ENHANCING STUDENT LEARNING BY ENHANCING THE TEACHER'S TEACHING

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Abstract: The literature on education and schooling abounds with advice and prescription on how
to improve the quality of student learning in the classroom. Much of this advice assumes that we
have detailed knowledge of how teacher-student interactions result in student learning. The paper
examines the models underlying school and teacher effectiveness research and considers the
generalisations drawn from this research. It is argued that effective teachers need to have a
balance of textual knowledge and pedagogical knowledge. These forms of teacher knowledge and
teacher behaviour are discussed and their implications for the initial education of teachers is
examined.

The school as a metasystem
Schools are systems of systems, or metasystems, in which teachers teach and students learn.
Although this has a commonsense ring to it, there is a considerable literature indicating that
what is taught is not what is learnt by every student and that what students learn is not
always what the teacher has taught. As societies have become more complex the role of the
teacher in student-learning has become more obscure. The teacher is only one of a wide
range of information sources (Allen & Christensen, 1974). The two activities, teaching and
learning, are not in one-to-one correspondence and it may often be quite difficult to make
specific causal attributions. We can get so absorbed in the details of a particular problem
that we sometimes lose sight of more general issues. School effectiveness belongs to a class
of purposeful social interaction problems. The class includes social relationships in groups,
social services such as health and relationships between nations. I am not a systems theorist
but it seems that these problems share some or all of the following characteristics. They:

                i are probably best analysed as a system of systems (metasystems)
                ii are organic or fuzzy rather than mechanistic systems

iii have low definition but not are not chaotic in the mathematical sense

iv have state and process or transformational components

v have unknown state-process relationships

vi have great difficulty in establishing initial and final states

vii have no clear zero point

viii do not allow one to predict how a change in one part of the system will

effect any other part of the system

ix have uncertain part-whole relationships - we don't know if the whole is

greater than the sum of the parts, equal to the sum of the parts, or less than

the sum of the parts

x are always scalar and sometimes vector, in form - we can usually recognise

when change has taken place even though we are not always sure of the

direction of the change

xi do not have cause and effect relationships - any relationships are associative

or correlative - if they exist at all

xii are interactive and non-linear

xiii are of uncertain temporal stability

xiv tend to the lowest energy level

xv consist of cases that are difficult to compare

xvi are high in indeterminacy

I will not go through these points in detail but I do want to say something about xiv. Like
all functioning systems, schools use energy and much of this energy comes from the
teachers. These teachers are human beings and have a variety of life interests to attend to.
There will be husbands, wives and family to care for - these don't cease to exist during
school hours. So teachers adapt to their complex circumstances and the amount of energy
they give to teaching-learning is not the maximum that they can give but rather it is an
optimal amount that they can keep putting in over a long period of time. Under certain
circumstances such as when an educational researcher comes to the school with a new idea
the energy level can be raised but it will only stay at the new, higher level if there is active
and specific management. So when we are thinking about school effectiveness we need to
keep in mind that the internal energy of the system is finite and tends to

a minimum. Of
course the relationship between energy used and the effectiveness achieved
with that energy
is an interesting research question. These commonsense observations help
one to understand
a little about why innovation in schools can be difficult.

Much of the literature relates to the effectiveness of schools - an aspect
of schooling that was
largely taken for granted until Coleman and his colleagues produced their
report on the
equality of educational opportunity in 1966. Around this time (1960s and
1970s) American
sociologists, in particular, were sceptical that the influence of schools
on student
achievement was in fact greater than that of the home and community
environment. This
general air of scepticism led Sanders (1978) to propose a null hypothesis.
It was not that
schools had no effect at all but rather that major differences in teacher
performance did not
seem to be matched by major, correlated differences in student achievement.
One might
have expected that such a provocative view would be immediately challenged
but there
doesn't seem to have been any substantial rebuttal of the hypothesis.
Barrow (1984) did
examine the Sander's argument but concluded that the existing research
evidence was too
weak to test the null hypothesis. Barrow assumed there is a discernable
teacher-effect but
that we have been unable to establish its magnitude. Whether or not the
evidence is clearer
in 1990s there is still the inherent assumption that the dominant variable
is school-effect
(Partington, 1991). 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. One concludes therefore that our
understanding of
school effectiveness is still largely situation-specific.

Whatever simplifying assumptions we make for research purposes we need to
keep in mind
that schools are complex social 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.

Effectiveness and school improvement research has been a large scale activity. Powell and
Beard (1984) report over 3,000 studies related to conditions for effective teaching and
learning. When these are examined one can see that they tend to be based on quite simple
models, if indeed the researcher makes any mention of underlying models and assumptions
The simplest of these is the linear or statistical-industrial model in which relatively uniform
input is treated with standard processes to produce a high proportion of marketable product.
There are some ideological problems with the model. The idea of discarding children, of
having rejects, is unacceptable to many people and so there is a variant of the model that
postulates equality of outcomes. To achieve this it may be necessary to alter the process or
to have more than one process. Even with a variety of processes the output of the first cycle
may not meet the quality control requirement and hence some recycling through the system
will be necessary. The cost of the process or processes becomes the efficiency index.

A more complex model assumes that the processes of schooling are, or ought to be, value-
adding processes. This model doesn't assume equality of input and it recognises that the
processes will not have the same effects on each unit of input. The nature of the processing,
and recycling, is manipulated - usually for a fixed period of time or a standard number of
cycles. Market forces then act to sort the output on the basis of the level of value that has
been added to the input units. One can construct many models using this simple industrial
processing theory.

Another kind of model is based on the assumption that the school's prime task is that of
cognitive development and that there are processes known to bring about this development.
This model recognises that children entering the system will vary widely in their entry
behaviours, and it does not postulate standard processes. It does however suggest that the
process is systematic. The model uses the idea that cognitive development is a process of
modality-shifting. That is that there are things that the school can do that facilitate a shift
from a less powerful to a more powerful modality. These modalities might be Piagetian
stages, Brunerian modes or some other general enhancement of the individual's competence
to process information and to arrive at rational outcomes.

Another version of this model assumes that cognitive development is a generalised
competence that can be estimated by logico-mathematical tasks such at the multiple choice
questions that appear in mathematics and science tests and examinations. Assessment of
school effectiveness in this case is quite straightforward. One uses standardised
examinations of some kind and then compares results either from year to year within one
school or between schools in any one year.

Those who focus on the development of student potential, rather than on cognitive
development, see the school as a powerful shaping environment that can affect all the
dimensions of personal growth and development. This humanistic theory of schooling
always has a social dimension and, often, a moral dimension. The school is seen as a
liberating environment in which the teacher's role to help and guide each individual's
movement toward self-realisation and moral autonomy. The teacher is a major influence and
always acts in the learner's best interests. Humanistic models 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 variant of this model
emphasises the role
of the school in maintaining or reforming 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 a powerful elite group. These models
focus on
personal empowerment and cultural or societal reformation. This kind of
model is of
interest to sociologists, some of whom believe that schools have been a
very effective means
of legitimizing economic inequality (Moody, 1988). 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.
From this perspective, 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.
Schools belong to a
set of manipulative institutions which maintain existing inequalities.

The last couple of models `feel' more like a school than the statistical-
industrial model but
any linear model is an over simplification of whole school functioning.
There are linear
elements, such as age-progression, in the schooling process but most of
what happens is
non-linear. It is also true that some individual teachers operate more or
less in accord with
one rather than another of these models but 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. This reality
is so complex that
no operational model will be an accurate reflection.

It is certainly not clear that the effectiveness of a school is simply the sum of the
effectiveness of the individual teachers. If we take any of the models that I mentioned
earlier and try to express it in some symbolic form we quickly see how complex the issues
really are. Here is a simple example:

$$Sa \quad Sb \quad Sc \quad Sd \,......\, Sn$$

$$T1$$

$$\geq$$
$$\geq$$

$$T2 \; \mathit{ffffff} \; SCHOOL \; \mathit{ffffff}T3$$

The effectiveness of any one teacher is in turn a complex function of her interactions with
the students and with the other teachers - it is a system of systems. As I have already said,
I don't think that it is reasonable to assume that any other these interactions will be linear
functions. Even the effect of the teacher on the student is interactive - the student need not
learn if she doesn't want to for some reason. Let's now look at one teacher:

$$
\begin{array}{lll}
T2 & & Sa \\
T3 & T1 & Sb \\
T4 & & Sc
\end{array}
$$

If we consider teacher T1 her effectiveness might be expressed as follows:

ET1 = ˛ T1 <> Sa where a goes from 1 to the number of students in the class.

If we consider other teachers we end up with a function like this:

ET1 + ET2 + ... = ˛ T1 <> Sa + ˛ T2 <> Sa + ... ˛ T1 <> T2 +... + Error

term

Since we can't yet quantify ET the quantity is indeterminate and, I say again, any function
that one might devise is unlikely to be linear. If we then sum the ET terms we increase the
indeterminacy. If one teacher is effective and another is not effective we cannot
meaningfully say that the net effectiveness is zero. If we think of how the effectiveness
variance might be partitioned out it is my view that all the evidence suggests that the error
variance far outweighs the variance of any estimate of either teacher effectiveness or school
effectiveness. However when we come to interpret research data we need to take account
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. There is no all-purpose model that one
can use to develop a school-effectiveness research program. Each research question will
require its own model derived from the purpose of schooling under study.

Effective teacher behaviours
Effectiveness research has not produced a model or class of models that lead to operational
definitions of effectiveness. The generalisations derived from the data have not advanced
our understanding of how to alter the effectiveness of schooling a great deal. 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. It may be that some are more important than others but
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.

Averch et al. (1972) observed that the vast body of literature on educational effectiveness
has still not provided a firm foundation for the formulation of educational

policy. 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 & 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 has other valuable outcomes. Frequently however, the effects are limited to
those who have performed, or have been involved in, the research. 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.

Teachers play a vital role in shaping the organisational climate of the school and the
effectiveness generalisations recognise this fact. However few researchers explicitly
recognise the importance of teacher knowledge. It is either assumed or considered less
important than the organizational culture dimensions. The professional knowledge of
teachers (pedagogical and text) is fundamental. Teachers need to know the basic structure
of the subjects they teach and they need to have developed a personal pedagogic style that
blends personality and technique. For example, an effective teacher will know, for each
child, when to intervene in the learning process. This skill requires the teacher to have
detailed knowledge of each student's learning competency and it requires the teacher to be
an active decisions-maker. In particular, to make decisions as to when and how to
intervene. Effective teaching seems to require even more than this. Some

level of
commitment and enthusiasm is necessary as is a capacity to get pleasure
from one's personal
learning and from the learning achievements of others.

Teacher education
Despite sustained interest in the quality of teaching the effectiveness of
different models of
teacher education has yet to be established (Tisher, 1987; Tisher et al.,
1990). One might
ask whether this is the Sander's null hypothesis revisited. 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. The three kinds of knowing may not be fully
developed in every
teacher but every teacher must have access to all three to meet the
threshold criterion for
effective teaching. A teacher without a good understanding of them cannot
be considered
to be an educator. Teachers also need to distinguish knowing and doing
(Gitlin & 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. 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). Stones

(1989), however, is
rather more optimistic and is inclined to the view that there is a body of
practical pedagogic
knowledge based on educational psychology. Most of our pedagogical
knowledge about
teaching is derivative and/or would be characteristic of purposeful
behaviour in many kinds
of groups.

It is common for teachers educators to argue that the practicum is central
to any program of
teacher education, and there is a significant literature asserting why this
should be so.
Turney et al. (1985) for example, suggest that the practicum is so
important that there ought
to be a comprehensive practicum curriculum combining classroom experience
with
community experience. These views are based on the assumption that the
development of
technical teaching competence is an essential part of a teacher education
program. It is
certainly the case that many students share this assumption. The students'
emphasis on
practical competence is not surprising because classroom teaching is the
most obvious and
practical part of the act of teaching and learning. However, as Logan,
(1987) points out
there is little evidence associating professional learning with experience
in a school. In his
opinion at least, locating the study and practice of teacher education
within a broad
theoretical framework such as experiential learning may be more productive
than
concentrating on the practicum. Northfield's (1989) paper illustrates the
point that whatever
potential the practicum has got it is seldom achieved.
Academic staff seem to be divided in their commitment to the practicum.
Although many
academic staff have had a teaching background it does not mean that views
about the
practicum can be correlated with whether or not one has been a teacher.
Those who support
the centrality of the practicum argue that:

      i it brings together theory and practice
     ii it is a direct and relevant source of experience for
immediate and later
        reflection
     iii it is motivating for the student
     iv the students bring new ideas to the school and hence the

practicum is a

major source of in-service teacher development for the schools

v it provides the student with personal experience of the realities of

classroom life

vi teaching is a practical activity that requires real knowledge about real

children and real families

vii it has considerable public relations value for the university

viii it illustrates social inequality and inequity

If the practicum also includes community experience it is argued that this experience gives
students a better understanding of how community resources can be used in the service of
the school and that it helps the student to develop skill in arranging and conducting public
and private consultative meetings, organising informal education activities, and developing
a perspective of education as a life-long process (Dobson et al., 1981).

Many school teachers also support the centrality of the practicum because:

i they believe that teaching hasn't got much to do with formal theories and

models

ii they are often sceptical about the practical competence of teacher educators

(whether or not they have been teachers)

iii the changes that researchers have had implemented in schools have

sometimes had limited success and hence academic staff are suspect

iv some, perhaps many, of them fail to understand that a theory is not a

reflection of reality as much as an abstraction from it.

Most students also have a strong commitment to the practicum because:

i they tend to value the practical knowledge of the classroom teacher above

the theoretical knowledge of the academic

ii they have difficulty in reconciling competing theories

iii it is action-oriented and is seen as a real world activity

iv they have a degree of autonomy in the classroom that they may not

experience in the university

v they are seldom required to manipulate complex ideas

There is some truth in all of these views but the question is not really an either/or one as
much as it is a matter of balance. Are these beliefs and assertions necessary and sufficient
to justify a key role for the practicum?

There are theories about almost every facet of schooling and teaching-learning. Some of
them are macro theories that postulate relationships between societal structures such as
schooling and the labour market. Others deal with human interactions such as the teacher
in the classroom and some deal with individual behaviours such as Piaget's genetic
epistemology. But just what is a theory? This is not an easy question theory means
different things in different disciplines (Barrow & Woods, 1990). It is certainly more than
a simple description of past events. It might be a description of possible relationships. To
count as a theory however any statement must postulate some non-trivial relationship, it
must implicitly or explicitly account for the role of the observer and it must have some
predictive power. When weighed against these criteria theories about schooling and
teaching-learning tend to be adequate on the relationship criterion, somewhat less adequate
on the matter of the role of the observer and highly variable in their predictive power. This
doesn't mean that the process of theorising is not valuable or that we shouldn't teach our
students about these theories. What it does mean is that we need to teach our students how
to assess the usefulness of a theory. A theory that fails once or twice in practical situations
is seen by students as having limited, if any, value. It is probably for this reason that the
instructional decision-making of teachers is rarely, if ever, influenced by what they learnt in
their undergraduate teacher education program (Goldstein, 1988; Sardo-Brown, 1990).

It is quite true that many of our theories are of low predictive power. This does not worry
academic staff unduly because it is our business to develop, manipulate and discard theories
and we do so as a normal part of our work. This does not seem to be the

case with students
who often want to know the right theory to use. 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.

Course design
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.

Would school children 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

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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 cliche; 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 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 introduced
in Victoria. Unlike the Victorian innovation the changes proposed in this paper emphasise
advanced intellect rather than advanced skills.

Conclusion
Teacher-knowledge is a crucial determinant of student learning. It is not a sufficient
condition for effective teaching but a balance of text and pedagogic knowledge is a necessary
precondition. In the current climate of decreased demand for teachers and

of increased
demand for higher education we have an opportunity to be more selective about those that
we admit to initial teacher education programs. 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.

References
Allen, D.W. & Christensen, P.R. (1974) Using time, space, and people effectively. In Allen, D.W. & Hecht,
          J.C. Controversies in education. 90-102. W.B. Saunders Company, Philadelphia.

Averch, H.A., Carroll, S.J., Donaldson, T.S., Kiesling, H.J. & Pincus, J. (1972) How Effective is Schooling?
          A Critical Review and Synthesis of Research Findings. Prepared for the President's Commission
          on School Finance. Rand Corporation, California.

Barrow, R. (1984). Teacher judgement and teacher effectiveness, Journal of Educational Thought, 18(2)
          76-83.

Barrow, R. & Woods, R. (1990). An introduction to philosophy of education. 3rd edition 1990. First published
          by Methuen & Co. 1975. Routledge. England.

Bedford, W. (1988). School effectiveness characteristics and student achievement: A study of relationships in
          Georgia middle schools. Georgia. ED303898.

Berry, B. & Ginsberg, R. (1990). Creating lead teachers; from policy to implementation. Phi Delta Kappan,
          71(8),pp. 616-621.

Blair, T.R. (1984). Teacher effectiveness; the know-how to improve student learning. Reading Teacher,
          38(2),pp. 138-142.

Bowles, S. & Gintis, H. (1976). Schooling in capitalist America. Basic Books Inc., New York.

Bremer, J. (1974). The learning society. In D.W. Allen & J.C. Brecht. Controversies in Education. 125-129.

W.B. Saunders Company, Philadelphia.

Broudy, H.S. (1988). The uses of schooling. Routledge, New York.

Coleman, J., Campbell, E.Q., Hobson, C.J., McPartland, J., Moody, A.M.,
Winfield, F.D. & York, R.L.
            (1966) Equality of educational opportunity. Department of
Health, Education, and Welfare,
            Washington.

Connors, L. (1991). Review of national issues in Australian education.
Unicorn. 17(1) 3-6.

Dobson, J.E. & Dobson, R.L. (1981). School - community involvement: A human
interaction approach. Paper
            presented at the Annual Convention of the American Personnel
and Guidance Association (St.
            Louis, MO, April 12-15, 1981).

Engman, L-R. (1989). School effectiveness characteristics associated with
black student mathematics
            achievement. Focus on Learning Problems in Mathematics. 11(4)
31-42.

Furtwengler, W.J. (1985). Implementing strategies for a school
effectiveness program. Phi Delta Kappan.
            67(4) 262-265.

Gitlin, A. and Smyth, J. (1990). Towards educational forms of teacher
evaluation. Educational Theory. 40(1)
            83-94.

Goldstein, L. (1988). The shaping of the curriculum. Oxford Review of
Education. 14(2) 215-225.

Howley, C.B. (1990). Cultural contradictions and the institutional dilemma
of education in capitalist America
            (An alternative view of school effectiveness). Opinion Papers
(120), West Virginia.

Irvin, G. (1990). Collaborative teacher education. Phi Delta Kappan. 71(8)
622-624.

Istance, D. & Lowe, J. (1991). Schools and quality: The concept and the
concern. In Chapman, J., Angus, L.,
            Burke, G. with Wilkinson, V. Improving the quality of
Australian schools. 33. 22-49.
            Australian Education Review. Australia.

Jeans, B. (1990). Will the real teacher please stand up. Paper presented to

the Annual conference of the
            Australian Teacher Education Association. Bendigo. Australia.

Logan, L. (1987). School experience professional development. Paper presented at the Annual Joint Meeting
            of the Australian College of Education and Australian Council for Educational Administration
            (Perth, Australia, September 27-October 2, 1987).

Marsh, C. (1987). Curriculum of teacher education. In K. Eltis (Ed), Australian Teacher Education in Review.
            75-104. South Pacific Association for Teacher Education. South Australia.

McCormack, M.L. (1985). Ingredients for a successful school effectiveness project. Educational Leadership.
            42(6) 31-37.

Moody C. (1988). Teacher effectiveness. In Stewart, T., Moody, C., & Schuhmann, A.M, Improving Teacher
            Effectiveness. Los Angeles Center for the Study of Evaluation. California University.

Northfield, J.R. (1989). Constructing the practicum experience. Paper presented at the Annual Meeting of the
            American Educational Research Association (San Francisco, CA, March 27-31, 1989).

Paese, P.C. (1986). Teacher effectiveness in physical education. Professional vs discipline. Reports-Research.
            (143).

Partington, G. (1991). Changing patterns of school enrolment in Australia. Australian Educational Researcher,
            17(3),pp. 65-84.

Powell, M. & Beard, J.W. (1984). Teacher effectiveness: An annotated bibliography and guide to research.
            New York. Garland Publishing Co.

Ramsey, G. (1991). The need for national policies in education. Unicorn. 17. 1. 34-41.

Renihan, P.J., Renihan, F.I. & Waldron, T. (1986). The common ingredients of successful school
            effectiveness projects. Education Canada, 26(3),pp. 16-21.

Ridell, A.R. (1989). An alternative approach to the study of school effectiveness in third world countries.
            Comparative Education Review, 33(4),pp. 481-497.

Russell, J.S., White, T.E., & Maurer, S.D. (1985). Linking the behaviors and activities of high school
        principals to school effectiveness: A focus on effective and ineffective behaviours. Centre for
        Educational Policy and Management. Oregon University.

Sanders, J.T. (1978). Teacher effectiveness: Accepting the null hypothesis. Journal of Educational Thought.
        12(3) 184.

Sardo-Brown, D. (1990). Experienced teachers' planning practices: A US survey. Journal of Education for
        Teaching. 16(1) 57-71.

Scheerens, J. & Stoel, W.G-R. (1988). Development of theories of school-effectiveness. Paper presented at the
        annual meeting of the American Educational Research Association. New Orleans.

Schulman, L. (1991). Pedagogical ways of knowing. Keynote Address: 1990 International Council on
        Education for Teaching World Assembly. Published by the Institute of Education of Education.
        Singapore.

Stevens, B. (ed.), (1985). School effectiveness: Eight variables that make a difference. Lansing, Michigan State
        Board of Education.

Stones, E. (1989). Pedagogical studies in the theory and practice of teacher education. Oxford Review of
        Education. 15(4) 3-15.

Tisher, R.P. (1987). A decade of research on teacher education in Australia. Paper presented at the Annual
        Meeting of the American Educational Research Association (Washington, DC, April 20-24,
        1987).

Tisher, R.P. & Wideen, M.F. (1990). Research in teacher education: International perspectives. Falmer Press.
        London.

Turney, C., Eltis, K.J., Towler, J. & Wright, R. (1985). A new basis for teacher education: The practicum
        curriculum. Sydmac Academic Press. Australia.

United States Department of Education. (1987). What works. Research about

teaching and learning.
            Washington.

Vulliamy, G. (1987). School effectiveness research in Papua New Guinea.
Comparative Education, 23(2),pp.
            209-223.

Walker, A. & Murphy, J. (1986). School effectiveness and the disadvantaged
schools program. Journal of
            Educational Administration, 24(1),pp. 74-85.

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