

## IDEA vs. Standard Evaluation

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In the Fall semester, 2000, I undertook to evaluate my course, Physics 360 “Computers in Physics” using the both the IDEA process now under consideration as well as the standard evaluation forms currently in use. On the whole, it is my opinion that the IDEA forms contain more, and *more useful* information than the standard forms. Thus, I recommend that the new forms be adopted. The course in question is a small, specialist course required of physics undergraduate majors, and the form and content of the class was a mixture of lecture and laboratory exercises.

When evaluated under the standard forms, there would seem to be little room for improvement, as shown in Table 1.

Question	SA	4	3	2	SD	NA
1. Clear Objectives	5	0	0	0	0	0
2. Consistent Grading	5	0	0	0	0	0
3. Useful Assignments	4	1	0	0	0	0
4. Reasonable Expectations	2	2	1	0	0	0
5. Well Prepared	5	0	0	0	0	0
6. Effective Presentation	4	1	0	0	0	0
7. Available Office Hours	4	1	0	0	0	0
8. Overall Effectiveness	4	1	0	0	0	0

Table 1. STUDENT EVALUATION OF INSTRUCTOR, Physics 360 Fall 2000.

Of the 7 students enrolled in the course, 5 submitted evaluations, and apart from a perception that perhaps too much had been expected of them, the students evaluated this course essentially as highly as possible. This highlights one of the flaws of the current set of forms, in that they fail to resolve the upper end of their spectrum. In a small class such as mine was, with committed students eager to pursue the topic, it would be surprising to see evaluation scores much lower than these under normal circumstances. Thus, for the purposes of the RTP process, the current forms

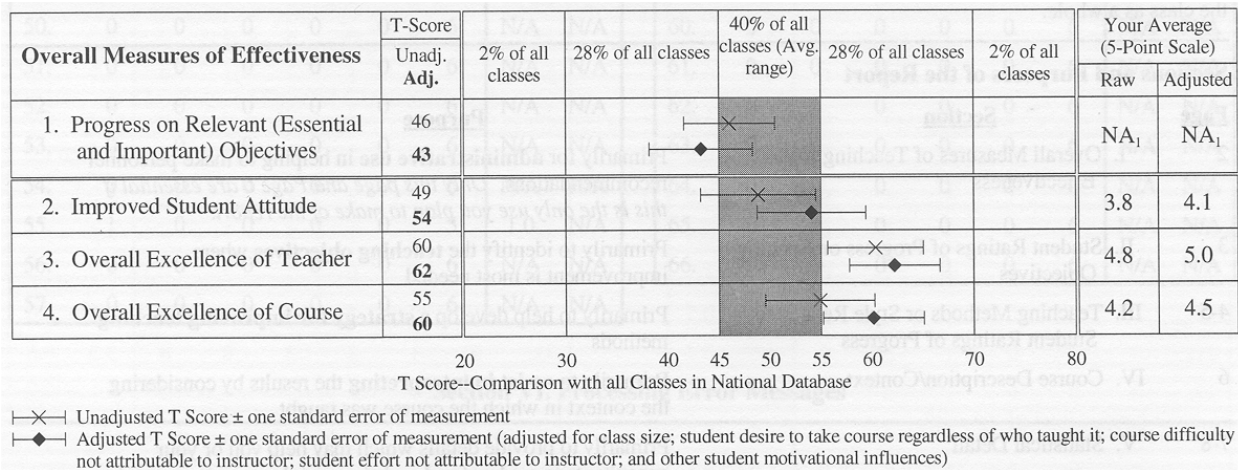


Figure 1: IDEA summary, comparable to Table 1. Here, the calibration of the IDEA system corrects for the fact that my class is small, composed of majors, and is seen to be difficult. This recalibration reveals that students perceived that the course helped them attain my important objectives, and that the course is good, but not off the scale.

are sensitive to uncovering *deficiencies* rather than to probing *excellence*. Additionally, there is virtually no useful feedback that can be gleaned from these numbers.

There were a number of written comments, that I did find useful, and I certainly expect that if IDEA forms are adopted, written comments will be given as much weight under the IDEA system as under the current. It is reasonable to expect that the written comments from the IDEA forms and the standard forms should be comparable, and the fact that my IDEA forms had consistently fewer written comments is a function of redundancy rather than the length of the form. I evaluated the course with the standard forms initially, and then after a weeks time, the IDEA forms.

The real benefit of the IDEA form is in the report generated based on my specification of the important goals for the course. As in Figure 1, it appears that I have met my essential and important goals for the course about as well as other faculty members in the IDEA database have, and that both my instruction and the course were statistically better than average quality. There is clearly room for improvement, but the issue is that the instrument *has room at the top of the scale* that can show when that improvement has taken place. With the standard forms, recall, the course is essentially at the top of the scale. This information would be extremely important for an RTP

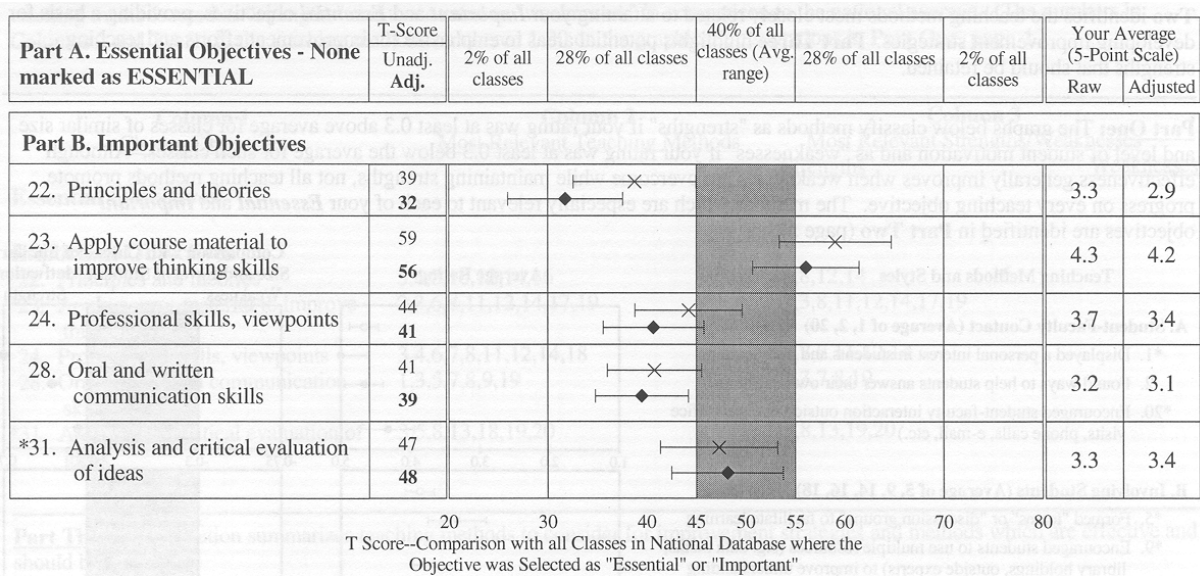


Figure 2: Individual ratings on important objectives. This table contains vital information completely unavailable through the normal forms. For example, I am meeting most of my stated goals, but the course is *curiously weak* in exposing principles and theories of numerical analysis with computers. As I redesign the course for Fall 2001, I shall certainly be able to take advantage of this measurement.

committee to have.

But, further, there is information that the *instructor* can get from the IDEA report that is impossible to achieve with the old forms. I meet most of my stated goals, for example in giving students hard problems requiring thought (item 23. "Applying material to improve thinking skills") and in written and oral communication. I find a surprisingly (to me, anyway) weak performance in student perception that principles and theories have been clearly explained. That is an area that I am certainly keen to improve upon, but with the information available from the standard forms, it would have been impossible to detect this deficiency, and therefore impossible to correct it.

Also, as a faculty member who is still learning the profession of university teaching, it is especially important to get detailed feedback on both what is going well, and what needs to be improved. The IDEA forms provide this information. This information may not be appropriate for RTP committees to consider in their decisions, but is certainly valuable for the faculty member. As shown in Figure 3, the IDEA analysis essentially confirms me in my expectation from being

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**Part Three:** This section summarizes teaching methods to consider for improvement strategies and methods which are effective and should be retained.

**Potential Areas for Improvement Efforts**

Generally, improvement efforts are most successful if they focus on no more than three teaching strategies at a time. These results suggest that your improvement strategies might best be chosen from the following teaching methods:

- \*16. Asked students to share ideas and experiences with others whose backgrounds and viewpoints differ from their own

**Strengths to Retain**

In doing so, you should take care to retain the methods which are currently effective, including:

- \*3. Scheduled course work (class activities, tests, projects) in ways which encouraged students to stay up to date in their work
  - 8. Stimulated students to intellectual effort beyond that required by most courses
  - 12. Gave tests, projects, etc. that covered the most important points of the course
  - \*14. Involved students in "hands on" projects such as research, case studies, or "real life" activities
  - 19. Gave projects, tests or assignments that required original or creative thinking
- Additional methods: 7, 11, \*1, 2, 13, \*17, \*20

Figure 3: Analysis of strengths and weaknesses of the course. Again, this information is clearly useful in guiding junior faculty in continually improving their teaching, and this information is completely inaccessible from the standard forms.

in the classroom and teaching the course that I am at least focusing on several important teaching strategies. As one might expect from an upper-division physics course, including hands-on, research experience is important, as well as demanding intellectual effort beyond most courses.

The real benefit to the IDEA system is that “off-scale” excellence can be measured, and that information of critical importance to both RTP committees and junior faculty members is available. The only danger with the IDEA system is that the rich detail of the report can be essentially discarded in favor of a numerical answer to a single question: “what is the relative excellence of the instructor.” If departments use the IDEA forms merely as a new way to ask Question 8 of the current form, its value will be much diminished, and for heightened departmental cost to boot.

My opinion, after evaluating the *same* class with *both* instruments is that IDEA is clearly the superior device.