

SCHOOL EFFECTIVENESS: A MATTER OF JUDGMENT

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Abstract. Schools are complex systems, with diffuse goals and uncertain outcomes. Within schools, teachers have a pivotal role in the management of systematic learning in a social environment, in the maintenance of our culture, and in social reconstruction. For these reasons (and because teacher-salaries are a significant budget item) governments take a keen interest in the effectiveness of teachers and of schooling. Schooling is so complex that it is no longer possible to deduce systematic associations between the activities of the teacher and student learning. School learning is only one of a range of influences that impinge on the learner and it may well not be the most powerful influence. There is therefore, no simple cause and effect relationship between teaching and learning. Further, there are no standard indices of school effectiveness. Its assessment is largely a qualitative judgment.

Assessments of effectiveness depend on clarifying the purposes of teaching. Until these purposes are known it is fruitless to investigate the effectiveness of teaching. Attempts to assess the effectiveness of schooling have not produced new perspectives, new knowledge or functional estimators. The outcome of a vast amount of research is enhanced expertise for those doing the research, and a set of generalisations that do not conflict with commonsense. In the most general sense the task of schooling is to prepare a nation's youth to be good citizens. The criteria for good citizenship vary from time to time and from country to country depending on the form of government, ideas about the model citizen and the state of the economy. Many governments treat teachers as implementation agents for their policies and they are judged effective to the extent that they act in accord with such policies. The paper explores these issues and examines implications for teacher education and schooling.

Introduction

The effectiveness of schools was largely taken for granted until Coleman and his colleagues produced their report on the equality of educational opportunity in 1966. Although the report reflected the American context the issues raised apply to all schools. If we in Australia thought at all about how effective our schools were it was in the very narrow sense of how well they were preparing young

people for jobs.

As societies have become more complex the role of the teacher in student-learning has become more obscure. In earlier times the teacher was a dominant source of information. In modern society the teacher is only one of a wide range of information sources. As Allen and Christensen (1974: 97) say:

[...] many people and things can serve as informants.

Indeed, it is no longer possible to determine the extent to which student learning can be attributed to classroom teaching. This seems particularly true of the elementary school. Countries invest enormous amounts of money in setting up schools and filling them with students and teachers on the assumption that teachers have to teach in order that students will learn. It doesn't take much analysis to realise that things are much more complex than this. For example; for any given level of motivation the most able children will learn more than the teacher teaches and sometimes more than the teacher knows. Given access to the learning materials these learners will learn. It really is quite doubtful if the teacher has any essential role for such students other than as a role model. These students, by definition, have the ability to use learning strategies that result in internalisation with minimal external assistance. The issue here however is more than the teacher's role in the schooling of the most able children. It is the fundamental question as to what, if any, is the relationship between teacher competence and student learning. So often teaching is spoken of as if it was a strong correlate or even the cause of learning.

Schools are complex organizations. Even among service organizations they stand out for their complexity. They have compound goals (Broudy, 1988), complex internal processes (Bremer, 1974), and very great difficulty establishing whether or not their effect is commensurate with the resources committed to them (Averch et al., 1972). It is not even possible to identify, and concentrate on, a single client because there are multiple clients; students, parents, various levels of government and society as a whole (Connors, 1991; Ramsay, 1991).

All of these interact and do so in different ways at different times.

Research into schooling is a large scale enterprise. In contemporary economic rationalist nomenclature it is an industry. It is characterised by findings that reinforce or legitimize existing practice, are of unknown validity and reliability, or are contradictory. Lehr (1982) suggested that the poor quality of the early research is

responsible for the minimal impact of teacher effectiveness research on classroom practices. For example, Sanders (1978) argued that differences in teacher behaviour do not significantly affect student achievement. That is, major differences in teacher performance do not seem to be matched by major, correlated differences in student achievement. In a critical analysis of Sanders' argument Barrow (1984) suggests that Sanders is really highlighting the inadequacy of empirical research for contributing to our knowledge of cause and effect in the classroom. Barrow argues that teacher education ought to be designed to help teachers develop conceptual finesse which they can use to make their own judgments about classroom behaviour. It is difficult, and indeed, pointless to argue with this exhortation. However, at least one writer (Alter, 1986) claims that teacher effectiveness research has progressed substantially since the seventies and that findings are experimentally significant and generalisable. It is hard to find much evidence to support this claim. Thus while Ornstein (1985, 1990) and Coladarci (1986) note that research had not provided conclusive evidence on the influence a teacher has on student performance or behaviour Sparks (1985) concludes that fifteen years of research on effective teaching had highlighted teaching behaviours that were known to be related to gains in student achievement. One result of this tension is that the research into school effectiveness has not been as productive as one might have hoped. As Averch et al. (1972: 1) observe:

New results are constantly being presented. The vast body of literature on educational effectiveness should provide a firm foundation for the formulation of educational policy. Thus far, it has not done so.

Twenty years on this observation is still largely true but we have least realised that organisational and structural reforms do not guarantee improvement in the quality and effectiveness of schooling (Istance and Lowe, 1991). Attempts to make schools more effective and to estimate the degree of effectiveness have sensitized people to the complexities of schooling but there has been little advance in the construction of a theory that is detailed enough to underpin indices of school-effectiveness. Despite the lack of progress effectiveness is still a major concern to policy-makers, funding agencies and to researchers.

Research into school effectiveness does have valuable outcomes. Frequently however, the effects are limited to those who have performed, or have been involved in, the research. What

we have learnt, I think, is that schooling in its present form is highly situation-specific; it is a dynamic interaction between instructor and pupils and the nature of the interaction varies for each pupil-teacher dyad. Only some of these pupil-teacher dyads are productive and many are actually negative; not all children benefit equally from schooling. Indeed, it seems an inescapable conclusion that there are children for whom schooling is largely a negative experience - either because what is done in schools is beyond their grasp or because it does not provide the stimulation and personal satisfaction and feelings of accomplishment that nourish all egos.

The research has also helped refute any simplistic view of teacher and school effectiveness. In doing this it has developed the context and vocabulary of the debate and it has shown that there is a general consensus about what counts as good teaching. On the other hand the three elements, context, vocabulary and consensus do not in themselves guarantee effective teaching or, indeed, effective learning.

For the purposes of this paper I have selected four types of problem that need to be addressed:

- i conceptual clarification
- ii developing models
- iii paradigmatic inadequacy
- iv methodological pitfalls

Conceptual Clarification

Questions about school effectiveness are evaluation questions and evaluation is a logical and systematic process. It begins by asking what is to be evaluated. An effective school is one that achieves what is meant to achieve. Not that this is easy to determine. The Minnesota Department of Education (1991: 4) for example defines effectiveness to be:

A condition in every school whereby each accomplishes its mission at a performance level defined by learners, parents, citizens of the community and state and their representatives.

This is nicely phrased but just as difficult to operationalise as most other definitions. It also follows that if schools do not have the same purposes it will be difficult, if not impossible, to compare one school with another. The question of whether or not there should be a uniform set of aims for Australian schools is now

a matter of national interest and debate (Skilbeck, 1991). It needs to be noted that uniform aims do not, by themselves, guarantee uniform outcomes. The resolution or clarification of this issue is important because the question of school effectiveness needs to be placed in a context of effective for what purpose.

However, if for any one school we agree on a mission statement and if what it is meant to achieve is stable over time, we can attempt to determine whether or not it is effective. This is a normal evaluation procedure. Once this question is clarified one can try and develop appropriate estimators. That is, one can try and operationalise the concept of effectiveness. It is highly unlikely that we will achieve a consensus on the concept of effectiveness and we ought not allow this to be a barrier to action. The assessment of effectiveness is an iterative process of hypothesising and testing reality.

Enquiries about the effectiveness of schooling need to be placed in a context. Schools are more or less effective for particular purposes. How effective are schools in inculcating patriotism? How effective are schools in preparing students for the workforce? How effective are schools in teaching social justice? How effective are schools as a means of developing literacy and numeracy? Clearly if one is to try and answer such questions one must know which purpose the questioner has in mind. As Lawrence (1986) noted, the school effectiveness movement has tended to ignore the broader political and societal context of schooling. No doubt this is because it is easier to ask the questions than to answer them. Duignan (1986) is an exception and has derived a model from the work of Tymko (1984) and Murphy et al. (1985a) that clarifies at least some of the inter-relationships. Duignan's model is presented as a framework for reviewing the literature on effective schooling and does not address how these inter-relationships might be operationalised and assessed.

It is a fundamental over-simplification to assume that teacher-learner interactions are context-free. Politicians and others do have ideas, however distorted, about what should be achieved in schools. Such people are significant others in the context of schooling. It is a matter of logic that if we want to answer these questions we must have information about student performance. There are two ways that the matter can be settled:

- i we can rely on teachers' assertions that students have reached the standard,
- ii we can seek independent evidence of achievement levels.

Whatever weight the assertions of teachers had in the past the growing demand for accountability is leading to a demand for independent information that can be used to make system-wide judgments about school effectiveness. There are many opponents to this demand. Researchers/analysts quite rightly point to the complexity of schooling and the great difficulty of making decisions about standards. Industrial associations argue against the inequitable effects of discrimination and the many problems apparently inherent in system-wide testing, particularly the assessment of values.

The criteria for effective schooling will differ from sector (kindergarten) to sector (university), country to country and from time to time but it is universally true that one purpose of schooling is to mould the good citizen. From one perspective, the concept of the good citizen embraces patriotism, profession of the state religion if there is one, participation in wealth generation and adoption of the state's values. Where the Church and the State are closely identified it will be comparatively easy to arrive at the values that are to be inculcated during schooling. If the Church and the State are separate the values component of the curriculum will be much more complex. Both Church and State will want the schools to prepare the good citizen but their notions of what the good citizen are unlikely to coincide (Murphy et al., 1985b). To encompass these various dimensions any analytical framework needs to have at least three perspectives; national, societal and individual. Each of these perspectives will also have political, economic, cultural, cognitive and affective dimensions. All three perspectives will change from time to time and may well have different emphases in different countries. When a nation's economy is buoyant the expectations of all three levels can be met to a greater or lesser extent. When there is a sustained economic downturn, political and economic purposes tend to over-shadow the others. Any separation must be treated with caution because the levels are not mutually exclusive and they are not stable over time.

Developing Models

A school is a system and can be thought of as a series of dynamically stable equilibrium states in which the equilibrium energy is largely determined by the teachers. That is,

teachers sooner or later find a level of operation that can be sustained in the long haul and is consistent with the available teacher-energy. Invariably classroom reform requires an additional energy input and this often comes from researchers themselves. While this energy is flowing into the system the equilibrium state will be stable at a higher level than it was prior to the innovation. It is so often the case, however, that when this additional energy is removed the system returns to a lower energy state. It is the goal of much innovation in schooling to change the characteristics of the stable state or to find ways of sustaining a higher, more productive, energy state. In this sense, improvement is not natural to schools (Ruscoe and Miller, 1989). The great difficulty in developing a model of the effective school is that almost everything to do with schooling is multivariate and interactive (Marklund and Keeves, 1988). There is still no good agreement about what questions to ask and about methods of data analysis to use (Coffman, 1988).

It is not that we do have not any models. It is more a matter of deciding which model is most appropriate for a particular purpose. Averch and his colleagues (1972) have outlined five different systemic models (input-output, process, organizational, evaluation and experiential) that have been used to assess effectiveness. These models all have an underlying logic but all of them assume that effectiveness is a unitary concept. Further none of the models address the difficulty of deciding on the criteria to be used to make judgments and the levels at which they are to be applied.

A Linear-Industrial Model

Even though many of us who are involved in schooling and higher education habitually resist any comparison between our guild craft and manufacturing industry we do share a common concern about effectiveness. At the most general level the fundamental relationship between input, processing and output holds good for both cases. The heterogeneity of the input certainly varies and, in the case of schooling, is very much greater than could be accepted for many manufacturing processes. Schools do, from time to time, attempt to increase the homogeneity of their input (Westby-Gibson, 1974) but the resultant streaming is often resisted on the grounds that it is socially and pedagogically undesirable.

If we equate effectiveness with efficiency this linear-industrial model will work. We know how many

children enter a school in one year. We know the total costs for that school for one year and we know how many leave the school in any one year. With these simple data we can easily calculate the unit cost. The naive economic rationalist might be attracted to a simple linear industrial model of schooling. This model assumes uniform input, standard processes and quality controlled output with low maintenance costs and a guaranteed minimum shelf-life.

Product
Forming

Input ffffffff Processes ffffffff Output

This model raises the question of whether or not it is possible to evaluate the effectiveness of a school by only using outcome behaviours. Clearly it is not a very sensitive model because almost all the costs are limited in the extent to which they can be altered. Teacher salaries are fixed, class sizes are fixed and it is even quite difficult to manipulate the salary distribution in a particular school. So unless we can devise ways of reducing costs in a way that is stable and does not violate the law of diminishing returns there seems little to be gained by pursuing such a simple model. Although this model has limited use in the context of schooling the language associated with it has an appeal for some of our senior bureaucrats. According to Ramsay (1991: 37), we need:

[...] to find ways in which teaching can be performed with less effort and more effect - that is, to improve productivity.

A Value-Adding Industrial Model

We might get further by considering the processes that are used. A slightly more sophisticated model would pay some attention to the economic nature of the processes. It is known for example that a process that adds more value to the product than a competing process will be the preferred process. As with the first model heterogeneity in the input is ignored and the assumption is made that there will be equality of outcomes.

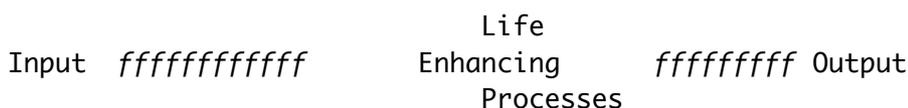
Value-adding

Input ffffffff Processes ffffffff Output

There is a sense in which this model is relevant to the question of schooling. Both are concerned with adding processes and outcomes. We might ask for example whether schools are using the most effective means of inducing learning? We don't know as much as we would like about such processes. We know more about what constitutes effective teaching processes.

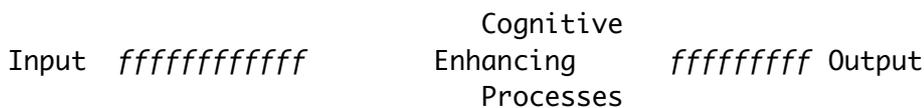
A Humanistic, Life-Enhancing Model

A humanistic model would focus on the life-enhancing or personal growth effects of schooling. This form of the model values the diversity of input and is very concerned with the effects of the processes that are used, not because of their value-adding function, but rather for their enhancing effects on each individual. No standard process is assumed, indeed proponents of such models expect that the processes will be as varied as the children entering the school.



A Cognitive-Intellectual Enhancement Model

It would be quite reasonable to argue that one of the prime functions of a school is the development of the intellect. Unlike the previous model one can find estimators of cognitive development model and this would assist the assessment of effectiveness.



A Personal Empowerment - Cultural Reformation Model

A broader perspective might focus on the role of the school in maintaining or reforming all or part of the culture in which the school is embedded. There are many models of this type according to whether one emphasises societal stability or societal reform or reconstruction and whether or not one sees the school as an disempowering structure controlled by an powerful economic elite. This model would focus on personal empowerment and cultural or societal reformation.

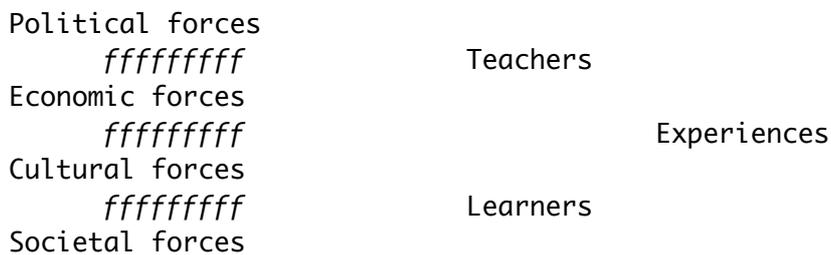
Cultural
Input ffffffff Conforming ffffffff Output
 Reforming
 Processes

Bowles and Gintis (1976) and Howley (1990) argue that, in American schools at least, cultural considerations such as instilling an appreciation of the nation's cultural legacy and an awareness of the fundamental concerns of the human heart and mind, have been superseded by political and economic considerations. In this view schools are driven by techno-economic principles rather than cultural considerations. Schools have become institutions that narrow and specialize the human intellect to meet the requirements of the capitalist or techno-economy. From the same perspective Moody (1988) asserts that teachers and schools have been effective in their original purpose and that purpose was to legitimize adult economic inequality. No doubt Illich and other critics of societal institutions would subscribe to Moody's view, that is, that schools belong to a set of manipulative institutions which maintain existing inequalities.

There are several things wrong with such models. A school is very much more complex than these models reflect. It is true that there are linear elements, such as age-progression, in the schooling process but most of what happens is non-linear. All of these models reflect some facet of schooling but none capture the complexity of the system. It is true that some individual teachers operate more or less in accord with one rather than another of these models. It is equally true that there is little agreement about which model best reflects their day to day work and their longer term aspirations for their students (Jeans, 1990). The reality is that there are variable inputs into variable processes controlled by variable teachers with diverse goals.

A more realistic model would take account of this variation and of the dynamic and interactive nature of schooling. It is clear for example that the processes we have been talking about involve people: policy makers, funding authorities, administrators, teachers and students. If we focus on the classroom the major players are the teachers and the students. These are not invariant elements in a cause and effect relationship such that action A produces effect B. They are humans beings with all the attendant variability that characterises the species. A dynamic, interactive model would illustrate how schooling is set in this milieu of political, economic, cultural and societal forces:

An Interactive, Dynamic Model



These elements can be arranged and emphasised in an almost infinite number of ways depending on one's perspective. For example, if one argues that the fundamental role of the school is to prepare the young for full participation in society and to have an appreciation of the culture the model would emphasise the democratic perspective and one would probably give equal weight to the teacher and the student. If one is attracted to the notion of the school as an institution which fits people for their station in life then one would probably emphasise the differential advantage of the teacher.

Policy-makers and funding agencies are not likely to wait for research evidence before they make their decisions. There seems no logical alternative to specifying what we want schooling to do as clearly as we can and then constructing instruments that will give us the best possible estimates having regard for the complexity of the situation. We must, I believe, accept that any advice we give will be based on matters of judgment.

Paradigmatic Inadequacy

The questions we ask and the paradigms we use appear to be inadequate for the problems that we are trying to manage. They are not inadequate by a marginal amount; they are conceptually inadequate. Although we, as a community of scholars, might not be satisfied that we have an adequate conceptual model our concerns carry little weight with parents of school-age children. Parents do form opinions about the effectiveness of schools. They use indicators such as reputation (often of the Principal), examination results, cleanliness of the school environment, enthusiasm and commitment of the teachers, level of discipline, behaviour of the children outside school, variety of activities and so on. Parents want their schools to be effective and they judge a school in much the same way that they judge a restaurant. It is not an

intellectual exercise. This client-centered approach has been adopted by McGaw et al. (1991) for the Australian Council for Educational Research in its nationwide survey of opinions as to what makes a school effective. Given the theoretical complexity, and practical difficulties of estimation, asking the clients is a sound pragmatic approach.

As researchers we can make judgments just as parents do but unlike parents we are not making personal judgments and choices. While, to some extent, all judgments are observer-dependent our task is to develop theoretical structures which can be applied more widely than a judgment about one school.

When we select a set of the variables to investigate we are forced to frame our conclusions in the form; If variables A, B & C are held constant (or ignored) then - - - . The problem is that in real life variables A, B & C are never constant (Barrow, 1984). During the 1960s and 1970s American sociologists were sceptical that the influence of schools on student achievement was in fact greater than that of the home and community environment. As Partington (1991: 80) asserts we need to resist arguments that schools merely reflect external social conditions.

It is equally true, however, that social contexts and family structures are very powerful independent variables.

Whether or not the evidence is clearer in 1990s there is a tendency to assume that the dominant variable is school-effect. Research into the effects of home and family environment continues and it is interesting to see that studies such as that of Vulliamy (1987) and Ridell (1989) suggest that schooling effectiveness in third world countries is less related to school-based factors than to student background variables. It would, I think, be safe to conclude that our understanding of school effectiveness is still largely situation-specific.

If we operationalise variables so that we can estimate/quantify them the research version of the variable is so remote from the operating version of the variable that we can't be the least sure of how the two are related. If we do happen to come up with useful information in a particular study we never know the extent to which it can be generalised. In research on schooling we have no equivalent to $F = ma$ or $s = ut + 1/2at^2$. There are no fundamental relationships relating any sets of variables that have this degree of specificity. For this reason the hypothetico-deductive method seems to be inappropriate.

Ethnography has long been used as a research methodology and has become something of a vogue in research on schooling over the last twenty years. In ethnographic research it is argued that the hypothetico-deductive method necessarily misses the very essence of schooling; that is, its multivariate, interactive nature. Rather than selecting certain variables and trying to control others it is more fruitful to be a direct observer of the functioning system in all of its complexity.

Ethnography has its own problems, particularly with the role of the observer and its dependence on selective description. It is doubtful whether it has been any more effective in furthering our understanding of schooling than any other research paradigm.

Neither the hypothetico-deductive paradigm nor the ethnographic paradigm have been able to establish beyond reasonable doubt what relationship exists between teacher-skill and student-learning. To deal with this we can either frame the question to suit the paradigm (i.e. reduce the complexity) or we can seek a new paradigm. Both are very difficult to accomplish. It may well be that we have reached an evolutionary dead-end in the application of these paradigms. In the final analysis one cannot avoid the conclusion that the effectiveness of teaching and schooling are questions that cannot be answered with existing methods of enquiry.

Methodological Pitfalls

Effectiveness research suffers from an inherent problem of separating dependent and independent variables. For example, much of the research depends on identifying characteristics which distinguish effective schools from non-effective or less effective schools but researchers seldom explain their method of separating the dependent and independent variables. How does one decide, without reference to the independent variables, which is a more effective school? Further, how does one estimate degrees of effectiveness? Can any school really be classified as non-effective?

One could, as so many researchers have done, select one or more indicators as an estimator of school effectiveness. The ideal characteristic would be one that is singly and causally related to experience in school. In all probability there is no such characteristic. Schools are a political/cultural construct and they reflect, maintain and perhaps develop selected elements of the culture in which they are embedded. It would be difficult for example to claim that the student's reading or mathematical competence

is solely due to the effects of schooling. Both of these are affected by peers, parents and the media. If the extra-school effect was minimal then we could treat it as error variance but we really don't know if the error variance is greater than the treatment variance and at least for some children this might well be the case. Even if we could isolate one variable we would still have another level of analysis to do because the student's learning is a function of intellectual competence and teacher skill. Having regard for all these difficulties it is sometimes thought that the best cognitive indicator of school effectiveness is probably the level of literacy. However as Cuban (1984) concluded the research record for this approach is less than satisfactory.

Collard (1984) has drawn attention to a number of methodological problems that plague effectiveness research and to the need to define school effectiveness more carefully and thoroughly. In his work on the relationship between student achievement and teacher effectiveness Berk (1988) pointed to student characteristics, school characteristics, test validity and pre-test post-test design characteristics as confounding issues. Preece (1989) highlights problems of correlation-causation relationships, control of variables that are relevant but that can't be manipulated, statistical versus practical significance, estimation versus measurement of change, instrumentation problems, regression effects, non-linear relationships and aptitude-treatment effects. The literature reflects the fundamental problem of effectiveness research. That is, it is a matter of judgment, not measurement or estimation. As Barrow (1984) says, the most obvious and important possibility that is being ignored is that teacher effectiveness depends upon judgment. That is how well the teacher uses her judgment as to when to intervene.

A Way Forward

The literature on school effectiveness has tended to avoid the problem of inter-school comparison and concentrated on the absolute or threshold dimension of effectiveness. The generalisations so derived have not advanced our understanding of how to alter the effectiveness of schooling a great deal but they do have much in common with the way that parents make judgments about school effectiveness. Typically, researchers have described and clarified the course and effects of particular effectiveness-improvement programs. The generalisations that they have derived would be seen, particularly by a

competent teacher but probably even by an educated lay person, as desirable characteristics of any school. These variables include:

school culture and student-participation (Furtwengler, 1985)

staff attitudes, management policy and practice, organization, behaviour, school, climate, academic standards and instruction (McCormack, 1985)

schoolwide measurement and recognition of academic success, orderly environment, emphasis on curriculum articulation, instructional support, high expectations for student performance, collaborative staff planning, instructional leadership and parental involvement. (Russell et al., 1985)

Principal's expectations, teacher expectations, time on task, classroom organization, reinforcement and feedback, tutoring, recitation and parental involvement (Stevens, 1985)

academic focus, student participation in decision-making (Renihan, 1986)

strong educational leadership, high expectations of student achievement, academic goal consensus, emphasis on basic skills and a safe and orderly climate (Scheerens and Stoel, 1988)

instructional leadership, environment, expectations of student achievement, schoolwide instructional goals and objectives, classroom practices, monitoring of student progress and home-school relations (Bedford, 1988)

orderly environment, clear school mission, high expectations, opportunity to learn and frequent monitoring (Engman, 1989)

These generalisations appear in various guises throughout the effectiveness literature. Blair (1984) for example, discusses seven fundamentals of effective teaching; time-use, diagnosis, direct instruction, transfer of skills, flexible grouping, positive mind-set, and classroom management. Walker and Murphy (1986) consider eight such variables. A handbook prepared by the United States Department of Education (1987) gives a similar set. Not one of the generalisations is surprising. All of them would be

reflected in undergraduate teacher education programs in some way. Commonsense suggests that if a school was positive on each of these dimensions it would be a better school than a school that was negative on one or more of these factors.

It is certainly not clear that the effectiveness of a school is simply the sum of the effectiveness of the individual teacher. It could be for example that the Principal has a synergistic role and that the whole can be more than the sum of the parts. In fact, Jandes et al. (1986) found that the perceived importance of a safe and orderly environment, a clear school mission, instructional leadership, high expectations, opportunity to learn and time-on-task, frequent monitoring of student progress, and home-school relationships were all sensitive to size of school and years of experience of the Principal. At least one other study (Leitner, 1988) however has found that there is little evidence to support a strong relationship between the Principal's instructional management and student achievement.

One might well argue that it is experience that makes the difference. That is, the more one practices the craft the more competent one becomes and hence the more experienced staff the more effective the school. Purser (1987) found that there was no statistical relationship between teacher effectiveness and race, sex, level of certification, area of certification, or years of experience. There was also no statistical relationship between the score on the traditional teacher evaluation summative report and teacher effectiveness. Similarly in a review of the teacher effectiveness literature Flaitz (1987) concluded that many of the variables that seem to be associated with effective teaching are non-academic in nature. Personality factors, affective variables and value systems factors are all important in understanding the characteristics of effective teaching. In addition to a commitment to these generalisations effective teachers also need to be intellectually active, reflective and analytical (Redfield, 1987; Kirby, 1988) and emotionally resilient. It also means that we should not be too concerned about having a set of rules of "good teaching" that can be generally and specifically applied. Such rules may well be useful to guide the novice teacher but the reflective-analytic teacher will rapidly replace rules with generalisations drawn from personal experience. It is absolutely clear that not all teachers are as reflective, analytical and flexible as is needed to ensure effective student learning. The question is then whether the reflective-analytical competence of teachers can be increased. The answer is indeterminate.

It might be argued that systematic programs of professional development will bring about the desired increase but there is little evidence that governments will make resources available on the scale that is needed. It is certainly the case that many teachers take formal courses in the universities but there does not seem to be much evidence that this study increases reflection. It is also the case that many Australian elementary school teachers have come from the lower achievers in the secondary school system and by and large, find it difficult to tolerate the ambiguity (Bremer, 1974) that characterises schooling. The by-word of so many Education students is Just tell us how to do it.

Experience has shown that schools are remarkably resistant to change but there are at least five dimensions that need to be addressed if we are going to improve the effectiveness of schooling by increasing enhancing the competence of teachers:

- i quality of entrants to teacher education courses
- ii quality of teacher education programs
- iii more academic discipline and grade-level specialisation
- iv simplifying the role of teacher
- v creating an organisational environment in which the above generalisations are accepted and practised

Quality of Entrants

Society expects its teachers to care for students, to care about their learning, to be knowledgeable about curriculum content and to know how to induce learning in others. These are reasonable expectations. It is when one considers what level of teacher performance might satisfy these expectations that one starts to see the difficulties. A high level of intellectual and creative competence is required in the curriculum areas, in pedagogic practices and in human development (Phillips, 1988; Schrag, 1989). Intellectual and creative competence, by themselves, are not enough. They need to be accompanied by a human-caring orientation (Buchmann, 1990); the teacher must care about learning achievement. Both of these two characteristics are necessary but they are not sufficient. Enthusiasm and commitment are also needed if one is to inspire children to invest their own energy and take at least partial control of the learning process.

By any reasonable estimators of achievement many of the people currently studying in teacher education

programs do not meet these criteria and will not be likely to meet them at the end of the course (Shanker, 1990). Such students typically have achievement scores around two-thirds those of students studying high prestige professions such as medicine and law. In the absence of any better estimators it is difficult to argue either, that high school achievement is not relevant, or that the practise of education does not require at least the same intellectual capacity as the practise of medicine and law. Further, one needs to differentiate between high achievement in skill-based subjects such as keyboarding and high achievement in knowledge-based subjects such as mathematics. As preparation for a teacher education course, achievement in mathematics is to be preferred over achievement in keyboarding even though both might be highly regarded by the individuals. Students who concentrate on skill subjects will no doubt benefit from this further training and may well fill a useful role if they were to be employed in schools but they cannot be potential educators in the context of the arguments of this paper.

It is salutary to note that if one were to select on the basis of high achievement in quantitative subjects there would not be enough students to fill all the places that are currently allocated to education across the state and the nation. This would create a significant problem for the redeployment of teacher education staff but the difficulty of management of this problem is a function of size of institution; the larger the institution the easier it is likely to be to redeploy staff. The quality of schooling should not be determined by institutional management difficulties.

Quality of Teacher Education Programs

Despite sustained interest in the quality of teaching the effectiveness of different models of teacher education has yet to be established (Tisher, 1987). There is no unanimity on broad design parameters such as the role and balance of professional study and experience versus academic discipline study. In a study of professional versus discipline-oriented teacher preparation for physical education teachers Paese (1986) found no overall difference in teaching effectiveness between the two groups. Interns in the profession-oriented course who had been involved in at least two field experiences were no more effective than the discipline-oriented group who were involved in their first field experience.

Even the quality and quantity of pedagogic knowledge needed by the

elementary teacher is problematic. Just how significant the pedagogical knowledge is, what is included in it, and what its distinctive methods of proof might be is a matter of some contention. The disciplines and the professions are based on various combinations of knowing that, knowing how, and knowing why. In a typical craft activity such as bricklaying there is an emphasis on knowing that and knowing how. There are distinctive practical skills and there is a body of craft knowledge. However, there are not a lot of employment opportunities for a theoretical bricklayer. A scientist engaged in genetic engineering certainly needs to know that, know how and in addition needs to know why. There are distinctive practical skills, a body of knowledge, and methods of proof that match those in the other natural sciences. An elementary teacher is somewhere between the bricklayer and the genetic engineer. The question is where? The teacher's pedagogical knowledge for example is also a mixture of knowing that, knowing how and knowing why. The three kinds of knowing may not be fully developed in every teacher but the child must have access to all three to meet the threshold criterion for education. A teacher without a good understanding of them cannot be considered to be an educator. Teachers also need to distinguish knowing and doing (Gitlin and Smyth, 1990). The same argument can be made about most of the pedagogic content of teacher education and it is partly this applied component that distinguishes professional programs from academic programs. However if it is assumed that an effective teacher, however identified, would have a body of pedagogic knowledge we could work with these effective teachers, make the body of knowledge explicit and then use it to develop an evaluative instrument. There is always the problem of what is to count as pedagogic knowledge. Presumably it would embrace both process and content and have an associated system of pedagogic values. It may even be possible to take Broudy's (1988) replicative, applicative, associative and interpretive uses of schooling and use them to devise a taxonomy of pedagogic knowledge. It has proven difficult to construct a definitive body of pedagogic knowledge that uniquely identifies teaching, although a renowned scholar in the field argues that there are pedagogical ways of knowing (Schulman, 1991). Most of our pedagogical knowledge about teaching is derivative and/or would be characteristic of purposeful behaviour in many kinds of groups. A teacher cannot be a repository of all human knowledge and achievement. However, a teacher who has not mastered any area of human intellectual or creative

endeavour will not be able to understand the implications of facts, hypotheses or speculations in any other area.

Many teacher education graduates have only the most rudimentary knowledge of any theory and do not understand that what we tell them is, in fact, a set of broad generalisations set in matrix of speculative theory. They do not understand the nature of theory and readily talk of proof and fact when they should be thinking of a conceptual framework that is coherent but not necessarily very adequate and which is certainly disposable. Our theories of human behaviour do not have the elegance, simplicity or specificity that are needed if they are to be applied, on the run, to practical situations. It is simply misleading to imply to students that most classroom teaching is theory-driven. We teach these theories because they represent our current thinking, not because they are known to work in all, or even most, teaching-learning situations. As Sardo-Brown (1990) points out, many studies have shown that the instructional decision-making of teachers is rarely, if ever, influenced by what they learnt in their undergraduate teacher education program. Similarly Goldstein (1988) concluded that educational theorising has very little effect on the shaping of the curriculum. Stones (1989), however, is rather more optimistic and is inclined to the view that there is a body of practical knowledge based on educational psychology (re-conceptualised as psycho-pedagogy) related to classroom activity.

The three kinds of knowing are the basis for the design of teacher education programs and they are indicative of the kind of person that might make an effective and efficient educator. There are many, many ways in which the forms of knowing can be realised in an under-graduate course. These range from concurrent courses with without or without some form of internship to graduate-entry programs (Marsh, 1987; Irvin, 1990). The attraction of this latter option is that one could have some confidence in the intellectual achievement of the students. Teacher educators favour longer courses and undoubtedly a further year of study will help with the accumulation of content and this is desirable. But unless content accumulation is accompanied by significant, and qualitatively different, intellectual development the extra year is not justified.

The Australian Education Council is now considering the cost-benefit of a single, national course of teacher education combining three years of undergraduate study with a two year internship in the classroom. The internship will be half-time and the internee will be required to complete

the equivalent of a further year of study during this time. It is possible to see only drab uniformity and conformity in such a proposal but it is more likely to produce an appropriate level of intellectual competence than our present undergraduate courses. This model is not new and is not without difficulties. Turner (1990) sets out a number of reservations about its implementation in Britain. One of his reservations is that in moving teacher education out of higher education, the accumulated knowledge and experience that exists in university departments will disappear. The deterioration of any pool of knowledge and experience in academe is to be regretted but ought not to be the criterion on which the deinstitutionalisation of teacher education is evaluated.

Discipline and grade-level specialisation

The central issue is whether children would be better served by teachers who have degree-level understanding and competence in, say, two curriculum areas than by the current generalist teachers who may not have completed a discipline major in an undergraduate degree. It is not an easy matter to determine and it very much depends on one's stance of the balance between nurture (care and concern for the individual) and nourishment (cognitive, physical and aesthetic development). There are many teachers who are committed to the primacy of social development and there are probably many teachers who emphasise the teaching of cognitive content. Both are necessary but the balance between them has a direct effect on the competencies required of teachers.

A person whose education is based on a discipline or substantive area of knowledge or creativity will know the criteria for considering something to be a fact or hypothesis in that discipline and will know why something is the case. In Victoria the elementary school teacher is seen as a generalist teacher competent in all curriculum areas. It is argued that elementary teachers should teach children and not subjects. Undoubtedly there is wisdom in this cliché; it serves as a reminder of the focus of teaching. The evidence, at least in Victoria, is that this notion of the generalist teacher has not been fully realized. The Victorian Ministry has tried various ways to support the generalist teacher. For example, it has long been the practice to have specialist teachers in music and in physical education. A system of school consultants was also implemented particularly for mathematics and language. The success of these initiatives has been varied

but their existence suggests that the notion of the generalist teacher is far from a "pure" concept. The extensive use of specialist and consultant teachers is an indication that teachers do not equal confidence and competence across all the curriculum areas. If confidence and competence are a positive function of level of discipline knowledge then increasing discipline knowledge ought to increase confidence and competence. Clearly it would be unreasonable to expect this to occur in all areas but it might be achievable in say two or three curriculum areas.

One alternative is to examine the consequences of conceptualising the teacher as a person who contributes specialist expertise to a teaching team; something akin to the "lead" teacher proposed by Berry and Ginsberg (1990) or the "advanced skills" teacher recently introduced in Victoria. Unlike the Victorian innovation the changes proposed in this paper emphasise advanced intellect rather than advanced skills. The proposed changes are significant but do not involve the fundamental re-orientation postulated by the social reconstructionists represented, for example, by Giroux (1990). In this paradigm it is argued knowledge is best understood as a cultural construct shaped by processes of professionalism and cultural legitimation (Wright, 1989).

If one took this team, or systemic, approach each school could structure its staff so that the combined staff had the necessary mix of expertise to service the entire school. Not all of the teaching team would need to have the same level of qualification. Staff who are classified as educators would have responsibility for the design, implementation and management of teaching-learning. Staff classified as teachers would be responsible for most of the delivery of the teaching service. Movement from the teacher classification to the educator classification would be based on teaching competence and additional academic achievement. Just as nurses have a role alongside doctors in the health team so teachers would have a proper role in the education team. It is not proposed that educators replace school principals or that they be non-teaching staff. There might well be some administrative obstacles in such a scheme but such difficulties should not, by themselves, determine school functioning.

Schools are not assembly lines in which teachers can be regarded as identical units of labour slotting into identical systems. Some of the present tasks of a teacher could be done by other professional and para-professional staff; perhaps we have too many teachers.

An analogous argument can be applied for some post-elementary teachers. That is; those that have most to do with the transition from elementary to secondary school would benefit from teacher preparation that goes beyond the traditional two-methods.

Simplifying the Role of the Teacher

Schools are intended to be controlled environments that facilitate learning. To do this they need to have a degree of stability. Social systems that are subjected to constant forces for change will become dysfunctional if the rate of change exceeds the system's rate of adaptation. Systems certainly change and often they need to change; it is the rate of change and who controls the change that are the determining parameters. Constant reorganizations of central Ministries or Departments of Education do not in themselves produce better classroom learning. They usually produce uncertainty and cynicism with a consequent reduction in the energy given to the central affairs of a school. New ideologies have much the same effect. The overt use of schools as instruments of government policy is dysfunctional unless the rate of introduction is managed and unless steps are taken to prepare the environment and the participants for change.

The two main thrusts of the teacher's professional life are the management of systematic learning in a social environment and, societal conservation and reconstruction (France, 1990; Berry and Ginsberg, 1990). Teachers have always been expected to promote desirable social behaviours. What is new is the scale and complexity of the teacher's role in the social adjustment that must be made if we are to remove the irrelevant discrimination that seems to characterise our society. Regardless of salary and conditions of employment there is a ceiling level of complexity beyond which teacher-performance will become progressively less effective and efficient and will be accompanied by a concomitant fall in morale. It is a matter of judgment as to when this point is reached for a system as a whole but clearly as complexity increases the system moves towards, rather than away from, this ceiling. In a number of countries it is apparent that schools have accreted additional functions over several decades and now suffer from role-overload. We expect too much from schooling and need to embark on large scale role-clarification and simplification so that what we ask of teachers is achievable with the type and level of human resource that we are able to afford.

The move toward specialisation is one element in reconceptualising the

teacher. Another element is the question of limits to the teacher's role in the implementation of government policies. Teachers tend to see themselves as professionals (Buchmann, 1990) and expect some degree of self-direction. Governments on the other hand pay the salaries and expect to influence what is taught. These tensions are inherent in all systems of government but in a democratic society they are managed without the use of overt force. When significant changes are proposed teachers and government need to agree on the timetable for change and the degree of change. It may well be that in order to do better schools will need to limit, rather than expand, their role (Sizer, 1984). Governments necessarily work toward retaining power at the next election and their emphasis is on rapid and demonstrable change. Ministers in particular want to see change within their term and are often less interested in proposals which may extend beyond their term of office. Some of the effects of teaching are rapid and demonstrable but schools also have longer-term, global aims that are not realizable in the short-term. Another major element in reconceptualising the teacher is the question of whether or not the competencies of the teacher are so specific that they can only be attained with an extended purpose-specific course and have little application to other areas of human care and development. There are teachers in our schools who no longer obtain any significant degree of job satisfaction from the classroom and there would be net benefit in a system that facilitated their transfer, with some retraining, into areas such as social welfare or nursing. There would be obvious demarcation difficulties but no significant innovation will be without its problems when dealing with a highly organized workforce.

Organisational Environment

The relationship between teachers and employers has gradually become more complex and teachers have sought a greater degree of autonomy in the exercise of their knowledge and skills. Although much of teaching is a craft teachers now see the employment relationship as one in which a salary is paid for the delivery of a professional service rather than one in which a wage is paid for carrying out a set of directives from a central office. The growing professionalism of teaching (Maeroff, 1988) is occurring at a time when governments want to have more influence, not less, on what is taught and how it is taught (Gellert, 1985). Australia, for example,

is moving towards a national teaching service with uniform salaries across States and a national curriculum.

This trend to a unified system has much to commend it. For example, it will be less disruptive for children who move between States and it will remove an impediment for teachers who seek employment outside the home State.

However, the tendency toward central control is a two-edged sword. There is much to be said in favour of a common teaching program across the nation. For example, school-based curriculum development has used a great deal of resource on a matter of marginal importance i. e. adapting the curriculum to local conditions. Clearly much energy can be saved if schools do not feel compelled to reinvent the wheel over and over again. On the other hand a unified system makes it easier for national government to use the schools as agencies of policy implementation. If one agrees with government policies then one may find it tolerable to be treated as a direct arm of government. If, on the other hand, one has moral or ethical objections to such policies there is a professional dilemma which must be resolved in some way (Longstaff, 1989).

However one conceptualises the relationship between teachers and the State (Giroux, 1988) and whether or not one believes that teachers should be instruments of government policy implementation (Tilford, 1985), it is quite clear, in Victoria at least, that the State government expects schools to play a major part in the implementation of its economic and social justice policies. If teachers are to do this several conditions need to be met:

i Teachers need to know what the policies are and how they can be operationalised. This is not always easy to achieve because of the costs and technical difficulties of making information available to a large number of teachers. Much information dissemination is in the form of publications of one kind or another and for teachers, this seems to be one of the less effective means of communication.

ii Teachers need to be neutral, if not sympathetic, towards the policies and the proposed method of implementation. A teaching force cannot be assumed to be a homogeneous group of people who will be like-minded on all issues. Inevitably there will be considerable variations in the degree of personal support for any policy at all.

iii The number of policy initiatives must be such that they can be

implemented by evolutionary rather than revolutionary adjustment. From a societal perspective schools need to be a conserving force maintaining and extending one's cultural heritage, and a reforming force pointing towards a fairer and more just social order (See Shapiro, 1988). A recent study (Jeans, 1990) indicates that teachers are very aware of the tensions but, nevertheless, see themselves as agents of modest social change. Policy initiatives that are too numerous, or point in conflicting directions, or have values that are not supported by the teaching force, will engender resistance and loss of morale. The task of reformation then becomes that much more difficult; and difficult it is.

Policy initiatives tend to be of two main kinds:

- i those that are content-oriented and require content B to replace or complement content A
- ii those that are process-oriented and require a change in one's perspective.

Content changes are usually easier to deal with than the process changes. In reality most schools systems, and teacher education faculties, have to deal with both kinds of change. For example, many countries are concerned about the effects of illicit drugs and have added some form of drug education to the elementary school curriculum. Whether this has been successful or not is a matter of evaluation but generally this innovation has simply required new content to be added to the curriculum.

Policies that bear on the structure and ethnic composition of society, the distribution of wealth and power and on the rights of minority groups require more than the addition of content (see, for example, Rihrs, 1989). National and State governments have come to the view that there have been, and continues to be, differential life-opportunities for men and women justified mainly by a difference of gender and not by differences in competence. The two levels of government have sought to make teachers more aware of this view and to involve schools in changing community attitudes practices. The first response of schools has been content-oriented. However this may not be an adequate response because the teaching of discrete content is not likely to bring about the major social reform proposed by government. To achieve this, wholesale curriculum reform is needed such that the women's perspective is treated equitably alongside the dominant male

perspective. This is a major long-term task and requires the teachers themselves to be convicted of the merit of the view and of the need to change perspective. The rights and roles of women in our society are two elements in a cluster of related issues that must be considered if we are to develop a fairer and more just society.

Such changes are not without difficulties and the teacher will sometimes find that there is little support in the home for the policy that she is implementing. She may even be encouraging the child to hold views and adopt practices that are opposed to those of the parents. This is not a new function of schooling; schools have always been a means of social engineering. All of these views are set in a matrix of legislative, linguistic and attitudinal reform which become part of the teaching environment.

There also seems to be an asymmetry in the role that governments attribute to teachers in the maintenance and development of the economy. From time to time governments might take an interest in the role of teachers and schools in cultural matters but whenever there is a substantial economic downturn governments take a lively interest in the role that teachers have in reversing the downturn. There doesn't seem to be any corresponding recognition when the economy is sound. Not only do governments take an interest they endeavour to convey an impression to the public that it is the agencies of government rather than government itself that are to be accountable. To some extent they have been assisted in promoting this view by the high profile of some of the teacher unions. These unions do pursue professional as well as industrial issues but the latter often dominate.

Teachers, as yet, do not have many of the guild structures, processes and ethics that distinguish a profession from an industry (Kimball, 1988). Kimball points out that there is widespread consensus that teacher education and teaching would be improved if:

- i rewards were such that the best graduates were attracted to teaching
- ii the best of current research on human behaviour was imparted to these students and they have sound practical training
- iii incompetent people could not be licensed to teach.

However, Kimball is of the view that even such a refurbished profession would still deteriorate because it does not have the guild characteristics of autonomy and self determination; much of the preparation for, and practice of, teaching is controlled by non-teachers.

It is easy enough to point out what one thinks are faults in the school system. It is very much more complex to suggest how matters might be improved, having regard for the size of the system and an achievable rate of change. The major effect of negative government propaganda has not been an increase in performance; it has been a decline in morale and a disenchantment with innovation. Nor has the negative propaganda attracted higher academic achievers to teacher education programs. There are very recent signs that national government is starting to take a more positive approach to performance improvement. A national salary scale has been proposed and the salary for experienced teachers will be increased. These are not sufficient for the improvement of teaching but they are necessary. It is apparent that these incentives are, indeed, part of a broader policy which may in the long run move teaching more toward a profession and away from a craft.

Teaching is a high energy task and teachers must be personally resourceful in matters of intellectual and emotional renewal and refreshment. There must also be collegiate and systemic provisions for prolonging a teacher's capacity to perform well and for career change when motivation and emotional resource drop below the threshold needed to continue as an effective teacher.

Conclusion

Clearly there are enormous difficulties in making judgments about effective teachers and effective schools. At the end of the day I am led to repeat the question that Allen and Hecht (1974: 89) asked;

Is reform of the system enough, or do we need a `revolution' of new ideas and conceptions of education?

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