

IS THERE A “KNOWLEDGE BASE FOR TEACHING?”

Robert H. Ennis

University of Illinois, Champaign-Urbana

In his interesting paper, “Two Problems with Teacher Knowledge,” Robert Orton examines two areas of challenge to current efforts by Lee Shulman, among others, to identify a knowledge base for teaching. These efforts to demonstrate a knowledge base are relevant to significant concerns in education: if there is no knowledge base, how can teaching be a profession, how can we justify the existence of teacher education programs that go beyond subject matter knowledge, and how can we evaluate and hold teachers, school systems, and teacher education programs accountable for more than subject matter knowledge? These are matters about which philosophers of education have legitimate concern.

The two areas of challenge to a knowledge base are labeled “tacit” and “situated” by Orton. The tacit challenge appears to be that there is much *know-how* knowledge that teachers have that cannot be put discursively. I believe that by this he means that it cannot be stated in propositional form. That is, it cannot be put in the form of statements with subjects and predicates. For example, I know how to ask probing questions, but I cannot transform this knowledge into subject-predicate sentences — even though I know some propositions that I offer to others in attempts to teach them how to ask probing questions and that I might offer to others in defense of the asking of a particular probing question. An example is the proposition that asking for the practical bearing of the abstract point often helps to get the abstract point clarified. This proposition — and all the others that I can think of for use in teaching someone how to ask probing questions — do not exhaust the meaning of knowing how to ask probing questions. Someone might know all of these propositions that I can think of, but not well know how to ask probing questions.

Another way of putting the tacit challenge is to say that *knowledge how* cannot be reduced to *knowledge that*. Orton feels that this is a serious problem for attempts to establish a knowledge base for teaching. If the knowledge cannot be stated, how can it form a knowledge base for teaching?

The situated problem, as I understand it, arises from the contention that teaching knowledge is only specific knowledge, not generalizations. For example, I might know that asking a student for the practical bearing of an abstract point was helpful in getting the point clarified when I did it three days ago, but I cannot know that asking a student for the practical bearing of an abstract point will always be helpful in getting the point clarified (because it is not true).

Orton describes this situated problem as methodological, and likens it to the current common qualitative research complaint that the generalizations sought by quantitative researchers are unattainable, if we are to deal with significant things and be correct about it. Orton appears to dismiss this problem as one dealing with matters of taste, taste for generalizations vs. taste for specific knowledge only — taste being beyond rational argumentation. So for Orton, this problem appears not to be a serious problem.

I regret that, if I have understood Orton correctly, I must disagree with his appraisal of each of the two problems. I shall first discuss the tacit problem, the *knowledge how* problem.

THE IMPORTANCE OF THE PROPOSITIONAL KNOWLEDGE UNDERLYING *KNOWLEDGE HOW*

First, as shown in my example, there is propositional knowledge that lies behind my *knowledge how*. (The propositional knowledge is that asking for the practical bearing of an abstract point often helps clarify that point.) The existence of this knowledge, even though it does not constitute a translation of the *knowledge how*, can be part of the justification of the claim that teaching is a profession, and the knowledge itself can be part of the curriculum for teachers in a teacher education program. I can even make a probable test for this knowledge by setting up a situation in which such a probe is called for, seeing how the person responds, and asking the person why she or he responded that way.

THE VALUE OF *KNOWING HOW*, REGARDLESS OF THE UNDERLYING PROPOSITIONAL KNOWLEDGE

Second, the fact that *knowledge how* cannot be reduced to *knowledge that* does not show that teaching is not professional; it does not prevent us from including such knowledge in our teacher education curricula, and it does not prevent us from evaluating teachers for the possession of this knowledge. I shall elaborate.

Even if knowing how to do the myriad things needed for good teaching cannot be reduced to propositional knowledge, the very fact that good teachers can do them supports the claim that teaching is a profession. Many of these things, such as knowing how to ask probing questions, are high level operations, and the ability to do them is a mark of high quality. Since "professional" is an honorific term, being able to do high quality things supports the case for applying that label to good teachers.

Knowing how to do such things as ask probing questions, explain the meaning of difficult concepts, organize a classroom so that the students are challenged, etc., are things that many people in our population do not know. Perhaps the best and the brightest can pick them up on their own, but the rest of us cannot, so including such *know-how* in a teacher education curriculum certainly seems worthwhile. No doubt there is a degree of subject specificity in any exhibition of this know-how,¹ but that does not change the point.

Furthermore, the presence of such know-how can be tested. As I indicated earlier, we can make a probable test for knowing how to ask probing questions by setting up situations calling for probing questions, asking teachers or prospective teachers to say what they would do, and ask them why they would do that. I am not endorsing a multiple-choice test approach. Neither would I insist that a test-taker ask the probing question that I had in mind. Instead I would expect the test-taker to ask and defend the probing question, or give a good reason why some other response was chosen.²

A DANGER

Since such know-how can be tested, we can hold teachers, school systems, and teacher education programs accountable for it. But there is a severe danger. Such testing is very expensive. The temptation is to find short cuts, perhaps in the form of cheaper multiple-choice tests that initially correlate highly with the authentic tests. If we then substitute the cheaper tests for the authentic tests, and assign high-stakes to the cheaper ones, people will learn to do well on those tests, and will not focus on the original authentic activity. This will lower the correlation between the authentic test and the cheaper, high-stakes test, and lower the cheaper test's claim to validity.

KNOWLEDGE THAT, GENERALIZATION, AND TASTE

Although reasonable people do differ on the degree to which we can generalize from a given set of situations or data, I find it difficult to relegate the differences I see to matters of taste. Some common

generalizations in teaching include the following:

1. Extending wait time generally produces a question.
2. Time on task generally is positively related to the amount of learning.
3. Asking for the practical bearing of an abstract point generally results in the clarification of the point.

Each of these generalizations, if treated as a universal, is obviously false. There are many exceptions that we can think of. Furthermore there are no doubt many types of situations we have never considered to which the generalizations would not apply. And the generalizations are vague. But that does not make them useless generalizations. They just need to be applied with circumspection, with full knowledge of the situation, and with a healthy background set of experiences to guide us in their application. I find the first one specially useful to me as a reminder when teaching. The other two I find it easier to follow, so I do not need reminding of them. But in any case, all three (together with many other generalizations which any good teacher can state) are justified, and serve the three mentioned functions of a knowledge base. They help justify the professional teacher claim, they can be part of a teacher education curriculum, and someone's grasp of them can be tested (with the same warnings about testing as before) and used for accountability purposes.

My contentions, then, are two: First, willingness to generalize is not a matter of taste. These generalizations are justified, and deciding whether to accept something that is justified is not a matter of taste. Second, knowledge that is in the form of generalizations serves the three mentioned knowledge basis functions.

SUMMARY

In sum then, Orton's tacit problem for a knowledge basis for teaching is that knowledge how to do the things that a good teacher does is not discursive, that is, not propositional. I do not see this to be a serious theoretical problem for two reasons: First, there is much propositional knowledge related to *knowledge how*, and this contributes to the knowledge base for teaching and its functions. Second, *knowledge how* itself, regardless of the associated propositional knowledge, contributes to the knowledge base for teaching and its functions. However, a serious danger in applying this insight to evaluation lies in the temptation to use non-authentic tests in high stakes situations, resulting in lowering the validity of these tests.

Orton's situated problem, the problem that teacher knowledge is specific and not general, not only is not just a matter of taste, but is not a problem. Much teacher knowledge is general, again contributing to the knowledge base and the three specified functions. Though not a problem, there is another danger here, as well as the cheaper-test, high-stakes danger: it is easy to overgeneralize and to operate without sufficient circumspection.

Orton's motive might be "not to disprove what Shulman writes," as he said, but his discussion seems hostile to Shulman. Mine is much more friendly to Shulman, with the provisos about the dangers of economic compromises in testing, and about the dangers of overgeneralization.

¹ For an elaboration of this topic, see my "Critical Thinking and Subject Specificity: Clarification and Needed Research," *Educational Researcher* 18, no. 3 (April, 1989): 4-16.

² I am currently pursuing this more open-ended format in some pilot test development for the Essential Schools of Illinois. The approach has much promise.