

Locating teacher competency: An action description of teaching*

DONNA H. KERR,
University of Washington, Seattle and

JONAS F. SOLTIS,
Teachers College, Columbia University

Samenvatting

Kerr en Soltis trachten in dit artikel een drietal zaken te realiseren. Ze pogen een theoretisch adequate handelings-beschrijving van het onderwijzen te ontwikkelen, om met behulp van een dergelijke beschrijving een zinvolle discussie op gang te brengen over het identificeren van onderwijsvaardigheden. Tegelijkertijd willen de auteurs aantonen dat de filosofie (van onderwijs en opvoeding) een vruchtbare bijdrage kan leveren tot het oplossen van theoretische vragen, die voortvloeien uit een praktische problematiek.

Het artikel wordt door hen dan ook getypeerd als een 'paper in applied philosophy'; een naar onze mening niet geheel gelukkige karakterisering. Bij hun poging om te komen tot een adequate beschrijving van het onderwijzen stellen Kerr & Soltis dat, daar het gaat om de vaardigheid in onderwijzen, de beschrijving een deskriptie van doelgericht menselijk handelen behoort te zijn. Een gedrags-beschrijving zou hier niet op zijn plaats zijn.

Een theoretische beschrijving nu is gericht op het vaststellen van een groep van constituenten van het beschreven verschijnsel. Het probleem van zo'n theoretische beschrijving is dat ze enerzijds algemeen genoeg moet zijn om alle gevallen van onderwijzen te omvatten, terwijl ze anderzijds specifiek genoeg moet zijn om twee vormen van onderwijzen van elkaar te kunnen onderscheiden.

Welke handelings-constituenten van het onderwijzen onderkennen Kerr & Soltis nu? Op basis van het gebruik van de omgangstaal kan men stellen dat het doel leren te bewerkstelligen analytisch is aan het

begrip onderwijzen (als handeling). Hieruit volgt dat het bepalen van een (leer-)doel (als handeling: $H(d)$) een van de constituenten is. De tweede en derde handelingsconstituent van de beschrijving van het onderwijzen zijn het kiezen van tactieken om de gestelde leerdoelen te bereiken ($H(t)$) en het uitvoeren van de tactieken ($H(u)$). Dezelfde relatie bestaat tussen een instructie en het uitvoeren van die instructie.

Nu is echter nog geen antwoord gegeven op de vraag op basis waarvan men beslist wat er geleerd moet worden. Volgens Kerr & Soltis selekteert een leerkracht veelal een (sub-)doel (d), omdat het bereiken van dit doel een stap betekent in de richting van een meer omvattend doel (D). Nu bepaalt het einddoel (D) niet alleen de keuze van de deel-doelen (het geheel van d 's is analytisch aan D), het beperkt ook onze keuze van tactieken. Het (formuleren van een) eind-doel hoeft niet direkt een bestanddeel te vormen van het onderwijzen als gemedieerd handelen; het kan echter wel de kontekst vormen voor een reeks van gemedieerde handelingen.

Het vaststellen of formuleren van een einddoel vormt een onderdeel van de kontekst waarbinnen onderwijzen plaatsvindt, terwijl het echter ook een lege categorie kan zijn. Een andere handelings-categorie die betrekking heeft op de kontekst waarin onderwijzen zich afspeelt, is het rekening houden met en het afwegen van situationele factoren ($H(S)$). De volledige beschrijving van onderwijzen bestaat volgens Kerr & Soltis nu uit een drietal geordende handelingscategorieën, die geplaatst zijn binnen de kontekst van een tweetal ongeordende handelings-categorieën:

O: $H(D), H(S) | H(d), H(t), H(u)$

$H(D)$ en $H(S)$ vormen de handelingscategorieën die de kontekst vormen waarin onderwijzen plaatsvindt, terwijl $H(d)$, $H(t)$ en $H(u)$ de handelings-constituenten vormen van het onderwijzen (als gemedieerd handelen).

De hier weergegeven deskriptie (action description) stelt ons in staat te komen tot een theoretische beschrijving van handelingsvaardigheden, die verder

* Dit artikel werd ontvangen via Dr. B. Spiecker, die in 1973 tijdens zijn verblijf in de V.S. professor Soltis ontmoette. Door de heldere wijze waarop een model wordt ontwikkeld, waarin het begrip 'teaching competency' op adequate wijze kan worden ondergebracht, heeft de redactie besloten tot publicatie van het originele manuscript.

De Nederlandse samenvatting is op verzoek van de redactie door de heer Spiecker geschreven. (Red.sec.)

reikt dan een willekeurige opsomming van diskrete vaardigheden.

This is a paper in applied philosophy. In it we try to utilize the techniques of philosophical analysis to generate a conceptual solution to a theoretical problem which arises out of the current practical context in which teacher education is being discussed and developed in the United States. We refer, of course, to the performance-based teacher education movement and the allied concern with teacher competency.

It is often thought that theory precedes practice, but perhaps it is more often the case that practice creates a demand for theoretical inquiry. As 'the movement' toward performance-based teacher education demonstrates, even widely-adopted practices do not necessarily presuppose adequate theory-development. All that seems to be necessary to bring about an adoption of certain educational practices is a rallying point, for which most often a slogan or a set of slogans will suffice. Moreover, as again the movement of performance-based teacher education demonstrates, problems encountered in implementing slogan-motivated practices can force the need for greater theoretical sophistication. For example, faced with the task of naming specific competencies that teachers should acquire, one correctly begins to wonder just what should count as a teacher competency: everything that teachers have always done? Or just some things that some teachers sometimes do or have done? Or what? Any reasonable response would require an appeal to some sort of theoretical description of a competent teaching performance. This need to appeal to the theoretical in order to make sense of the practical is what spawns the activity we call applied educational philosophy. Clearly, theory can precede practice, but when it does the audience of practicing educators, who are often pressed to act in response to immediate problems, is understandably small. But the fact is that the present audience is large. Practicing educators need to come to grips with 'teacher competency.' What is needed is a theoretical description of teaching which is at least adequate to the task of identifying teacher competencies.

But let us take care in using the term 'theoretical'. In its weaker sense, for a theoretical description to tell us what would count as a teaching competency, it need consist of no more than a standard or an arbitrary set of criteria which stipulates a definition for 'teacher competency' – a definition which, in turn, may serve the implementation of particular

policies, programs or practices. In this weaker sense, a theoretical description might be someone's list of competencies or someone's criteria for listing competencies. In *its stronger sense*, for a theoretical description to tell us what would count as a teacher competency, it must include not only a definition of teacher competency, but also reasons for accepting that particular definition – reasons that surpass any particular educator's interests in particular programs. It must be universally applicable. That is, the adequacy of a theoretical description in the stronger sense is determined first not by its practical, policy-rationalizing power, but by its adequacy as a theoretical description *qua* theoretical description. Notice that in the weaker sense, any description would 'solve' the problem of what counts as a teaching competency, but it would only postpone the problem of how to decide between competing lists or definitions. The stronger sense forces the further question of what would count as an *adequate* theoretical description of teacher competency *in general*. While the tests of adequacy cannot tell us how to choose between competing adequate theoretical constructs, it will at least eliminate those candidates which are theoretically deficient. Thus, it is clearly desirable to seek a theoretical description in the stronger sense in order to respond to the question of what counts as a teaching competency.

So it is that we need a systematic theoretical construction to which we can appeal in order to answer particular questions that slogans and practices of competency-based teacher education and related movements suggest. Further, we need a theoretical model that passes certain tests of conceptual adequacy. But *of what*, the question becomes, is a theoretical model needed? Given that at least in part our search is motivated by our wanting to know what counts as a teacher competency, it might seem that what is needed is a theoretical description of *teacher competency*. Or is it a description of *teaching*? The issue concerns where to begin our inquiry. It would seem to make *little sense* to discuss what *one does when he teaches competently*, if we can not specify *what it is that one does when he teaches*, whether competently or incompetently. The logical point of departure, then, seems to be a strong-sense theoretical description – that is, *a theoretical model of teaching that possesses descriptive adequacy*.

Note, though, that while an adequate description of teaching may be the first order of business, this is not to say that all considerations of competency should be put aside. In fact, it is our interest in competency which suggests the type of a description

needed, viz. *an action description rather than a behavior description*.¹ Our concern with competence forces us to give serious and full attention to teaching as a *purposeful* human activity before judgments of competence or incompetence can be made. The point is this: one applies the adverb 'competently' only to those movements which a person *intends* as a *particular* type of activity. For example, if a person were to walk across the room to pick up a book, it would not make sense to say that he was dancing competently or incompetently, for he did not intend his movements to count as a dance or some form of dancing. Similarly, if a person, who happens to be a teacher, were to walk across the room to pick up a book, it would not make sense to say that the movement constituted part of his teaching, if he did not so intend his movement. Thus, while it is possible to describe teaching, or any other human activity, as either *action*, which necessarily involves intended activity and appeals to a person's reasons and goals to explain the activity, or as *behavior*, which can be specified directly in terms of observable movement and appeals to causes for explanation,² *our interest in competency advises an action description*.

More specifically, then, the task of this paper is to develop an adequate theoretical description of *teaching as action*. Before undertaking that task it would be well to consider what a theoretical description is and how the proposed description differs from already available description of teaching. First, let us consider theoretical descriptions in general. Examples abound. Newton's ' $A = \frac{1}{2}gt^2$ ' is a description of a certain aspect of the behavior of falling bodies under specified conditions. Constituent-analysis grammarians ' $S \rightarrow NP + VP, \dots$ ' is a description of grammatical utterances, but not all utterances.³ Bellack's '*Str/Sol/Res/Rea*, where some may be null' is a description of the communication pattern of actual classroom verbal discourse.⁴ From such examples we see that whatever the object of the description, a theoretical description is a formalized, systematized group of 'place holders' or constituents that can generate or derive any instance of the 'described'. What we seek to specify in this inquiry is (1) the constituents of teaching as action and (2) the relationships between those constituents.

Second, it is important to note just how the sort of description to which this paper is committed differs from existing theoretical descriptions of teaching. In brief, we seek a description of teaching that passes what would seem to be the minimal tests of descriptive adequacy for any description of

teaching: it must be *general* enough to cover all cases or instances of teaching and *specific* enough to distinguish between any two cases of teaching. Descriptions of teaching that pass the test of generality are readily available. For example, MacMillan and McClellan's 'means-ends pattern of reasoning' would seem to be general enough to cover all instances of teaching, as well as the many other intentional activities that involve effecting particular types of outcomes.⁵ But, as we shall see, the 'means-ends' description is too general a tool to allow us to distinguish between cases of teaching. Also available are descriptions of teaching that might pass the test of specificity, yet are too limited to cover all cases of teaching. For example, B.O. Smith's description of teaching in terms of strategies and ventures does not pass the test of generality, for Smith's notions of strategy and venture are limited to verbal action.⁶ The desired upshot of this paper is a description that would pass both tests.

The Action Constituents of Teaching

At first blush, two different formats may appear to be equivalent ways of carrying out an analysis of teaching that would yield the desired action description. Perhaps the more oft-used format would have us proceed as follows: gather numerous and varied examples of things that people do when they seem to be teaching, e.g. talking, explaining, demonstrating, writing on the chalk board, observing, listening, and so on, categorize these activities under some set of rubrics, e.g. 'physical actions', 'mental actions', 'physical/mental actions', or any other seemingly 'exhaustive' set of categories; discuss how these categories are interrelated; conclude that the categories of activities, taken together, suffice as an action description of teaching, the tests of adequacy withstanding. The second format would have us first generate a set of action categories that, on particular grounds, can be argued to be necessary to teaching and thus to an action description of teaching and then investigate the 'logic' of this set of action categories.

There are two compelling reasons to adopt the second of these analytic formats. First, the former format advises a primary discussion in terms of activities rather than actions. Consider the action of breaking a windowpane. In order to break a windowpane one could engage in any of a number of specific activities, such as rock throwing, bat swinging, window throwing, etc. But note that in order to demonstrate athletic prowess, one might, under

certain circumstances engage in the very same activity or activities as he would to break a windowpane. This is to say that the first format for analysis assumes a genus-species relation between action categories and specific activities – an assumption which appears to be unwarranted. Thus, the first format, unlike the second, accepts as grist for the analytic mill anything that people do when they seem to be teaching. Presumably 'anything' would include false starts and incomplete or otherwise 'faulty' instances of teaching. Much as a linguist could not reasonably expect to arrive at a description that would fit all utterances that have ever been made, so it would seem to be folly to seek a description of teaching that would fit all teaching attempts. The linguist limits his task to the feasible by attempting to describe grammatical utterances only. Similarly, if the teaching analyst's task is to be placed within the range of feasible possibilities, it must be limited to 'grammatical' instances of teaching. This is not, of course, to say that such a description has nothing to say about false starts, aborted teaching attempts or teaching attempts that don't 'make sense'. Once we have developed the logic or grammar that binds together the set of action categories that constitute teaching, we will be able to specify just where and in what way the instances of 'ungrammatical' teaching went wrong.

The Action of Setting a Goal

To locate a starting point from which to generate the action categories which constitute teaching, let us first consider a criterion which, in ordinary language analysis, clearly appears to be necessary to 'teaching' as an intentional, human enterprise, viz. the goal of bringing about learning. At the risk of underscoring the perhaps painfully obvious it can be noted that in whatever a teacher happens to be engaging *qua* teacher, if that activity is not in some way tied to some goal to bring about learning, then it would not count as teaching. One could engage in activities that are commonly associated with teaching, but yet he would not be said to be teaching if what he was doing were in no way connected with a getting-someone-to-learn goal. Likewise, we would think most odd the language usage in the statement. 'I am teaching, but I do not intend to bring about any learning'. That is, on the grounds of ordinary language usage we can say that at least in some sense the goal of bringing about learning is analytic to the notion of teaching under an action description.⁷

The reader who is *au courant* of the analytic literature on the concept of teaching will recall that some have tried to argue, contrary to ordinary usage, that a teacher's goal of bringing about learning is but one desideratum of teaching and, as such, is not essential to teaching⁸, or that while some sort of goal or objective might be necessary to teaching, a non-learning goal can fit the bill.⁹ The 'non-learning' goals which appear in these arguments are awarenesses, understandings and appreciations. Two points should be made. First, these non-learning goal arguments can serve to point out that if one conceives of learning in a narrow, impression sense, then clearly the point of teaching, more broadly conceived, may be said to extend beyond bringing about learning. But, second, as W. F. Hare has suggested¹⁰, it would seem to be more sensible to broaden the notion of learning to include awareness, appreciations, understandings and the like. Thus, we see that the argument that the goal of bringing about learning (narrow sense) is not necessary to 'teaching' does not serve to counter our opening ordinary-language argument that the goal of bringing about learning (broad sense) is analytic to the notion of teaching.

Having argued that having a particular goal of bringing about learning is an essential feature of the concept of teaching, we now have an avenue by which to suggest the first action category. If the goal of bringing about learning is necessary to 'teaching', then for any group or series of actions to be called teaching, at least one of those actions would have to be that of setting a particular learning goal or recognizing such a goal that one has already set. To remind ourselves that the point concerns not only a learning goal, but also the *action* of setting the learning goal, let us employ the notation A (g) to indicate the *action* of setting a *goal* of bringing about some particular learning. Put otherwise, if the goal of effecting learning is analytic to the concept of teaching, it logically follows that the action of setting that goal should be one of the constituents of our theoretical description of teaching as action.

Does this constituent, so formulated, fit all cases of teaching? It does appear to cover at least some cases, e.g. a case in which one person is trying to get another to develop the habit of opening doors for elderly persons under certain circumstances, or a case in which a person is trying to get the uninitiated to acquire skills requisite to driving a car or typing. That is, there do seem to be cases of teaching in which the 'teacher' sets *one* particular goal. But what of the case in which the teacher says that his goals are to get his pupil to use certain

adjectives in a semantically correct way *as well as* to use them in the grammatically proper order? Or consider a case in which the teacher says that in a given temporal period, his goals are to get student A to learn one thing and to get student B to learn another? From such cases, it would seem that in teaching, one might set more than one goal and, further, that one might set or hold more than one goal to be pursued in a given temporal period. So that the notation might reflect the possibility of multiple goals held simultaneously, let us alter the first action category to

$A(g_1 \dots g_n)$.

The Action of Choosing a Tactic

But clearly, there is more to teaching than setting learning goals. At least the teacher must do something so as to attempt to achieve his goal or goals. The question is, what sort of action or actions beyond the setting of goals constitute teaching? Could it be that in teaching one sets a goal and then simply does it, much as when one decides to move his thumb, he just moves it? That is, is bringing about learning something that one does directly? Note that if one were to put the somewhat curious question 'How dit you do it?' to someone who had just been seen moving his thumb, a quite acceptable response would be, 'I just did it, that's all!' In contrast, if one were to ask the language teacher, who has announced the goal of getting a pupil to use adjectives in the correct order, how he intends to do it, the response 'I'll just do it' would most likely be unacceptable. In order to move one's own thumb all that he may have to do is to move his thumb. But to get someone to learn something, one must, it would seem, do it by means of something else. That is, moving one's thumb can be accomplished directly or, to use Arthur Danto's term, as a basic action, but teaching can be carried out only by *mediated* action.¹¹ If, for example, one is to get someone to use adjectives in the correct order, clearly he will have to do it by doing something else. Thus, we see that in view of the nature of the type of goal that is analytic to 'teaching' if one is to teach he must not only set goals, but also choose the medium or tool by which he will try to achieve that goal. For purposes of this discussion let us call those tools by which one tries to effect particular learning outcomes 'tactics'. For example, the language teacher, whose goal is to get a pupil to use adjectives in the proper order, might employ the *tactic* of requiring that pupil to practice con-

structing, according to certain rules, sentences that contain a string of two or more adjectives.

Just as we argued that if a goal of a particular type is necessary to 'teaching', then in order to teach one must select a goal or goals, it would seem that if one must employ tactics in order to attempt to achieve whatever the goals, then one must, at some point, *choose* tactics. Thus we arrive at the second action constituent of a description of teaching: the *action* of choosing *tactics* to achieve the goals. To this point the description in notation would be, then, as follows:

$A(g_1 \dots g_n), A(t_1 \dots t_n)$.

To avert later confusion, it is important first to be clear about what activities count as tactics. The answer is any activity and not just any activity. The point is this: the tactic status of an activity is relative to the particular goal or goals under consideration. Any activity whatsoever can count as a tactic if that activity would, in turn, count as a tool for achieving a particular goal or goals. Recall the goal of breaking the windowpane. In that case, clearly many different activities, from swinging a bat to throwing a rock to dropping a dictionary could count as tactics for achieving the goal. Under certain circumstances even saying 'Hello' might count as a tactic. Such might be the case if one were to sneak onto a roof and startle someone who happens to be holding a dictionary over a skylight. But also note that any of those same activities under different circumstances might not count as tactics. For example, if one were not within bat-range of a window pane, then swinging the bat would not count as a tactic for breaking the windowpane. Clearly, one's choice of tactic would seem at least to be restricted to those activities which he thinks have some likelihood of effecting, in certain circumstances, the state of affairs specified by the goal. The tactic status of any activity, then, is relative to a particular goal and is determined by the perceived likelihood that that activity will in some sense 'cause' or bring about the state of affairs that constitute the goal.

A second point of clarification is this. Not all tactics appear to consist of single activities. Consider for example, the case in which a person is standing, bat in hand, five paces from the windowpane that he wishes to break. In order to break the window he decides to first move within one pace of the window (activity A) and then swing the bat (activity B). By doing A, according to the logic of his plan, he will alter the circumstances so as to qualify B as a tactic. Similarly, the language teacher may decide first to have his pupil add certain adjectives to his vocabulary (activity A), so that the sentence-con-

struction exercise (activity B) could qualify as a tactic for achieving the goal of getting the pupil to use adjectives in the proper order. In both cases, activity A increased the likelihood that activity B would bring about the state of affairs specified by the goal. That is, activity A altered the circumstances so that by doing B, the goal would likely be achieved. Let us call such an A-B tactic a *complex tactic*. Notice, further, that in the windowpane case, both A and B were single activities, while in the adjective-order case, A was itself a goal to bring about learning which would have been effected by still other activities, and B might have been a single activity. Put otherwise, in the adjective-order case, the teacher employed a special case of complex tactic, namely one in which A (i.e., adjusting the circumstances to increase the likelihood that B would effect the goal) consisted of achieving an empirically prior learning goal. While there would clearly be no logical limit to the learning goals that might be embedded in tactics to achieve other learning goals, the embeddings would likely be limited psychologically to some level of tactic complexity – a level defined by human information processing capacities.

The Action of Implementing the Tactic

If the language teacher were to have set the goal of getting pupil x to use adjectives in the proper order and to have chosen a tactic to achieve that goal and then to have stopped at that point, his actions would not have been sufficient to count as a complete instance of teaching, much as 'And then he decided to . . .' is not a complete sentence. A third action category that appears to be necessary to a complete description of teaching is the action of implementing the tactic. This is *not*, however, to say that in setting the goal and in choosing a tactic to achieve that goal the person was not teaching. Just as we would say that the person who uttered 'And then he decided to . . .' was indeed speaking English, but that he just did not complete the sentence, so we would want to say that the person who set the goal and chose a tactic might indeed have been teaching, but that he just did not complete that instance of teaching.

The relationship between the *tactic* (t) that is chosen and the *implementation of that tactic* [A(i)] appears to be that of an instruction to the carrying out of the instruction. For example, if a person chooses the tactic of swinging a bat under certain conditions to break a windowpane, then the im-

plementation of that tactic consists of his actually swinging the bat under those conditions. That is, what could count as an implementation of a tactic [A(i)] seems to be determined by the tactic (t). Whether or not one is practiced in a particular activity which would count as implementation of a tactic might, however, bear upon his choice of tactic. Consider the hiker, one of whose goals is to keep bears from attacking him while he is hiking. The activities in general which he perceives as having a reasonable likelihood of achieving that goal are (a) wearing a bell so that he would not startle some bear, thus provoking the bear to attack and (b) carrying a loaded gun so that he would be prepared to shoot any attacking bear. But specifically with regard to his own lack of practice with firearms, the hiker knows that the chances of his shooting the bear dead would be weak and that a missed or wounded bear would surely kill him. Thus, he chooses the bell tactic. The point here is that while one's choosing a tactic [A(t)] and one's implementing that tactic [A(i)] are logically ordered action categories, how well one is practiced in the particular activity that would constitute an implementation of the tactic candidate would affect the likelihood of the implementation's resulting in a achievement of the goal. That is, the likelihood that a particular activity will bring about achievement of some goal is at least based *both* on the chances in general that, *ceteris paribus*, the doing of that activity will result in the achievement of the goal and on the person's mastery of that particular activity. Consider, for example, that throwing a rock at a nearby pheasant will likely put dinner on the table, but most often only if the rock thrower has good aim and a strong arm. Likewise, using a Socratic questioning technique instead of lecturing to a group of students in order to bring them to appreciate different senses of the concept of 'justice' will likely result in achieving that goal, only if one is skilled at Socratic questioning.

But to say (A) that how well one is practiced in a certain activity, which if implemented would achieve the goal, affects the likelihood that the activity will result in the goal's being achieved is, of course, *not* to say (B) that activities in which one is well-practiced are always well executed. The philosophy teacher who is well-practiced in Socratic questioning may, due to his momentary fumbling, or due to the lack of standard reactions from students, poorly execute the technique, and this is aside from considerations of whether or not the students achieved the goal which he intended. (Some students learn in spite of our poor execution of tactics.) Thus, when we say that any instance of teaching, to this point

in our description, would consist of the ordered series of action categories,

$A(g_1 \dots g_n), A(t_1 \dots t_n), A(i_1 \dots i_n),$

we make no claim concerning the quality of execution of the activity that counts as a tactic for achieving the goal. Moreover, it is in light of the possibility that something may 'go wrong' in the implementation activity that we should note that an observer cannot necessarily infer the intended tactic (t) merely by watching and describing what a person is doing. For example, if an observer sees a person hit his thumb with a hammer, it does not necessarily follow that the person was trying to hit his thumb with the hammer.

To recap the description thus far, note that the proposed action categories have been developed in such a way that describe mediated action in general. In developing the categories, we have called on examples which would not count as cases of teaching, e.g. breaking a windowpane, putting dinner on the table and keeping from being attacked by bears while hiking, as well as examples which would count as cases of teaching. Under our description, then, teaching is a special case of mediated action. Specifically, *teaching is mediated action, the goal of which is restricted to bringing about learning.*

The Action of Setting a General Goal

In developing the action categories that constitute teaching as mediated action, we noted that in addition the action of implementing the tactic, there were two sorts of teaching decisions possible. One concerned what to do $[A(g)]$, and the other how to do it $[A(t)]$. We discussed the 'likelihood' criterion for determining what activities could count as tactics and, correlatively, noted that the point of choosing between possible tactics $[A(t)]$, *ceteris paribus*, would be to select the one most likely to effect a particular state of affairs (g). We did not, however, consider the basis on which one might decide *what learning* to try to bring about. It is, of course, conceivable that a teacher might for no particular reason, on a whim or an impulse set a particular goal, e.g. getting a child to tie a shoelace for the first time. Likewise, it is conceivable that a teacher might 'decide' what to teach next in default of a reasoned decision. Such might be the case if when asked why he is trying to bring about one particular learning rather than another, the teacher responds, 'I hadn't thought about it; it just happens to be the next behavioral objective given in the teacher's manual.' But there do seem to be instances in which

the teacher does have reasons for setting particular goals $[A(g)]$. Not uncommonly a teacher might respond, for example, that he is getting a student to solve specific problems which involve a change of rate over time, so that the student can 'master' integral calculus, or that he is getting the student to put on his boots by himself before going out into the snow, so that the student can be 'independent' in self-maintenance tasks, or that he is getting a student to paint something that expresses emotions so that the student will 'be aware of' the emotive dimension of painting. In each of these cases, the teacher's reason for selecting a particular goal (g) is that the achieving of that goal is part of or analytic to a larger goal (G), the achievement of which is constituted by the achievement of certain smaller goals (g's). For example, if a student can solve a range of types of problems (a set of g's), involving a change of rate over time, he might be said to have mastered integral calculus (G). Likewise, if a child does a range of particular self-maintenance tasks when conditions require (a set of g's), then he may be said to be independent in self-maintenance tasks. In the case in which the teacher gets the student to paint something which he, the student, attempts to express an emotion (g), it may be that achieving that goal (g) alone counts as making the student aware of the emotive dimension of painting (G) in the teacher's analysis.

Notice the nature of the relationship between the subgoal (g) and the guiding or general goal (G). The larger goal (G) is achieved if and only if a certain set of goals which are taken by the teacher as analytic to it are achieved. Contrast the nature of the G-g relationship with the g-t relationship. While the g-t relation is that of desired effect to causal means, the G-g relation is that of a *sum* of goals, which by analytic fiat count as the larger goal (G), to *one* of those goals. It should be added that the analytic decision must at least in part be based of ordinary language analysis. That is, what set of goals (g's) would have to be achieved in order for someone to be said to *understand* x, (G), is restricted by how the term 'understands' is used in ordinary language, as it is also with the terms 'is aware of', 'appreciates', 'is disposed to', and so on. For example, one would *not* be said to have *mastered* integral calculus if and only if as a rule he carries integral calculus books to and from school (g₁), can recite the names of certain mathematicians who were key figures in the development of integral calculus (g₂) and the like.

Not only does the larger goal (G) restrict the choice of subgoals (the set of g's analytic to G),

but also it can restrict the choice of tactic activities. If, for example, the larger goal (G) is to make a person a good citizen in a democratic society, not just any tactic for achieving any one of the set of behavioral objectives would be consonant with the larger goal. Such tactics as would discourage the student's participation in decisions that affect the social and economic life of his community, for example, would necessarily hinder or block the achievement of at least another of the subgoals which is analytic to the large goal (G), even though those same tactics might have a very high likelihood of achieving some of the subgoals (g's).

Much as one can set and/or pursue more than one goal (g) simultaneously or in overlapping periods, so it would seem to be the case with conceptually unified sets of goals (G). Further, in that the set of goals (G) is not necessary to an instance of teaching as mediated action, but provides or can provide a *context* for the mediated action series, $[A(g_1 \dots g_n), A(t_1 \dots t_n), A(i_1 \dots i_n)]$, let us say that the action of setting or deciding upon a larger goal (G) is part of the context in which any teaching takes place, but that it may be an empty action category, such as in the case in which the teacher 'decides' on a whim to pursue a particular learning goal (g). In notation our description of teaching T to this point reads as follows:

T: $A(G_1 \dots G_n) / A(g_1 \dots g_n), A(t_1 \dots t_n), A(i_1 \dots i_n)$.

The Action of Assessing the Situation

The question that must now be answered is whether there remain any categories of action which are necessary to 'cover' all of the actions, mental or otherwise, that constitute teaching, both good and bad. Three examples serve to adumbrate the nature of a missing constituent. First, consider a case in which a teacher sets the general goal $[A(G)]$ of getting a child to become independent in self-maintenance tasks. In the teacher's analysis, one of the sum of behavioral objectives (G) is that the child put on his boots by himself before going outside to play in the snow. The teacher selects the complex tactic of making the prospect of playing in the snow attractive to the child (activity A) and informing the child that the option of playing in the snow is open to him only under the condition that he put his boots on by himself (activity B). From his own experience and that of his fellow teachers, the teacher knows that there is in general a good likelihood that his particular complex tactic will get the child

to start putting his boots on by himself before going to play in the snow. Further, the teacher is well-practiced in the activities that he chooses. But still he decides not only against the tactic, but also against the goal (g) in view of his knowledge that the particular child's boots are too small for the child to physically manage to put on by himself. Second, consider the same putting-on-boots case, but this time the child's boots are amply big to allow the child to don them by himself, yet the teacher still scraps the plan, for a colleague informs him that the child already has a habit of putting his boots on by himself before going to play in the snow. In the third case, the child's boots are amply big and he has not yet begun to put his boots on by himself, but still the teacher aborts the plan. This time it is because just before implementing the tactic, the teacher notices that the outdoor thermometer reads - 20 degrees Fahrenheit, which he deems to be too cold for the well-being of the child.

In the first case the series of action categories was not completed because the teacher took into account the adequacy of the available materials, the child's boots, with respect to the tactic. In the second case, the teacher did not follow through because he found out that the child's status with respect to the particular subgoal (g) made the planned activities pointless. And in the third case, a consideration external to both the immediate tactic materials and the status of the child with respect to the goal gave reason for terminating the series. Each of these and other similar aforeto uncategorized considerations can be treated broadly as situation factors or factors of the teaching situation. The second of the unordered pair of action categories that constitutes the context for the ordered series of actions $[A(g_1 \dots g_n), A(t_1 \dots t_n), A(i_1 \dots i_n)]$ is, then, the *action* taking into account and assessing situation factors, $A(S_1 \dots S_n)$.

In the full notation, the completed description of teaching is as follows:

T: $A(G_1 \dots G_n), A(S_1 \dots S_n) / A(g_1 \dots g_n), A(t_1 \dots t_n), A(i_1 \dots i_n)$.

That is, under this description teaching is an ordered triplet of action categories in the context of an unordered pair of action categories. For convenience, let the description be abbreviated thus:

T: $A(G), A(S) / A(g), A(t), A(i)$.

More specifically, the relation between the context $[A(G), A(S)]$ and the mediated action series $[A(g), A(t), A(i)]$ is this. If there is any change in the perceived context which the teacher considers relevant to his efforts, then a new mediated action series would have to be initiated if the teaching

enterprise is to continue. Recall that if a goal (g) is derived from a larger goal (G), then g is analytic to G . Thus, any change in one's choice of general goal [$A(G)$] would require the teacher at least to decide whether the previous goal that he set (g) is analytic to the new overarching goal (G). In turn, any change in g would clearly require a new choice of tactic, and so on. Likewise, any change in the situation factors that the teacher takes into account [$A(S)$] would require the teacher to interrupt the mediated action (n) and initiate a new mediated action series ($n + 1$), unless the person simply stops teaching. The three above examples based on the putting-on-boots case demonstrate the interruption of series n upon a change in $A(S)$. Notice that each of these examples involved the interruption of mediated action series n in order to initiate series $n + 1$. But it cannot always be the case that in order to initiate a new series $n + 1$ one must terminate 'midstream' series N , for then no instance of teaching would be completed. Felicitous instances of teaching clearly would involve a completion of the series. Characteristically, $A(i)$ would bring about a change in the situation factors which the teacher takes into account, i.e., a change in $A(S)$. Thus $A(i)$ would be followed by an initiation of a new series. For example, if on completing $A(i)$, the teacher notes that the student's status with respect to the goal (g) of getting the student to use adjectives in the proper order, viz. that the student now does use adjectives in the proper order, then the logic of the situation would now require that either the teacher stop teaching or that he set a new goal [$A(g)$] so as to initiate a new series.

Tests of Descriptive Adequacy

Does this description pass the minimal tests of adequacy for any theoretical description of teaching? That is, is it general enough to cover or fit all cases or instances of teaching, and yet is it specific enough to distinguish between any two cases of teaching? First, let us put the description to the test of generality. Initially, let us limit our considerations to just those instances of teaching which are logically complete. In that the ordered series of action categories fits any case of mediated action and in that the description allows all cases of mediated action, the goal of which is to bring about learning, the series $A(g)$, $A(t)$, $A(i)$, taken alone, clearly seems to be general enough to cover all instances of teaching. Further, in that the description as developed allows for instances of teaching in which $A(G)$ is

null, the addition of the $A(G)$ category does not affect the generality of the description. Finally, the description leaves open the number, variety and comprehensiveness of the situation factors that the teacher might take into account. Note further both that mediated actions in general, of which teaching appears to be a special case, would logically seem to have to take place in some context and, again, that the $A(G)$ category can be null. In view of both the open nature of the category $A(S)$ and the fact that mediated action presupposes a context, part of which need not be $A(G)$, it follows that the context [$A(G)$, $A(S)$] fits every instance of teaching, as does the mediated action series.

But is the description, $T: A(G), A(S) / A(g), A(t), A(i)$, specific enough to distinguish between any two instances of teaching? Let us consider more closely what the question asks. Imagine that we see two people throwing rocks. If person A is breaking a windowpane while person B is just practicing his aim and if a description is to distinguish between these two mediated actions, the descriptive categories must be such that the 'plugging in' of each instance of rock throwing will generate the difference. In terms of earlier discussion, then, the question is this: Is the description specific enough to distinguish between any two instances of teaching of which the implementing activity may be the same, even though the respective teachers are actually doing different things? Consider the following case in which two teachers might appear to be doing the same thing and even claim to have the same goal, yet they deny that they are teaching the same thing. Both teacher A and teacher B request their respective students, who (imagine for purposes of this illustration) are identical, to do the same exercise of constructing sentences according to certain rules of adjectival word order. Further, both have the same goal of getting their respective students to use adjectives in the proper order. But while A sees this goal (g) as analytic to getting his student to use the language as a native speaker (G), B sees this goal (g) as being embedded in a complex tactic, whereby he wishes to get his student to use adjectives in the proper order in a language other than the one in which the exercise appears. In that the description does account for the difference between these two instances of teaching and between all the other cases that we have considered, the description does seem to pass the specificity test.¹²

While the description, $T: A(G), A(S) / A(g), A(t), A(i)$, passes the generality and specificity tests, those are not the only adequacy tests that one might wish to put to the description. In an effort to be

clear about what a description of teaching can and cannot or need and need not do, let us consider two particular responses that teachers in fact have made to instances of teaching being 'plugged into' the description. The first of these is as follows: 'I didn't think about it in that way at the time, but that seems to me to describe what I was doing'. The remark questions the phenomenological adequacy of the description. Our teaching description logically cannot, so should not be expected to have phenomenological adequacy, in that teaching actions might be done either consciously or unconsciously. The fledgling teacher, for example, probably would have to 'think about' many steps that the experienced teacher would do 'automatically'.¹³ The second response refers to how-to-do-it adequacy: 'But that is not what I was doing', or 'That's not how I did it'. Note that though it is logically possible that some description of teaching might have how-to-do-it adequacy, a description *qua* description need only fit the action rather than guide it.¹⁴ Thus, while 'T: A(G), A(S) / A(g), A(t), A(i)', must and does pass the adequacy tests of generality and specificity, it neither can nor should be expected to meet the requirements of phenomenological adequacy, and it need not possess how-to-do-it adequacy.

Teacher Competency

We now return to the question that motivated our search for an adequate theoretical description of teaching. That is, what should count as a teacher competency? It seems to be agreed that whatever count as teacher competencies, they are something that one must acquire if he is to be said to teach well in general. In order to determine more specifically what might count as a teacher competency we must, then, ask what sorts of things one need acquire under our description to teach well.

Let us begin with the last action category in the mediated action series, A(i). Recall from earlier discussion that to implement a tactic one engages in a *particular activity* that counts as a tactic. One could reason, as it would seem that the preponderance of those in the competency 'movement' have, as follows: when one teaches anything to anybody, he must at some point engage in a particular activity or activities; certain activities seem to recur frequently as teaching activities; ergo, teaching competencies are particular activity skills. The line of reasoning does not suggest that to be a competent teacher he must become skilled in every teaching activity that he will ever need. Rather, it proposes

that if a given teacher in the course of his teaching frequently engages, for example, in explaining particular natural phenomena to groups of 30 seven-year olds who are of lower middle class families, then to teach well that teacher would have to acquire certain explaining skills for that general situation.

But while skills in certain activities do seem to identify one type of competency, it would not seem to include all types of teacher competencies. That is, one may usually do a particular activity very well, but if he frequently chooses to engage in the particular activity for the wrong reasons (or for no reason), then we would not consider him to be a competent teacher. For example, if a teacher consistently chooses to engage in activities not for their likelihood of bringing about the desired learning, but only on the basis that he himself enjoys them, we would not consider him to be a competent teacher. Put otherwise, if a teacher were said to teach well, we would expect him to choose tactic activities for good reasons, viz. for the likelihood that a proper implementation of the tactic activity (t) would result in the achievement of the goal (g) and the likelihood that the particular teacher would do the tactic activity well. Clearly, the teacher's having acquired the knowledge of what counts as a good reason for choosing an activity would be insufficient. For him to be said to teach well, he would have to have acquired the disposition to choose tactic activities for the right reason – a disposition which identifies the second type of teacher competency.

The question now becomes: if a teacher does well the activities in which he engages and if he consistently chooses those tactic activities for the right reasons, would he necessarily be said to be a competent teacher? As the following case demonstrates, there must be still another sort of teacher competency: A teacher sets the goal (G) of getting a student to appreciate Russian folk music. The teacher chooses, for the right reasons, certain tactic activities (and does those activities well) for getting the student to identify Russian folk-music instruments (g_1), for getting the student to name ten Russian folk songs on request (g_2), and for getting the student to recite from memory the words of the first stanza of each of the ten songs that he names (g_3). Clearly, the set of g's would not reasonably count as G. Thus, if the teacher consistently sets behavioral goals (g's) that do not add up to his larger goals (G's), we would not say that he teaches competently, especially if he is expected to achieve some larger goals (G's). It would seem that the competency that the teacher is lacking consists of

analytic and synthetic skills whereby he might come closer to identifying a set of behavioral goals (g's), the achievement of which would count as the achievement of the larger goal (G), or he has not acquired the disposition to utilize his analytic and synthetic skills. The third sort of teacher competency, then, is that of having particular analytic and synthetic skills for determining what set of g's constitute a given G and of being disposed to utilize those skills.

To motivate the need to specify yet another type of teacher competency, consider a case in which the teacher chooses to employ activities as tactics for the right reasons, does well those activities, and identifies a set of g's which are clearly analytic to G, but the situation factors which he consistently takes into account are very limited, e.g., only the length of the teaching period, the availability of materials and his students' learning status with respect to the goal. The otherwise competent teacher who consistently sets goals, selects tactics and pursues his goals without, for example, being sensitive to his students' emotional states, the nature of the group of students, the level of the students' linguistic skills, and so on, would be thought to teach poorly for two reasons. First, though he might select tactic activities for the right likelihood-of-goal-achievement reasons, his limited consideration of the situation factors would make him miscalculate the likelihood. Second, though he might in fact achieve the goals that he sets, the goals as well as the tactics may be inappropriate in light of particular situation factors that he fails to take into account or properly assess. For the teacher to be said to teach not poorly, but well, he would have not only to be able to recognize relevant situation factors, but also be disposed to take them into account. That is, part of what defines the poorly-to-well teaching range is the scope and sophistication of the teacher's perception of elements of the teaching situation that might bear on his efforts to pursue learning goals. Further, what situation elements or factors the teacher views as changeable would affect both what goals and what tactics he might see as possible. Thus, the fourth type of teacher competency would be measured in degree, consist of the disposition to take into account situation factors, broadly conceived, and depend upon the teacher's having a very broad and basic knowledge of potential factors which impinge upon the educational process in order for him to be able to adequately assess what he is doing in light of the most important or crucial perceived situational factors. Thus, what our action description of teaching seems to allow (as well as demand) is a

theoretical description of competencies of an 'action' sort which goes beyond the identification of discrete skills or performances to a consideration of broader goals and situational factors which provide the basis for assessing the competency of a teacher's interpretations, choices, reasons, and judgments which underlie the performance of complex intentional teaching activities.

A Concluding Note

In this paper, we have tried to do three things. We have tried to develop a theoretically adequate action description of teaching. We also have tried to use that description to cast some light on the ways educators might more productively think and talk about teaching competencies. But most of all we have tried to provide an example in philosophy of education of what we have called 'applied philosophy'. Most often these days philosophers seem to write and talk only to each other about problems which have been generated within the philosophical community itself and seldom do they reach outside their technical domain. But when philosophers do reach outside to address others on a current issue, concern or idea, more frequently than not they act as critics, or apologists rather than as 'theoretical-construct generators' as we have tried to do. But it should be recognized that in any form of practical program development or empirical educational research, there is always a need for a theoretical base of adequate sophistication to the tasks at hand. What we have tried to do in this paper is to supply a needed part of that theoretical base for the consideration of those who take the teacher-competency training movement seriously and even for those who do not.¹⁵

NOTES

1. For more on the distinction between an action description and a behavior description of teaching, see Green, Thomas F., 'Teaching, Acting and Behaving', *Harvard Educational Review*, Vol. 35, No. 4 (1964), 507-524.
2. For a similar distinction, but in terms of 'acts' and 'actions' rather than behavior and action, see Kaplan, Abraham, *The Conduct of Inquiry* (Scranton, Pennsylvania: Chandler Publishing Company 1964), especially pp. 358-363.
3. For a brief, clear presentation of the constituent analysis or phrase structure description of grammatical utterances, see Chomsky, Noam, *Syntactic*

- Structures* (The Hague: Mouton, 1971), especially Chapter IV, 'Phrase Structure'.
4. This description is developed in Bellack, Arno, and Davitz, Joel, *The Language of the Classroom* (New York: Institute of Psychological Research, Teachers College, Columbia University, 1963).
 5. MacMillan, C. J. B., and McClellan, James E., 'Can and Should Means-Ends Reasoning Be Used in Teaching?', *Studies in Philosophy and Education*, Vol. 5, No. 4 (1966-67), 375-406.
 6. Smith, B. O. et al., *A Study of the Strategies of Teaching* (Urbana, Illinois: Bureau of Educational Research, College of Education, University of Illinois, 1967).
 7. It is important to note, as does Scheffler in discussing his 'intentional sense' of teaching, that to say that the goal of effecting learning is necessary to the concept of teaching is not to require that the goal be in fact achieved. Cf. Scheffler Israel, *The Language of Education* (Springfield, Illinois: Charles C. Thomas, Publisher, 1960), Chapter IV, 'Teaching'.
 9. Cf. MacMillan and McClellan, *op. cit.*
 10. Hare, W. F., 'Unsuccessful Teaching', *Educational Philosophy and Theory*, Vol. 19, No. 2 (1969), esp. p. 57.
 11. Danto, Arthur C., 'What We Can Do', in *Readings in the Theory of Action*, edited by Norman S. Care and Charles Landesman, (Bloomington and London: Indiana University Press, 1968). Reprinted from *The Journal of Philosophy*, Vol. 60 (1963).
 13. Note that the 'means-ends' description referred to above is not specific enough to generate the differences between these two instances of teaching. The 'means-ends' description could only be used to show that the two instances are alike insofar as they share the same means and the same ends.
 13. For a discussion of a similar point in a broader context, see Morgenbesser, Sidney, 'Fodor on Ryle and Rules', *The Journal of Philosophy*, Vol. 66, No. 14 (July 24, 1969), esp. pp. 468-69 concerning the point that '... associative bonds between repeatable elements of [a] repeatable task may develop'.
 14. For a fuller discussion of the distinction between a description that *fits* and one that *guides*, see Quine, W. V., 'Methodological Reflections on Current Linguistic Theory', in *Semantics of Natural Language*, edited by Donald Davidson and Gilbert Harman (Dordrecht: D. Reidel Publishing Company, 1972), esp. pp. 442-44.
 15. We are grateful to our colleagues at the Teachers College Center for the Study of Teaching for providing us with the stimulus to develop this description and for their critical and constructive comments which helped to see many potential applications for our work as well as its many shortcomings. Utilizing a modified version of our action description of teaching, the Center is currently engaged in developing a pilot empirical research project aimed at identifying in naturalistic situations what we have here called 'tactics' as they are utilized by recognized effective teachers in the various subject matter fields on the secondary level.

Curricula vitae

Donna H. Kerr behaalde haar Ph.D. aan Columbia University en is werkzaam als 'assistant professor philosophy and education' aan de University of Washington, Seattle.

Jonas F. Soltis (1931) studeerde o.a. in Harvard (Ed.D.). Hij is verbonden aan Teacher College, Columbia University, New-York. Tevens is hij president van de Philosophy of Education Society.

Dit artikel is met toestemming van de uitgever overgenomen uit *Educational Theory*, vol. 24, no. 1, (Winter 1974, pp. 1-16).

Een aanvulling en kritiek op deze benaderingswijze is verschenen van de hand van Nel Noddings onder de titel *Teacher Competency: An extension of the Kerr-Soltis Model* in *Educational Theory*, 24, 1974, no. 3, pp. 284-290. Inventariserend onderzoek op dit terrein in Nederland wordt gedaan door het Instituut voor Onderwijskunde te Nijmegen (S.V.O.-project P-262, projectleider drs. Th. Hendriks).