Teacher Beliefs and Student Learning

Robert E. Orton
University of Minnesota

The study of teacher beliefs has received much attention in recent years, occasioned by a growing interest in reflective teaching.[1] Though this research is refreshing in that it breaks from the behaviorism of process-product work, the practical implications of studies of teacher beliefs may not be obvious. There are likely connections between a better understanding of teacher beliefs and the design of quality programs of teacher education. But this connection, if it exists, still misses something — something that was *not* missing in N. L. Gage's criterion of effectiveness paradigm.[2] This "something" is student learning. The object in education is the learning of students, not the cognitions of teachers.

Student learning is a notoriously ambiguous term. Though wise decision makers are able to sidestep the ambiguity by catering to the public's fascination with technical measurement, the fact remains that "student learning" looks different when analyzed in, say, behavioral, cognitive, or humanistic terms. One of the main points to be argued in this paper is that it is just this ambiguity with regards to the notion of student learning that makes it imperative for teachers to keep fixed on whatever conception of student learning that they believe in. This will point toward a "Hippocratic Oath" for teachers and a volitional or categorical relationship between teacher beliefs and student learning.

In the following discussion, the relationship between teacher beliefs and student learning will be examined within the context of the practical reasoning of teachers. Three conceptions of practical reason are used to organize the discussion: productive, practical, and moral/theoretical. These three ways correspond to Kant's classification of imperatives: rules of skill, counsels of prudence, and commands of morality.[3] If the productive aspects of the relationship between teacher beliefs and student learning are emphasized, then student learning results in a teacher's "virtuoso performance." Whatever relationship exits between teacher beliefs and student learning, in this case, is either opaque or technical. If the practical aspects of the relationship are emphasized, teacher beliefs inform the "belief premise" in the desire-belief model of intentional action. Less formally, a teacher's appreciation of rich particulars, nurtured by a teaching community's counsels of prudence, insures a relationship between teacher beliefs and student learning. If the moral/theoretical aspects of the relationship are emphasized, then a Hippocratic Oath for teachers provides maximal autonomy and the hope for emphasizing the less technical aspects of the relationship between teacher beliefs and student learning. The relationship between teacher beliefs and student learning is an imperative based on respect for persons.

Production

Teacher beliefs are related to student learning through some event or sequences of events, mediated by the teacher, that happen in the classroom. These events might be said to "cause" student learning in the sense that the events in the classroom lead,

in the case of effective teaching, to student learning. The sense in which this sequence of events is "mediated" or "caused" by the teacher is tricky. Many events that lead to student learning in the classroom are not the direct result of something the teacher does or says. On the other hand, the teacher is responsible — if not in an efficient sense, at least in a moral sense — for creating the lion's share of those classroom events that lead to student learning. This leads to the question of the role of teacher beliefs in the realization of these events.

There is one sense in which the relationship between teacher beliefs and those classroom events that cause student learning is very opaque. This sense emphasizes the productive aspects of teaching. A teacher's actions that cause student learning, in this productive sense, follow a model of "virtuoso performance." Here, like a masterful conductor or a skillful dancer, the teacher orchestrates or manages a sequence of classroom events that are conducive to student learning. In this instance, there is really no *logical* connection between what a teacher believes, while teaching, and the "goodness" of the product, which is student learning. There is no empirical nor logical reason why the teacher could not believe in things that are horrendous, immoral, or simply false, which in turn motivate an action. Nonetheless, if the consequence of this action is student learning, the action is still "good," in the productive sense.

In the productive sense of teaching, teacher actions appear so practiced or automatic that it scarcely makes sense to relate teacher beliefs to this performance, much less to student learning. Trying to do so would be akin to trying to elucidate the beliefs that give rise to a maestro's bringing in an *allegro* movement with a particular, light touch during his or her rendition of one of Beethoven's symphonies. What would be interesting, in the case of the conductor, would be to analyze his or her competence from an descriptive point of view. But conceptual analyses can say little, because the criteria for evaluating the performance are "in the pudding" (or the playing) rather than in some prior, declarative scheme.

Whatever connection there might be between belief and action, in this virtuoso performance, model is reminiscent of Hume's conception of practical reason. A teacher makes the transition from belief to action without thinking. In Hume's example, a person stops at a river and does not wade in. The person does not enter the river, *not* because the person makes a conscious connection between walking in the river and drowning. The idea of suffocating is so closely connected with the idea of being in the water that the mind makes the transition without conscious thought. "The custom operates before we have time for reflection. The objects seem so inseparable, that we interpose not a moment's delay in passing from the one to the other."[4] As causal connections, particularly inductive connections, are made as a result of habit, so pausing by a river and not wading in, deciding to play a musical piece in a particular way, or deciding to call on a shy student at a particular moment, are all the results of unconscious competence or habit.

If teacher competence is understood using a model of virtuoso performance, there would thus seem to be no interesting connection between teacher belief and student learning. Teacher competence is regarded as unconscious in the sense that

the primary feature of interest is the product and not the cognitive activity of the teacher that gives rise to the product. However, researchers in teaching who are interested in teacher beliefs and reflective teaching would not likely accept that claim that unconscious competence is the only possible relationship between teacher beliefs and student learning. The next section will explore the issue of conscious competence in greater detail, using the desire-belief model of intentional action.

Counsels of Prudence

One model of conscious competence is the practical syllogism. The practical syllogism, used by many modern action theorists and pioneered by Aristotle, attempts to explain a teacher's intentions (or actions) by two broad classes of cognitive events: desires to achieve certain ends, and beliefs about what means are responsible for, or are at least constitutive of, reaching these ends.[5] Thomas Green, Gary Fenstermacher, and other philosophers of education have used variants of the practical syllogism to bring out the rational texture of teachers' conscious competence.[6]

The practical syllogism provides one way to relate teacher beliefs and student learning. Formally put, the relationship is as follows: teacher beliefs and desires give rise to, or explain, teacher intentions to act. These actions can be regarded as the efficient cause of student learning, at least in those instances where students actually do learn. In the above example of calling on a shy student:

The teacher *desires* that the shy student acquire confidence.

The teacher *believes* that calling on the shy student at that particular moment will bolster the student's confidence.

The teacher *acts*, that is, calls on the shy student.

What is of particular interest, within the context of this discussion, are the belief premises of the practical argument in those situations where students do learn. The belief premises explain an action which in turn leads to the intention to engage in an action. If this action, in turn, is the efficient cause of student learning, then there exists a relationship between teacher beliefs and student learning.

Less formally, the underlying virtue that is expressed by the practical syllogism is prudence. A prudential action is "good" in the sense that it fits the circumstances and hangs together with the other elements of the situation. What is of interest is that there is the right sort of fit between what the teacher does and the given circumstances. "Right sort of fit," most fundamentally, is determined by looking at a situation and determining what action agrees with the situation. Aristotelian scholars describe this as a "situational appreciation."[7]

Margaret Buchmann has critiqued the Green-Fenstermacher program, appealing to Aristotelian scholarship stressing situational appreciation, concrete universals, *nous*, and the richness of particulars.[8] Though Buchmann's critique may add something that is not emphasized by the Green-Fenstermacher approach, it does so by downplaying the universal or generalizable elements in teacher practical reasoning. The argument below adds a counterbalance to Buchmann's point. The direction in which the paper will move is opposite to that of Buchmann's critique. Whereas Buchmann and contemporary Aristotelian scholars focus on the rich particulars of

human decision making, this paper moves in the direction of the general moral principles which are the mainstay of a Kantian conception of practical reasoning. What will be described is a relationship between teacher beliefs and student learning that can be regarded as a corollary to the categorical imperative.

Commands of Morality

Kant also provided a critique of the practical syllogism. However, Kant moves in a direction opposite to that of the rich particulars that are arguably missed by Green and Fenstermacher in their interpretation of teacher competence.[9] Namely, for Kant, the practical syllogism still embodies a hypothetical, as opposed to a categorical, imperative. For Kant, counsels of prudence are different from commands of morality. Specifically, the belief premise in the practical argument is still about either means to ends or constituents to ends.

Though the "constituent to ends" interpretation described by Pendlebury moves the interpretation of Aristotle's practical argument away from a narrow, Humean interpretation, this move does not address the fact that the belief premise is still hypothetical, not categorical.[10] The attention to rich particulars is different from the belief in moral commands. For Kant, certain volitions are not just means to ends. Some imperatives are categorical.

Kant's approach tends to make practical reasoning a very abstract, decontextualized affair — a point that was trenchantly pointed out by Hegel.[11] Whereas Kant makes pure practical reason so cognitive that it loses much of its contact with the rich particulars, Hegel counsels a return to the concrete ethical life of the *polis*. On this move, Hegel was Aristotelian. Thus, Hegel's critique of Kant's conception of morality in some ways mirrors Aristotle's critique of Plato's conception of the Good. In both instances, the critiquer (Hegel, Aristotle) indicated the need to return to the concrete particulars. However, an overemphasis on concrete particulars also misses something.

Fortunately, this point — that an overemphasis on particulars is also an error — has been argued by many others who are otherwise very sympathetic to the Aristotelian point of view. St. Thomas Aquinas, for example, divided his study of human actions into "internal" and "external" principles.[12] Whereas virtues such as prudence and concrete particulars dominate the former, principles such as natural law and divine grace dominate the latter. More recently, this need for both sides (abstract and concrete) in a conception of practical reason has been argued by Hans-Georg Gadamer.[13]

Gadamer, writing from the perspective of both post-Kantian and post-Hegelian scholarship, counsels prudence in any move away from Kant back toward the concrete ethical life. Practical reason, according to Gadamer, must balance both the abstract and the concrete features of morality. Too much emphasis on one or the other leads either to skepticism or nihilism, according to Kelly (on Gadamer).[14] Applied to the present inquiry, teacher beliefs need to be related to student learning, *both* in the concrete particular sense and in the abstract theoretical/moral sense. Again, too much emphasis on either extreme will provide a distorted picture of a practical relationship between teacher beliefs and student learning.

It is helpful to point out that the approaches of both Gadamer and Aquinas, though each are moving to some degree away from the concrete particulars (in one instance toward Kant, in the other toward God) — both interpreters are thoroughly Aristotelian in the following sense: Both Gadamer and Aquinas survey the conceptual landscape of the day and attempt to synthesize the current "best thinking." The fact that Immanuel Kant stands between us and Aristotle would certainly not be lost on Aristotle if he were alive today. Aristotle would not reopen his study of practical wisdom without carefully reading the *Critique of Practical Reason* and the *Foundations of the Metaphysics of Morals*. Whether Aristotle would modify his views on practical reason after reading Kant is, of course, purely speculative. Nevertheless, the case of Gadamer indicates that post-Kantian Aristotelianism might take a different slant on "situational appreciation" than is found in current literature critiquing the Green-Fenstermacher approach to practical reasoning and teaching.

The fact that Gadamer sees Aristotelian *phronesis* as the foundation of his hermeneutics, and the fact that Gadamer has attempted a "partial synthesis" of Aristotelian and Kantian ethics, suggests that Aristotle might also try to strike a balance between the abstract and the concrete aspects of practical reason. The next section will provide an argument, by way of example, for the abstract sense when looking for a relationship between teacher beliefs and student learning. It is conceded up front that this abstract sense is only half of the picture. But the other half is amply represented in the literature on teaching. Thus, there are grounds for moving toward *pure* practical reason when relating teacher beliefs and student learning — if only for the sake of balance.

A Hippocratic Oath for Teachers

The parallel between physicians and teachers has been frequently drawn in the literature on teaching. Though some of the motivation for drawing the analogy might be to "dignify" the profession of teaching, the fact that an analogy is self-serving does not necessarily mean it is false. There *are* genuine parallels between the helping profession of medicine and the helping profession of teaching. In the case of medicine, the help is primarily bodily and is focused on something that is pathological. In the case of teaching, the help includes body, mind, and will, and is focused on something that is trying to grow and maintain itself, not just with things that are pathological.

The parallel to the relationship between teacher beliefs and student learning, in medicine, would be a relationship between physician beliefs and patient healing. As a concrete case, one might take an internist who diagnoses a patient with cancer. The practical goal of the physician would be to prescribe a course of treatment that would ideally cause the cancer to go into remission. There are several next best steps, leading all the way to making the patient's last days bearable. There is also a final step, taken by the well-known "Dr." Kevorkian, which is not recognized by most physicians as medical practice. Patient-assisted suicide violates the Hippocratic Oath, which requires a physician to always act in such a way so as to promote a patient's bodily wellness.

A parallel to the Hippocratic Oath for teachers would be that the teacher is required to act in such a way that always promotes whatever conception of student

learning that the teacher believes in. Presumably, as in the case of the medical Hippocratic Oath, this imperative is a corollary of the categorical imperative — specifically — the notion of respect for persons. A physician would be violating the respect for persons if he or she intentionally acted in such as way, while "doctoring," to terminate the life of a person. By analogy, a teacher would be violating the respect for persons if he or she intentionally acted in such a way, while "teaching," that did not contribute to whatever conception of student learning that the teacher believed in.

But here the parallel between medicine and teaching begins to break down, pointing even more to the need for an abstract principled, or Kantian, approach in relating teacher beliefs and student learning. Though there is likely some disagreement within the medical community as to which treatment with respect to cancer is most beneficial, or even what outcome (better chance of remission, less chance of pain and suffering) is to be preferred, the cause-effect relationships are much better understood in the case of medicine than they are in the case of teaching. Moreover, the agreed upon ends in the case of medicine — those associated with patient health — have a much higher degree of objective clarity associated with them then the ends of student learning. There is nothing — at least to the writer's knowledge of American internist medical practice — that parallels the fundamental, paradigm-type disagreement between (say) conceptions of student mathematics learning that are explained by Thorndikian stimulus-response bonds and conceptions of mathematics learning that are explained by Piagetian constructivism. Add to that a conception of mathematics learning explained by Girouxian post-modern multiculturalism and the contrast between internal medicine and student learning becomes even more stark.

Put simply, the "experts," with regards to student learning, are in a much greater state of fundamental, paradigm-type disagreement with regards to student learning than are the experts in the case of medicine. And again, though wise decision-makers are able to sidestep the paradigm wars by keeping the public fixated on "technique," the fact remains that the disagreement is real. A constructivist mathematics educator looks at the world through very different spectacles than a basic-skills behaviorist mathematics educator. John Saxon's mathematics textbooks are viewed with more than just suspicion by constructivists;[15] they are the work of the Dark Side!

The issue here is commitment, integrity, and responsibility. To what? No, to whom? The commitment must be to the student and thus to whatever conception of student learning that the teacher believes in. If not even that is clear, the teacher is left dangling in the moral wind — free to flutter and blow with every trendy breeze that happens to be filling the schools on that particular day.

The point is that the relationship between teacher beliefs and student learning must not only be forged in the concrete, immediate situation. The relationship must also have a volitional logic — an imperative in the Kantian sense. This need for an imperative is lost if the teacher is left just to situational appreciation and the swamp of rich particulars. The teacher is victim to any snake-oil salesperson or conceptual alligator that happens to be lurking in this soupy real estate. Some commitment to

some conception of student learning is what must be willed so as to respect the learner as a learner (as opposed to another rich instance of situational data).

The Kantian imperative puts the relationship between teacher belief and student learning within the purview of a volitional logic. The issue becomes one of will, not one of thought or one of feeling. The teacher must will whatever conception of student learning that he or she believes in. This holds out the hope that pure reason can be practical, if it can be. It also insures that the connection between teacher beliefs and student learning is Aristotelian in the post-Kantian sense.

Conclusion

Teacher beliefs are related to student learning through something that the teacher does in the classroom. This something that the teacher does might be analyzed in three ways: as rules of skill, as counsels of prudence, and as commands of morality. The argument here is that all three are needed, but it is particularly the Kantian conception of an imperative willing a conception of student learning that provides the analog of the Hippocratic Oath for teachers and that insures autonomy in the connection between teacher beliefs and student learning.

The implications of this conclusion for the education of teachers and for the relationship between teacher beliefs and student learning are significant. The Hippocratic Oath for teachers — to act in a way to help students learn by whatever conception of student learning that you believe in — implies that teachers need not be at the whim of every trend that promises a new fix for student learning. Teachers are autonomous to follow whatever conception of student learning that they believe in, provided that they truly will this conception. What this means is that the conception of student learning must follow from teachers' respect for persons. In this sense, the parallel with medicine puts teachers in a role where they are even more autonomous — at least until the educational community agrees on the "one best conception" of student learning (would that it never does!)

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