



# SCHOOLING ISSUES DIGEST

## S c h o o l E f f e c t i v e n e s s

### ABOUT THE DIGESTS

The Australian Government Department of Education, Science and Training (DEST) is publishing a series of brief reports titled "Schooling Issues Digests" which summarise existing research material on selected topics relevant to schooling in Australia. The purpose of these digests is to provide status reports on the results of recent international and national research on selected topics, in a non-technical, easy to read format, which brings together and demystifies complicated research and statistical data. Contact Roger Wright on (02) 6240 7897 or email address [roger.wright@dest.gov.au](mailto:roger.wright@dest.gov.au) for more information on this series.

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### OVERVIEW OF THIS DIGEST

#### Effective Schools are those where:

- There is a strong focus on teaching and learning
- There is meaningful and positive leadership
- The school community has a shared vision for the school
- The classroom and school environment are conducive to learning
- There are high expectations of students
- Positive reinforcement is used
- Performance is monitored regularly
- Students have rights and responsibilities
- The school is a place of learning for all
- Parents are involved

#### Teachers:

- Present information or skills clearly and enthusiastically
- Keep lessons task oriented
- Regularly teach the class as a whole
- Have expectations for students to achieve
- Relate comfortably to students
- Provide positive feedback
- Have good lesson structure through emphasising key points
- Are constantly checking for pupil understanding to establish the appropriateness of instruction
- Use a high quantity of high quality questioning
- Motivate the students through probing and elaborating on their answers

#### Principals:

- Provide meaningful and positive leadership
- Are active, good initiators and protective of the school environment
- Can share leadership responsibilities and involve teachers in decision making processes
- Are not just senior administrators, but also educational and instructional leaders
- Are neither too autocratic, nor too democratic, and can clearly make decisions when required

## WHERE HAS SCHOOL EFFECTIVENESS RESEARCH COME FROM?



School education is such an important process in modern society that education systems and institutions are constantly under review. School effectiveness and the related area of school improvement have been topics for an increasing body of academic research since the 1960s. Research on school effectiveness has suggested that some schools are more successful than others, which provokes questions about what is effectiveness, what are the factors that contribute to effectiveness and how might this information provide the basis for improvement of schools and student outcomes.

School effectiveness research had its origins in the mid-1960s and early 1970s when a prevalent view in the research community, especially with regard to equality of opportunity, was that schools had little influence on children's achievement that was independent of background and social context. Coleman and his colleagues<sup>1</sup> concluded this very lack of an

independent effect meant that the inequalities imposed on children by their home, neighbourhood and peer environment tend to become the inequalities which they take into adult life at the end of school. He wrote that for equality of educational opportunity to occur there must be a strong effect in schools that is independent of the child's immediate environment. He believed that this effect was not present in American schools.

These conclusions were of concern to those with responsibilities in education. Studies in school effectiveness originated out of a desire to address the view that schools did not make much difference to young people's life chances. In the late 1970s in the United States, Edmonds<sup>2</sup> and, in the United Kingdom, Rutter<sup>3</sup> responded by embarking on what was to emerge as the first phase of school effectiveness research. The two studies undertaken, independently, by Edmonds and Rutter set out to investigate whether schools in their national contexts showed any effects when account was taken of the differences in their student populations. Their findings, arrived at independently, were similar: schools *do* make a small but highly significant difference to the life chances of their students.

The early existence of independent research projects in two countries asking similar questions and drawing, to a certain extent, on similar methodologies demonstrated the potential for further global investigations. Early studies highlighted the characteristics of schools that appeared to be unusually effective in terms of student performance on standardised achievement tests. There have been important methodological developments that have provided new insights into the effects of schooling and greater confidence that these effects can be positive. Two of these have been:

- the adoption of better statistical methods for analysing the data that are crucial in studies of effectiveness (see box on Multilevel Modelling); and
- the emergence of a view that sees effectiveness measured not just by student achievement at a point in time but by changes in achievement over a longer period of time – that is, by taking a longitudinal approach.

School effectiveness research studies undertaken during the 1980s focused on improving the methodology and replicating the research designs with pupils of different ages and in different settings. The focus during this phase shifted from research into school effectiveness to action research into school improvement.

In Australia there have been a number of research studies in the area of school effectiveness, including a Victorian study<sup>4</sup>, that have supported the findings of the international research.

There has been, in the past decade or so, an improvement in the analysis of information gathered from schools by researchers. Usually, this information comes from the students themselves or from the class teachers or school principals. These sources of information are regarded as being at different 'levels'. Early analyses simply used the school as the unit of analysis and examined relationships between school means. Other studies used the individual student as the unit of analysis but assigned values of school level variables to each student in the school. This method does not take into account the 'clustering' effect that measuring similar students can have.

These new methods involving multilevel modelling are now widely applied in educational and social research and have resulted in some rethinking of the conclusions of earlier research. Most importantly, the results of these methods have suggested that previous investigations may have underestimated the effects of schools and overstated the role of student background.

## WHAT IS SCHOOL EFFECTIVENESS?

In its simplest form, effectiveness can be regarded as the extent to which a set of goals is achieved and is a reflection of something being done well in an organisation or by an individual. Whereas a company, for example, can measure its effectiveness by reference to the profit or loss it makes, a school is a much more difficult enterprise in which to measure the extent to which it has achieved its goals<sup>9</sup>.

The complexity of this is compounded somewhat by the diverse nature of a school's goals. An examination of the goals of schools, as might be listed in their mission statements, shows that they try to accomplish many things. In addition to developing students' academic potential, they may give students an awareness of different cultures, prepare them for university entrance, enhance their artistic and creative talents, give them an understanding of environmental issues, develop their civic responsibilities and help them to become positive members of society.

There are other ways to define effectiveness apart from this goal-achievement model<sup>10</sup>. The effectiveness of an organisation like a school could be gauged from the level of satisfaction of the people associated with it, or by a measure of the operation of its internal processes and procedures – for example, communication within the school, or between the school and parents.

In terms of outcomes, an effective school is one in which students are able to achieve, in a wide range of endeavours, at a level consistent with their potential. An effective school can lessen the impact that a student's background may have on their level of achievement.

### Value Adding

A further concept of school effectiveness is to consider the degree to which schools can add value to the achievement of the students over and above the progress or improvement that might be expected given the characteristics of the intake of the student body<sup>28</sup>. The most effective schools are those where student outcomes exceed expectations.

More recently, the notion of 'value added research' has come into focus. This involves comparing school performance after taking into consideration contextual factors in a school, such as the socioeconomic status of the students. Multilevel analysis facilitates this process.

Multilevel analysis techniques now allow a school's variation from its expected mean score in a test, for example, to be plotted after its intake characteristics have been taken into account. If the school's mean score is well above its expected mean then the school can be thought of as 'adding value'. Results plotted in this way give a better view of the quality of teaching and learning occurring across a number of schools, rather than a simple comparison of the schools'

## MULTILEVEL MODELLING

In recent years there have been methodological and software design advances resulting in statistical techniques known as 'multilevel'<sup>5</sup> or 'hierarchical' linear models<sup>6</sup>. These techniques allow for analysis which examines, simultaneously, differences within schools and differences between schools. This allows for both school level and individual level effects to be investigated and looks at students in schools as part of a multilevel structure. Thus, differences between classes, year groups and schools can be recognised rather than aggregated arbitrarily.

These techniques have been especially relevant to school effectiveness studies which need to take account of school level policies and practices being articulated through classrooms to individual students. They also provide a better allowance for contextual factors which may be related both to school organisation and to student achievement and which must be taken into account in studying any effects of school organisation<sup>7</sup>. An important consequence of these developments is that there is strong evidence of differences between schools in promoting achievement, knowledge about how much variation in achievement can be attributed to school factors and what school factors appear to be associated with higher levels of achievement growth<sup>8</sup>.

mean scores. Whilst the term has been borrowed from the field of economics it is playing an increasing role in describing effectiveness in education.

### Magnitude of school effects

The amount of variance in student performance related to school experiences can be gauged by calculating the amount of variance in performance between schools compared to the total amount of variance in performance. Generally, the research evidence in international and national studies over a number of years suggests that around 10-18 per cent of the variation in student learning outcomes is because of differences between schools, with a further amount of up to 50 per cent of the variation in outcomes attributable to differences between classrooms within schools<sup>11</sup>. That is, about 60 per cent of the variation in the performance of students lies either between schools or between classrooms. The remaining 40 per cent is due to the individual characteristics of the students and the environment from which they come. In Australia<sup>12</sup> the Victorian Quality Schools Project reported that 38-45 per cent of the variation in English scores and 53-55 per cent of the variation in Mathematics could be attributed to differences between classrooms.

There has been an increasing focus on the international aspects of school effectiveness research<sup>13</sup>, especially due to studies such as the Third International Mathematics and Science Study (TIMSS) and the OECD's Programme for International Student Assessment (PISA). In the PISA 2000 survey of student performance in 32 countries<sup>14</sup>, the amount of variance in student performance explained by attendance at a particular school (the between-school variance) ranged from around 9 per cent in Finland to around 60 per cent in Germany. In Australia, the between school variance was measured to be about 18 per cent. This indicates that schools in Australia are more similar to each other in terms of student performance than schools in Germany.



## WHAT ARE THE CHARACTERISTICS OF EFFECTIVE SCHOOLS?

There have been many studies into the nature of the processes that take place in effective schools. From a distillation of those studies and further reviews of them, there is an agreed set of characteristics of effective schools<sup>16</sup>. These factors should not be viewed as independent factors because there are obvious links between them. Neither should they be regarded as a checklist that will ensure effective schooling. The presence of the factors within a school simply suggests that it is more likely that the school will be regarded as being effective in achieving its goals.

Any assessment of the effectiveness of a school needs to be recognised as multi-dimensional and cannot be gauged by a single indicator<sup>15</sup>. Cuttance has written that the factors with the strongest impact on student learning are: classroom management, metacognitive strategies, cognitive strategies, home environment, student and teacher social interactions. Although other factors like curriculum design and delivery, classroom climate, school and classroom organisation have a lesser effect, they are still extremely important.

### Focus on teaching and learning

Studies in Australia<sup>4</sup> have found that the key to improved educational outcomes for students is teacher effectiveness and that a given school is likely to be only as effective as the quality of classroom teaching within that school. The study reinforced the notion that teacher and classroom variables account for more of the variance in pupil achievement than school variables – 'Learning takes place in classrooms through the interaction of students and their teachers'.

There are differences between schools on how much they concentrate on their primary purpose – teaching and learning. A focus on this main purpose has been shown to be important for a school to be effective.

Positive correlations have also been found between the measures of the amount of time devoted to learning and pupil outcomes and behaviour<sup>17</sup>. Academic learning time and time on task are predictors of achievement. The literature suggests that schools should, therefore, be wary of intrusions into academic time, not only because of the time lost in learning and instruction, but also because it can signal to students that other things may be more important.

Teachers' subject knowledge is seen as an important factor influencing student outcomes. It has been found that high staff turnover and severe staff shortages in specialist areas can act as barriers to effectiveness. Effective schools will manage this by encouraging teachers to embark on professional development in their teaching area or by establishing a mentoring system to provide advice and give direction. The Victorian Quality Schools Project<sup>4</sup> study found that the effect of teacher participation in specialist in-service programs was substantial, especially in the area of literacy.

The quality of teaching is foremost in effective schooling and there are a number of elements to this quality. Successful teachers tend to be efficient and well organised, they are clear about the purpose of their lessons and they structure their lessons. At the same time, although these factors are associated with effectiveness, it has been shown that student learning is enhanced when teachers are aware of differences in students' learning styles and can use appropriate strategies. In many cases this requires flexibility on the part of teachers and a willingness to adapt their teaching style<sup>18</sup>.

In summaries of research about school effectiveness, Joyce<sup>19</sup> and Creemers<sup>20</sup> concluded that effective teachers:

- present information or skills clearly and enthusiastically;
- are non-judgemental and relaxed;
- keep the lessons task-oriented;
- regularly teach the class as a whole;
- have expectations for students to achieve;
- relate comfortably to the students;
- provide positive feedback;
- have good lesson structure through emphasising key points;

- are constantly checking for pupil understanding to establish the appropriateness of instruction;
- use a high quantity of high quality questioning; and
- motivate the students through probing and elaborating on their answers.

Research has also shown that teacher-pupil relationships in the classroom can be enhanced by shared activities outside the classroom<sup>21</sup>. This could be in the form of working towards a common goal such as a school drama or music production, or a special project such as a competition, or a sporting activity. The relationship between teachers and students has been found to be significant in achievement outcomes<sup>14</sup>.

## Leadership

Almost all studies in this area have shown that professional leadership by the principal contributes positively to school effectiveness. It has been found that no one particular style of leadership is appropriate across all schools, but rather that successful principals can find a style that is most suited to their own school and local situation<sup>22</sup>. Effective leadership is usually 'firm and purposeful'. Effective principals are usually those who are active, are good initiators and also protective of the school from unhelpful external influences.

Research has shown that principals who can share leadership responsibilities and involve teachers in decision-making processes will build a sense of unity in their senior management team and amongst their staff, which will contribute positively to school effectiveness<sup>23</sup>.

Another factor regarding effective leadership in schools is the notion that the principal is not just a senior administrator, but is an educational and instructional leader with expertise in teaching and learning<sup>24</sup>. The principal should have knowledge and experience of what happens in the classroom, should know and be able to suggest teaching strategies and assessment procedures.

It has also been found that leadership support is critically important in establishing a positive work environment for teachers and thus maintaining a high level of morale<sup>4</sup>.

It appears that a good leader is neither too autocratic, nor too democratic and can make clear decisions when needed, but involve others in the decision making process appropriately.



## Shared vision

Research has shown that schools are more effective when the staff and students have a shared sense of community and consensus about the direction in which they are moving. School effectiveness research and evaluations of school improvement programmes show that consensus on values and goals are associated with improved educational outcomes.

Related to this is the degree to which staff follow a consistent approach and adhere to commonly agreed practices with regard to assessment and the enforcement of rules and regulations, and the awarding of rewards and sanctions.

A sense of collegiality and collaboration among teaching staff are important prerequisites for unity of purpose. Teachers need to feel that their views on school related issues are taken seriously and they have a sense that their contributions will be considered important.

## The learning environment

The psychosocial climate that students work in is important. Successful schools are more likely to be calm places rather than chaotic, to be task oriented and have an orderly climate. The research shows that schools do not necessarily become more effective just because they have an orderly environment, but rather this type of environment is a precursor for effective learning to occur.

Establishing this orderly environment can be achieved through a clear set of guidelines, agreed on by teachers and students, rather than the imposition of a strict set of rules and regulations decided on by the principal. It appears that the most effective way of achieving order and purpose is through positive reinforcement of good learning and behaviour patterns.

A positive learning environment will depend on the creation of positive communication between students, teachers and principal.

It has also been found<sup>3</sup> that the physical environment of a school can affect the students' attitudes and behaviour, which, in turn, can influence levels of achievement.

## High expectations

Effective teachers and schools have high expectations of their students and communicate these expectations clearly to the students and set challenges that match these expectations and then assist the students to meet them. The creation of a partnership between student, school and parent, who all have high expectations of the students, can be a powerful one.

Research also suggests that the reverse is true – low school and teacher expectations of students are associated with reduced outcomes<sup>25</sup>. Like most of the factors discussed here, high expectations alone will not raise effectiveness, but taken in the context of a positive encouraging learning environment, expectations form an important part of being an effective school.

High expectations can also be supported through a process of scaffolding. This is where students who may have fallen behind in literacy skills for their year group are assisted to reach an appropriate level<sup>26</sup>. This has worked effectively in Australia, with a large number of Indigenous students, whose teachers provide support and direction for the students to engage with literature.

## Positive reinforcement

When students do the right thing, effective schools will reinforce that pattern. This applies, not only to the student's behaviour in class or around the school, but also to their academic pursuits. Studies have shown good behaviour in a school results when students feel part of the school and engage with it, rather than the imposition of a strict set of punishments and sanctions. Effective schools involve parents in a partnership to help manage their child's approach to school.

Feedback to students on their academic progress has a positive effect and if the feedback takes the form of public praise with awards and prizes, it can have a positive effect on other students too.

## Monitoring performance

Effective schools tend to have well-established mechanisms for monitoring students' progress in the classroom, for evaluating the school's performance as a whole and to have improvement programmes for teachers in place. Effective teachers have accurate, up-to-date records of student performance and inform and involve the students in the process. The students will get to know the areas of their work in which they are succeeding and the areas that need improvement.

Monitoring progress is just one part of the educative process – effective schools guard against the over-use of assessment procedures which could lead to a shift of focus away from teaching and learning processes – testing by itself is not teaching. To maximise the learning effect of assessment, teachers in effective schools will provide clear and informative feedback to pupils.

In effective schools, teachers avoid the use of negative, public criticism of students whose performance in an assessment is poor.





## WHERE TO FROM HERE?

There are several issues currently facing those involved in the desire for improved school effectiveness.

While research has shown that there are common characteristics of effective schools, it is important not to overgeneralise these observations. The presence of one or two of the characteristics is no guarantee of effective schooling. It is possible also that in one school one characteristic may be there to a greater or lesser degree than in others. The interaction between the factors is important because there is dependency between them – for example, it has been found that teachers will be more likely to feel empowered and confident to carry out their role if the principal has set up procedures to allow participatory decision-making. Policy makers need to know the extent and effect of these interactions.

Much of the school effectiveness research has been based on the measurement of a single outcome such as academic achievement at a single point in time. There is a vast spectrum of outcomes arising from a child's time at school, including attitudes to society, attitudes to further learning, skills in coping with complex human relationships and how to be a productive member of a team, which have not been the focus of research. The incorporation of longitudinal aspects of this area would lead to a more profound understanding of the issues.

### Student rights and responsibilities

The involvement of students in decision making processes and ensuring they have the opportunity to take on positions of responsibility and leadership can lead to their improved self-esteem and a positive attitude to school.

This can happen through formal structures such as a student representative council, or through informal practices in the classroom by teachers to ensure that students are given responsibility.

### The school as a place of learning

While it may seem obvious that schools are places of learning, this sense is heightened if principals, teachers and senior managers keep up-to-date with their subject areas, advances in classroom practices and managing technology. Schools can facilitate this through embarking on professional development schemes to improve practices within the school or by encouraging and enabling teachers to take an active role in their own learning outside the school. The most effective means of professional development are based on processes that occur at the school and which involve teachers in considering issues directly related to the process of student learning at their school. Research has

shown that one-off presentations by outside experts can actually be counter-productive<sup>27</sup>.

If teachers are successful in gaining educational awards outside school, then recognition of these achievements in learning also sends a powerful message to students.

It is also important for teaching staff to be informed about changes occurring outside the school which may affect them and their students (for example, changes to curriculum frameworks, assessment or, in the case of upper secondary, tertiary entrance practices).

### Parental involvement

It has been found that parental involvement in parent/teacher interviews, attendance at information evenings and other activities connected with monitoring their child's progress can have a positive effect on students' attitudes, behaviour and learning<sup>4</sup>. Strategies to encourage this participation are significant in the school being effective. Although it has been found that parental involvement in academic matters is higher in primary schools than in secondary schools, effective schools manage to encourage parent participation in other areas too. A positive partnership between school-parent-child can communicate the importance of education to the child.

In the area of the study of learning environments there have been new instruments developed which can give educators an accurate and reliable measure to describe the psychosocial (as opposed to the physical) environment in schools. The nature of principal/teacher interaction and teacher/student interaction can be investigated to give a clearer understanding of what sort of interaction happens in effective schools.

There are emerging issues impacting upon school practice that policy makers will need to know about if they are to make informed decisions in the future. Among these is the integration of information and communication technology (ICT) across the curriculum. All Australian governments have made significant investments in both the purchase of computers and the infrastructure necessary to equip their schools for the digital age, and are keen to see a return on their investment. There is some encouraging research underway as to how learning technologies can improve the quality and effectiveness of teaching and learning, but more work needs to be done in this area.

It is likely that there will be increasing recognition of the complexity of the area and the need to consider many variables in an attempt to explain school effects. The expansion of multilevel analysis could include a greater number of measurements made at student level, class level, school level, district level, state level to give a clearer picture of the situation – the relationship between inputs and outcomes may not be the same for all schools. Multilevel analysis allows also for full and accurate account to be taken of student background variables, such as socioeconomic status and language background. This can give an indication of a school's ability to add 'value' to a set of student intake characteristics.

There have been many developments in school effectiveness research since the 1960s when it was said that schools contributed little to the difference between students' outcomes. A number of processes associated with effective schools have been identified and these factors have been incorporated into school improvement programmes. Continued detailed longitudinal research should allow for further evaluation of these factors which will lead to better learning outcomes for students.

## REFERENCES

1. Coleman, J.S., Campbell, E., Hobson, C., McPartland, J., Weinfeld, F., and York, R., *Equality of Educational Opportunity*. 1966, Washington: US Government Printing Office.
2. Edmonds, R., *Effective schools for the urban poor*. Educational Leadership, 1979, 37(10): p. 15-24.
3. Rutter, M., Maughan, B., Mortimore, P., and Ouston, J., *Fifteen thousand hours: secondary schools and their effects on children*. 1979, London: Open Books.
4. Hill, P., Rowe, K., and Holmes-Smith, P., *The Victorian Quality Schools Project: A study of school and teacher effectiveness*. 1996, Melbourne: Centre for Applied Educational Research, The University of Melbourne.
5. Goldstein, H., *Multilevel Models in Educational and Social Research*. 1987, London: Oxford University Press.
6. Bryk, A.S. and Raudenbusch, S.W., *Hierarchical Linear Models*. 1992, Newbury Park: Sage Publications.
7. Raudenbush, S.W. and Willms, J.D., eds. *Schools, Classrooms and Pupils: International Studies of Schooling from a Multilevel Perspective*. 1991, Academic Press: Orlando, FL.
8. Reynolds, D. and Packer, A., *School Effectiveness and School Improvement in the 1990s*, in *School Effectiveness: Research, Policy and Practice*, D. Reynolds and P. Cuttance, Editors. 1992, Cassell: London.
9. Kelly, A., *Benchmarking for School Improvement*. 2001, London: Routledge Falmer.
10. Cheong Cheng, Y., *School Effectiveness and School Based Management: A Mechanism for Development*. 1996, London: The Falmer Press.
11. Cuttance, P., *The impact of teaching on student learning*, in *Beyond the rhetoric: Building a teaching profession to support quality teaching*, K. Kennedy, Editor. 2001, Australian College of Education: Canberra.
12. Hill, P. (1995). *School effectiveness and improvement: Present realities and future possibilities*. Paper presented at the Inaugural Professorial Lecture, Melbourne.
13. Reynolds, D., Stringfield, S., Teddlie, C., and Creemers, B., *The intellectual and policy context*, in *World class schools: International perspectives on school effectiveness*, D. Reynolds, et al., Editors. 2002, RoutledgeFalmer: New York. p. 3-14.
14. OECD, *Knowledge and skills for life: First results from PISA 2000*. 2001, Paris: Organisation for Economic Co-operation and Development.
15. Cuttance, P., *Quality assurance reviews as a catalyst for school improvement in Australia*, in *International Handbook of Educational Change*, A. Hargreaves, et al., Editors. 1998, Kluwer Academic Publishers: Dordrecht, The Netherlands. p. 1135-1162.
16. Levine, D. and Lezotte, L., *Unusually Effective Schools: A Review and Analysis of Research and Practice*. 1990, Madison, WI: National Center for Effective Schools Research and Development.
17. Coleman, J., Hoffer, T., and Kilgore, S., *Public and private schools*. 1981, Chicago: National Opinion Research Center.
18. Sizemore, B., Brossard, C., and Harrigan, B., *An abashing anomaly: The high achieving predominantly black elementary school*. 1983, Pittsburgh: University of Pittsburgh.
19. Joyce, B. and Showers, B., *Student achievement through staff development*. 1988, New York: Longman.
20. Creemers, B., *The Effective Classroom*. 1994, London: Cassell.
21. Smith, D. and Tomlinson, S., *The School Effect. A Study of Multiracial Comprehensives*. 1989, London: Policy Studies Institute.
22. Bossert, R., Dwyer, D., Rowan, B., and Lee, G., *The instructional management role of the principal*. Educational Administration Quarterly, 1982, 18: p. 34-64.
23. Sammons, P., *School effectiveness: coming of age in the twenty-first century*. 1999, Lisse, The Netherlands: Swets & Zeitlinger.
24. Reynolds, D. and Teddlie, C., *The processes of school effectiveness*, in *The international handbook of school effectiveness research*, C. Teddlie and D. Reynolds, Editors. 2000, Falmer Press: London. p. 134-159.
25. OFSTED, *Access and Achievement in Urban Education*. 1993, London: HMSO.
26. Rose, D., Gray, B., and Cowey, W., *Scaffolding Reading and Writing for Indigenous Children in School*, in *Double Power: English Literacy and Indigenous Education*, P. Wignell, Editor. 1999, Language Australia: Melbourne.
27. Fullan, M., *The New Meaning of Educational Change*. 1991, London: Cassell.
28. Thomas, S., Smees, R., MacBeath, J., Sammons, P., Robertson, P., and Mortimore, P. (1998, 13-17 April). *Creating a value added framework for Scottish schools*. Paper presented at the Annual Meeting of the American Educational Research Association, San Diego.