

The school is viewed as an element in a larger system of circular reasoning and circular causality which mitigates against genuine growth. Teacher education institutions have the potential to adaptively break into these circles by stressing those skills and attitudes from which innovation and growth have always sprung. Teacher competence should be defined as the extent to which a teacher can intellectually defend his practices and beliefs rather than as his conformity to current practices.

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Epistemology as the Locus of Teacher Competence

INTRODUCTION

New ideas or new ways of seeing the familiar tend to go down hard, particularly when they seem to challenge our own pet convictions, theories, or values. Socrates took the hemlock because of his tendency to question the Athenian unquestionables. Those who handed him the cup tended to confuse the educational enterprise of examining new propositions with that of accepting them. It seems that failure to make this distinction between examining and accepting may be related to what Albert Einstein was getting at when he observed that for some people education is little more than the rearrangement of old prejudices.

It seems to me that (1) the state of knowledge in the teaching field, (2) current realities in school and society as well as realities concerning their relationship, and (3) characteristics of teachers and the occupation of teaching, are such that we need some radically new ways of thinking about the training of teachers and other school personnel. One possibility, and the one I am advocating, is that we place a primary emphasis on developing epistemological skills. By epistemological skills I mean the ability to provide intellectually defensible grounds to support one's actions and beliefs through the use of relevant and academically respectable modes of enquiry as well as the more reliable results of such enquiry. The act of teaching or educating, including the determination of objectives or curricula, reflects a number of implicit assumptions, the validity of which is typically examined by persons who are outside the formally defined field of education.

My thinking will be based on some of the frames of reference and perspectives of the social sciences and will be laced with a modest and homely attempt at philosophical analysis. Although the matters to be initially discussed are frequently regarded as discrete areas, they are related. However, at times you may have to hang on temporarily to a couple of seemingly disconnected ideas.

CULTURE THEORY AND KNOWLEDGE CLAIMS

Let us consider a major concept in Cultural Anthropology — Culture. Culture is not viewed as a super-entity which moves on its own imposing its omnipotent will on those individuals who come under its sway. Nor, on the other hand, is Culture a process which Man is capable of transcending. Culture is a useful term to represent systems of self-supporting patterns of behavior, material artifacts, and beliefs. The term "beliefs" is used to denote a sub-system of internal states such as values, ideas, meanings, and knowledge. Culture tends to be

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self-perpetuative by virtue of its circularity. Consideration of this can be intellectually tricky, for our western patterns of thinking tend to negatively load circularity and lead us to couch enquiry in language which reflects the view that causality is linear. That is, at least in the past, it was typical to ask "What causes what?" or "Where did it begin?". The most common example is the query "Which came first, the chicken or the egg?".

People may agree or disagree with the claim that "Material objects are a consequence of beliefs" or with the claim that "Beliefs are a consequence of material objects". Regardless of whether they agreed or disagreed they could comfortably relate to either one of these assertions. However, the assertion that "Objects are a consequence of beliefs *and* beliefs are a consequence of objects" may tend to jar us because of our tendency to associate the term "consequence of" with the term "caused by". Therefore to say that "X causes Y *and* Y causes X" is frustrating to some people partially because if one says that something is *caused* it is generally felt that he has also said that that which was caused came into existence at a later time than that which did the causing. Yet in a real sense this is what some reputable anthropologists *seem* to be saying when culture is viewed as a self-perpetuative system of traits or characteristics such that those discernible elements are both caused and cause.

Rejections of certain forms of functionalism are generally based on its circularity and the assumption that therefore it yields no causes. This, in turn, assumes that explanatory theories are not really useful or instructive unless they demonstrate *first* causes. I am more interested, however, in making some sense of the world in which I live and I cannot now see how that would be substantially served if I knew which came first, a chicken or an egg. The functional model of culture, therefore, does nicely for me, for with it we can get on with the business of making those decisions that have a high probability of influencing change in the directions we have reason to believe are desirable. Our world is a world of peoples, materials, and ideas, many of which have existed long before we have and which in fact do much more than merely exist. They are undergoing changes in form and content, affecting and being affected in process. Hence, human problems and questions are more of the form: "Assuming I wish chickens of such a kind, what must I do to eggs and/or other chickens that will have a high probability of yielding the kind I desire?"

Cultural Determinism Considered

Rejection of the super-entity theory of Culture, however, is not to fail to recognize that culture is still in a real sense deterministic in that it is both a limiter and a provider of specific alternatives. Culture, however, is determined by people because it is a consequence of their collective choices.

The deterministic aspect of culture is not exercised like a steel cage which restrains us from exercising the choices which we see. Rather it restrains us like a large paper box, which could hardly restrain us from doing anything except, of course, from seeing the existing alternative outside. We could easily punch our way out of a paper box if we could see outside it and know that there was something worth getting at. We may become so accustomed to our box of paper that it becomes almost like Plato's cave — we think that what we see in our box is all there is to be seen; or perhaps it becomes like the page of a certain medieval rabbi's book. The rabbi was observed during his studies to sit, with an expression of inward joy, intently contemplating a single page of the book for over an hour. A student asked him why he didn't turn the page and read on hopefully to find new wisdom and beauty. The rabbi, with a deep sensual sigh, replied, "Why should I turn the page? There is all the wisdom and comfort I need on this one." The familiarity of our own box makes its contents seem the only thing that could be worth having.

We have children, teaching them to love our paper boxes, and, through various processes that the psychologists hopefully understand, we tend to make new boxes for them. These boxes are a bit taller, shorter, fatter, or thinner, but almost like our own. The equivocation is intentional for our culture, like all others, does change. Sometimes it changes at such incredibly slow rates that the people within it are unaware of change and it brings no disruption. At other times drastic changes occur so rapidly that the equilibrium of the system is badly disturbed and people in the culture are confused, anxious, and uncertain. Old solutions don't work for new problems and sometimes old solutions no longer work for old problems.

Cultures do change, and they change because some individuals have created new organizations and developed new meanings of the elements within the paper box that their peers find congenial. They also change because some of those in the paper box move close to the walls poking, picking and wondering and asking questions. Eventually they put their eyes so close to the walls of the box that, through a hole no larger than a pin, they see a whole world of new alternatives beyond. Corrupters of youth, parablists, heretics, deviants, and revolutionaries sometimes persuade us to approach the pinhole to see what is there. Some approach but with eyes closed.

We don't leave the paper box, however, but rather expand its walls to include on the inside things that were formerly outside. We may, of course, depending on how you like your metaphors, dash outside for a second and come back with an armful of goodies from some other culture and make them our own. This works so well for some of us that part of the equipment inside our box is a high value on pinhole peeping. On the other hand, when pinhole peeping brings pain because the brightness outside blinds us or the darkness frightens us, part of our equipment inside is a high value on keeping one's eyes away from pinholes. Note, however, that regardless of the influence for and against pinhole peeping, people act, they behave, they decide to peep or not to peep, and so affect the future course of the culture. When there is no peeping, the walls thicken, and tight well-knit systems of thought and belief operate.

The anthropologist Spindler tells of certain Mexican Indians, most of whose children are afflicted with a disease rather common to them. Their children are born with a peculiar opening in the top of their heads. The skin is there but the bone seems to be missing. This, of course, doesn't particularly alarm them, for the cure had been discovered many years ago. Pressure is applied to the hard palate, and a mixture of egg and other material is gently rubbed into the scalp. Although the cure almost never fails it does not work uniformly, and so some children are completely well by the age of 12 months while others take about a year and a half. The Indians have little respect for the white medicine man, for he was too stupid to even know that this was a disease.

That we may react to this with a supercilious feeling of "how quaint" merely reflects our own culture boundness. One of the great slogans in North America is that "Anyone can get to the top if he tried hard enough." Obviously those at the bottom are there because they didn't try hard enough. Well, what do you mean by hard enough? — hard enough to get to the top, of course. Oh . . .

Perhaps some of our antipathy to theories of circular *causality* stems from their similarity to circular *reasoning* of the kind illustrated above. Circular reasoning confuses definitions with progressions of thought, but a circular theory is a claim, empirically demonstrable in principle, that certain relationships are circular.

TEACHING AS PROFESSION AND CRAFT

Circularity of Prestige and Competence

Triadic and even dyadic relationships can be circular, and these can be, and often are, seen as elements in larger sub-systems having a great amount of casual power upon much larger systems. An illustration may be found in considering the social attitudes towards teaching as an occupational category. In spite of the difficulties in developing adequate operational definitions and measurements of the construct Occupational Prestige, few of us, when alone with his conscience, would claim that the Occupational Prestige of high school and elementary school teaching is high. We may even hypothesize the existence of a class or even a caste system among college and university students ordered on the basis of an individual's major fields of study with education majors being fairly low.

When, for example, an advanced graduate student at a prestigious university in the U.S. was attempting to make out with a poised, well-tanned and well-stacked undergraduate major in sociology, and had advanced beyond the coke-and-how-long-have-you-been-here stage to the more meaty preliminaries, it was inevitable that she would ask the status-loaded question, "What degree are you working on?" She took his reply of "My doctorate." as a possible evasion, since that institution offers quite a number of doctoral degrees. "In what field?" she tentatively asked. Upon hearing a subdued "Education", she replied with a heavily noncommittal "oh".

There is also reason to believe that the lower levels of prestige afforded teachers in the larger society, and to education majors by students of other departments, has its parallel in the image of education professors held by other faculties. I have rarely heard education professors admit this and they may even become quite defensive when it is pointed out.

A dyadic system of circular causality may be observed in the area of occupational selectivity. The Occupational Prestige of an occupation partially influences the kind of person seeking to enter it and, on the other hand, the kind of people in an occupation partially determines its prestige. We are thus confronted with the so called "vicious circle" which tends to go on without intervention of elements outside it.

I am pretty well convinced that the most intellectually capable university students are not the ones who are most likely to enter the teaching field. It is not at all uncommon for students doing poorly but who want a degree to transfer their major to education because they believe education classes are easier. Walt Disney has provided a well-known adjective sometimes used to describe education classes.

Clearly this dyadic relationship between Occupational Prestige and the competence of teachers is one which is easily seen as an element in a total system affecting to some extent the quality of education in the school, and through it, the level of intellectual competence of the society. This aspect of the total system is like the circularity of social class and educational achievement, the difference being that in the latter case there are people outside the system who can clearly see into it and are looking for the techniques, moral justifications, and power to affect it. The problem of the social prestige and the capability of the educational establishment is much more difficult, for there are few agencies or individuals outside the system that can be expected to see into it. The elements are the educational establishment on the one hand, and the society's attitude towards it on the other. We are all inside the paper box. Only our

own ability to see the circularity of *both* our reasoning and of the causal system into which we are locked can lead to change.

The Occupational Prestige afforded an occupational category is not merely related to the characteristics of the occupation and its collective competence in performing its social function. It is also a matter of the definition of that function, the value and the social importance attached to it, as well as the ability of the society to adequately judge the legitimacy of the occupation's definition of its own function and to judge the competence with which it is performed.

The plea for professional status from the teaching fraternity, as well as other manifestations of tension between the educational establishment and the larger society, reflect, in part, dissatisfaction on the part of both those who see themselves as serving and those who see themselves as being served.

The educator's claims of competence and high social importance, implicit in the bid for professional status, are not widely accepted by the society. Social reactions to claims of competence, of course, do not necessarily say much about the validity of the claim. For example, the validity of the claim to competence — implicitly made when they offer their services — of physicians, medicine men, astronomers, astrologers, teachers, alchemists, charwomen, engineers, and so on, has not necessarily been reflected in the social judgments of their worth. These social reactions, however, may set the limits upon the occupation's ability to either demonstrate the validity of the claim or to take those steps necessary to establish it.

THE CONCEPT OF COMPETENCE

The concepts of competence and profession are important and deserve consideration. Initially, I prefer to define Special Competence as the ability of an occupational category to empirically demonstrate that it has superior ability to do what it claims to be able to do when the claim is such that its validity is capable of empirical examination. For example, a physician's claim is that he is *significantly more capable* than a non-physician of preserving life and reducing pain. We could, if our financial resources and moral codes permitted, empirically test the validity of this claim. The claim to competence of a clergyman is typically less demonstrable. This does not mean that the claim is a false one, but rather that its validity cannot be publicly determined. The validity of his claim to be competent in the management of church property and finances, or his ability to emotionally move his congregation, could, of course, be tested, but I hardly think this is the special claim to competence made by clergymen. I think the clergyman's implicit competence claim is that he somehow understands more fully the nature of God, what God expects of us, and what we should believe and how we should behave. The validity of these competence claims cannot be publicly demonstrated. Hence clergymen are not, in this context, considered to be competent, nor, on the other hand, would I consider them incompetent. The nature of their claim is such that it is not capable of being demonstrated, and hence they are simply not on the competence-incompetence continuum.

If demonstrable ability may be called Special Competence, the level of Special Competence which a society *believes* an individual or occupational group possesses may be conveniently called Ascribed Competence. The degree of Special Competence *claimed* by the individual or group itself may be called Claimed Competence.

The correlations between Special, Claimed, and Ascribed Competence are and have been considerably less than perfect. The pages of history are darkened by the real and emotional blood of those whose Special Competence far exceeded their Ascribed Competence. Those same pages are darkened by the blood of the victims of those whose Claimed and even Ascribed Competence was far greater than their Special Competence.

The Concept of Profession

Related to the foregoing discussion of Competence is the concept of Profession and, of course, the claims of teachers that they are, or should be regarded as, a profession. In contemporary society the proliferation of the number and range of types of occupations makes the dichotomous application of the concept impractical. Although the aura and mood of the term as an honorific remain, the concept would have utility if we were to consider a continuum of professionalism with one polar position reflecting an idealization of the learned professions.

Initially, "profession" is a term referring to a particular form of Occupational Prestige, which is a function of the society that grants it. It is granted on the basis of the Ascribed Competence of the occupation and the importance attached to its social function.

Generally those outside the occupation share the view of those inside that only the occupational collectivity is able to judge the degree of Special Competence of individual members within it. To adequately judge the validity of the occupational relevant procedures of a physician, one must be a physician.

From this principle is derived another. Professions do not relate to customers but rather to clients. In the customer-oriented relationships the customer is assumed to be qualified to know what is in his own best interest. In the client-oriented relationship, the professional is assumed to be best qualified to determine what is in the client's interests. This is related to the client's faith and confidence that the professional will indeed serve those interests. For example, we typically do not "place ourselves in the hands of" the auto salesman or the grocery clerk but seem to do so with regard to our physicians, lawyers, and dentists.

Even when working in a salaried position, professionals have a high degree of autonomy in making high level decisions. Their behavior is presumed to be primarily guided by their own knowledge of the discipline and the accepted practices within it. They consult with colleagues rather than compete with them because they are concerned ideally with serving abstractions or abstract principles such as health or justice or science. They practice medicine or law but do not sell products.

Lastly, the professional's decisions, operations, and procedures are a flow of high-level non-routinized judgements. These judgements are based primarily on a body of special knowledge not available to those outside the occupation but which is generally available to those inside. These judgements are also based on an estimate of the unique and special characteristics of a particular instance of a professional problem — an immediate situation. The professional acts on a judgement that is essentially a specific, *situationally relevant* hypothesis. By this I mean a hypothesis as to the outcome of specific decisions in a particular situation. The important characteristic is that the special knowledge itself, though a necessary condition, is not sufficient. The inventory of facts and generalizations in the body of knowledge does not automatically give direction to his actions. The selection of one course of action from many possible courses of action is

frequently such that the action may neglect one fact in favor of another. Consider, for example, the case of an ulcer patient prior to the discovery of tranquilizers. It is known that (1) alcohol is harmful to ulcers; (2) tension, particularly at meal time, is detrimental to ulcer patients; and (3) a little alcohol reduces tension. The decision of a physician to recommend complete abstinence or to suggest a small snort before supper is entirely a result of his own intelligent intuition developed in clinical experience of generating other situational hypotheses — with all of this resting on a foundation of the existing knowledge of supporting disciplines. There is nothing in the textbooks or research to tell him to prescribe or prohibit alcohol to *this* patient.

Bootblacks have little special knowledge, have low social importance, make routinized decisions, attempt to please us, and know that we can tell a good shoeshine from a bad one. Physicians make non-routinized decisions, utilize special knowledge, and know that we do not really know if what they are doing is appropriate. Somewhere in the middle of the continuum of professionalism, and without reference to ordering, are such practitioners as architects, engineers, accountants, automobile salesmen, and, of course, educators.

A Code of Ethics and, reciprocally, the public's trust in the professions, are not part of the occupation's function or purpose. Ethics and trust are functionally necessary, however, for without public faith in the existence of internal regulation and discipline, the professions could not operate at all. In the crafts and in business, however, the practitioner operates more publicly and is to a greater degree regulated by the customer. The special status and mystique designated by the term "profession" permits the practitioner to make errors in relative privacy. I do not say this cynically, for the demands of competence which the professions must attempt to meet, the raw materials with which they must deal, the high social importance attached to their work, and the probability of their being judged as successful by a client, are all such that, in order to maintain public confidence and to practice at all, it is functionally necessary that mistakes be made in private.

The society of which the educational establishment is an element functions in the context of a culture. The relationship between school, individual, society, and culture, in spite of Emile Durkheim's pleas, has only recently begun to be understood. Some react with violence and others with apathy, feeling that culture is indeed a super-entity before which they are powerless.

College of Education as a School

What role does a college or department of education play in this system? We are schools which educate people to educate people, and we have the functional power to affect the system if we could only break out of our own occupational sub-culture. Here, however, we run into difficulty, for consultation of many writers yields only the realization that research on teaching methods has produced relatively little of significant and general worth. Our difficulties run even deeper than this. We are not even in substantial agreement as to what we should mean by education, i.e. we cannot supply our own criteria for the judgement of competence, and, notwithstanding the opinion of a colleague, we do not even "agree on a good teacher when we see one". How then can we produce Special Competence?

Because of these disagreements, as well as the tremendous diversity of elements in the teaching-learning situation, we cannot even function well as a craft — consider the assurance with which carpenters or plumbers, for example, demonstrate competence. The irony is not only that we are bad craftsmen, but that

the demands of our work and the stuff with which we deal, i.e. ideas, emotions, thinking, values, precludes our being a craft at all — and yet we do not train for a profession.

A Conception of the Teaching Act

Although definitions of education may vary in accord with particular preferences for one kind of language style or another, or may vary according to deeply held values, few would disagree that the act of teaching or educating reflects the implicit assumption that such action makes some difference. If, upon explicit reflection, we cannot accept the assumption that teaching and education have consequences, then schools, including Colleges of Education, forfeit their logical and moral right to exist.

If, on the other hand, we accept the assumption that education, including the education of teachers, does have consequences, we must also assume that colleges of education partially determine the characteristics of the public schools through their influence on the characteristics of those who teach, and thus contribute to the circularity of culture, society, and future education. From this unique quality and degree of power is derived the colleges' unique responsibility and opportunity.

Above and beyond our agreement that education has consequences, there are a few more simple principles which we generally share and which can serve as a starting point for the development of both Special and Ascribed Competence.

On the assumption that education should be purposeful, we generally tell beginning education students that they should begin with objectives toward which to direct efforts and against which to judge success. The particular form and content of these objectives may vary as a function of preferences, whether explicit and conscious or implicit and unconscious, for (1) a psychological point of view; (2) various concepts of man, his relationship to society, and of society itself; and (3) theories of value — what is good, what is bad, what ought or ought not to be. The major point is that we generally agree that the teacher should give consideration to objectives, that is, the effect he wishes to have on students and, perhaps, through them on society. Education is prescriptive, it always recommends something.

Our students are next told that they should attempt to develop procedures and activities which have a high probability of bringing about the desired consequences. This should raise in a teacher's mind the question, "Of all the things I know that I might do, which is most likely to bring about the desired consequences?" His answer and the action he undertakes represent a prediction of the general form familiar to science: "If I ring an alarm bell every five minutes, my students will be more likely to stay awake than if I play Muzak." Some may prefer to call this kind of proposition an hypothesis. The point is that the action decided upon represents a prediction — a knowledge claim — and, at least implicitly, a claim of competence.

Our students, to whom the foregoing has a pathetically obvious ring of validity, are finally told to develop procedures through which we may determine the extent to which the action was indeed predictive — do the pupils indeed stay awake better with alarm bells than with Muzak? The answer to this question may lead to others such as the desirability of alarm bells against other criteria or whether the effort to keep the pupils awake was itself justified.

All very well, so far as it goes. More and more, however, we, like our brighter and more perceptive students, are becoming appropriately troubled by

the question of the rationale, evidence, logic, grounds — the epistemology — on or by which we justify our objectives, have confidence in our teaching procedures, and defend the validity and reliability of our evaluation techniques.

All this raises the possibility of a conception of education quite different from the typical craftsman orientation that characterized the normal schools with their assumptions about THE proper way to teach, and their emphasis on WHAT we know. What is suggested is the necessity for an emphasis in education in general, and in teacher education in particular, on HOW we know, hypothesizing that such an emphasis will yield more reliable knowledge, more pinhole peeping, creativity, critical thinking, and other objectives to which some of us have lately been giving at least nominal assent.

The connections between this emphasis and teacher prestige, Special and Ascribed Competence, professionalism, the paper boxes of culture, Socrates, ego protection, circular reasoning, and circular causality now is explicit.

THE NEED AND POTENTIAL FOR A PROFESSION OF EDUCATION

The competence dimensions in teaching, given the current state of knowledge in the field and conditions in the world, should be defined as the extent to which teachers, including teachers of teachers, can intellectually defend their prescriptive behavior, their predictive behavior, and their evaluative behavior as they perform their role as educator.

When one considers the complexity of the decisions required at all levels of the educational establishment, it seems unlikely that education will ever be a science. It is impossible that educators will ever practice their vocation with the same likelihood of demonstrable success that one finds in plumbing or shoe repairing. The chances that the behavior of educators will be valid, however, will be increased to the extent that such behavior is logically extrapolated from existing reliable knowledge and defensible values.

The ability to distinguish reliable knowledge from myth, hope, or intuition, and the capacity to make logical deductions from such knowledge and defensible values are, I believe, learnable attributes. As such, they are potentially products of an educational system which programmatically stresses these goals. Under these circumstances the educator will hopefully develop a close, self-conscious and explicit connection between his behavior, his knowledge claims, and the grounds upon which they are based. This of course brings us to the title of this paper. This places epistemology and — forgive the unorthodox use of language — episteological skills, i.e., those skills concerned with how we know what we think we know, at the centre of the Special Competence of the educator. His Special Competence will, in turn, affect his Ascribed Competence. The affections of Claimed Competence which impress no one but himself will become unnecessary. Brighter people will be attracted to the occupation and professional status will gradually come of itself.

Education as Integrative and Applicative

We are all bored by the comparison of education to medicine, yet there might be a reason beyond vanity that keeps this analogue alive. It is not claimed that education is now like medicine. There is, however, a similarity that may be useful. The nature of the tasks assigned to each are such that they should, and in the case of medicine do, form an integrative discipline with very little, if any reliable knowledge that is completely unique to itself, except *the all-crucial*

skill of application and integration. Each is such that practice demands a flow of non-routinized decisions which are essentially and ideally carefully considered situational hypotheses generated out of the carefully observed characteristics of the immediate situation, previous field experience, and the reliable knowledge and methodology of supporting foundational disciplines. The supportive disciplines in each differentially reflect the nature of the problems with which practice is concerned.

The foundations of medicine are, among others, anatomy, physiology, bacteriology, bio-chemistry, and pharmacology. The act of educating reflects implicit or explicit foundational beliefs about human learning, the social and cultural milieu within which learning and teaching takes place, and a host of normative beliefs such as value, truth, and meaning. Note, however, that the study of the supportive disciplines of medicine or those of education are not sufficient conditions for the sound practice of either. Field experience in education and clinical experience in medicine should aim at enabling the practitioner to integrate the various foundational disciplines into a total smoothly operating cognitive system which can guide the practical day-to-day non-routinized decisions that constitute practice. When he does that he is a competent physician or educator. In short, the foundational disciplines provide a means of testing and verifying the grounds upon which the beliefs and knowledge claims rest, and the field-clinical work can and should provide experience in the explicit and deliberate process of connecting the beliefs and knowledge claims to practice. As physicians may be seen as applied anatomists, physiologists, bacteriologists, bio-chemists, so educators must develop the skills to be seen as applied sociologists, anthropologists, philosophers, and psychologists. Both medicine and education, however, have dimensions that are not merely the sum of their respective parts.

These basic skills which I call epistemological can be defined as an ability to both understand the different modes of enquiry peculiar to the various foundational disciplines and to apply these to the practical problems of education. This leads to a concept of a teacher who is a professional and can justly claim to be one on the grounds of Special Competence.

I see this conception of teacher as the prescriptive component of the College of Education's educative act. The predictive component, I would hypothesize, is the application of these same basic skills in the college's own decision-making and teaching, and in enquiry in which the students participate. In addition the student should study the modes of enquiry and the most reliable and significant major generalizations of the supportive disciplines. He should also be familiar with current practices and some of the currently competing theories and conceptions of excellence. This approach is above and beyond, in a significant sense, the present boundaries of what we usually call disciplines or subjects, and yet in a more fundamental sense is at the heart of all of them, and includes what we now refer to as Methods, Curriculum and Instruction, Foundations, and so on. As for labels, I would refer to this as a super-disciplinary approach. Even the field experience to which we currently subject our students would continue the proposed basic strategy. Supervision of clinical or field experience would be inter-disciplinary and the student teacher's competence ratings would be on the basis of his ability to adequately defend his intentions, his teaching, and his evaluations against the criteria of the supportive disciplines and the body of previous field experience. In this way, through the systematically controlled practice of combining the so-called theoretical with the practical, the marriage of belief and action can be consummated.

The reader, like certain colleagues with whom this thinking has been shared, must have some serious and legitimate questions about this proposal. These

questions probably range from points of logic to concerns about the practicality of developing courses and programs which reflect these views. Some of these concerns may reflect possibly erroneous assumptions about how much people can learn at once and in a given time. Current modes of organization and storage of human knowledge may blind us to the possibility of organizing this knowledge in ways that are more useful for instructional purposes or even for the purposes of its application. These are all legitimate concerns which require logical and empirical examination in depth. Failure to give careful and critical concern for such a program may be a function of our paper boxes. Perhaps this paper may be a pinhole.

RESUME

L'école est examinée comme un des éléments dans un système de cercles vicieux de raisonnements et de causes qui empêchent la vraie croissance. Les institutions qui s'occupent de la formation des enseignants ont le potentiel requis pour désagréger avec souplesse ces cercles vicieux en mettant plus d'emphasis sur le genre de compétences et d'attitudes qui ont toujours donné naissance à l'innovation et à l'épanouissement. On devrait définir le degré de compétence à défendre intellectuellement ses méthodes et ses convictions plutôt que dans son habileté à se conformer aux modes du jour.