# The Teacher

## Theory and Practice in Teacher Education

Allen T. Pearson

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To the memory of my parents

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# The Teacher

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# Preface

In 1980 the Dean of my Faculty of Education appointed a philosopher of education to the position of Assistant Dean (Practicum), the position called in many other universities the Director of Student Teaching. No one, at least in my hearing, ever suggested that this was an odd or unusual appointment to make, though I am sure some wondered. It was for me, however, the beginning of a fascinating time in my life; I had to come to grips with ideas and issues that I had not had to face, and I had the opportunity to work with many dedicated and insightful people from fields, perspectives and backgrounds other than my own. One of the topics I found myself discussing in this position was the importance of integrating theory and practice in teacher education. I defended my Faculty to the teachers, superintendents and executive staff of the teacher's association and government officials on the grounds that our program did indeed integrate theory and practice. These were essentially political defenses about which I never felt entirely comfortable. Upon leaving this position and returning to my usual responsibilities as a philosopher of education I decided that I would try to make some philosophical sense of what I had been talking about for four years. The present work is the result of my endeavors.

I owe thanks to many for their assistance in helping to educate me in matters of teacher education. I wish especially to express my thanks to Walter Worth, the Dean who appointed me to the student teaching position, for giving me the opportunity to participate in this vital area. My colleagues on the Faculty of Education taught me much, and their patience with me was remarkable. The members of the Teacher Education and Certification Committee of the Alberta Teachers' Association gave me, during my tenure on that committee, a crash course in the issues of teacher education as seen from the teacher's viewpoint. They may not agree with all that I say; but they have profoundly influenced what I have to say. I wish also to thank Eamonn Callan for many suggestions and Leela Kobbekaduwa for much help in preparing the manuscript.

When I first left my student teaching responsibilities I was fortunate to be able to be a Visiting Fellow at the Philosophy of Education Research Center at Harvard University. I wish to thank its co-directors, Israel Scheffler and Vernon Howard, for their hospitality and the encouragement they gave me to turn my initial reflections on the question of theory and practice into this book.

# Contents

# Introduction

Questions and problems of education soon become questions and problems of teacher education. It is not uncommon, and it is certainly understandable, that we turn our attention to the preparation of teachers when we are concerned with the education of the young and with the quality of the schools. When we begin to look at teacher education the issue of "theory and practice" begins to loom large. That this should have become a catch phrase in education stems no doubt from the way we have conceived teacher education. It is almost a universal feature of teacher education programs that they contain four components: general education, specialized knowledge, professional knowledge and practice.[1] Given that these components mean to provide the intending teacher with the knowledge and capabilities to become a professional teacher, teacher education expects the intending teacher to take the knowledge presented, which is often theoretical, and to apply it in classroom practice. It is this expectation, which is suggested by the label "the relation of theory and practice," that is my topic in this work.

My intention is to treat this topic as a philosophical one. My concern is to provide a conceptual understanding of theory and practice and their alleged relation. This endeavor is made difficult by the range of meanings that have been given to theory and practice in the literature. Sometimes one finds theory and practice identified, or seemingly identified, with what goes on in universities and what goes on in schools: "The three commonplaces of teacher education—the dichotomy of theory (university instruction) and practice (schooling)."[2] At the other extreme we find difficult and sophisticated discussions of how theory and practice can be integrated and even be made identical.[3] Neither of these positions seems plausible. Surely, in the first case, theoretical matters can be found in schools and practical matters in universities. In the second case, one wants to say an integration or amalgamation of what is theoretical and what is practical is to remove an important basis for distinguishing ideas and activities. Admittedly it is often difficult to distinguish between the theoretical and practical and what counts as theoretical in one context may well count as practical in another. In spite of the difficulties inherent in these notions, they do seem to be ones that we do not want to lose. The question, then, that I want to consider here from a philosophical point of view, is what is the most plausible and fruitful way of conceptualizing the relation between theory and practice.

I will attempt to answer this question in two ways. First, I will consider and criticize some of the answers that have been given. Second, I will develop an alternative position that is not subject to the criticisms I will lay against the other accounts of theory and practice. The positions I will consider fall in two groups. The first set of positions see theory as being essentially scientific and practice as applied science. In the philosophy of education literature, a basic starting point for discussions of theory and practice is the debate between D. J. O'Connor and P. H. Hirst[4] on the nature of educational theory. In Chapter 2 I will consider O'Connor's position in this debate. He defends the view that theory in education should be considered in the same way that it is considered in the natural and social sciences. This view will receive, in terms of space I devote to the topic, my greatest attention. It seems to me that this view is the one reflected most clearly in contemporary educational research. Because of its widespread acceptance I will need to spend some extra time with it. More controversially, I shall, in Chapter 3, consider the work of Donald Schön as an example of an account of theory and practice that is essentially scientific. His work is extremely insightful and provocative but, I will want to claim, not entirely acceptable. Although Schön claims to be developing an alternative epistemology to "technical rationality," I will try to show that his position falls within the general class of scientific approaches to an understanding of theory and practice; that is, his work is not as different as he claims, even though it adds much to our understanding of this issue.

After this consideration of scientific views of theory and practice, I will consider two approaches that put the basis for understanding educational theory and practice in philosophy. The history of educational theory is, to a large degree, a story of a variety of accounts of the purposes, policies and practices of education that are essentially philosophical. From Plato through Comenius, Locke and many others to present day thinkers, educational theory has been taken by many to be an essentially philosophical enterprise. That it might be a scientific activity is only a recent development.

The first of these positions to be examined, in Chapter 4, is Hirst's side of his debate with O'Connor. This position, which I call a "normative" theory of education, conceives of educational theory as a multidisciplinary theory drawing on the social sciences, philosophy, ethics and experience. The second position is Donna Kerr's conception of a "theory of practice." This view, discussed in Chapter 5, elucidates the concepts of theory and practice in the context of action theory, a philosophical account of how human action is to be understood.

In my discussion of these four positions, I will raise a number of questions and criticisms, but they all, I feel, have something to contribute to the final position that I will develop. This is done principally in Chapters 6 and 7. Chapter 6 may appear to be a detour; in that chapter

I will discuss teaching and what, from a philosophical point of view, it entails. I do this because the account of theory and practice that I want to present is based on the practice of teaching. Part of my position is that our understanding of theory and practice in teaching should grow out of our understanding of teaching, not from some prior commitments as to the nature of theory and practice. In discussing teaching I can make clear the nature of its practice, so that in Chapter 7 I can discuss how theory and practice can plausibly be understood in education.

In that chapter I will refocus the question of theory and practice. I will try to show that the concern we have for relating theory and practice is the concern for how teachers utilize the knowledge and beliefs they have. The fundamental issue behind the question of theory and practice, I will claim, is the relation between belief and action. I will present an account of how belief and action are related through the reasoning that teachers engage in. How teachers use what they know and believe in deciding what to do is, I want to claim, the essential issue behind the catch phrase, "relating theory to practice." My view, instead of locating this discussion in a predetermined scientific or philosophical account of theory, claims that it is based in the reasoning that teachers do as part of their daily life and work. The thesis that I will be presenting and defending in this work, then, is that the concern for relating theory and practice in education is met when teachers use their knowledge and beliefs to make reasonable and reasoned decisions about what to do in their classrooms.

By this point I hope to have established that my thesis is plausible. In Chapter 8 I try to show that my thesis is fruitful. In this chapter I try to draw the implications of the thesis for teacher education. If translating theory into practice involves making reasoned decisions about what to do given one's knowledge and beliefs then teacher education will need to prepare intending teachers for making these decisions. I try to suggest what a teacher education program that takes this position seriously would need to contain. Finally, I will use the thesis to show how it helps us to understand and evaluate some of the proposals for teacher education that are currently in vogue.

The upshot of this discussion is, I hope, to show that our thinking about teacher education needs to and can benefit from careful philosophical study. Those who are entrusted with the education of the young of any society are given a task of the greatest importance and consequence. Those who are involved in the preparation and education of those teachers are engaged in a task of no less importance. Such a task deserves our most careful study and attention, whether we approach the task from philosophical or scientific standpoints; the education of teachers demands no less. Whether or not my thesis is judged to be correct, I hope that what I have to say will be provocative enough to encourage further philosophical investigations into the grounds of teacher education.

# Practice as applied science

In investigating the relation of theory and practice in teacher education, a first approximation of how the two notions are to be understood is to liken the relation to that found in the practice of medicine. There, clearly, the theory is that found in the biological sciences, and practice is found in the interaction between the physician and the patient. It seems obvious that the practice of medicine is guided by the theoretical knowledge of the physician. Physicians take the theoretical knowledge that they possess as a result of their education and apply it to a particular case at hand. The education of the physician is, then, an effort to provide the student with general knowledge of the field that can be applied in the everyday practice of medicine. While I would not want to push this analogy too far, and indeed I will return to it to discuss its limitations, it is a forceful analogy that one commonly finds in discussions about the relation of theory and practice in education. The force of the analogy is in no small part due to the success of medicine. The biological sciences have provided the practice of medicine with much knowledge and many treatments that can be used in the care of individual people. One author who has used the view behind this analogy as a basis for conceptualizing educational theory, while recognizing its limitations, is D. J. O'Connor.[1] I will turn first to his view of educational theory.

## Educational theory is scientific

Given the vagueness of the word "theory" and the many different contexts in which it can be used, O'Connor's approach is to offer a stipulative definition which tries to capture the basic idea behind the notion of a scientific theory and to defend it against objections. It is: a theory is "a logically interrelated set of hypotheses confirmed by observation and which has the further properties of being both refutable and explanatory."[2] He spends some time discussing the notions of being refutable and explanatory, but does not discuss the notion of being confirmed by observation. The latter notion, though, is important. It makes clear that a theory, and consequently an educational theory, is a set of inductive, empirical statements. Only those statements that are confirmable by observation are candidates for inclusion in an educational theory. This, it almost goes without saying, rules out many of the kinds of claims we find in education from being part of a theory of education.

Normative claims and many of the policy claims that govern the operation of educational institutions are not confirmable by observation, at least not in any obvious sense. To claim that handicapped children should receive the same educational opportunities as the non-handicapped or that every child should learn how to operate a computer are not the kinds of claims that one can confirm by observation. Although what one observes has a bearing upon whether these claims should be adopted, this would seem to be insufficient for their adoption. One also has to make judgments about the principles on which these claims rest or on the consequences of so acting. So, while it is a commonplace of conceptualizations about scientific theory that they include only those claims that are based on observation, it is a view that has important ramifications for the conceptualization of educational theory.

The other two criteria in the definition, what he calls his "minimal criteria," need some clarification. He adopts the "deductive" model of explanation. His view, again a commonplace in accounts of scientific explanation, is that an event is explained when a statement of that event can be deduced from other true statements, at least one of which is a statement of a general law of science. For us to know that the statement explains an event we need to know, under this model of explanation, that certain general laws and statements of initial conditions are true, and that the statement in question can be derived from the other statements in the explanation in accordance with the rules of logic.

The second criterion, refutability, rules out of scientific theories those claims and sets of claims that are impervious to test or experiment. Some sorts of claims are such that although they have confirming instances there is no possibility that they can be disconfirmed. Such claims are not suitable candidates for inclusion in a scientific theory. Astrology is a common example of a non-refutable set of claims. Apparent counter-evidence is never, in astrology, treated as threatening the truth of the claims themselves; the disconfirming instances can always be explained away. Here the vagueness of the claims and their ability to be interpreted in a variety of ways are what make them non-refutable. Other more debatable examples of non-refutable sets of claims that masquerade as science, but examples which O'Connor accepts as clear cases of non-refutable sets of claims, are psychoanalysis and Marxism.

So, the view of theory under consideration is the standard, even doctrinal, view of science. A theory is a set of statements that explain particular events by reference to general laws. These laws are based, ultimately, on observation, and the theory is itself always open to modification or refutation. This view of science has become so common that it may almost seem a caricature. But if educational theory can be construed in this way we have a very powerful position. All the credibility that accrues to science will accrue to education, and practitioners of education will have a strong and secure base on which to base their actions.

## Limitations of the position

In adopting this position, O'Connor recognizes that it has what might be called limitations. The first has already been mentioned in that a theory of education conceptualized in this manner will not include value or normative claims. The field of education is one, however, in which normative claims are prominent; the very first questions that must be asked in education—why should we educate children, what should we teach them, and who should be taught—all raise difficult normative issues. Until they are answered, the factual questions concerning the organization and procedures of education cannot be considered. So, it would seem, that a conceptualization of educational theory that ignores such issues must be defective.

This conclusion is too hasty. Normative claims can guide the practice of education without being part of educational theory. The analogy of medicine can be appealed to again. Values concerning health, the absence of disease and access to medical care can guide the practice of the physician even though these issues do not appear in the scientific underpinnings of medicine. Similarly, in education the normative questions can be considered and answered independently of theoretical questions. Once positions have been developed about why we should educate, what should be taught, and the like, the results can be used to guide practice. The fact that normative issues are not part of an educational theory does not mean that they are considered irrelevant to the practice of education. They can guide practice from outside the theory.

This leads to a conclusion that O'Connor does not recognize. Given this conception of theory, it is now clear that a theory of education is at best necessary, but not sufficient, for the direction of practice. Since the normative claims of education are outside the theory of education and since normative claims are needed for guiding the practice of education, an educational theory is not alone sufficient for guiding practice. No matter how well developed our theory of education is, it will not by itself be able to direct the practice of education. We will always need, at least, a normative position that will help to direct the actions that one pursues.

Further, and what O'Connor does see, an educational theory is not necessary for the practice of education.[3] The practice of education was not only established, but was quite effective, before there was any scientific theory of education. So given that the practice can be quite sophisticated without a theory of education, such a theory is not necessary for practice. What has made theory increasingly relevant to the practice of education, according to O'Connor, is the development of mass education. When education was restricted to a few, academically talented children, the practice of education did not need the resources of a theory of education to become more successful. The resources and experience of the teacher were sufficient. However, now that "the bene-

fits of literacy and numeracy are such that no one must be spared them,"[4] the practice of education has become much more difficult. In having to teach everyone, regardless of talent, interest or ambition, the challenges to the teacher have become much greater. In order to meet these challenges, education has turned to psychology and sociology, in particular, for help.

This, according to O'Connor, is one place where the analogy of education to medicine breaks down. The practice of education has developed to a large extent without the need for scientific theory. Education only turned to science when it reached the point where as a result of a social revolution it became unable to cope with the problems set before it. The practice of medicine, on the other hand, is the result of a scientific revolution. Medicine as we know it would not be possible except for developments in science. That is, the growth of science preceded and made possible developments in the field of medicine. Medicine did not develop and then turn to science for help and support as in the case of education. So, the relations between theory and practice are different in education and medicine.

Another limitation on the conceptualization of educational theory as scientific is the limited support the sciences are able to provide to the practice of education. It has often been noted that the practice of education is informed to a remarkably small extent by the sciences of psychology and sociology. The results of these sciences have little to say to the practitioners of education. In part this is due to the obvious nature of the findings. Educational theory seems more likely to reaffirm what the practitioner already realizes rather than to provide new information. The "time-on-task" studies tell us that students who spend more time learning a subject have greater success in learning that subject. Such a finding is not very startling, to say the least. Other sorts of findings of the educational sciences seem to have no bearing on educational practice because of their distance from the world of the practitioner. Studies of memory retention use the subject's ability to recall patterns of nonsense syllables. Since the actual practice of education is not concerned with learning nonsense, these studies have little bearing on the practice of education.[5]

A number of reasons can be identified for the lack of support that the social sciences have been able to provide for educational practice. One reason may stem from the point made above about medicine and education. Medicine has a history of a much closer and successful relation with its scientific base than education. But in medicine it has been the scientific disciplines that have set the agenda for medicine. The practice of medicine is a direct outgrowth of developments in the related sciences, and so it is not surprising that it should show a close and harmonious relation to those sciences. Education, on the other hand, has developed independently of the social sciences and has only turned to them in recent times because traditional practice has been forced to deal with new and difficult conditions. In education, the sciences have not set the

agenda for the practice of education. Rather, the practice of education has sought to influence the agenda of independent scientific activities. So, it is again not surprising that there is not the close relation between the practice and the theory of education.

Two more standard answers to the question of why scientific theory has had so little to say to educational practice are first that the sciences of psychology and sociology are young and immature, and second that the idea of a social science is misconceived. The first answer is the one appealed to by O'Connor, among others. The claim here is that in the history of science, psychology and sociology are relatively young; they have been in existence only for about a century. While we cannot be sure of their future development, we cannot say with any certainty that they will not provide support for education comparable to that provided by biology and chemistry to the practice of medicine. There is no basis for dismissing psychology and sociology as having nothing to say to education on the basis that to date they have had little, if anything, to say. A related point is the alleged obviousness of the findings of the social sciences. As humans, we exist in a social world and so develop some knowledge, albeit rough and ready, of what it is to be a social agent in the world. Since this is also the aim of the social sciences, it is not unexpected that the findings of social science should appear obvious. If our experience has any basis in reality then the results of the social sciences should be similar to our experience. But the social sciences do provide a sound scientific base for that knowledge in comparison to the personal and perhaps idiosyncratic base of one person's experience.

The second sort of answer to the question of why the social sciences have had so little to say to the practice of education is more radical. This is to say that the very notion of a social science is misconceived.[6] The study of human action, it is alleged, is not the kind of thing that can be done scientifically. To apply categories and procedures that have their home in the study of physical objects to the study of human beings is unwarranted. The kind of knowledge that we get from ordinary experience is sufficient for understanding humans and, indeed, is the only kind of knowledge that we can have of humans. In relation to the practice of education this line of argument means that it is inappropriate to turn to the sciences to provide guidance for what is to be done in schools. Rather, the kind of knowledge that one gets from experience in schools and education is the only kind of knowledge that one needs to guide practice. This debate, of course, must be returned to for more examination.

## Criticisms of the position

I now want to turn to some fundamental issues that must be faced when educational theory is claimed to be scientific in the standard sense.

From the point of view of looking at this issue with the question of the relation of theory to practice in mind, this claim gets its plausibility from the success of other applications, in particular medicine, of the results of science to the realm of practice. If there are serious doubts about whether educational theory is scientific in the same way as, say, medical theory is, then the plausibility of the analogy begins to wane. I will consider some questions about the nature of educational theory as presented so far and will then turn to questions of the relation of educational theory conceived in this way to educational practice.

Under this view of educational theory, the content of the theory is provided by psychology and sociology alone. These are the realms of science that give descriptions and explanations of educational phenomena, or at least those that are amenable to scientific understanding. I have already pointed out that this conception excludes normative and policy issues from any putative educational theory. But the status of psychology and sociology as scientific, in the sense elucidated, is not without controversy. It has been argued that these fields are not sciences, or that insofar as they are sciences they have nothing of any interest to tell us.

To begin to face this issue I would first like to elucidate what I take to be two necessary conditions for being a social science. These are in addition to any conditions that must be met for something to be a science, conditions such as being explanatory and refutable. The two conditions that I have in mind are that a social science must include mental events as part of its content and that a social science must describe lawful events.

To consider the mental events condition first, a mental event is one that will be described by a sentence containing a verb which expresses a propositional attitude, or to put it in more technical language, "such verbs are characterized by the fact that they sometimes feature in sentences with subjects that refer to persons, and are completed by embedded sentences in which the usual rules of substitution appear to breakdown."[7] Mental events, then, would be such events as desiring something, believing something, intending something, and more pertinent for my purposes, learning something or knowing something. Such events are mental because the verbs in each case sometimes have a person as their subject and occur in sentences where the verbs are followed by embedded sentences in which the normal rules of substitution do not hold. For example, a person may learn that Jane Austen wrote *Northanger Abbey*. Suppose that it is true Austen is the only author buried in Winchester Cathedral, then the descriptions "the author of *Northanger Abbey*" and "the author buried in Winchester Cathedral" refer to the same person. The usual rules of substitution allow for the substitution of identities. But in this case, while it is true that the person has learned that Jane Austen wrote *Northanger Abbey*, it does not follow that it is true that

the person has learned that Jane Austen is buried in Winchester Cathedral. So, the usual rules of substitution do not hold in embedded sentences that follow the verb "to learn," showing that this is an example of a mental verb. Similar considerations would show that this applies to all the other verbs that are of concern in education, such as "know," "believe," "understand," "appreciate," "value," and the like.

With this brief discussion of what is to count as a mental event, I want now to consider why social sciences must concern themselves with such events. The reason is quite simple. If an event is not mental, it is physical. So, if the social sciences were not concerned with mental events, they would be concerned only with physical events in which case there would be no difference between a social science and a physical science. That is to say, that which provides the possibility for the existence of a social science is the existence of mental events. Insofar as one is willing to allow the possibility of there being a social science one is committed to the claim that they must deal with mental events. The claim, then, that dealing with mental events is a necessary condition for being a social science can only be defeated by showing that physical sciences such as physiology and biology are sufficient to account for all human action. I take this claim to be implausible. Mental events can be described and explained without recourse to the concepts and theories of the biological sciences, and if such recourse is made, in general, it does not add to one's understanding of the mental event. So, if we accept that there are social sciences which are not equivalent or reducible to physical sciences we are committed to the claim that the social sciences must deal with mental events.

The position just set out does not state that the social sciences deal only with mental events. Physical events may well enter into a social science in order to account for, and to be accounted for by, mental events. In sociology, being born into a family of a certain social status is not a mental event, but is a relevant factor in a sociological explanation of a variety of mental events, such as what such a person believes or values. In psychology, the number of students in a classroom, a physical event, may influence what a person in that room learns, a mental event. So, a social science must include mental events, to provide the basis for differentiating it from physical sciences, but it need not include only mental events.

I now want to consider an argument from Davidson[8] which shows that a social science is not reducible or equivalent to natural science. One of the points that Davidson wants to establish is that there may be true statements linking the mental and the physical, but they are not lawlike[9] or, in other words, there are no strict psychophysical laws. Lawlikeness is a precondition for a scientific law. A statement is lawlike if it supports a subjunctive or counterfactual conditional, which is to say that "All A are B" is lawlike if it supports the claim that if something