Does the Generality of Philosophy of Education Ensure its Triviality?

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DOES THE GENERALITY OF PHILOSOPHY OF EDUCATION ENSURE ITS TRIVIALITY?

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I will start by drawing attention to two assumptions about Philosophy of Education. These two assumptions underpin the belief that Philosophy of Education is a subject worthy of study by beginning teachers. The assumptions are:

(a) Philosophy of Education discovers and develops substantial and informative general principles and theories about education (hereafter the content assumption).

(b) These general principles and theories are applied by teachers in order to help solve some of their professional problems (hereafter the application assumption).

In this paper I mainly will be canvassing reasons for doubting both of these assumptions. Then I will briefly consider some implications for philosophers of education if these two assumptions are indeed false.

I take it that both assumptions have a high degree of initial plausibility and have been widely supported by philosophers of education. However, we will also find, not surprisingly, that some reservations and qualification about these assumptions have been increasingly expressed by various philosophers of education, especially in recent years.

It is convenient to begin with the Hirst-Peters view of the two assumptions (in J. Tibble (ed), 1966 and P.H. Hirst and R.S. Peters, 1970). Philosophy of Education is

"... an indispensable part of the equipment which the teacher needs in order to form a clearer, better informed and better reasoned opinion ..."

on educational matters discussed in the staff room.

"Without such equipment teachers are likely to develop an irrational type of loyalty to one of the factions in the current controversy or to be very much at the mercy of the headmaster or the local expert" (Hirst and Peters, 1970, p.2)

However, the two assumptions soon appear as explicit underpinnings of the Hirst-Peters view. Philosophy of Education assists us to form "a general view of what we are about when we are education people". This general view,
together with certain empirical facts will “impose . . . . a structure on our practical decisions” as teachers.
(Hirst and Peters, 1970, p.15)

Of course the relation between Philosophy of Education and its application is more complex than appears at first sight. According to Hirst and Peters, there are distinctly different basic disciplines (“forms of knowledge”) of which philosophy is one. Then there are interdisciplinary combinations of the basic disciplines which are descriptive or explanatory (“fields of knowledge”), e.g. geography. Finally there are collections of knowledge from various basic disciplines that are used to formulate principles of practice (“practical theories”) of which Educational Theory is one. Educational Theory, which draws on knowledge from philosophy, sociology, history, psychology etc., is developed by researchers and theorists. Philosophy of Education is thereby one component of Educational Theory. Teachers master Educational Theory so that they can apply it in solving their educational/professional problems. Thus the content and application assumptions appear in an epistemological hierarchy - researchers and theorists develop the content of Educational Theory. This is then passed down to a different group of people whose task it is to apply it. Straight away, there is a gap between theory and practice at the heart of the Hirst-Peters view.

Certainly Hirst (Tibble ed., 1966, pp.56-57) was aware of the content - application gap as a problem to be addressed. However in hindsight it is easy to see that even if everything else about the Hirst-Peters view was sound this one defect would ensure its failure.

Consider this scheme from the viewpoint of the neophyte teacher. She finds herself taking courses in Philosophy of Education, Sociology of Education, Educational Psychology etc. presented by a range of researchers/theorists. She is expected to integrate all this for herself into a subject called Educational Theory. In addition someone else will be responsible for her course in Teaching Skills. This also should be integrated with Educational Theory. Assuming she succeeds in all of this, she will be equipped to apply her learning to the solution of educational problems.

Factors inhibiting the occurrence of this integration are numerous e.g.

1. Teachers of Philosophy of Education, Sociology of Education, Educational Psychology etc. not communicating with one another about what they are trying to achieve.

2. Teachers of Philosophy of Education, Sociology of Education, Educational Psychology etc. having little understanding of or interest in teaching. Hence they emphasise their discipline for its own sake rather than for its contribution to Educational Theory.

3. Teachers of Teaching Skills having little idea of what students are learning in Philosophy of Education, Sociology of Education etc. or why they are learning it.

4. Teachers of any of the above who are themselves such poor teachers that the main message that they convey is that “none of this has much to do with real teaching”.

I will not depress you further by extending this list.

As if this was not already too much, there is a further problem not mentioned so far. Philosophy of Education is not a branch of philosophy in the way that, e.g. Philosophy of Science or Philosophy of Mathematics are. (Hirst and Peters, 1970, p.13). Rather, Philosophy of Education “draws on established branches of philosophy and brings together those segments of them that are relevant to the solution of educational problems”. Thus the philosopher of education should have a wide ranging grasp of philosophy, something that has not always been the case. Presumably similar considerations apply to Sociology of Education, Educational Psychology etc. If that is so, one wonders whether anyone, let alone neophyte teachers, ever has a competent grasp of Educational Theory!

Not surprisingly, given all this, the Hirst-Peters paradigm was soon in a (Kuhnian) crisis. This situation is nicely represented in a 1983 debate in the Australian Journal of Education. The following extracts convey that not only are there serious doubts about the application assumption (quotations (a) to (d), but there are also some reservations about the content assumption (quotations (a) and (b)). The “disciplines” referred to in the quotations are, of course, Philosophy of Education, Sociology of Education etc.)

(a) “(There is), a position of great uncertainty on three crucial points: (i) about the status and coherence of various disciplines: (ii) about how they could be effectively interrelated: (iii) about how they could be brought to bear on education”.
(J. Wilson and B. Cowell, 1983, p.212)

(b) “... one does not have to pretend to philosopher-king status in order to believe that much of the theory and practice of education is hopelessly ill-grounded, and that most of what passes as educational research is almost totally useless”.
(J. Wilson and B. Cowell, 1983, p.222)

(c) “Within educational research, the problem is not simply that exponents of each applied discipline tend to study narrowly defined facets of educational practice. What is more significant is that each parent discipline, in addition to providing methods of inquiry, has also shaped the meaning of key concepts, the questions being asked, and the aims of the research. This is the fundamental stumbling block in the way of organizing the vast array of competent specialized research outcomes into a coherent network of educational theory, or of engaging in effective interdisciplinary inquiry”.
(B. Crittenden, 1983, p.225)
(d) ... (Here is) the main problem that those using the new paradigm of education have not yet solved and it is a problem that many teaching education just ignore. No one has really shown us how to bring together the various subjects which can be applied to educational problems. What in this context does ‘integration’ mean?" (P. Musgrave, 1983, p.232)

In a series of papers Walker and others have argued strongly against the Hirst-Peters "forms of knowledge thesis". (See e.g. J. Walker, 1985 and C. Evers and J. Walker, 1983). The problem of bringing together or integrating the findings of Philosophy of Education, Sociology of Education, Educational Psychology etc. is a real one if you accept that each of those contributing disciplines is conceptually distinct. Walker rejects this assumption which he dubs the "Common Sense Consensus" (Walker, 1985). Instead, influenced by Quine, he argues that the boundaries between disciplines are merely contingent. This view sees Educational Theory as a set of competing theories (or as Walker puts it, more neutrally, a 'set of rationaly analysable considerations, (RAC)" (Walker, 1985, p.110). He argues that this pragmatic approach offers a practical basis for theory and research. Clearly if he is correct here, Walker has rescued the content assumption. As far as I know he has not said much about the application assumption. The application to educational problems of a set of competing theories is potentially more demanding than applying the integrated Educational Theory envisaged by Hirst and Peters, e.g. it seems obvious that neophyte teachers would require more than merely becoming familiar with the competing theories. Does Walker’s proposal show the way forward for theorists/researchers at the cost of rendering Educational Theory even more remote from beginning teachers? At best his view seems to raise some problems for the application assumption.

At this point it is worth mentioning that Hirst himself has reacted to the crisis in the Hirst-Peters paradigm by repudiating the paradigm. Hirst (1985) denies that the basic disciplines could be integrated:

"...Peters, Bernstein, Vernon and Veils could never actually put together the knowledge of philosophy, psychology and sociology. It's been built up in quite independent conceptual schemes. Therefore it can't fit together. There's no fitting together to do, because they design these disciplines to achieve quite different forms of understanding. None of them, is actually designed to determine what ought to be done. None of them is designed to make practical judgements. I think it's quite false to imagine that you can in fact get from the separate disciplines, to practical judgements as to what ought to be done".

He also thinks that his earlier work overestimated the contributions of the basic disciplines:

"... an enormous amount of the knowledge and understanding that in fact people act from, and they must act from, certainly never comes from the disciplines and certainly never could come from the disciplines. Now, this is not just the point that the disciplines haven't got there yet. It is to say that a lot of what you need to determine what you ought to do, can never by its nature, be provided by those disciplines".

Finally he admits that the model of professional problem-solving that lay behind the Hirst-Peters paradigm was mistaken:

"Another problem with the whole thing is, that in fact, rational action as we do it every day and as we do it professionally, is never worked at from a formal understanding of the situation. Its actually you acting, and you're acting on all your historical, paradoxically acquired understandings and knowledge of people and peers, of situations. It's all this common sense you have acquired, most of the time you're acting out of common sense, you're not acting out of disciplines reviewed in research, what you're acting from is common sense knowledge, of what people are like, of how they act, of the kind of response you get if you do this rather than that. The whole body of this knowledge and understanding isn't even expressible, it's tacit, you've picked it up, incidentally, you've no idea where you got it. You got it unconsciously. It's all part of your thinking, it's all part of your view of the situation, it's all part of your judgement, it's all part of your responsible decision as to how you ought to act. Any action which is in a social situation like teaching, and going to be adequate to the immense complexities of this thing, can not be analysed into a set of discrete disciplines. To understand it at all, and make sense of it at all, you have to act out of a whole body of attitudes and dispositions, of ways of seeing situations much of which is built into your development as an entity, a psychological entity, and you necessarily are only true to the situation, if in fact you act holistically if you like, in relation to that particular situation".

Hence, says Hirst,

"...In the initial training, I have come to the conclusion that there is no place for the formal teaching of philosophy, psychology, sociology and history at all".

So far, then, we have found an increasing tendency amongst philosophers of education to question both the content assumption and to a greater extent the application assumption. I would now like to narrow my focus a little to concentrate on what I take to be a central topic for Philosophy of Education, viz teaching and learning. When this is done, the two assumptions become even more dubious.

No doubt you are all familiar with some of the findings about teaching and learning in the Philosophy of Education literature: teaching as a task vs teaching as an achievement, possibility of learning occurring without any teaching etc. Perhaps you have also experienced the impossibility of such principles arising
much interest or excitement in the average beginning teacher. If so you will probably find that Hamlyn's (1973, p.186) claim strikes a cord:

"I do not see how it is possible to say anything both significant and general about human learning processes ......."

More recently, Passmore’s 1980 Philosophy of Teaching provides a sustained philosophical discussion of teaching and learning. Yet Passmore is clearly doubtful about both the content assumption and the application assumption: "...I have never been satisfied either by what I have written or by almost anything I have read about teaching. The chance of writing even a reasonably good book on any branch of philosophy of education is statistically very low indeed. This is no accident. It is terribly difficult to write in a manner which is neither philosophy for philosophy’s sake, with an occasional example from teaching, nor just a series of commonplace banalities. It is this latter judgement that I most fear from critics of what I have now written" (J. Passmore, 1980, p.ix)

"By its very nature, in looking to universal principles, the philosophy of teaching is abstract, as philosophy is always abstract. Although I have tried always to keep in mind the concrete teaching situation, I am only too conscious of the fact that from the point of view of a teacher struggling with a class of children for whom everything he cares about is a bad joke or a bureaucracy whose main objective is to keep him in his place, much of what I have to say will sound impossibly academic, in the bad sense of that word". (J. Passmore, 1980, p.16)

As the first of these quotations reveals, Passmore sees himself impaled on the horns of a dilemma - write in a way that includes substantial content from the perspective of philosophy, but lacks application to education or gain application to education at the cost of being philosophically trite. As the second quotation suggests, Passmore in fact comes closest to the first of these options. However while his universal principles (e.g. For all X, if X teaches, there must exist somebody who, and something that, is taught by X), might be grist to the philosophers’ mill, they are hardly likely to revolutionize Educational Theory. Similar views are expressed in Macmillan and Garrison’s recent major monograph. A Logical Theory of Teaching: "Ours is a formal and not a substantive theory of teaching ......(it) is not substantive in the sense that it does not directly say anything about what should be taught, about the aims of education, or even very much about how to teach, although what it does say carries the weight of logical necessity". (Macmillan and Garrison, 1988, p.16)

All of this points to philosophy of education making a very limited contribution to our practical understanding of teaching and learning. Some recent research results in this field may help to clarify this situation. Since the late 1970’s teacher thinking has been the focus of a burgeoning international research program. (In Australia this was reflected by the 1988 setting up a Register of Australian Academic Staff Interested in Research on Teacher and Student Cognitions). The current state of research knowledge on teaching thinking has been summarised by a leading exponent (Clark, 1988). I will be considering two of the main categories of findings.

1. Preconceptions and Implicit Theories
2. Dilemmas and Uncertainty

1. Preconceptions and Implicit Theories

Teaching thinking researchers have found that teachers develop and hold implicit theories about all aspects of teaching: their students, the subject they teach, their own roles and responsibilities and what they should be doing in order to teach. These theories are implicit in that they are not clearly articulated by their owners but are inferred and reconstructed by researchers on teacher thinking by a variety of techniques. These implicit theories are not neat and complete reproductions of Educational Theory as presented in teacher education courses, rather, as Clark (1988, p.6) puts it:

"...teachers’ implicit theories tend to be eclectic aggregations of cause-effect propositions from many sources, rules of thumb, generalizations drawn from personal experience, beliefs, values, biases, and prejudices. Teachers are subject to the full range of insights and errors in human judgement, just as all humans are when faced with complex, fast-paced, consequential, and occasionally emotion-laden social judgements and action situations".

Since these implicit theories and preconceptions play an important part in the judgements and interpretations that teachers make all the time in their work, then once again doubt is cast on the application assumption. Earlier we found Hirst making essentially the same point.

These findings by teacher thinking researchers are supported by more wide ranging research on the education of professionals by Donald Schon (The Reflective Practitioner; How Professionals Think in Action, 1983 and Educating the Reflective Practitioner; 1987). Schon’s work is very critical of the traditional method of educating professionals. This method assumes that professional activity consists in instrumental problem solving made rigorous by the application of scientific theory and technique. For the professional, the instrumental adjustment of means to ends consists of rigorous problem solving based on specialized scientific knowledge. But says Schon this assumes the ends and the problems are clear. Unfortunately, in many of the “people” professions this is not the case.

The systematic knowledge base of the traditional method assumes specialization, firm boundaries, scientific objectivity and standardization. (Schon, 1983, p.23). Further, a hierarchy has developed in the traditional epistemology of practice.
Research is institutionally separate and superior to practice. There is another hierarchy rooted in the normative curriculum of traditional professional education.

"Here the order of the curriculum parallels the order in which the components of professional knowledge are 'applied'. The rule is: first the relevant basic and applied science; then, the skills of application to real-world problems of practice". (Schon, 1983, p.27)

Schon argues that this model does not match daily practice, so courses based on it cannot prepare professionals to cope with and artistically handle daily practice. It does not prepare people to "think on their feet" and handle unique/uncertain messes.

What Schon does is to study people recognised as top practitioners in various professions and try to discover how they do their work, how they learnt to do this and what they do when they help a junior learn the profession. These top practitioners have a number of things in common.

(i) The know and competently do more than they can describe. They exhibit a sort of knowing in practice.

(ii) They talk about thinking intuitively/having a gut feeling that a particular approach might be tried. In particular they all reflect-in-action, i.e. they seek to make sense of messy situations of practice, enjoy this and experiment.

(iii) They all see that there are no clearcut problems in practice. Rather practice is a mess and they see the real art as being able to work out what the problems are.

Schon concludes that professional knowledge faces a dilemma of rigour or relevance:

"The dilemma of 'rigor or relevance' arises more acutely in some areas of practice than in others. In the varied topography of professional practice, there is a high, hard ground where practitioners can make effective use of research-based theory and technique, and there is a swampy lowland where situations are confusing 'messes' incapable of technical solution. The difficulty is that the problems of the high ground, however great their technical interest, are often relatively unimportant to clients or to the larger society, while in the swamp are the problems of greatest human concern. Shall the practitioner stay on the high, hard ground where he can practice rigorously, as he understands rigor, but where he is constrained to deal with problems of relatively little social importance? Or shall he descend to the swamp where he can engage the most important and challenging problems if he is willing to forsake technical rigor"? (Schon, 1983, p.42)

The dilemma of rigour or relevance is, of course, essentially what I have been calling the dilemma of generality or non-triviality.

Before moving on to the other set of findings from research on teacher thinking, it will be useful to consider some research carried out by Brookfield in adult education. In recent decades adult education has sought to establish itself as a new and exciting area within education. Its practitioners have sought to identify ways in which adult education is different from the rest of education. What emerged was a consensus along the following lines:

Six principles of adult education - a philosophy of adult education expressed in countless books and journals in the last decade:

1. Adult learning is a joyful process involving self-actualization and self-fulfilment.

2. Adult learners are innately self-directed. Remove restraints of teacher control and the curriculum and adults will enthusiastically enter the educational paradise of self-directedness.

3. Adult learners' own experience should be a central focus of curricula. After all they have a wide range of experiences that children and adolescents lack.

4. Good adult education/good adult educators cater for the felt needs of adult learners. As adults they know what's best for themselves.

5. There is a unique adult learning style which is not found in children or adolescents.

6. There are unique teaching methods that are appropriate for adults. Knowles called this andragogy as against pedagogy.

In a major study conducted over six years Brookfield (1989) interviewed adult learners about their learning experiences, had them keep journals about their learning, had them analyse critical incidents in their learning etc. Brookfield concluded that the six principles of adult education are "myths". In each case there were significant findings in support of the principles as well as equally significant evidence to contradict them, i.e. they fail as universal principles.

On each principal, Brookfield's findings are:

1. Some adult learning is a joyful process, but a lot of it is characterised by pain, discomfort, anxiety etc. The basis of the generalisation appears to be
   (a) a misreading of Carl Rogers - he talks about pain as well as joy, and
   (b) it is very good for attracting customers.

2. Some adult learners are highly self-directed, some are not - there are significant individual differences. Self-directed learning is very context-dependent and works best when alternated with other sorts of learning experiences.

3. Experience is very variable in its relevance to learning. 'Experience' is a problematic concept - there is a lot of disagreement about what it
is, e.g. length of time does not equate with intensity - 30 years' experience vs 1 year's experience repeated 30 times.

4. Felt needs do not always equate with best interests. In many cases, the teacher is a better judge of real needs and it is her job to make an accurate diagnosis of needs. Another way of looking at it is that to slavishly cater for felt needs is to condemn learners to stay within their own comfortable paradigms or frames of reference. A major finding of Brookfield's research was that many adults report greatest satisfaction from successfully completing a challenge which at first appeared too difficult and, hence, they would not have attempted with some pressure from the teacher.

5 & 6 With regards to learning, Brookfield found that aspects of adult learning contexts differ from children's learning contexts, but the learning itself does not differ. The same applies to teaching. Brookfield found that whatever the context, there are more commonalities than differences in good teaching.

Apart from illustrating once again the difficulty of finding universal generalisations about teaching and learning that are non-trivial, Brookfield's work illustrates the research findings about teachers' preconceptions and implicit theories. So strong is allegiance to the six principles amongst the adult education community, that one gains the impression that it would be treason to question them. Yet when teachers' actual practices are studied they are found to be heavily influenced by implicit theories of teaching and learning of a more conventional kind, deriving, perhaps from their own long experience of teaching and learning stretching back to childhood.

I now turn to the other set of research findings on teacher thinking.

2. Dilemmas and Uncertainty

This research focuses on the very nature of the teaching situation itself: "Not 'what works', but 'what it is really like out there', as seen through the eyes of teachers themselves. In three words, teaching as experienced is complex, uncertain, and peppered with dilemmas". (Clark, 1988, p.9)

Complexity and uncertainty is endemic in interactive teaching. In fact

"...a great deal of teachers' planning energy goes into trying to predict and anticipate potential problems, to guess and estimate what students already know and how they might respond, and to forming plans and routines that are robust to the interruptions and distractions that assault most teachers most of the time............."

Researchers have also studied the thinking and decision making that teachers do during the act of teaching. This research has explored the extent to which teachers make on-the-spot decisions that change their plans or behaviour in the classroom, and attempted to identify the cues used by teachers in reaching these interactive decisions......

Researchers on interactive decision making indicates that teachers encounter decision situations at two minute intervals while teaching - literally hundreds of decision points per day". (Clark, 1988, p.9)

This sort of result has led Shulman (1984) to conclude that interactive teaching is a more complex task than that faced by a medical practitioner in a diagnostic examination. This complexity has been described by Clark and Lampert (1986) as follows:

"The teacher encounters a host of interrelated and competing decision situations both while planning and during teaching. There are no perfect or optimal solutions to these decisions. A gain for one student or in one subject matter may mean a foregone opportunity for others. A motivationally and intellectually profitable digression may reduce time devoted to the mandated curriculum. Such conflicts among teachers' multiple commitments lead to practical dilemmas which must be managed in interaction with students. Conflicting goals, combined with endemic uncertainty about how to achieve desired outcomes can lead to 'knots' in teachers' thinking. Often these entanglements can only be sorted out as the teacher experiments with action and observes its outcomes. By such experimentation, teachers build a store of personal practical knowledge about how to get their job done'.

All of this reminds me of Schon's description of those who 'choose the swampy lowlands'.

"......They deliberately involve themselves in messy but crucially important problems and, when asked to describe their methods of inquiry, they speak of experience, trial and error, intuition, and muddling through." (Schon, 1983, p.45)

What are the implications of these research findings for Educational Theory? For a start they falsify the view still held by some in teacher education that teachers are essentially in control of classrooms and can reliably predict what will happen. Rather it seems

"......they expertise in teaching is less a matter of knowing all the answers than a matter of making the most of the unexpected". (Clark, 1988, p.10)

Likewise this research contradicts the view that teaching is essentially rational and well-ordered. In fact the research on teacher thinking has established that

"......the time-honoured rational model (moving from learning objectives, through generating alternatives, to choice of an optimal alternative) is not used regularly by experienced teachers (although experienced teachers to claim that the rational model ought to be taught to novices)" (Clark, 1988, p.8)

Brookfield (1989) likens teaching to white-water rafting - even when things are going smoothly, there is turbulence and danger lurking around the next bend.
The research on teacher thinking also repudiates the idea that has surfaced from time to time in Educational Theory, viz that there is a correct teaching method. As Clark (1988, p.10) puts it: 

"Research on teaching thinking does not promise to discover a generically effective method or set of techniques for dealing with uncertainty, complexity, or dilemmas. By their very natures these qualities defy the quest for a technical fix'.

A recent example of a candidate for the correct teaching method was Freire's 'dialogue'. We all rejected 'banking' education in favour of dialogue. However as Freire himself has now made clear (L. Shor and P. Freire, 1987, p.41) then lecturing can be dialogical. This illustrates the kind of dilemma for Philosophy of Education that has surfaced repeatedly in this paper, viz the choice between generality and non-triviality (or in Schon's terms between rigour and relevance). Initially Freire's dialogue notion was highly relevant but lacked conceptual precision. Now that he has supplied the latter it is not nearly as enlightening to find that virtually any teaching method can be dialogical. A similar thing happens for that well-known chestnut of Educational Theory that "activity on the part of the learner is essential to all learning". Once it is realized that inner or mental goings on count as activity, the principle becomes philosophically rigorous but also trivial.

I began this paper by pointing to two assumptions about Philosophy of Education - the content assumption and the application assumption. These two assumptions served to underpin the view that beginning teachers should study Philosophy in Education. We found that philosophers of education have expressed increasing doubts about the two assumptions. This has major implications for educational research as well as for the teaching of Philosophy of Education.

I then narrowed my focus to the central topic of teaching and learning and found that philosophers of education have been very apologetic about their work in this topic. The problem is that any generalities of the kind appropriate to philosophy appear to be rather trivial or uninformative. A survey of some research findings on teaching and learning highlighted the paucity of interesting unrestricted universal generalisations in this field.

By now it should be clear that I answer "yes" to the question with which I began. At least in the area of teaching and learning, the generality of Philosophy of Education does seem to ensure its triviality.

I am therefore in agreement with Hirst's later view that philosophy of education has no place in the initial preparation of teachers.

However I believe that research on teacher thinking together with renewed interest in teaching in such a way as to encourage and develop critical, analytical thinking skills poses a new challenge for philosophers. In Australia, award restructuring is just one of the factors pushing these issues to the fore. Rather than despair about the fate of philosophy of education, we should turn our attention to what contribution philosophy can make to developing thinking skills. The issue is too important to be left to the psychologists, communication theorists, etc.

REFERENCES


Hirst, P.H. (1988), Keynote Address, SPAE Annual Conference. (Hobart, South Pacific Association of Teacher Education).


Schulman, L. (1984), It's Harder to Teach in Class Than to be a Physician, Stanford School of Education News, Autumn, p.3.

