

# TERSE WORDS IN TIGHT MARGINS

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Where does the undergraduate chemical engineer encounter professional criticism? In the early undergraduate years, most feedback either comes indirectly through successful course examinations or directly through the grading of assigned homework problems and lab reports. Thus, on a day-to-day basis, guidance comes chiefly in the margins of graded assignments and reports. It is there that the terse comments, scribbled hurriedly by graders (*e.g.*, teaching assistants and, more rarely, course instructors), become the aspirant's routine source of evaluation and improvement. It therefore makes good sense to carefully consider the nature of such commentary.

Let me begin with a typical smattering of critical comments that I, for one, have been known to write in a paper's margins.

*Explain*

*Justify*

*Not so!*

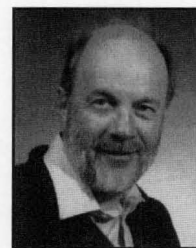
*Omit*

*So what?*

*Vague*

Comments like these are concise and arresting. They send the author a quick diagnosis without providing detail. Or do they? Perhaps graders just assume that the comments will be regarded as useful corrections. Could the recipient also interpret a given remark as a question that occurred to the grader, or an exclamation, a form of encouragement, a pleasantry, or even an insult? Delivered aloud by a competent actor, any one of the above comments could be made to fit almost any of these categories; the spoken word can convey levels of emotion that exceed by far the face value of a word or phrase. But written in the margin of a graded report, hasty words of judgment acquire levels of emotion supplied by the *reader*. Some students may find them gruff, while others may find the same words straightforward and direct. In any

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case, different messages can be conveyed by critical remarks, depending on who reads them.

According to studies on personality differences, there are distinct responses to criticism, depending on whether an individual operates in a "thinking" or a "feeling" mode.<sup>[1]</sup> Those who prefer to function in the thinking mode would find such criticism candid and would tend to appreciate it, while those who prefer feeling would hear it as gruff and would respond with discomfort at its lack of compassion. Criticism untempered by sympathy causes "feelers" to become defensive; this impairs their learning rather than helps it. At the same time, it is self-evident that to be useful, criticism must be presented in a manner that makes it acceptable to its audience. Therefore, to include as many different personalities as possible in this audience, it is important to satisfy both thinkers and feelers.

The following is a true story that shows the need for sensitivity in offering criticism. Recently, I heard of an engineering faculty that considered introducing a scheme in which students could provide continuous anonymous feedback on their instructors' teaching. The technology supporting the scheme was in-house electronic mail. After much debate, however, the proposal was abandoned because of concern over its potential to hurt faculty members' feelings. In a sense, this seems a surprising reason to drop an inherently beneficial program. And yet, quite apart from the issue of tactless wording, sensibilities can sometimes be bruised with

unexpected ease. Even something as innocent as LAPSING INTO UPPER CASE PRINT MAY PROVOKE AN ELECTRONIC MAIL RESPONDENT TO COMPLAIN, "Why are you shouting?" In a similar vein, it is not uncommon to find people for whom a machine-written letter is inherently less courteous than one written by hand, even though the content is identical and the machine version might well be more legible. The point is, criticism is often difficult to accept, and the form in which it is offered may itself foster resentment.

Appreciative comments, on the other hand, are hard to misconstrue no matter how terse. We can all use a little encouragement.

*Excellent!*

*Original approach*

*Thorough analysis.*

It seems that only when the grader finds fault does terseness become a difficulty! This leads me to conclude that in providing feedback, a grader can offer encouragement with tombstone brevity. By contrast, however, negative criticism often creates confusion and/or raises hackles unless it is done sympathetically and thoroughly.

It is scarcely novel that one- or two-word comments are sometimes far from self-explanatory. This is precisely the problem a marker encounters in trying to second-guess an answer submitted in point-form. It is why we sometimes remind students to answer a question in complete sentences. It is also why just about everyone has trouble understanding how to complete business forms. I recall a joke about a would-be employee filling out a job application form; seeing the word "Sex" following by spaces preceded by the letters M and F, the applicant uses the F to write "Frequently."

With such potential for misunderstanding lurking behind suggested corrections, why do markers jot brief remarks on an assignment or report in the first place? The reason for brevity is the easy part: it's obvious that concise remarks reflect narrow page margins and short times available for writing. But the reasons for making the remarks are not always so clear-cut, perhaps not even to the person offering them. Even so, graders seem to be responding to at least some intuitive educational objectives as they jot.

One objective in offering critical comment is to record why a certain result has lost points according to a particular grading scheme. Another is that to jot down a remark engages the grader's highest motives in instructing the student author to correct an error or omission. Indeed, a student might hope that this were the main reason for all jotted remarks. On occasion, however, such a noble motive may become tarnished when an exasperated grader realizes that a large fraction of the class has consistently made an "elementary" error. In that event, the marker may let slip an occa-

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sional "You jest!" or "Ridiculous!", or even "Arghh!" Such comments, redolent of sarcasm, faithfully convey the grader's anguish and frustration. At this stage, the marker's objective has evolved into an unconscious one of ventilating disappointment and annoyance. At the same time, only a very secure student would dismiss these exclamations as the meltdown of the grader, and not hear them as withering personal criticism. Such a destructive approach as this is something no grader can afford. For this reason, grading must be done as a conscious and sympathetic activity.

Until now, I've given considerable space to difficulties that can arise in correcting papers. Let's now turn our focus to commentary that encourages. To illustrate the Joy of Constructive Criticism, let me share a family anecdote. My father once submitted an overlong essay to his professor. The venerable gentleman evidently struggled a bit to get through it, but even so withheld all graceless remarks such as "Verbose!" Instead, he penned a constructive, understated comment that remained with my father from that point on: "Cultivate the art of brevity." Whether it was a freshly minted thought or was written by the professor on half of his students' essays is of no consequence. My dad learned from it, enjoyed its lightheartedness, and chuckled about it at odd moments even years later. In fact, my whole family found this story quite charming. But now I think I'm in danger of overselling my point by implying that a few words of constructive criticism might even provide amusement for posterity.

A lecturer I know holds periodic short quizzes in her subject. In what started as a tongue-in-cheek gesture, she "marks" her students' papers by stamping them with a "happy face" whenever they get a perfect score. It seems to be just the right touch. Her students haven't had the opportunity to earn a happy face since their days in elementary school, so it's novel and makes gentle sport of the seriousness of academe.

A while ago I attended a seminar given by a professor in arts on the theme of university teachers' use of authority and power. In her talk, she revealed that she now grades her students' work in impermanent pencil, out of a sensitivity to her own attitude toward criticism in her discipline as being fleeting and subjective. (I hope lecturers in engineering will not misconstrue this to mean that homework based on the laws of conservation should be graded in ink.) What I hear behind the seminar speaker's words is that the comments

written in the margin may sound needlessly absolute about things that are often matters of the grader's own taste. The same professor deliberately uses courteous forms such as "Please" a great deal, along with phrases such as "I suggest . . ." or "Have you considered . . . ?" A refreshingly light touch indeed, compared with such thundering exclamations as "So what!" and its ilk.

The light touch in correcting papers may also offer another way of improving communication with students, but achieving this style may come at the cost of more time and effort to compose appropriate phrases and write them down. Does this just add one more unwelcome burden to the grader? Maybe not, if the grader can "think smart." By this I mean that a balance needs to be found between correcting everything a student submits in a flurry of terse remarks and simply pointing out a few important items for improvement with enough grace that the student will appreciate and accept the analysis.

While touching on the subject of thoroughness in marking, let's suppose a grader does cover the margins of a paper with all manner of meticulous corrections (goodness knows, an occasional paper appears to deserve such treatment!). Is such effort likely to benefit early undergraduates? I doubt it. Thoroughness is more appropriate for the draft of a thesis, rather than for an assignment, term paper, or lab report. Technical errors need to be spotted, but I have found that students tend to ignore large collections of comments on minutiae. Learning good habits of problem solving and reporting takes time, so grading them needs to be viewed as part of a long process. In my view, it's better strategy to criticize a few points carefully than to try and correct many shortcomings at once.

Is there any systematic way to improve the quality of correcting papers to make it a more positive experience for students and instructors? I am persuaded there is, but to explain why, let me start with an important generalization. Richard Felder has observed in these pages that the quality of a student's experience in a university is strongly affected by the kind of relationship that the individual has with members of the teaching staff.<sup>[2]</sup> For this reason, I favor replacing terse comments jotted in tight margins with face-to-face discussions between students and their instructors. This may mean, as it has for me, a greater use of the tutorial mode of teaching at the expense of formal lecturing.

Yet, no matter what methods are used to teach, there is an irreducible level of homework and laboratory reporting that undergraduates have to submit. I'd therefore like to suggest a few guidelines for jotting comments in margins. Unable to itemize the steps as ABCs, I have dubbed them WXYZs instead. They are:

**W** It's **W**orse if it's terse.

**X** **X** marks an error without providing details and

can be jotted quickly. Also, small **x**'s seem more respectful than large ones.

**Y** **Y**ahoo is taboo. Courtesy is cool. Encouragement is empowering.

**Z** **Z-Z-Z** (the cartoonist's symbol for sleep). Indifference is the reaction to an excess of criticism, especially if subjective. **Z**ealous graders beware.

By whatever method we graders conduct our art, students will read and weigh our words of criticism. The pressures of time may make terseness a temptation, but seldom a virtue. Those of us who grade papers and reports would do well to consider carefully the tone of our comments as we write them in margins eagerly waiting to receive them.

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