not make reasonable attempts to avoid the loss. You will portray her as a performance artist seeking work similar to what she had with National, and thus birthday parties were not "substantially similar" work. For §350 purposes, reasonableness is a measure of the injured party's attempts to avoid the loss -- not a measure of her decisions regarding the available alternatives. Parker v. Twentieth Century-Fox Film Corp., 474 P.2d 689 (Ca. 1970).

Of course, you, the reader, could have produced a much better question and answer, but this gives the idea – showing how the essay question format can produce an answer that requires analysis of opposing arguments, and illustrating to the student what kinds of arguments she should have made.

Further examples may be found at on the Maryland Law School website http://www.law.umaryland.edu/faculty/dbogen/menu.html

Many of the examples also offer hypotheticals changing the facts in the middle of the answer to accentuate the effect. The question may be an open one while fact changes illustrate the significance of facts to the answer without having to write another essay. (e.g. Formation 4 (House offer and acceptance when counteroffer)

It is possible to ask a long question with multiple issues. (e.g. Formation 6 (Frank's deathbed offer), Damages 5 (Delivery failures and cover). At the conclusion of analysis of one issue, the response can take the student on to questions about the second issue rather than to a single final response. The instructor can choose whether the answer should simply involve straightforward information, application of principles, or even complex and controversial arguments. Basically, if you were to tell someone else how they should mark your exam, you can build in those instructions to the Critical Review system. The student then sees what is important to put in an examination by responding to questions about whether they have included it or how they distinguished or applied it. Students may also have different insights and think of points that the instructor failed to consider – and they should be encouraged to ask the instructor directly (by email or other discussion mode) about those points. The instructor can then use this feedback to revise the answer, make the question clearer or more complicated, or simply add steps to the critical review process that encompass the additional responses.

[slide show uses Formation #1 Offer and Acceptance example of Picasso sale in class]

The fields demonstrate the branching arrangement, i.e. answer yes to #1 takes the student to #2 while an answer no takes the student to #4.

The creator of the program can create an excel spreadsheet to show where answers to each question should take the student, as follows:

FldQuestionNo.	FldQuestionText	FldYes	FldNo
Intro	Your client, a semi-professional clown who appears at birthday parties, has entered into a two year agreement with the National Tobacco Company to play the role of "H.R. Snuff-n-Puff" in a series of print ads and personal appearances. Three months into the agreement, National scraps the campaign, and offers your client a settlement that she considers to be too small. National says "O.K., you can sue, but don't expect us to pay for you to sit around for 21 months when there are plenty of birthday parties to do." She's tired of birthday parties, and is actively seeking another hard-to-find position as a corporate mascot. Once you have made it clear that you will not accept "play money" for your fee, how would you advise your client?		
Final	This is an issue of mitigation of damages. While your client has no duty to find other work to replace her National engagement, she cannot recover for a loss that she could have avoided without undue risk, burden, or humiliation. Restatement § 350. The argument will involve defining your client's profession. National will attempt to portray your client as a clown who, by turning down birthdays, does not make reasonable attempts to avoid the loss. You will portray her as a performance artist seeking work similar to what she had with National, and thus birthday parties were not "substantially similar" work. For § 350 purposes, reasonableness is a measure of the injured parties attempts to avoid the loss -- not a measure of her decisions regarding the available alternatives. Parker v. Twentieth Century-Fox Film Corp., 474 P.2d 689 (Ca. 1970).		

1	Have you advised that being a clown at birthday parties is not substantially similar work with which your client could mitigate damages?		2	4
2	You will argue that your client has no duty to mitigate, and that recovery may be reduced by the amount that a party could have reasonably avoided. Birthday parties are not similar to being a corporate spokesperson, and your client was reasonable in not seeking such work. Have you explained this in your answer?		3	3
3	National will argue that your client is a first and foremost a clown, in the business of dressing funny and cavorting around. It is reasonable for her to accept birthday parties rather than attempt a low probability job search. Have you explained why this does not apply to the present fact situation?	final	final	
4	Have you advised that being a clown at birthday parties is substantially similar work with which your client could mitigate damages?		5	7
5	You will argue that your client has no duty to mitigate, and that recovery may be reduced by the amount that a party could have reasonably avoided. Birthday parties are not similar to being a corporate spokesperson, and your client was reasonable in not seeking such work. Have you explained why this does not apply to the present fact situation?		6	6
6	National will argue that your client is a first and foremost a clown, in the business of dressing funny and cavorting around. It is reasonable for her to accept birthday parties rather than attempt a low probability job search. Have you explained this in your answer?	final	final	
7	You were asked to advise! Press "Yes" to continue.	final	final	

How to Foul Up an Empirical Study: Results from the Use of CRES in first year Contracts – Lying with Statistics

Alan gave me the underlying program on which to put my own substance when I visited Sydney on sabbatical in 1995. In 1997, I put a quiz in contracts together with the help of Harry Malone, who was then a student. I made this quiz available to students whenever I taught contracts. Those students who used it were enthusiastic about the feedback and the practice they got. But most students did not use it, since they had to come to a closed room in the library to take advantage of the test.

In 2005-06, with the help of Lila Faulkner, the director of academic technology at Maryland, and second year student Eric Sherbine, we were able to make the quiz available to students at home through the blackboard site for their course. There were a total of 29 questions: 7 questions on contract formation, 9 on consideration, 4 on excuses for non-performance, and 9 on damages. I told the students about the available quizzes and invited them to use them as they wished and give me their names so I could track the progress. When you click on a question, it is necessary to write something (even one letter of nonsense does this) and then respond to all the questions about that answer before being able to get out of the program. Thus the student who looked at any question had to progress all the way through it.

Due to fortunate scheduling, I had two sections of contracts that year – section 1 had seventy-seven students and section 2 had one hundred. Professor Tyree had claimed marginal

but not statistically significant improvement for his students using the system.[6] The large numbers in my sections at least gave me an opportunity to explore whether the CRES system had any impact on my students. Sixty-three percent of the students in each of the sections at least looked at the quiz (110 of 177 students) and 92 students took at least four questions. Students in section 1 averaged 17.4 questions apiece (49 students doing 856 questions). Students in section 2 averaged 14.5 questions apiece (63 students doing 914 questions.

Out of curiosity, I cross checked the grades of students who had taken the quiz against those who had not. In both classes, students who reported that they took at least one question on the quiz had a mean grade at least .22 higher than students who did not. Treating them as a combined class, takers had a mean grade .283 higher than nontakers, and students who attempted more than four questions had a mean grade .294 higher than nontakers. In effect, students who said they took the quiz had a B average and those who did not averaged B-. For section 1, those who took 25 or more questions from the quiz had a mean grade of 3.178, which is .333 higher than non takers. For section 2, the disparity was even greater - .523.

	§1	§2	Total
Non Takers	**2.845**	**2.810**	**2.824**
Quiz Takers	**3.067**	**3.142**	**3.107**
Quiz Takers (5 or more Q)	**3.083**	**3.148**	**3.118**
Quiz Takers (15+)	**3.144**	**3.154**	
Quiz Takers (25+)[7]	**3.178**	**3.333**	
Class Average	**2.987**	**3.046**	**3.020**

Although the results appear statistically significant, the appearance is deceptive. They illustrate almost every major flaw in doing empirical research. First, the basic data was compromised. There were 138 hits on questions where the user did not provide a name: 54 hits on consideration, 28 on damages, 16 on excuses and 40 on contract formation.[8] Several of these were my fault, because when I accessed the program to demonstrate a question or check on how

---

[6] "The International Law CRES tutorial system consists of eight CRES examinations. Each examination contains between six and ten CRES questions. . . . Private International Law was examined separately in the two sections which participated in the CRES experiments. The examination was conducted immediately before the Easter recess and after the students had completed four tutorial sessions. The CRES students did slightly better in the examination, although the results were not statistically significant. The average mark for the "standard" students was 63.39 with a standard deviation of 12.65. The average mark for the CRES students was 65.36 with a standard deviation of 11.70." Tyree, *Cost Effective Tutorial Methods in International Law.*

[7] Fifteen students in section 1 took 25 or more questions in the quiz. However, the ten students in section 1 who took at least 15 questions but less than twenty had an average grade of 3.2! At the other extreme, the five students taking 20 or more questions but less than 25 had a 2.93 average (less than the class average, but still above nontakers). Eleven students in section 2 took 25 or more questions in the quiz. Once more the seven students taking 20 or more questions but less than 25 had a 2.952 average (less than the class average, but still above nontakers). In the case of section 2, students taking less than 10 questions had a 3.21 average and students taking between 10 and 14 questions had a 3.23 average. The ten students in section 2 who took at least 15 questions but less than twenty had an average grade of 3.1.

[8] There were also 11 instances where the individual looked at only one question and then gave an initial or other indicator that did not distinguish – e.g. "j" or "beavis". In one instance, the individual looked at more than one question but gave only a first name that was common to several students.

it worked I did not leave my name. However, ninety per cent of the no name provided are likely to have been students (though some may have simply hit the question and raced through to get out without actually considering it, some may have given their name on other occasions, while others did not want it known that they had taken the exam.) Students who took the quiz but were ashamed of their answers may have been disproportionately among those who did not give their names. With this flaw, the statistics cannot show whether the quizzes themselves made a difference in test performance. The variables do not correctly represent the concept investigated. Thus, the comparison was really of grades of users willing to admit that they gave their names with persons who may or may not have used the CRES quizzes but did not admit to its use if they did.

Second, even if the flaws in the data are ignored and the numbers were statistically significant rather than a result of chance, the numbers still would not show that the CRES quizzes caused the higher grades. The grade-quiz comparison was not performed on a random sample, but instead there was systematic bias in the design of the program. Since students volunteered to take the quiz, the students who took the quiz may have been more highly motivated to study than those who did not. Further, it is possible that the questions and answers in the quiz were closer to the questions on the final exam than were the examples in the notes and in class discussions. There was no attempt to determine whether the higher grades were a product of the process of taking the quiz, the higher motivation of quiz-takers, or even the substance of the quiz materials.

For this reason, the statistics prove absolutely nothing. As an empirical study, they are worthless. And yet, consider another hypothesis – that taking the quiz drained valuable study time with no gain to the student. If that were true, one might expect a negative correlation between the quiz and the grades. That did not happen. Thus, the study supports CRES along the lines of the well-known response to criticism of the medicinal value of chicken soup - “it can’t hurt!”

Although there is as yet no proof that this technique of critical review of exam questions will improve exam performance, the quiz does offer benefits – reassurance for students and an opportunity to see their progress during the year, an opportunity to self test and see what the instructor is looking for, and a learning and testing experience free of the pressures imposed in classroom confrontation and actual exam taking.

Theoretical Bases for Believing CRES a Useful Tool

Readings, classes, role-playing, multiple-choice quizzes, essay exams, threaded discussions each have their use in teaching students and CRES is envisioned here as a supplement rather than a replacement for other traditional teaching methodologies. Readings and class provide the basic information the student is to learn and may demonstrate how the rules or principles should be applied as well as offering a variety of approaches to dealing with the subject. They can be augmented with film and diagrams to improve clarity and even impart emotion, but reading is still a passive activity.

Class enables the teacher to respond to individual students, use a variety of communication methodologies from visual to aural to get through to the student, and to produce active learning by the Socratic method, but the teacher in larger classes will not reach everyone. Role Play involves more students in the application of the material and is a nice technique for generating discussions and an understanding of the lawyers' role and yet it can become overwhelming when there is a lot of material. It can be time-consuming for the students and hard to carry off in the large classroom without becoming a performance with audience.

After doing the reading and attending class, students are often unsure how well they are dealing with the material. They may understand better than they believe or they may think that they understand the material when, in fact, they have not understood it well enough to use it with real problems. Multiple-choice quizzes focus attention on the material and get a response, but the format assumes yes or no answers rather than getting the student to work through the material at the end as a learning experience. They may test without teaching.

Threaded discussion on the website is popular mechanism to get students to focus on issue such as a question or questions posed by the instructor with students responding. This produces interactivity; it is not passive learning and it has an open texture. In a perfect world, the instructor gets to see the progress and confusion of each individual student and resolve all problems. But the real world does not seem perfect. If everyone in a large class regularly participates, the screen begins to look like a wilderness and returning to reconsider issues is harder; faculty monitoring may be necessary at the expense of significant time; alternatively, only a few students may participate. With a discussion going on, the student must get in now or never. If a student wants to get in on a thread later in the year, the response may be ignored because the class has passed by that point.

With CRES students are actively engaged in the learning process. The timing of the response is up to the student. A well-constructed CRES question can show the student how to think about the legal problem. Students can in turn get back to the instructor with out of the box thoughts that can be reincorporated into the discussion section of CRES.

In conclusion, my students enjoyed the experience of working on a CRES program for contracts, and it is at least in theory a useful supplement to classroom teaching. I think that it is worth further use and experiment by others and hope some readers will agree.