Creating Equity and Quality

A literature review of school effectiveness and improvement

by
Dr. Terrence Wendel

edited by
Helen Raham

June 2000
SAEE Research Series #6

SOCIETY FOR THE ADVANCEMENT OF EXCELLENCE IN EDUCATION

ISBN 0-9685144-4-8

SOCIETY FOR THE ADVANCEMENT OF EXCELLENCE IN EDUCATION

The Society is an independent non-profit Canadian education research agency founded in 1996. The mission of the Society is to encourage excellence in public education through the provision of rigorous, non-partisan and arm's-length research on school change and quality issues. The Society is particularly interested in assisting research that may shed insight on innovative school practices leading to successful learning outcomes. With generous assistance from six Canadian foundations, the Society has commissioned seven major research projects, the most recent being a study of secondary schools in Canada. The Society is a registered Canadian charity and may provide official tax receipts for donations to its research work.

SAEE Research Series #6

For additional copies of this report, please contact:

SOCIETY FOR THE ADVANCEMENT OF EXCELLENCE IN EDUCATION

201- 1451-B Ellis Street
Kelowna, BC V1Y 2A3

Telephone (250) 717-1163
Fax (250) 717-1134

Email: hraham@direct.ca
Website: www.saee.bc.ca

FOREWORD

The Successful Secondary Schools Study is designed to identify practices in 12 schools in three Canadian provinces that contribute to high student achievement outcomes for students characterized by low socio-economic status. It has long been believed that the quality of a school's outcomes, effectiveness, or success has been largely determined by the overall quality of its primary input--the students themselves. This study is based on the premise that schools themselves can and do add significant value to students' educational experiences.

This monograph is designed to provide a synopsis of the literature and research dealing with successful and effective schools, school improvement, and the effects of socio-economic status on overall student learning. It is hoped that this body of information can inform Canadian school practice in tackling the challenge of adding value to the learning of all students. While the particular focus is on practices in high-achieving high schools with low socio-economic status students, the literature informs improvement efforts in all schools, irrespective of the nature of their students.

How schools deal with at-risk low socio-economic student populations deserves a heightened focus given the most recent statistics released by the Canadian Council on Social Development showing that from 1991-95, the number of people living in poverty in Canada's metropolitan areas grew by 34%, nearly five times the 7% increase in population over the same period. Today's schools need to find new ways of meeting students' needs to break this cycle of poverty.

The Society for the Advancement of Excellence in Education (SAEE) and the author of this literature review ascribe to the views expressed by Edmonds, Stoll and Fink. The former states, " I require that an effective school bring the children of the poor to those minimal masteries of basic schools skills that now describe minimally the successful pupil performance for the children of the middle class." The latter authors assert, "Essentially, an underlying belief of the school effectiveness movement is that all children can learn."

Students will benefit the most as schools grow in their knowledge of what makes the difference in adding value to students' educational experiences. The Manitoba School Improvement Project evaluation grounds us in this mission: "Although all [schools] were engaged in school improvement activities, the focus on student learning was marginal for over half of them and they were not able to show much evidence of increases in learning. Whatever else, learning can not be overlooked or taken for granted. It is the major purpose of schooling."

This monograph is the first of a series of reports associated with this study that will assist schools in making this difference.

Terry Wendel Ph.D.,
Principal Investigator

1. See Canadian Council on Social Development (2000): Urban Poverty in Canada.
2. See Lorna M. Earl and Linda E. Lee (1998): Evaluation of the Manitoba School Improvement Program, p. 67. Available at http://www.sunvalley.ca/msip/3_evaluation/3_summary.html

About the Author

Terrence Wendel, Principal Investigator of the study, Schools That Make a Difference, is President of Wendel & Associates Consulting Inc. Dr. Wendel holds a Ph.D. from the University of Alberta in the area of Educational Administration. His previous school administrative positions in Alberta include Director of Personnel and Instruction (Sturgeon School Division #24), Assistant Superintendent of Schools (Leduc School District #297), and Superintendent of Schools (Grande Cache School District #5258).

Dr. Wendel has been an independent consultant since 1992 and has been active in the development and implementation of an accountability framework for the basic education system in Alberta. He has worked and is working as an independent contractor for Alberta Learning and has taught both graduate and undergraduate programs at the University of Alberta. At the present time, Dr. Wendel is involved in a national study on virtual schools, developing education plans and school improvement projects for schools and school jurisdictions, and research work for government departments.

Table of Contents

List of Figures

CHAPTER 1. ORIENTATION TO THE SUCCESSFUL SECONDARY SCHOOLS STUDY

"It is almost never clear whether a school characteristic affects student achievement or vice versa." (Jencks, 1972)

Introduction

In the belief that school characteristics and practices affect student achievement, the Society for Advancement of Excellence in Education (SAEE), with funding from the Max Bell Foundation, is conducting a study to determine what practices in secondary schools result in high student achievement for low socio-economic status (SES) students. Study findings are expected to provide guidance to Canadian educators and policy makers in developing and implementing practices that have a positive effect upon students.[3] The study also recognizes that student characteristics have an effect on student outcomes but school practices exist that ameliorate the former and enhance the latter.

This two-year study of 12 public secondary school sites in low socio-economic urban areas in British Columbia, Alberta, and Quebec is designed to identify school practices that contribute to unexpectedly high learning outcomes in comparison with other schools. The resulting report will be broadly disseminated to educators and Ministries of Education across Canada.

Significance of the Study

Educational theory has traditionally held that the chief factors controlling student attainment are physiological and social-cultural. However, a growing body of current international research on school effectiveness (Kovaks, 1998; Stoll, 1998; Reynolds, 1996; Sammons, 1997), suggests that the school institution itself may account for at least 25% of the variance in student performance. A report on school improvement from Australia (1998) holds that school practice and policy can influence 50% of the differences in student learning outcomes (p. 12).

In Canada, increasing attention is now being paid to school performance indicators both for the purposes of accountability and using results to make improvements to education. These data are being gathered, analyzed, and published in some provinces, but are not usually cor-

3. Readers seeking a comprehensive description of this study are directed to the SAEE web site at http://www.saee.bc.ca/

related with demographic data. The Canadian education community still largely rejects the preparation and publication of school profiles on standardized indicators. The prevailing view is that the performance of schools in low socio-economic areas simply cannot be compared with schools in upper middle class neighbourhoods because academic performance is inherently related to family income and socio-cultural factors.

Little research in this area has been conducted in Canada. However, the Fraser Institute, in its report cards on secondary schools in British Columbia (1998, 1999, 2000) and Alberta (1999, 2000), noted that a number of schools located in areas with "disadvantaged populations" outperformed other similar schools and many schools with higher SES pupil intake. This points to differences in practices at the individual schools that affect student outcomes.

This study is to identify these practices and, if possible, draw conclusions about their implications for the system at large. While this type of study is new in the Canadian context, similar analysis is being done in other countries, including the United Kingdom, Australia, New Zealand, and the United States.

Canadian research studies into secondary school success include the Exemplary Schools Project (Gaskell et al., 1995), the Manitoba School Improvement Project (Earl & Lee, 1998), and the Halton, Ontario Effective Schools Project 1989-95 (Stoll and Fink, 1996). Gaskell's research, the largest national study of its kind, examined 21 Canadian secondary schools nominated by their communities as having a "particularly successful learning environment for students." No criteria for defining a successful school or external indicators of achievement were specified in the selection process, and the "research project did not have the data to link school observations, policies, or programs to academic outcomes within or across schools" (p. 257). Indeed, the identification of the sites was primarily reputational; thus, perceptions of quality rather than actual indicators of quality heavily influenced site selection.

This is an understudied area in Canadian education worthy of careful research.

The current Manitoba School Improvement Project involving 22 secondary schools coaches and monitors progress over time on self-directed goals in volunteer schools. It draws some tentative conclusions about processes and patterns that account for these outcomes.

The well-documented Halton Project (Stoll and Fink, 1996) was a district-wide initiative to encourage school effectiveness on the use of some indicators and a school-developed gap-analysis and improvement plan. Its guiding task force "rejected research which defined an effective school as one which raised student test scores on traditional standardized tests" (p. 16).

None of these large Canadian studies specifically examined practices in low SES schools selected because they have demonstrated higher than expected student performance on standardized measures of achievement. This is an understudied area in Canadian education worthy of careful research.

The research underway may also contribute to a national secondary school improvement initiative now in the formative stages. *Shape the Future*, spearheaded by the Canadian Education Association and the Ontario Institute for Studies in Education of the University of Toronto and funded by the Gordon Foundation, is "a nationwide effort to encourage and support the creation of successful secondary schools for the future of young Canadians. The goal is to work with partners across the country to find what is successful and share the results--to learn from each other collaboratively ."[4] This study has strong potential for furthering such collaboration.

Objectives

The study focuses on student achievement and the organizational, social, instructional, cultural, and other factors that are present in the schools that contribute to high student achievement for students from low socio-economic backgrounds.

There are five study objectives:

1. *To determine school practices that contribute to high student achievement.*
2. *To acquire and describe baseline data and longitudinal data on the value-added or success factors within the schools.*
3. *To compare the practices in the high achieving low socio-economic schools to those in the low achieving low socio-economic schools to determine what key similarities and differences are present.*
4. *To determine and provide insights about school practices and processes that can inform practices in other Canadian high schools having similar student populations.*
5. *To provide key findings that will inform decisions made by educational leaders about school improvement.*

Methods and Design

Twelve urban schools in British Columbia, Alberta and Quebec are being examined. Nine schools (three in each province) are highly successful low SES secondary schools. Three additional schools (one in each province) with socio-economic characteristics similar to the others, but which are not performing at the same levels as the others, are included as well. This study sample allows researchers to determine if the practices commonly identified in high-performing low SES schools are indeed unique from those in other schools.[5]

The study employs a combination of quantitative and qualitative approaches. Expertise in research design and statistical analysis has been employed at the "front end" of the study to identify the schools that are most appropriate for the study. Rigorous attention has been paid to this aspect of design to ensure validity of the findings that flow from the examination of

4. *Shape the Future* brochure, June 1999. The Canadian Education Association, Toronto.
5. For a complete description of the school selection process, readers are directed to a companion document, Report on School Selection by Claudio Violato.

school practices. A set of objective criteria that addresses school performance over a number of years has been used. These indicators included:

- Achievement on provincial exams
- Graduation rates
- Participation rates in writing examinations in various courses
- Number of courses taken in which provincial examinations are written
- Comparison of school marks to provincial marks

These data are readily available in standardized formats that allow for comparison of district and provincial averages. While recognizably narrow and insufficient criteria on which to evaluate school success, they are the most universally accepted basic indicators of the achievement and progress of a school's students. Provincial achievement data, linked to the postal codes of the students attending the schools, have been obtained from each of the Ministries though provisions of Freedom of Information legislation.

These data sets were correlated to Statistics Canada data by postal code based on the results of the 1996 census. These data included:

- Combined family income
- Education of parent one (male)
- Education of parent two (female) or, if a single parent household, the education level and gender of the respondent
- Visible minority and aboriginal status
- Percentage of respondents who speak/do not speak either official language
- Percentage of respondents who speak neither official language at home

Thus, initial school site selection was statistical in nature. Regression analysis, correlation calculations (using the Pearson Product Moment Correlation), and factor analysis (using the R-squared calculation) were the primary analytical techniques in this stage. Sites identified by the researchers were verified though consultation with the school jurisdictions and their respective administrators. The jurisdictions provided additional data that served to inform the final selection/identification process. These additional data included:

- Student transiency and mobility
- Satisfaction data from parents, students, and teachers
- Student attendance
- Summary reports on student discipline
- Student achievement data from feeder schools
- Student involvement in community activities
- Contextual information that may have a bearing on the viability of involving any site in the study (i.e., principal change, staff changes, new program implementation)

Once the schools were selected, the research became qualitative in nature. Skilled and experienced educational practitioners highly familiar with the successful schools literature have begun to examine the 12 schools to identify significant practices that affect student outcomes. In-depth case studies, cross-analyzed for comparisons and common elements, will be developed as part of the research.

Data gathering processes will include:

- An extensive literature review to identify characteristics of effective schools, characteristics of and areas common to school improvement efforts, and the linkages between and among school effectiveness and school improvement;
- Secondary data gathering (i.e., review of existing records and documents at the schools, from the provincial departments of education and school jurisdictions, and Statistics Canada);
- Primary data gathering (i.e., interviews and focus groups with key individuals and stake holder groups, surveys where there is no existing or current satisfaction data available over an entire school-year cycle, and classroom observations).

Data analysis processes include establishing performance indicators or measures, examining student achievement records, using thematic analytical techniques for qualitative data obtained through interviews and focus groups; and appropriate statistical analysis for quantitative data.

Consistent with the first phase of the study, this report undertakes a review and synthesis of the literature and focuses on:

- Socio-economic status as a predictor of educational success and attainment;
- Performance indicators and measures of school success and effectiveness in general and in secondary schools in particular;
- Practices that facilitate student success in schools in general and in secondary schools in particular; and
- Recent school improvement initiatives in Canada and elsewhere that build on the school effectiveness literature and that lead to enhanced student achievement.

Key Questions to Guide the Research

A number of key questions were used to guide the inquiry process. These included:

1. *How much does socio-economic status affect student achievement in schools?*
2. *What is a comprehensive set of success indicators for secondary schools, encompassing outcomes, processes and practices, and inputs?*
3. *Which of these indicators are practicable in terms of data gathering and relevant to the outcomes of the study? Do benchmarks exist for those indicators?*

4. *Using the indicators selected for this study, what benchmarks emerge from the research? How do the success indicators in the school effectiveness literature relate to school improvement efforts?*
5. *What key practices emerge in successful secondary schools that serve students from low socio-economic backgrounds? How do these practices relate to those that emerge from the school effectiveness and school improvement literature?*
6. *What findings can be used to inform policy makers?*

Key Assumptions Made in the Study

This study is premised on the belief that schools can and do make a difference in student learning. Literature and studies on school effects, particularly the material that has examined directly the process and resources that shape students' experiences in schools, show that school effects are very evident.[6] Accordingly, the following assumptions guide the research:

1. Studies on the effects of socio-economic status on student achievement indicate that nearly half the differences in achievement can be attributed to socio-economic status. The remaining differences can be attributed to a variety of school and classroom effects. In general, low socio-economic status is associated with students being at-risk. Schools need to develop effective strategies to address achievement with at-risk students.
2. Schools can and do make a difference in the achievement of their students.
3. Student achievement includes standardized achievement results and a range of other indicators. While schools add value in other areas such as social and emotional growth, citizenship, motivation, self-esteem, these are more difficult to measure. Thus, while test results may be limiting, they do provide one of the best quantitative measures of student success.
4. School effects vary from school to school.
5. Schools have an ethical, moral, and legal obligation to ensure student success for all students irrespective of their socio-economic backgrounds.
6. Teachers are a key factor in determining overall school and student success. School improvement entails building staff capacity to improve student learning and success.
7. Efforts at school improvement cannot ignore the contexts in which schools operate. However, practices can be developed to assist teachers in dealing with the circumstances.

The view that students' academic attainment is determined chiefly by their socio-economic status has been challenged by numerous studies. It is now known that some schools produce stronger gains than others in the overall achievement of disadvantaged students. This study expands upon the limited knowledge base about the practices in these successful schools. Accordingly, it has been informed by the following literature

6. See Steven T. Bossert (1988): School Effects. In Norman J. Boyan (Ed.), The Handbook of Research on Educational Administration, p. 344.

CHAPTER 2. SOCIO-ECONOMIC STATUS AND STUDENT ACHIEVEMENT

What is it that some schools do that cause students to learn and achieve better than in other schools?

Socio-economic status has long been viewed as the single largest predictor of educational success. In an historical view of school effectiveness, Stoll and Fink[7] and Kovacs[8] note that the school effectiveness movement began in response to the traditional and long standing views that student learning, or more importantly, the lack of student learning, was explained by circumstances beyond the schools' control. These explanations, regarded in a cause-effect relationship, were psychological and/or socio-cultural in nature. This theory is tested by the following question: Are there schools in which the student population is predominately of a lower socio-economic status and in which student learning is as good as or better than in schools with similar or higher socio-economic status students?

Socio-Economic Status and Its Relationship to Educational Attainment

There is a long tradition of research that questions the effects that schools have on the achievements of students. School environments have been described alternatively as structures of resources, roles, expectations and values. Yet, links between these structures and students' attainments have eluded many educational researchers.[9] Early research, and much of what continues today, tended to increase skepticism about the degree to which schools can affect overall student achievement. Two types of studies contributed significantly to the skepticism about school effects: 1) input-output research; and 2) analyses of institutional systems. Of these two, the former had the most pronounced effect upon the relationship between what happens in schools and student achievement.

Perhaps the earliest and best-known input-output study was the Coleman Report, released in the United States in 1968. When the report was released, educators and the public at large were shocked at its primary conclusion. In short, Coleman said that educational attainment and achievement were based on socio-cultural, hereditary, and socio-economic factors over which schools had little or no control.[10] While the study was designed to examine the distribution of educational resources and the effects this distribution had on student outcomes, its

7. See Louise Stoll and Dean Fink (1996): *Changing Our Schools.*

8. See Karen Kovacs (1998): *Combating Failure at School: An International Perspective.* In Louise Stoll and Kate Myers (Eds.): *No Quick Fixes: Perspectives on Schools in Difficulty,* pp. 222-241.

9. See Steven T. Bossert (1988): *School Effects.* In Norman J. Boyan (Ed.): The Handbook of Research on Educational Administration, p. 342.

10. See J.S. Coleman et al. (1968): *Equality of Educational Opportunity.*

most pronounced effect was to convey the idea to parents, students, educators, and legislators that schools do not make a difference. Consequently, as Woodhall notes, "The Coleman Report . . . attracted fierce controversy, particularly with regard to its negative conclusions about the effects of school inputs on levels of performance."[11]

The prevailing view, therefore, as Bossert comments after a close review of the Coleman Report, was that "school characteristics account for an extremely small proportion in student achievement once the social composition of students is statistically controlled."[12] After a review of studies focusing on the relationship of school inputs to school outputs, Bossert makes specific reference to the limited variability in the nature of the inputs in schools across the United States. Like the Coleman Report, the subsequent studies report that

> . . . the physical facilities, level of expenditure, curriculum, and other quantifiable characteristics did not vary substantially among schools, nor did they affect students' performance on standardized achievement tests. The overall estimate of a "school effect" was small. Only about 10% of the variance in children's standardized test scores was attributed to the "unique" contribution of schools. The one factor that seemed to make a difference in children's aggregate test scores was the social composition of the student body. In schools where children from affluent homes were educated, all students benefited academically.[13]

Bossert notes that the primary criticism of input-output studies is that "they do not consider how students actually use resources that are available in the school."[14] To address this deficiency, researchers began to focus in three areas dealing with school resources and structures: 1) time allocations; 2) tracking structures; and 3) classroom effects.

Research in Time Allocations

Students can only benefit from school resources if they are present, either physically or through some other medium, to access those resources. As Wiley notes, "If schooling has an influence on any child, it does so on a day-to-day basis when he [sic] is present and subject to that influence, and cannot influence him [sic] when he [sic] is not there."[15] In an attempt to disprove some of the major conclusions of the Coleman Report, Wiley re-analyzed data directly included in the Report. He found that background characteristics, especially those dealing with social class, were strongly associated with school attendance. Most importantly, as Bossert notes, "[Wiley] questioned whether the amount of variance attributed to family background in Coleman's analysis was actually shared variance with attendance."[16]

Wiley found that there were some significant school effects that were directly related to attendance. For example, increasing the school day by 10% from an average of five hours could "produce a 14% increase in reading and mathematics performance and a 27% increase in reading comprehension."[17] This correlation does not necessarily substantiate the belief that

11. See M. Woodhall (1987): *Cost-Effectiveness Analysis in Education.* In George Psacharopoulos (Ed): *Economics of Education: Research and Studies,* p. 348.
12. See Steven T. Bossert (1987): *School Effects.* In N.J. Boyan (Ed.): The Handbook of Research on Educational Administration, p. 342.
13. Ibid, pp. 342-343.
14. Ibid, p. 344.
15. See D.E. Wiley (1976): *Another Hour, Another Day: Quantity of Schooling--A Potent Path for Policy.* In W. Sewell, R.M. Hauser, and D.L. Featherman (Eds.): Schooling and Achievement in American Society; p. 228.
16. See Steven T. Bossert (1987): *School Effects.* In N.J. Boyan (Ed.): The Handbook of Research on Educational Administration, p. 344.
17. Ibid, p. 344.

more schooling is better; it does however, show that a proximal measure of students' exposure to school resources--their attendance--is related to overall school effects. Another study conducted by Heyns[18] sought to examine the importance of school time on student learning. Bossert comments:

> An analysis of student achievement gains during the school year and during summer suggests that schooling diminishes the effect of family background on learning. The achievement gap between black and white children and between low- and high-income children widens disproportionately during the months when school is not in session. Children who attend summer programs or who use the library learn more rapidly than do those who are not involved in these programs. The effect was true for all children and all types of measured cognitive skills but it was especially strong for relatively disadvantaged students.[19]

Heyns' work is particularly instructive. He concludes: "While schooling does not equalize the influence of status differences among students, it does have a significant independent effect on cognitive growth."[20] Both Wiley's and Heyns' studies point clearly to the belief that schools can and do make a difference in student learning. Unfortunately, neither of the studies identified the nature of the instructional activities and/or the resources that really make a difference in student learning.

It must be remembered that these early studies took place well in advance of the research on school effectiveness and school improvement that began in the 1980s and 1990s respectively. Their contribution, however, cannot be understated as they represent early attempts to disprove the central thesis in the Coleman Report.

Tracking Studies

Tracking studies also are directly related to the prevailing views of the effects of socio-economic status and family background on course taking patterns and the nature of the courses themselves. Studies in the late 1970s (Rosenbaum, 1975, 1976; Metz, 1978, and others) took the view that within-school structures affected students' learning opportunities. In a high school setting, this was of particular importance given the variety of subjects that can be taken to lead to high school completion. However, high school completion does not necessarily equate to similarities in course difficulty, standing, and credentials. In this light, as Bossert points out, "At the high school level, the focus has been on tracking because of perceived curricular differences among tracks and the relationship between track placement and future educational attainment." [21]

In a review of Rosenbaum's and Metz' work, Bossert notes that early tracking studies were limited in that they ignored the structural aspects of the tracking system and the social composition of the student body in tracked high schools. As Bossert points out, "Because track placement is highly correlated with students' social class, the separate effects of class and track cannot be disentangled."[22] In a high school that had a fairly homogeneous student pop-

18. See B. Heyns (1978): *Summer Learning and Effects on Schooling.*
19. See Steven T. Bossert (1987): *School Effects.* In N.J. Boyan (Ed.): The Handbook of Research on Educational Administration, p. 344.
20. Ibid, p. 344.
21. Ibid, p. 345.
22. Ibid, p. 345.

ulation, Rosenbaum found that the effect of track placement on student learning gains could account for 5% of the variance in IQ gains of the students and the effect of track on IQ change was independent of initial IQ.

The key to understanding the relationship of tracking to student achievement rests in the notion that students in different tracks have widely varying socialization experiences. As Bossert notes, "There is evidence that students receive considerably different learning experiences in different tracks. For example, Metz (1978) found that students in upper, college-preparatory tracks were given more opportunities for self-directed learning."[23]

The relationship between socio-economic status and socio-cultural backgrounds can be seen in the tracking studies. Years before the work of Rosenbaum and Metz, Jencks conducted a study to examine school effects and the relationship of socio-cultural and socio-economic factors on those effects. In a pessimistic view, Jencks comments:

> Our research suggests that the characteristics of a school's output depend largely on a single input, namely the characteristics of the entering children. Everything else--the school budget, its policies, the characteristics of the teachers--is either secondary or completely irrelevant.[24]

Jencks also noted that the differences among schools accounted for a small proportion of the variance in students' achievements, especially when family background was controlled. In his view, social composition of the schools was the most important school-level factor related to student achievement on standardized achievement tests. However, and this is very important, Jencks found that causal ordering among the various factors was questionable. In his view, "It is almost never clear whether a school characteristic affects student achievement or whether student achievement affects school characteristics."[25]

In this context, Jencks notes that greater differences in children's achievement scores occurred within rather than between schools. Consequently, Jencks suggests that it was more important to observe how the same school treats different children. Bossert, in a review of Jencks' work, notes, "The source of the inequality may not lie in the allocation processes that distribute resources to schools but in the ways schools put those resources to use."[26] It is in this context that the third type of studies, those dealing with classroom effects, needs to be considered.

Classroom Effects

As Bossert comments, "When input-output designs examine the proximal environments where pupils actually are taught, where pupils actually are exposed to instruction, resources that appear to have little effect at the school level actually can be shown to be important deter-

23. See Steven T. Bossert (1987): *School Effects.* In N.J. Boyan (Ed.): The Handbook of Research on Educational Administration, p. 345.
24. See C. Jencks *et al.* (1972): *Inequality: A Reassessment of the Effect of Family and Schooling in America,* p. 23.
25. Ibid, p. 83.
26. See Steven T. Bossert (1987): *School Effects.* In N.J. Boyan (Ed.): The Handbook of Research on Educational Administration, p. 342.

minants of learning."[27] An early study in Philadelphia in 1975 (Summers and Wolfe[28]) pointed the direction for studies on school effectiveness that began in the 1980s.

For the first time, research began to focus on those things that happen in a classroom and the effects of these activities on student learning. The 1975 study pointed out, as Bossert states, ". . . that differences in class size, school size, teacher experience, and attendance had significant effects on low-income and racial minority students."[29] The researchers found that class size, overall, did not affect student achievement but for students who were achieving below grade level, classes larger than 28 students had a negative effect on student performance. In addition, Bossert notes that the research found that

> … teacher experience had different effects on high- and low-achieving children. High-achieving pupils performed best with more experienced teachers but low achievers did best with new, relatively inexperienced teachers. Junior high school math teachers with three to nine years of experience produced the highest math achievements whereas math teachers with more than 10 years' experience had a negative effect on learning math.[30]

The most significant outcome of the early classroom effects studies was the formation of the basis for more detailed studies on classroom effects in the 1980s. In addition, the Coleman Report findings were being disproved. Education research now could focus on aspects of in-school and in-classroom activities that had positive effects on student learning irrespective of the nature of the students in the schools and classrooms. The input-output studies that formed the basis of a counter-revolution to the Coleman Report need to be viewed in both a positive and a cautious sense, particularly in relation to school effects on students of low socio-economic status. However, there were and still remain limitations on the utility of such a research approach.

Limitations of the Input-Output Studies

The early input-output studies on school effects dealt with the school as the focus of the research. Obviously, this focus had significant limitations, particularly because, as Bossert notes, " . . . a particular set of assumptions underlies most of the studies of school organization."[31] This set of assumptions, characterized as the "radical individualist"[32] model of schooling, holds that the "effects that formal education has on students are primarily a function of students' individual goals, levels of motivation, and inherent aptitudes."[33] As a consequence, attention was focused on the social and intellectual dimensions and, as Bossert notes, "Especially on how students who differ along these dimensions varyingly utilize school resources."[34]

27. See Steven T. Bossert (1987): *School Effects.* In N.J. Boyan (Ed.): The Handbook of Research on Educational Administration, p. 345
28. See A.A. Summers and B.L. Wolfe (1975): *Equality of Educational Opportunity Quantified: A Production Function Approach.*
29. See Steven T. Bossert (1987): *School Effects.* In N.J. Boyan (Ed.): The Handbook of Research on Educational Administration, p. 345.
30. Ibid, p. 345.
31. Ibid, p. 343.
32. Ibid, p. 343.
33. Ibid, p. 343.
34. Ibid, p. 343.

Spady[35] conducted an analysis of input-output studies in 1973. It was apparent in this analysis that there are limitations to these types of studies:

- The studies rarely controlled for students' prior achievements.
- At any point in time, a student's performance is shaped by current resource allocations, by past allocations, and by past achievements.
- The effect of family background in student performance is likely to be over-inflated due to the joint variance shared by socio-economic status, student motivation, and instructional experience.
- Resources measured in input-output studies may not be the ones that really make a difference in student achievement or may not be measured at the level of student use.

In summary, both Spady and Bossert argue that studies must be able to document the influence of school processes on student achievement. Bossert offers good advice for researchers in input-output studies: "The organizational outcomes of schools lie not simply in the way resources are allocated but in the mechanisms that specify students' access to and participation in different types of learning activities." In this regard, it is important to note that schools themselves can structure students' perceptions of, access to, and participation in learning activities.[36]

While socio-economic status and family background are key factors in any input-output analysis of school effects, it is evident from the literature that Coleman's hypothesis--schools do not make a difference in student achievement--is not consistent with the reality of the enterprise. Too, it is clear that socio-economic status interacts with other variables--student motivation and instructional practices in particular--in affecting overall student achievement. The magnitude of the interaction and what schools can do about student motivation and instructional processes are two key points that need to be explored. Also, as Bossert points out, it is necessary to look at how schools distribute resources rather than the magnitude of resources in relation to overall student achievement.

Inequalities, Schooling, and the Alpha Co-Efficient

Reports by Coleman and Jencks on the inequalities of family background and education conclude that differences in quality or type of schooling make little difference in student achievement. In their view, achievement is directly related to the quality of one primary input--the student. In other words, the innate ability of students and their socio-economic status largely determine educational achievement and consequent educational attainment. Rutter's[37] work in England in 1979 emerges as a catalyst to further studies on school effectiveness and to a diminution of this view that schools do not make a difference in student achievement.

Rutter found that there were significant differences at Grade 9 between 10 secondary schools on a variety of outcomes including written examinations, delinquency rates, and

35. See W.G. Spady (1973): *The Impact of School Resources on Students.* In F. Kerlinger (Ed.): Review of Research in Education.
36. See Steven T. Bossert (1987): *School Effects.* In N.J. Boyan (Ed.): The Handbook of Research on Educational Administration,), pp. 342-344.
37. See M.J. Rutter (1979): *Fifteen Thousand Hours: Secondary Schools and Their Effects on Children.*

behavior at school even when holding constant the ability of the students entering each school. Most importantly, Rutter identified school characteristics that were viewed as influential in having a positive or negative effect on student achievement. These include "size and age of school, academic emphasis in the instruction, differences between teachers, and especially the overall climate of the school and student-teacher relationships."[38]

Pelligrino and Varnhagen view socio-economic status as "a poorly defined variable, some of its components being more relevant to child IQ than others."[39] In particular, the educational level of parents correlates more highly than does family income. Cowley and Easton, in their examination of the relationship between socio-economic status and student achievement in British Columbia schools confirm this assertion although their findings more clearly relate to overall student achievement than to student IQ:

> Taking into account all of the socio-economic variables simultaneously [to establish correlates with student achievement], we identified one characteristic that was significantly associated with the overall [school rating]: The average number of years of education of the most educated parent in a two-parent family (or of the lone parent in single-parent family). When a school had more highly educated parents, the overall rating at the school was likely to be higher.[40]

The role that genetic and environmental factors play in determining cognitive ability and intelligence and in subsequent earnings of individuals has been explored beginning as early as 1869. Fägerlind[41] discusses the two points of view and notes that with respect to genetics, ability and intelligence are almost entirely inherited, constant over time, and are inherently unequal across individuals. The second, and opposing view, holds that intelligence and ability are primarily determined by environment, change over time, and are potentially equal among individuals. There is little doubt of the interaction between these two factors in determining ability, the consequent educational success of the individuals, and the consequent success in securing higher future earnings. In light of the findings that link parents' education levels to overall student achievement rather than to income, this concept deserves close attention if schools are viewed as the agency to enhance opportunity and success in later life.

School effectiveness is viewed as enhancing or adding value to the overall achievement levels of the students. By enhancing school effectiveness, rates of return (in an economic sense) are increased for both the individual and society as a whole. What schools may fail to realize is the degree to which the achievement levels of students are used as a screening function by employers, universities, and society as a whole to determine where individuals fit in the queue for jobs, further training, and socio-economic status.

---

38. See J. W. Pelligrino and C. K. Varnhagen (1987): *Intelligence Theories and Tests.* In G. Psacharopolous (Ed.): *Economics of Education: Research and Studies,* p. 283.
39. Ibid, p. 283.
40. See Peter Cowley and Stephen Easton (2000): *The Fraser Institute's Third Annual Report Card on British Columbia's Secondary Schools,* p. 12.
41. See I. Fägerlind (1987): *Ability: Effects on Earnings.* In G. Psacharopolous (Ed.): *Economics of Education: Research and Studies,* p. 285.

Much research has been conducted to determine the relationship between educational attainment and income, two of the primary measures of socio-economic status. This relationship, termed the Alpha Co-efficient[42], holds that between 66% and 80% of an individual's future earnings can be directly attributed to the education attained by the individual. In recognition of this phenomenon, schools have a higher duty to facilitate the educational attainment of their students. If schools continue to argue that socio-economic factors impede student achievement and use this as an excuse for low student achievement, the schools themselves become agents of continuing inequality in society. Low achievement translates into "screening out" students from further education and better jobs. In effect, and from a purely economic point of view, the schools themselves perpetuate the low socio-economic status of students and simultaneously use it to excuse lower degrees of student success.

A more productive course will be to consider actions schools may take to make a difference to these students. Schonert-Reichl, in an insightful paper on children and youth at-risk, notes, "Over the last century, educators have defined the problem of low achievement among at-risk students in two ways: Students who perform poorly in school are seen as being responsible for their own poor achievement; and students who perform poorly in school do so because of inadequacies in their familial backgrounds."[43] Maintaining this point of view narrows the effectiveness of prevention and intervention efforts."[44] Schonert-Reichl argues that schools must undertake key actions to ensure success of students, particularly those who are at-risk because of socio-economic, personal, and psychological factors.

At-Risk Students

Schonert-Reichl, in an excellent review of the literature in at-risk children in Canada, notes some key statistics that have a bearing on educational opportunity and success of students:

> In Canada, there are growing numbers of children with risk factors that compromise both their present and future adjustment. According to recent statistics reported in the Report of the Pan-Canadian Education Indicators Program 1999, in 1996, approximately one child in five 15 years of age and younger was living in a low-income household and thus considered to face greater educational difficulties than those children living in high-level income households. With regard to school completion, an estimated 30% of the 15 - 20 year olds do not complete secondary school. Finally, epidemiological estimations of prevalence of mental health problems indicate that approximately 20% of children and youth are at risk and require support and assistance.[45]

The statistics are shocking and, of more importance, are reflected in the daily life in the schools across the country. While the meanings of at-risk children vary from medicine to education, in the educational context the term has been used "interchangeably with poverty.

42. See I. Fägerlind (1987): *Ability: Effects on Earnings.* In G. Psacharopolous (Ed.): *Economics of Education: Research and Studies*, p. 23.
43. See Kimberly A. Schonert-Reichl (2000): *Children and Youth at Risk: Some Conceptual Considerations.* Paper prepared for the Pan-Canadian Education Research Agenda Symposium, "Children and Youth At Risk," April 6 and 7, 2000, Ottawa, p. 5.
44. Ibid, p. 5.
45. Ibid, p. 3.

Moreover, the risk was seen as being primarily located within the individual or family, rather than the society or culture."[46] As evidenced by Schonert-Reichel's earlier comment, educators have bought into this view, especially in regard to explaining student achievement among this population of students.

While it is extremely difficult for educators to deal with the antecedents of at-risk student behaviors, it is possible to design interventions that address the "failure of students to learn effectively in school,"[47] a universally accepted outcome for at-risk students. In her review of emergent themes in the risk literature, Schonert-Reichl notes a range of risk factors for children from the individual level to the socio-cultural level. These include:

- Individual factors
- Family factors
- Peer factors
- School factors
- Social/community support
- Social-cultural factors[48]

A cursory review of these factors would lead one to conclude that the school alone cannot solve issues associated with them although many fall within the school's purview. However, Schonert-Reichel suggests the adoption of an ecological approach, wherein the student is seen as part of a broad complex of interconnected systems, can provide direction to the school as it attempts to address the problems faced by at-risk students. Schonert-Reichel recommends an integrated approach. "Because risk factors are multi-level and systemic, interventions that approach risk from a single-issue perspective, for example, poor reading ability… may be ineffective."[49]

To be effective, interventions need to be designed so that they take into account multiple levels of functioning in, for example, the family, the school, and the peer group. In addition, as Schonert-Reichl notes, "It is important not only to intervene at multiple levels simultaneously, but to design interventions that focus on factors that lead to problematic functioning along strengths within the child and his or her social milieu."[50] In this context, Schonert-Reichl provides some excellent advice for schools in reducing risk for students.

In Schonert-Reichl's view, the school provides a critical but often overlooked sphere of influence on risk; however, as she points out, little research attention has been given to identifying the school factors that may serve to mediate the relation between risk exposure and outcomes: "Throughout the literature, it is recognized that a child's and adolescent's functioning in school is inextricably linked with his or her sense of belonging and connection to the school environment and his or her relationships with peers and teachers within it."[51] In this regard, she cites two key studies that provide additional insight into the importance of this phenomenon.

46. See Kimberly A. Schonert-Reichl (2000): *Children and Youth at Risk: Some Conceptual Considerations.* Paper prepared for the Pan-Canadian Education Research Agenda Symposium, "Children and Youth At Risk," April 6 and 7, 2000, Ottawa, p. 5.
47. Ibid, p. 5.
48. Ibid, pp. 7-8.
49. Ibid, p. 8.
50. Ibid, p. 8.
51. Ibid, p. 11.

The first research finding stems from Roser, Midgely, and Urdan.[52] In a study examining the association of early adolescents' perceptions of the school environment and their psychological and behavioral function, the authors conclude that ". . . school environments that are perceived as supportive, caring, and as emphasizing individual effort and improvement are related to a more adaptive pattern of cognition, affect, and behavior than are school environments that are perceived as less supportive and emphasizing relative ability and competition."[53]

In the second research finding, the degree to which students perceive positive and strong connections to school has strong implications for how the school operates and to long-term student plans (e.g., graduation, attending post-secondary institutions, attaching to the work force). A study in British Columbia by McCreary[54] examined the health status and psychological well being of more than 25,000 adolescents in Grades 7-12. The study identifies that adolescents having a high level of "school connectedness" were more likely to report lower levels of truancy and plans for post-secondary education than those adolescents identified as having low levels of "school connectedness."

McCreary's work and that of Roser et al clearly identify a strategy to minimize the conditions of at-risk students: develop a caring, supportive atmosphere that focuses on the students and they will learn more, better, and develop positive feelings about self and others. The importance of this finding, a finding that may seem obvious and trite, cannot be overstated. It recurs frequently as a theme within the literature on school effectiveness and is a key area within the school improvement literature and practice, both of which are explored later in this review. While schools cannot deal with the antecedents of at-risk students, they can provide an environment in which the students feel secure, can build and maintain relationships with adults and other peers, and achieve to a far greater extent than an environment that does not demonstrate these characteristics. Where problems are too large to be solved by the schools alone, the needs of at-risk students may be addressed through an integrated service delivery context.

While Schonert-Reichl provides excellent advice in this regard, there remains the need to establish a link between school interventions, school effectiveness/success, and enhanced student achievement. New research in school effectiveness provides guidance in this dimension.

Stoll and Kovacs[55] both note that the school effectiveness movement began in response to the traditional and long-standing views that student learning, or more importantly, the lack of student learning, was explained by circumstances beyond the schools' control. These explanations, regarded in a cause-effect relationship, were psychological and/or socio-cultural in nature. In the former, it is felt that student achievement is determined by genetic and/or psycho-affective variants. Kovacs notes, "The genetic explanation is the longest standing explanation of failure at school. This relates school achievement to cognitive factors, which it claims are inherited but are also affected by the child's early environment. The development

52. See R.W. Roser, C. Midgely, and T.C. Urdan (1996): Perceptions of the School Psychological Environment and Early Adolescent's Psychological and Behavioral Functioning in School: The Mediating Role of Goals and Belonging. *In The Journal of Psychology,* 88, pp. 408-422.
53. Ibid, p. 417.
54. See McCreary Centre Society (1999): *Healthy Connections: Listening to BC Youth.*
55. See Karen Kovacs (1998): *Combating Failure at School: An International Perspective.* In Louise Stoll and Kate Myers (Eds.): No Quick Fixes: *Perspectives on Schools in Difficulty,* pp. 222-241.

of IQ tests has stimulated renewed debate in recent years, following various attempts to restate a cause-effect link of inheritance and social behavior."[56]

Socio-cultural explanations claim that the root of educational failure or lack of student achievement lies in the cultural disadvantage of specific social groups. Adherents of this philosophy argue that since schools do not respond to the special needs of these groups, they produce social inequality; thus, schools themselves help to increase the initial disadvantages of these particular students. As Kovacs notes, "These explanations, which developed in opposition to the psychological theories, correspondingly gave rise to a policy approach for addressing the social factors associated with failure and school compensatory programs."[57]

The view that schools could make a difference in the lives and the achievement levels of their students was neither widespread nor broadly accepted. In response, as Stoll and Fink note, "A wide range of research efforts focused on separating the impact of family background from that of the school, and ascertaining whether some of the schools were more effective than others and, if so, what factors contributed to the positive effects."[58] By centering on the school, researchers could look at what happens inside the institution in terms of relationships, teacher interaction with students, leadership, processes, allocation and use of resources, and organizational arrangements to find out if these affect student learning and, if so, in what ways. Ultimately, as Stoll and Fink state, "School effectiveness research seeks to describe what an effective school looks like."[59]

Edmonds, an early writer in the school effectiveness area, added the concept of equity to quality outcomes: "I require that an effective school bring the children of the poor to those minimal masteries of basic schools skills that now describe minimally successful pupil performance for the children of the middle-class."[60] As Stoll and Fink comment, "Essentially, an underlying belief of the school effectiveness movement is that all children can learn."[61] Kovacs, while underscoring the importance of this belief, starkly points out that this goal has yet to be achieved:

> There is a great difference--in all OECD education systems--between the level attained by the weakest 25% of students and the level attained by the strongest 25% of students in the same grade. *Generally, the difference is equivalent to more than two years of schooling irrespective of the subject considered; and in some countries, it amounts to as much as five years of schooling* [italics in the original].[62]

A series of reports developed by the Fraser Institute provide evidence that secondary schools can be successful even though low SES characterizes their student populations.

---

56. See Karen Kovacs (1998): *Combating Failure at School: An International Perspective.* In Louise Stoll and Kate Myers (Eds.): No Quick Fixes: *Perspectives on Schools in Difficulty,* pp.225.
57. Ibid, p. 225.
58. See Louise Stoll and Dean Fink (1996): *Changing Our Schools,* p. 27.
59. Ibid, p. 27.
60. Ibid, p. 27
61. Ibid, p. 27
62. See Karen Kovacs (1998): *Combating Failure at School: An International Perspective.* In Louise Stoll and Kate Myers (Eds.): No Quick Fixes: Perspectives on Schools in Difficulty, p. 229.

Successful Secondary Schools and Socio-Economic Status

The Fraser Institute, an agency for public policy analysis, prepares and releases report cards on schools in British Columbia and Alberta. In these reports, secondary schools are ranked according to a variety of student outcomes. Among these factors are overall student achievement as determined by government examinations, course completions, course failures, graduation rates, and so on. The initial reports were criticized for the ratings awarded to schools and for not considering socio-economic status of the students. As the B.C. Teachers' Federation noted, "Poverty is among the strongest predictors of student performance yet [the report by the Fraser Institute][63] ignores the socio-economic status of communities."[64]

In the newest report[65] on the status of secondary schools in British Columbia, the Fraser Institute went considerable distance in addressing this concern. As the report states, "Educators can and should take into account the abilities, interests, and backgrounds of their students when they design their lesson plans and deliver the curriculum. By doing so, they can overcome the disadvantages that their students may have."[66]

By developing a comprehensive socio-economic status indicator and including it as a variable in the regression analysis, researchers were able to identify a number of critical home characteristics that were felt to have an effect, either positively or negatively, on overall student achievement. Not all of the findings need to be reported here; however, one key finding has a direct bearing on the thrust of the study and on interpreting the effects of SES on overall student achievement. As the report notes:

> The measure of the effect of the socio-economic background of a school's student body is presented with two important notes of caution. First, only about one-third of the variation between schools in the overall rating is associated with socio-economic factors. Second, the statistical measures used describe past relationships between socio-economic characteristics and a measure of school effectiveness. It should not be inferred that these relationships will or should remain static. The more effectively the school enables all of its students to succeed, the weaker will be the relationship between home characteristics of its students and their academic success. Thus, this socio-economic indicator should not be used as an excuse or rationale for poor school performance. Rather, it should be used simply as an estimate of the extent to which the school has reduced the influence of family characteristics on student success. The effective school will produce good results regardless of the family background of its students.[67]

By taking into account the socio-economic status of schools' students, the authors note that this "enables us to identify schools that are successful in spite of adverse conditions faced by students at home. Similarly, it identifies schools where students with a relatively positive home situation appear not to be reaching their presumed potential."[68]

63. See the Fraser Institute (1999): *The Report Card on British Columbia's Secondary Schools.*
64. BCTF Press Release, March 25, 1999. "Teachers' Concerns about Ranking Schools Misunderstood".
65. See Peter Cowley and Stephen Easton (2000): T*he Fraser Institute's Third Annual Report Card on British Columbia's Secondary Schools.*
66. Ibid, p. 12.
67. Ibid, p. 12.
68. Ibid, p. 12.

Cowley and Easton substantiate the research of others that schools can and do make a difference in the success of students by adding value to what students bring to the schools. In their discussion of the limitations of socio-economic status on overall student achievement, these authors comment, "Clearly, many other factors--including good teaching, counseling, and school administration--contribute to the effectiveness of schools."[69] Further exploration of the literature substantiates this contention and shows how far the educational community has moved from the belief that schools are only as good as their primary input--the students.

Summary of the Effects of Socio-Economic Status on Student Achievement

The research shows that socio-economic status can and does have a significant effect upon overall student achievement. However, the focus on socio-economic status as an excuse for low student achievement does not stand the test of scrutiny. If schools can account for up to 50% of the variance, it is critical to undertake practices that address the needs of the at-risk students most often characterized as from low socio-economic backgrounds.

Schonert-Reichel's views should give pause to educators who excuse low achievement of their students because of the students' backgrounds or, who on the other hand, take credit for achievement when achievement levels are high.

The importance of a caring environment to which students from low socio-economic backgrounds can feel connected and the role of teachers in creating and maintaining this environment cannot be overstated. Rutter's (1979) findings about overall school climate and student-teacher relationships being important correlates in student achievement (and accounting for differences in student achievement between schools and within schools) lends strong credence to this argument. Processes that work within schools need to be determined to inform practice in all schools.

It is difficult for the schools to deal with the antecedents or causes of at-risk students; however, it is possible to develop interventions through collaborative efforts with other agencies to ameliorate the effects. Further, and given the importance of educational achievement and attainment in determining future socio-economic status, it becomes imperative for schools to address the needs of at-risk students else the school itself becomes a contributor to lower socio-economic status of its student population. The Alpha Co-Efficient should be a sufficient reminder to schools in this regard.

Sanders' work explored later in this review provides much "food for thought" in addressing the learning needs of low socio-economic status students and, for that matter, the learning needs of all students. The effects of teaching on student achievement are significant and long lasting, both in a positive and a negative sense.

The material on school effectiveness provides additional guidance to schools as they seek to provide their students with the best education possible. This research is not meant to be construed as prescriptive. Rather, in its entirety, the material is designed to inform school improvement by providing areas upon which the school can focus and strategies that can be adopted to address deficiencies. By doing so, schools will go considerable distance in ameliorating the effects of socio-economic status on student achievement and success and their consequent educational attainment.

---

69. See Peter Cowley and Stephen Easton (2000): T*he Fraser Institute's Third Annual Report Card on British Columbia's Secondary Schools.* p. 12.

CHAPTER 3. AN HISTORICAL VIEW OF SCHOOL EFFECTIVENESS

"An effective school is one in which pupils progress further than might be expected from consideration of its intake." (Mortimore, 1991)

School effectiveness research tends to fall into four categories:

1. Research conducted in the 1960s and early 1970s that took the stance that schools made little difference in the overall achievement of their students. The quality of the input--the students themselves--was viewed as determining the quality of the outcomes. The Coleman Report (1968) and the work of Jencks (1971) best exemplify this tradition. This view was questioned beginning in the mid-1970s and shown up for its limitations starting with the work of Rutter in 1979.
2. Research conducted in the 1980s and early to mid-1990s that focused on student achievement defined in a relatively narrow sense as academic outcomes.
3. Research conducted in the early 1990s that stresses broader educational outcomes and the relationship to those outcomes of less easily measured school/classroom effects.
4. Recent research on the measurement of value-added student achievement.

The latter have profound significance for school actions to address learning and achievement for all students. However, an appreciation for the present status of effectiveness and improvement research can only occur within a broader understanding of the early research.

OECD's Conceptual Map for Measuring the Quality of Schools

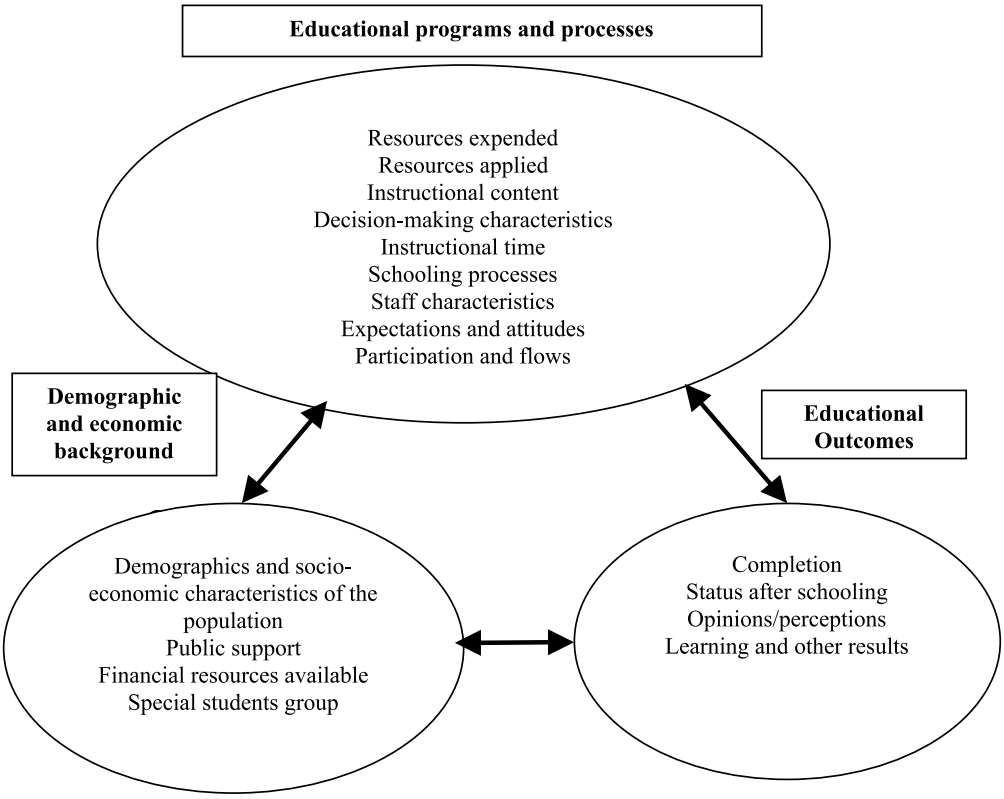
The Organization for Economic Cooperation and Development (OECD) is involved in the development of indicators at the national level to compare the different aspects of education among countries. The OECD defines education indicators as "statistics that are useful for planning, management, and policy-making."[70] In its view, such indicators must be simple, global, lean, and defined at a high level of aggregation. Traditionally, indicators typically focus on outcomes and often neglect the importance of process indicators. On the other hand, educators have typically measured the success of the education system by the magnitude of the inputs (e.g., spending per student, pupil/teacher ratio).

In the belief that there is room for new education indicators, OECD suggests the adoption of indicators which consider the functioning of schools on their outputs. Such process indicators brings the use of the indicators to the level of the school and district office.

70. See Jaap Scheerens (1995): *Internationally Comparable Indicators of Educational Programmes and Processes: Identification, Measurement, and Interpretation.* In Measuring the Quality of Schools, p. 19.

In its project on International Indicators of Education Systems (INES), the OECD developed what Scheerens calls "an ideal set of indicators that can be used as a conceptual map rather than a model in linking context, inputs, processes, and outcomes."[71] The indicators identified in Figure 1[72] are based on the INES project from 1988-1991 on which consensus was reached on their applicability.

Figure 1: Ideal Set of International Indicators of Education



The conceptual map is unique in that it places emphasis on processes and inputs and the influence of both on educational outcomes. While the map provides practitioners with a focus on measuring results in key areas (e.g., student achievement, graduation rates, participation rates, course completions, enrolment in post-secondary institutions after graduation, and parent and student satisfaction), it also provides areas in which practitioners can look for the "why" of the results. It is the "why" that is especially germane to the focus of this inquiry.

As discussed, the literature on socio-economic status and educational achievement indicates that approximately 50% of the differences in student achievement can be attributed to socio-economic status. Other areas, most notably in-school processes and teaching, also contribute but in smaller degrees. While it is known that inputs can have a positive effect on student achievement, the nature of these inputs needs to be determined. The OECD map assists in highlighting the key areas in which our research can be directed.

71. See Jaap Scheerens (1995): *Internationally Comparable Indicators of Educational Programmes and Processes: Identification, Measurement, and Interpretation.* In Measuring the Quality of Schools, p. 20.
72. Ibid, p. 20.

Scheerens' Models of School Effectiveness

In the OECD's conceptual map, Scheerens[73] links key input and process variables to educational outcomes. To complement the map, he suggests process indicators that are useful in understanding what happens at the system and school levels and over which each can exercise a degree of control through policy, decision-making, and budget allocations. These include:

1. Teacher-pupil ratio (system level)
2. Between school variations in teaching staff (system level)
3. Percentage of the labour force in education (system level)
4. Hours of instruction per student (school level)
5. Time on task (school)
6. Topic coverage (school)
7. School leadership (school)
8. Staff cooperation (school)
9. Differential and integrated learning (school)
10. Success oriented ethos among students (school)
11. Locus of decision-making and school autonomy (system)
12. Modes of decision-making (system) [73]

Scheerens notes, "Indicator sets are basically meant to serve as calculating models to prepare or justify certain policy changes. Ideally, sets of indicators must then be built on an existing knowledge base of causal relationships between the contexts, inputs, processes, and outputs of the system under consideration."[75] Despite a general view that the causal relationships among these key areas are empirically based, this is not the case. In an analysis of the research, Scheerens examined a series of educational process variables and outcomes at the school and class levels to determine if there was an empirical, causal relationship.[76]

Those process variables having an empirical research confirmation include structured teaching[77] and effective learning time.[78] Process variables having a reasonable empirical basis include opportunity to learn, pressure to achieve, high expectations, physical/material school characteristics (viewed as having a marginal difference) and parental involvement. Process variables having a doubtful empirical confirmation include pedagogical leadership, assessment, school climate, organizational/structural preconditions and descriptive context characteristics. Process variables having a hypothetical relationship to outcomes include staff recruitment and external stimuli to make schools effective.

73. For a comprehensive review of the literature substantiating these findings, the reader is directed to Jaap Scheerens (1995): *Internationally Comparable Indicators of Educational Programmes and Processes: Identification, Measurement, and Interpretation.* In OECD: Measuring the Quality of Schools.
74. Ibid, p. 21.
75, Ibid, p. 21.
76. Ibid, p. 21.
77. Structured teaching may be construed as meaning direct instruction to students.
78. Effective learning time has the same meaning as time on task.

This may be contrary to what educators believe as important in the educational process. As Scheerens notes, "Not only are the relationships among these process variables and output in terms of student achievement not consistently supported by research, there may also be uncertainty on the direction of causality."[79] In addition, the process indicators, in Scheerens' view, fit into a view of school effectiveness that he terms the "rational goal model"[80] in which efficiency and effectiveness are the primary criteria.

This model has limitations in that it does not specify which educational objectives are most relevant, particularly since educational objectives other than skill and knowledge acquisition are seen to be important. These would include, for example, "social, emotional, and moral development . . . [that] may require somewhat different teaching approaches and different school organizational arrangements than the process variables that have been shown to matter in the traditional school effectiveness models."[81]

Other models of school effectiveness include:

- The human relations model that uses staff cohesion and morale to enhance the desired end of human resource development.
- The internal process model that uses management, information, and communication to achieve the desired end of stability and control.
- The open systems model that uses flexibility and readiness as the means to achieved the desired ends of growth and resource acquisition.

In Scheerens' view, each of the models has a role to play in determining overall school effectiveness. Together, they provide an enhanced view of the process variables that affect educational outcomes. The key differences among the models relate to flexibility and control and the degree to which they focus on internal and external requirements and circumstances. All, however, contribute to outputs, outcomes, and overall educational quality.

A review of the summary indicators associated with each of the models shows that there are commonalities that need to be considered regardless of the orientation to school effectiveness. These include: leadership, coordination among the staff members, continuity and integration of curricula and evaluation procedures for staff and students. The degree of emphasis placed on each can vary depending upon one's orientation. However, in Scheerens' view,

> the current set of indicators covers these common features of school functioning reasonably well [although] the exception is evaluation. Analysis of the multiple organizational effectiveness criteria (performance feedback, capacity for self-evaluation and organizational learning, monitoring of students' progress, and management information systems) shows that there is a compelling argument for the specification of a summary indicator relating to the evaluative potential of schools.[82]

79. See Jaap Scheerens (1995): *Internationally Comparable Indicators of Educational Programmes and Processes: Identification, Measurement, and Interpretation.* In OECD: Measuring the Quality of Schools, p. 22.
80. Ibid, p. 22.
81. Ibid, p. 22.
82. Ibid, p. 26.

Scheerens did not provide this summary indicator. Given the emphasis being placed on accountability and measurement of results in today's educational environment (see for example, the SCANS Report in the U.S.; Employability Skills released by the Conference Board of Canada; Alberta Education's Accountability in Education Policy), there will be a strong tendency to focus on the rational-goal model. However, neglecting aspects from the other models would be shortsighted and non-representative of what occurs in the daily life in schools. Other literature supports this contention.

The Exemplary Canadian Secondary Schools Study

A national research study funded by Human Resources Development Canada [83] (HRDC) and administered by the Canadian Education Association from 1993-95 sought to determine the key elements of successful secondary schools in Canada. Schools participating in the study were nominated, based on reputation, by a variety of individuals and organizations. Initially, the study was to focus on strategies that high schools had developed to reduce the drop-out rate; a number of schools had received special funding to implement programs that addressed this phenomenon but many implemented programs without the advantage of extra funds. While every school was exemplary in some practices, the schools were not the best 21 schools in Canada.[84]

Key study findings, in summary form, include:

- There is no single model or prototype of a successful secondary school. Successful schools run the gamut in terms of size, organizational structure, communities served, priorities, and approaches.
- All schools are experiencing some degree of tension between the social and academic goals, between meeting the needs of individual students and providing for a sense of community, and between social accountability and professional autonomy.
- Motivated and competent teachers are the single, most essential element of successful schools.
- Success is a fragile quality; getting and keeping it are precarious endeavours. Success depends on many factors and is acquired only with care and difficulty. It is sustained with constant vigilance and can be easily and rapidly compromised by poor decisions or by changing circumstances that are beyond the control of the school.
- Almost all of the schools studied are conventional in terms of physical facilities, organization structure, curriculum, student groupings, and the activities of teachers and students.
- The communities that schools serve have little influence in the academic core. Greater influence is exerted in peripheral subjects, shared values, and social goals.
- Most schools have little systematic information on the nature and extent of their success and few indicators of institutional performance.[85]

83. See HRDC (1996): *How Schools Succeed: The National Report of the Exemplary Schools Project.* Available at http://www.hrdc-drhc.gc.ca/arb/publications/bulletin/vol2n1/vol2nla9_e.html
84. Ibid, p.1.
85. Ibid, pp. 1-2.

Haughey[86] developed a summary report on the Exemplary Secondary Schools study, expanding upon some of the findings it generated. These key points are found in Figure 2. A cursory review of Figure 2 shows:

- The preponderance of findings in the teacher category point to the fact that teachers make the difference in these successful schools. Their approach to the students, their emphasis on instruction, their relationships with their students--the list is very substantial--point to the importance of the human relations model in determining any school's effectiveness. The number of success characteristics that apply to the school culture area supports this view.

- There are internal consistencies in these schools that address expectations, rules, decision-making, and a focus on doing what really matters that are directly applicable to the internal processes model.

- While results are important and schools celebrate them, the degree to which the schools analyze results to make improvements does not lend itself well to the rational goal model.

- There are numerous characteristics that relate directly to the open systems model that emphasizes parent and community involvement, adapting to external conditions in the school environment, and collegiality.

In essence, the findings represent all four models that are used to determine overall school effectiveness. Selecting those characteristics that matter most is the most difficult task in this process.

The study also points out that success is situational--different schools find different ways to react to and address the needs of their students and their communities. In this context, it is important to note that principles are tempered by a degree of pragmatism--deciding what is to be done within the context of the schools' operations.

86. See M. Haughey (1997): *Successful Secondary Schools in Canada: A Report on the Exemplary Schools Project.* In the Canadian Administrator, volume 36, number 5, February 1997.

Figure 2: Relating Findings from the Exemplary Canadian Secondary Schools Project to Effectiveness Indicators

Student Achievement and Success	Teacher Characteristics	Administration and Structures	School-Community Linkages
• Completion of grade 12 diploma. • Marks in core subjects (grades 9 and 12). • Acquiring the values in the social curriculum. • Balancing rights with responsibilities. • Working collaboratively and cooperatively with others. • Review of results achieved on provincial tests in core subjects to determine where emphasis needs to be placed, teaching methods need to be changed, and whether results for a given year, considering the clientele, were different from those expected. • Departmental exam results are reported in the local press and schools regard the results as critical to maintain and enhance the schools reputation.	• Norms and values of teachers are important and are reflected in the school community. • Teachers are caring and committed to students and students value relationships with their teachers. • Teachers and administrators model their beliefs about learning and civic values. • Teachers view themselves as members of a professional community wherein values such as flexibility and collegiality are demonstrated while pursing a sense of common purpose • Teachers ascribe to the school philosophy. • Teacher autonomy and acceptance of individual differences are viewed as important. • Teachers have opportunities for staff discussion to resolve issues. • Emphasis placed on using time for instruction. • Teachers take little time for themselves and focus on instruction, marking, preparation, and contact with students. • Professional development activities focus on school priorities and individual teacher priorities for growth.	• Emphasis on collegiality. • Seek a balance of cooperative decision making and autonomy of teachers. • Principals set the tone for the school and staff knows where they stand. • School leadership is shared rather than principal based.	• Schools recognize the importance of context and strive to form positive relations with all those who influence the education in the school. • Schools work actively with local business people and school board personnel to develop a common orientation towards and confirmation of the purpose of the school, to ensure students are receiving support at home, and to obtain resources to be more responsive to the needs of their students. • Schools strive to form relationships with parents but recognize that parents may not be involved because an absence of complaints from their children implies that the school is doing a good job. • Parents are viewed as only one group with whom the school seeks to establish relationships (e.g., social service agencies, police, businesses and employers).

Figure 2 (contd)

School Culture	Teacher Characteristics (continued)	Monitoring of Student Progress	Programming for Students
• In divergent communities, school population develops consensus for code of behaviour acceptable to staff, students, and parents. • Rules are clarified with students. • Relationships built with students by personal contact, knowing names, and being interested in their lives. • Balance of students rights and responsibilities. • Extra-curricular activities offered to students to enhance learning about cooperation, responsibility, commitment, and leadership. • Dealt actively with racism and matters related to ethnicity. • Students typically are not involved in decision-making in curriculum, school structure, and school behaviour. • Students accept school culture. • Student attendance is high. • Student behaviour and attitude. • School rules and students are able to articulate what they are. • Student perseverance, cooperation, and commitment. • Routines established that stress commitment, cooperation, respect for others, and industriousness. • Encourage student creativity and individual development. • Presence of a moral code to which students are expected to adhere.	• Individual professional development activities tend to focus on curriculum initiatives and school organizational issues rather than on pedagogical needs. • Teachers see their teaching as student-oriented and based on caring relationships with their students. • Full class instruction is used most often (small group and individual work occurs also) and instructional strategies tend to be limited. • Teachers feel constrained to cover the content required for examination purposes. • Some subject integration occurs and collaborative learning • Teachers working together form the fabric of the schools, balancing autonomy and cooperation with a commitment to a common purpose about educating students both academically and socially.	• Monitoring of students to ensure compliance with social culture and school norms. • Attempts to develop academic potential • Establishing relationships with students • Develop non-academic skills such as time management, study skills, and handling emotions. • Student involvement in work experience is balanced against the constraints of achieving the objectives required by the curriculum. • Schools monitor their academic achievement and compare results to other schools with similar clientele. • Celebrate success though graduation exercises and publishing results (school and provincial) in the local newspaper.	• Presence of vocational programming designed to enhance student economic success. • Core courses form the basis of the instructional program. • Courses offered to meet student interests and abilities. • Vocational programming offered in partnership with private industry. • Balance between teaching to the examination and education for citizenship. • Cultural activities based on the norm; others recognized by special events and celebrations. • Technology use is increasing; use varies from teaching keyboarding skills and program applications to sophisticated applications in graphing, drawing, and technology. • Sophisticated use saw Internet access, and teachers using the technology for word processing and desktop publishing.

Sergiovanni's Views of School Effectiveness and Success

Sergiovanni (1991, 1995)[87] conducted an extensive analysis of the literature in school effectiveness and chose to distinguish effectiveness from success. In his view, "Effectiveness has both common and technical meanings. It is commonly understood to mean the ability to produce a desired effect [although] technically speaking within educational circles, [it] has taken on specific and special meaning. An effective school is understood to be a school whose students achieve well in basic skills as measured by achievement tests." [88]

In this context, management, teaching, and leadership typically found in the effectiveness literature are linked to this "limited view of effectiveness but not to the higher order and more qualitative intellectual and academic views of effectiveness." [89] In a more comprehensive sense, the term "successful school" is used to indicate what society expects of its schools. Sergiovanni asks, "Should we expect more from our schools than the satisfaction of knowing that they are performing up 'to the standard' and that students are competent performers as measured by such typical indicators as test scores?" [90] Much like Scheerens who identified social, emotional, and moral dimensions of schooling, Sergiovanni advocates that "what is needed is that our young become cultured and educated citizens, able to participate fully in our economic and social society, not just trained workers with limited potential for such participation." [91]

The uni-dimensional view of effectiveness based on academic outcomes is limited, and much of the early literature in this area neglected the relationship of what happens in school to the achievement of other less tangible but desirable outcomes. Other dimensions of effectiveness need to be considered to give an overall indication of success. A comprehensive comparison of views of school effectiveness and success follows Sergiovanni's views.

Again like Scheerens, Sergiovanni suggests that there are three approaches that can be used to determine success of schools. These include: 1) the goal attainment approach; 2) the process approach; and 3) the environmental response approach.

The goal attainment approach is based on the premise that a good school is one that achieves its purposes and goals. In this sense, the approach is concerned more with student outcomes than with means or processes. In Sergiovanni's view,

> … despite the logic and importance of this approach in measuring school success, its viability is threatened unless it meets the following conditions: Schools must indeed have goals [and they] must be identified and defined with enough precision so that they are readily understood by teachers and others, these goals must be few enough to be manageable; a reasonable amount of agreement as to goals must exist; and it must be possible to measure progress toward these goals.[92]

87. See Thomas Sergiovanni (1991, 1995): *The Principalship, A Reflective Practice Perspective.*
88. Ibid, (1991), p. 76.
89. Ibid, p. 77.
90. Ibid, p. 78.
91. Ibid, p. 78.
92. Ibid, p. 83.

While Sergiovanni advocates that schools must have goals that "legitimize the school's existence as a competent organization in the eyes of important groups,"[93] there needs to be awareness that goal ownership, decisions about the short or long-term nature of the goals, their relevance, measurability, and the degree to which they complement or conflict with each other can make the use of this model somewhat difficult. Sergiovanni advocates the goal attainment model be used in conjunction with the other approaches to acquire a broader view of school success. However, and because leadership is tied to the articulation of a vision and specific goals within that vision, the goal attainment model will continue to be used.

The process approach is premised on the belief that there is a link between school characteristics and student outcomes. Student outcomes refers to "cognitive, affective, and psychomotor gains that students make as a result of schooling." [94] School characteristics define the process and methods that teachers and principals use to enhance student outcomes. They include such variables as:

- High morale
- Improved school-community relationships
- Efficient teaching
- Improved supervisor and evaluation systems
- Increased loyalty and commitment of teachers to the work of the school
- Improved school discipline
- Better leadership
- Better decision-making[95]

Citing research (Austin, 1979; Rutter, 1979; Sergiovanni and Starratt, 1983), Sergiovanni notes that principal leadership processes and an overarching climate of success are the key aspects of this approach. Aspects in principal leadership that have been identified with enhanced student achievement include involvement in classroom instructional programs and teaching, providing a strong emphasis on goals and purposes, and taking an active, indeed controlling role in the functioning of the school especially in areas of curriculum and teaching.[96]

The "climate of success" is composed of norms and values that define appropriate behaviour for teachers and students. As Sergiovanni notes, "These schools were characterized by a consistency of belief, commitment, and acceptance of these norms. Leadership and climate in these schools became processes and means that enhance student outcomes."[97] In Sergiovanni's view, *"The process approach makes sense only when school characteristics are in turn linked to school outcomes* [italics in the original];"[98] in other words, separating ends from means cannot occur. Combining process and goal attainment approaches gives a broader picture of school success and the link between what the principal does and improved student outcomes.

93. See Thomas Sergiovanni (1991, 1995): *The Principalship, A Reflective Practice Perspective.* p. 84
94. Ibid, p. 84.
95. Ibid, pp. 84-85.
96. Ibid, p. 85.
97. Ibid, p. 85.
98. Ibid, p. 85.

The environmental response approach is premised on the belief that effective schools need to communicate in convincing fashion their viability and effectiveness to their school communities and to others. Schools that cannot establish their legitimacy, in Sergiovanni's view, "are not effective."[99] Hence, this approach deals with perceptions about how good a school is because of what it does and what it achieves.

What attributes contribute to the impression of legitimacy? At the very least, schools must have stated purposes, appear thoughtful and rational, give the impression of order and control, have sensible structures and procedures, provide for accountability and appear certain in their actions.[100]

Like the other two approaches, this should not be the sole approach adopted when determining overall school success. When integrated with the others, it provides for a more comprehensive view of outcomes achieved, how those outcomes have been achieved, and the perceptions others have of the overall success of schools.

Newer Research Findings on Effective Schools

Research conducted in the late 1980s and early 1990s[101] provided a more comprehensive view of school effectiveness supporting student academic and cognitive outcomes. Sergiovanni's synthesis of these expanded characteristics is as follows:

1. Effective schools are student centred. In this context, they:
   - Serve all students.
   - Create support networks to support students.
   - Involve students in school affairs.
   - Respect and celebrate ethnic and cultural diversity.
   - Have student welfare as their first priority.
   - Use a variety of methods to provide close, personal attention to students.
   - Student needs take first priority.
   - An atmosphere of cooperation and trust is created through a high level of interaction between students and teachers.
2. Effective schools offer academically rich programs. In this sense:
   - Student development and a well-rounded academic program are the primary goals.
   - Higher order cognitive objectives are addressed in addition to lower-order objectives.
   - Options are used to provide an enriched program.
   - There is in-depth coverage of content.
   - Co-curricular programs are provided to students.
   - Student progress is monitored and students receive feedback on their learning.
3. Effective schools provide instruction that promotes student learning. In this sense:
   - There is a normative structure that supports instruction.

99. See Thomas Sergiovanni (1991, 1995): *The Principalship, A Reflective Practice Perspective.* p. 86
100. Ibid, p. 86.
101. See, for example, Duttweiler, 1988, 1990; Cawelti, 1994; Davis & Thomas, 1989; Seashore & Miles, 1990; Teddlie and Stringfield, 1993; Wayson and Associates, 1988; Wimpleberg, Teddlie & Stringfield, 1989.

- Programs are designed to ensure academic success and head off academic problems.
- Teachers and administrators believe that all students can learn and take steps to ensure that students do learn.
- Teachers and administrators believe that they can make a difference in students' learning.
- Teachers communicate expectations to students, provide focussed and organized instructional sessions, adapt instruction to student needs, correct student misconceptions, and use a variety of teaching strategies to facilitate learning.
- The schools set high standards, closely and regularly monitor performance, and recognize effort and reward success.

4. Effective schools have a positive school climate. In this sense:
   - A stated mission, goals, values, and standards of performance create the organizational personality.
   - There is a sense of order, purpose, and direction that is enhanced by consistency of the teachers.
   - Students are praised and rewarded for their efforts.
   - The environment is work-centred.
   - There are high optimism and expectations for student learning.
   - Teachers and principals create a learning environment that is open, friendly, and culturally inviting.
   - Encouragement is provided to students and staff take a positive approach to discipline.
   - Administrators model the beliefs and behaviors that they say are important.
5. Effective schools foster collegial interaction. In this sense:
   - Professional working environments are created for teachers to facilitate how they do their work.
   - Teachers participate in decisions that affect their work, have reasonable autonomy to carry out their work, and share a sense of purpose and community.
   - Teachers are recognized for their work and are treated with respect and dignity by others in the workplace.
   - Teachers work together collaboratively to carry out instruction, plan curriculum, and redefine teaching practices.
6. Effective schools have extensive staff development. In this sense, they:
   - Use the teacher evaluation process to improve teachers' skills.
   - Offer practical in-service and on-the-job training tailored to meet the needs of individual staff members.
   - Place training as part of the collaborative teaching environment.
   - Encourage teachers and administrators to reflect on their practices.
7. Effective schools practice shared leadership.
   - Principal leadership features direction-setting, maintaining direction, and facilitating the work of teachers and communicating well.

- Principals know their staff and delegate authority well.
- Principals involve others in decision-making and this involvement begins with members of the school community developing the goals, values, and mission of the school.
- Those affected by decisions are involved in making them.

8. Effective schools foster creative problem-solving. In this context:
   - Staff members do not accept defeat or settle for mediocrity.
   - Problems are viewed as challenges for which solutions are found and implemented.
   - Staff members demonstrate commitment, creativity, persistence, and professionalism.
   - Resources such as time, facilities, staff expertise, and volunteers are used to maximum advantage to facilitate teaching and learning.
9. Effective schools involve parents and the community. In this context:
   - The school and community have a partnership linkage.
   - A variety of methods is found to communicate and work with parents and community.
   - Parents and the community are involved in teaching and learning activities at the school, are involved in the decision-making process, and serve as advocates of and for the school.
   - The schools teach students that they have a responsible part to play in society and that their contributions are valued and needed. [102]

Lessons Learned

Sergiovanni's list of effectiveness criteria is "helpful [but] not readily translated into specific prescriptions for management and leadership practice. What needs to be done to increase effectiveness and how one does it are situationally specific."[103] Using the list of attributes as a checklist to determine how effective a school is, or in what areas it is ineffective, would be inappropriate and a misuse of the findings. Perhaps the best use to which these can be put is in the development of a series of indicators that provide assistance in making decisions about how to improve schools.

Sergiovanni's analysis ties directly to the findings of the successful secondary schools research conducted by HRDC and has a strong similarity to Scheerens' process indicators. Their insights point to the need to examine the relationship of processes, inputs, and contextual variables to student outcomes.

This does not mean that Scheerens' rational goal model and Sergiovanni's goal-attainment approach are not important. Rather, these models need to be regarded as important in defining outcomes. However, since the ends cannot be separated from the means by which they are to be achieved, there is a need to adopt a comprehensive view of indicators from each of the models when determining and describing school effectiveness. While it is not possible to address all indicators for any one school nor is it desirable to do so given the situational imperatives faced by individual schools, the literature identifies common indicators that need to be applied to any school as critical to their on-going organization and operations. In keeping with the models suggested by Scheerens and Sergiovanni, the indicators can be grouped for ease of

102. See, for example, Duttweiler, 1988, 1990; Cawelti, 1994; Davis & Thomas, 1989; Seashore & Miles, 1990; Teddlie and Stringfield, 1993; Wayson and Associates, 1988; Wimpleberg, Teddlie & Stringfield, 1989, pp. 88-90.
103. Ibid, p. 91.

presentation. While there is no claim that these indicators represent the best way to determine school effectiveness, they do provide sufficient information to get a "big picture" view of a school according to key indicators.

Limitations of the Traditional View of School Effectiveness

There are four primary limitations to the early views on school effectiveness:

Focus on cognitive achievement. Stoll and Fink, like Sergiovanni and Scheerens, comment that the traditional views of school effectiveness have "become associated with a narrow, back to the basics orientation."[104] This limited view, despite its ready applicability to data gathering through standardized test scores and use of achievement trend data has been criticized because it paid attention only to a fraction of children's skills and abilities. Researchers such as Cuban (1983), Brophy and Good (1986), and Angus (1993) have made this point. Consequently, other areas of school effectiveness have been added, such as student attendance, behavior, delinquency, attitudes, self-concept, and attainment. Stoll and Fink argue that it is imperative for broader dimensions of effectiveness be considered:

> It is essential that the diversity of children's abilities and talents is recognized not only in the curriculum on offer, but its associated assessments. This also must apply to choices of outcome measures made by school effectiveness researchers. Furthermore, the world of work now looks for young people who demonstrate flexibility, creativity, and problem solving skills, and who are able to cooperate in the workplace--not only those who can spell and count, important as such skills may be.[105]

Thus, researchers are encouraged to use a broad range of measures. The first task in their development is to identify the range of outcomes pupils are expected to achieve.

School level organizational focus. A second limitation in the research arises from the emphasis placed on school level organizational variables to the detriment of examining what happens in classrooms. As Stoll and Fink point out, "Inclusion of classroom level process data is particularly important given that analyses demonstrate most of the variation among schools is due to classroom variation. [However], the dilemma for researchers is to know on which elements of classroom practice to focus attention."[106] This advice should not be construed to mean that the school as a whole no longer deserves focus in research or in practice. Rather, the focus must be on both variables.

District level effects on schools. Stoll and Fink make a strong case for addressing district level initiatives or the lack of them in any studies and in practice: "Rosenholz (1989) argues the impossibility of fully grasping the nature of schools if the larger environment in which they are embedded is not analyzed. She finds a tendency for 'moving schools' to be located in 'moving districts' and 'stuck schools' to be located in 'stuck districts.'"[107] District practices affect school practices. As Stoll and Fink note, these practices include "clear academic focus and goals, curriculum alignment, analysis of disaggregated test data, staff development that addresses identified needs, and leadership training for principals."[108]

104. See, for example, Duttweiler, 1988, 1990; Cawelti, 1994; Davis & Thomas, 1989; Seashore & Miles, 1990; Teddlie and Stringfield, 1993; Wayson and Associates, 1988; Wimpleberg, Teddlie & Stringfield, 1989,, p. 28.
105. Ibid, pp. 28-29.
106. Ibid, p. 30.
107 Ibid, p. 30.
108. Ibid, p. 30.

A lack of focus on curriculum. Stoll and Fink note that criticism can be and has been levied against effectiveness research findings because of their lack of focus on curriculum. Notwithstanding this criticism, the authors believe that because "specific classroom practices and materials may come and go, . . . teacher involvement, high expectations, forms of leadership, monitoring of progress, praise and recognition, are constants . . . [that] provide a framework within which the more changing elements of schooling can operate."[109] They view these elements as the "foundation for school growth and are fundamental to further reform. They are the roots that enable the branches to grow or their life support system."[110]

Characteristics of Effective Schools

Consistent with Stoll and Fink's earlier advice about broadening the characteristics of effectiveness, a summary is provided of key effectiveness factors (developed by Sammons et al., 1995) that represent the best thinking that has emerged from research studies in North America and Britain. Research has traditionally been based on elementary schools because it was believed these schools had the greatest long-term effect on student learning. Thus, there is some question about the applicability of the factors to secondary schools. However, the primary schools research shows that "effective primary schools may help to raise pupils' achievement by raising their sense of self-efficacy. What is clear from this research is that it is too late to leave it until secondary school to 'get it right.'" [111] These characteristics include:

1. Professional leadership which is firm and purposeful, with a participatory approach
2. Shared vision and goals, unity of purpose, consistency of practice, collegiality and collaboration
3. An orderly learning environment and an attractive working environment
4. Concentration on teaching and learning, maximizing learning time, academic emphasis and a focus on achievement
5. High expectations providing intellectual challenge, well communicated
6. Positive reinforcement, fair discipline and feedback
7. Monitoring pupil performance and evaluating school performance
8. Pupil rights and responsibilities, self-esteem building and control of work
9. Purposeful teaching, including efficient organization, clarity of purpose, structured lessons, and adaptive practice
10. A learning organization, school-based staff development
11. Home-school partnership and parental involvement [112]

109. See, for example, Duttweiler, 1988, 1990; Cawelti, 1994; Davis & Thomas, 1989; Seashore & Miles, 1990; Teddlie and Stringfield, 1993; Wayson and Associates, 1988; Wimpleberg, Teddlie & Stringfield, 1989, p. 32.
110. Ibid, p. 33.
111. Ibid, p. 37.
112. Ibid, p. 31.

Additional Considerations on School Effectiveness

In an extensive review of the literature on effectiveness and school improvement, Creemers[113], provides additional insights for our review. In particular, Creemers focuses on the importance of the classroom and teaching variables in school effectiveness.

This "second generation of school effectiveness studies,"[114] identifies the characteristics of effective schools in Britain that stress the importance of classroom and teaching activities on student learning.[115] In addition to the findings of the importance of the role of the principal and the assistant principal, Creemer's research highlights:

- The involvement of teachers in curriculum planning and developing their own curriculum guidelines. In addition, teacher involvement in making decisions about which classes they would teach and how money would be spent were important.
- Consistency among teachers. Continuity of staffing had positive effects but students did better when the approach to teaching was consistent.
- Structured lessons. Students did better when their school day was structured. In effective schools, teachers organized student work, ensuring there was plenty for them to do but allowed them freedom within the structure. Negative effects were noted when students were given unlimited responsibility for a long list of tasks.
- Intellectually challenging teaching. Student progress was greatest when teachers were stimulating and enthusiastic, when teachers used higher order questioning and statements, and when students were asked to use powers of problem-solving.
- Work-centered environment. This is characterized by a high level of student time on task, students enjoying their work, and demonstrating an eagerness to begin new tasks. Noise-levels were low, and movement around the classroom was minimal and work related.
- Limited focus in sessions. Students did better when teachers focussed on one or two subject areas within the same classroom activity.
- Maximum communication between the teacher and the students. The more communication students had with their teacher about the content of their work, the better the students did. Most teachers spent time dealing with individual students. This practice was seen to be less effective than teachers using opportunities to talk to the whole class.
- Record-keeping. The value of record keeping was seen to be important not only for the principal but also for the teacher as it was used in planning and other assessment activities.
- Parental involvement. Schools that had an informal open-door policy, encouraging parents to get involved in students' work at home or helping at school, were seen to be more effective than the alternative.
- Positive climate. Effective schools had a positive ethos and a more pleasant atmosphere.[116]

113. See Bert Creemers (1996): *The School Effectiveness Knowledge Base.* In David Reynolds, Robert Bollen, Bert Creemers, David Hopkins, Louise Stoll, and Nijs Lagerweij (Eds.): *Making Good Schools: Linking School Effectiveness and School Improvement.*
114. Ibid, p. 40.
115. Creemers relies heavily on the findings of research conducted by Mortimore (1986) in schools in Britain. In addition, Creemers uses findings from Teddlie's and Stringfield's (1993) work in the Louisiana School Effectiveness Studies.
116. See Bert Creemers (1996): *The School Effectiveness Knowledge Base.* In Reynolds et al. (Eds.): *Making Good Schools: Linking School Effectiveness and School improvement,* pp. 41-42.

Effective and ineffective schools. Longitudinal research in the Louisiana School Effectiveness Project by Teddlie and Stringfield from 1980 to 1992 examined both the school and the classroom levels to determine characteristics of effectiveness. Findings in this research were similar to those emerging in Britain. A summary of these characteristics is provided in Figure 3. In comparison to ineffective schools, effective schools:

- Had higher time on task
- Presented new material
- Used independent practice for students
- Possessed and communicated high expectations
- Used positive reinforcement
- Had small numbers of interruptions during class periods
- Had firm discipline and a friendly ambience
- Displayed student work
- The physical state and the appearance of the classroom were positive [117]

Figure 3: Comparison of an Effective and an Ineffective School (Teddlie and Stringfield)

Effective School	Ineffective School
The principal: 1. Stable appropriate leadership. 2. Appropriate informal academic structure. 3. Shared academic leadership with faculty. 4. Resistant to external change. 5. Close relationship among administrators. 6. Good use of academic support staff.	**The principal:** 1. Unstable, generally inappropriate leadership. 2. Inappropriate informal organizational structures. 3. Non-shared academic leadership. 4. Accepting of external change. 5. Strained relationships among administrators. 6. Unimaginative use of academic support staff.
Faculty: 7. Faculty is warm and friendly. 8. Strong faculty cohesiveness. 9. No obvious personality conflicts among faculty. 1. Integration of support staff into faculty. 2. Cooperative efforts to enhance teaching. 3. High faculty stability. 4. High time on task/positive classroom climate. 5. Fairly uniform teaching across classes. 6. Assistance freely given to new faculty members.	**Faculty:** 7. Faculty is cold and guarded. 8. Lack of faculty cohesiveness. 9. Open bickering among faculty. 10. Inappropriate integration of support staff in faculty. 11. Top-down effects to enhance teaching. 12. Low faculty stability. 13. Low time on task/evidence of negative climate. 14. Large variances in teaching across classes. 15. Little assistance given to new faculty members.
Students: 16. Excellent discipline and understanding of the rules. 17. Students involved in running of the school. 18. Little use of corporal punishment. 19. Student-oriented climate. 20. Consistently high student achievement.	**Students:** 16. Poor discipline and understanding of rules. 17. Little or no student involvement in running of the school. 18. Excessive use of corporal punishment. 19. Adult-oriented climate. 20. Consistently low student achievement.

117. See Bert Creemers (1996): *The School Effectiveness Knowledge Base.* In Reynolds et al. (Eds.): *Making Good Schools: Linking School Effectiveness and School improvement,* p. 43.

Characteristics of unusually effective schools. Creemers also highlights the work of Levine and Lazotte that "confirms the five factor model" of school effectiveness:

- High instructional leadership
- High expectations of student achievement
- An emphasis on basic skills
- A safe and orderly environment
- Frequent evaluation of pupil progress [118]

Levine's and Lazotte's[119] work, a summary of which is provided in Figure 4, highlights the instructional area, an area that heretofore had not been addressed in the emphasis placed on the

Figure 4: Characteristics of Unusually Effective Schools

Area	Characteristics
Productive School Climate and Culture	1. Orderly environment. 2. Faculty commitment to a shared and articulated mission focussed on achievement. 3. Faculty cohesion, collaboration, consensus, communications, and collegiality. 4. Faculty input into decision making. 5. School-wide emphasis in recognizing positive performance.
Focus on Student Acquisition of Central Learning Skills	6. Maximum availability and use of time for learning. 7. Emphasis in mastery of central learning skills.
Practice-Oriented Staff Development at the School Site	
Appropriate Monitoring of Student Progress	
Outstanding Leadership	8. Vigorous selection and replacement of teachers. 9. Maverick orientation and buffering. 10. Frequent, personal monitoring of school activities and sense making. 11. High expenditure of time and energy for school improvement actions. 12. Support for teachers. 13. Acquisition of resources. 14. Superior instructional leadership. 15. Availability and effective utilization of instructional support personnel.
Salient Parent Involvement	
Effective Instructional Arrangements and Implementation	16. Successful grouping and related organizational arrangements. 17. Appropriate pacing and alignments. 18. Active/enriched learning. 19. Effective teaching practices. 20. Emphasis on higher-order learning in assessing instructional outcomes. 21. Coordination in curriculum and instruction. 22. Easy availability of abundant and appropriate instructional materials. 23. Classroom adaptation. 24. Stealing time for reading, language, and math.
High Operationalized Expectations and Requirements for Students	
Other Possible Correlates	25. Student sense of efficacy/futility. 26. Multicultural instruction and sensitivity. 27. Personal development of students. 28. Rigorous and equitable student promotion policies and practices.

118. See Bert Creemers (1996): *The School Effectiveness Knowledge Base.* In Reynolds et al. (Eds.): *Making Good Schools: Linking School Effectiveness and School improvement,* pp. 40 and 43.

119. For a complete discussion of these findings, see D.U. Levine and L.W. Lazotte (1990): *Unusually Effective Schools: A Review and Analysis of Research and Practice.* Madison, WI: National Center for Effective Schools Research and Development.

school as a whole and leadership by the school principal. Still, however, the work retains a focus on the school culture as a whole and on what the authors term "outstanding leadership."

Creemers' Comprehensive Model of School Effectiveness

Creemers provides a "comprehensive model of educational effectiveness"[120] in which he connects attributes of effectiveness at the student, classroom, school, and context levels. The model attempts to make sense of the diverse correlates from a plethora of studies in this area.

In Creemers' view, a model that takes into account these different levels "serves to explain the previous research parsimoniously, . . . maps a series of avenues for future research which may serve to alert policymakers that investment in the field could be rewarding, [and] provides a useful road map. [It also addresses] the need for a model to generate both a more theoretical orientation and a secure foundation for research."[121] The model would seek to explain differences in student learning results by "specifying the relationships between the components in the model and student outcomes."[122]

Creemers' model builds on the research that identifies strong correlates to student learning and outcomes in each of these levels. In relation to student learning, Creemers states that "the learning rate is considered as a function of five elements: aptitude, ability to understand instruction, perseverance, opportunity, and quality of instruction." The research base for this model rests with the work of Stringfield and Slavin (1992), Scheerens (1992), Creemers (1991), and Carroll (1963).

At the classroom level, factors can be determined that are related to student learning. As Creemers states, "Stringfield and Slavin (1992) summarize these factors as QAIT: Quality, Appropriateness, Incentives, and Time for instruction."[123] At the school level, Stringfield and Slavin have identified five important factors:

1. Meaningful and universally understood goals
2. Attention to daily academic functioning
3. Coordination among programs and between schools and parents over time
4. Removal of unsuccessful teachers from the school and the development of all staff
5. Organization of the school to support universal student learning [124]

Unfortunately the factors are very broad and do not lend themselves well to showing specific relationship activities that can serve to link the different levels. In this regard, Creemers has identified the key criteria of consistency, cohesion, constancy, and control to link what happens in classrooms, classrooms to other classrooms, and classrooms to the school. Basic variables at the student level (in addition to the obvious ones of aptitude and motivation) are time spent on learning, the opportunity students need to meet their goals, and quality of teaching. The classroom provides both the time and the opportunity for learning to take place. At

120. See Bert Creemers (1996): The School Effectiveness Knowledge Base. In Reynolds et al. (Eds.): *Making Good Schools: Linking School Effectiveness and School improvement,* p. 48.
121. Ibid, p. 48.
122. Ibid, p. 48.
123. Ibid, pp. 48-49.
124. Ibid, p. 49.

the school and system levels, variables related to time, opportunity, and the quality of teaching are conditions for instructional effectiveness.

Creemers applies these to the different levels thusly:

1. **System:** Consistency, constancy, and control.
   - Quality: Policy focusing on effectiveness, indicator systems, policy on evaluation, national testing, training and support system, funding based on outcomes
   - Time: National guidelines for time schedules, supervision of time schedules
   - Opportunity: National guidelines for curriculum
2. **School:** Consistency, cohesion, constancy, and control
   - Quality/educational: Rules and agreements about classroom instruction, evaluation policy, and evaluation systems
   - Quality/organizational: Policy on intervision, supervision, professionalization, and school culture including effectiveness
   - Time: Time schedules, rules and arrangements about time use, and an orderly and quiet atmosphere
   - Opportunity: School curriculum, consensus about mission, rules, and agreements about how to implement the school curriculum
3. **Classroom:** Consistency
   - Quality of instructional curriculum: Explicitness and ordering of goals and content, structure and clarity of content, advance organizers, evaluation, feedback, corrective instruction
   - Grouping procedures: Mastery learning, ability grouping, cooperative learning, highly dependent on differentiated material, evaluation, feedback, and corrective instruction
   - Teacher behavior: Management/orderly and quiet atmosphere, homework, high expectations, clear goal setting (restricted set of goals, emphasis on basic skills, emphasis in cognitive learning and transfer), structuring of the content (ordering of goals and content, advance organizers, prior knowledge), clarity of presentation, questioning, immediate exercise, evaluation, feedback, corrective instruction
4. **Student:**
   - Time for learning and opportunity to learn
   - Time on task and opportunities used
   - Motivation
   - Aptitudes and social background
   - Achievement of basic skills, higher order skills, and meta-cognitive skills [125]

These key concepts serve to synchronize the different levels and to clarify the ways in which each influences the others and affects student learning.

125. See Bert Creemers (1996): The School Effectiveness Knowledge Base. In Reynolds et al. (Eds.): *Making Good Schools: Linking School Effectiveness and School improvement,* pp. 50-51. This is a textual summary of Creemers' model of effectiveness. Aspects identified for descriptions of quality represent Creemers' views of the research findings for each of these areas.

School Failure or Ineffectiveness

Both Kovacs and Stoll and Fink explore the concept of school failure or school ineffectiveness. Kovacs views the manifestations of school failure in economic and social terms (i.e., poor or inappropriate outcomes for students). In relation to the former, she notes that the two important manifestations of school failure are "early school leaving and the fact that a significant proportion of students finish compulsory education without having acquired the necessary skills to enter the labor market."[126] Consequently, students are marginalized, unemployed, or work in low-income jobs. As Kovacs notes, the school needs to address these issues by focusing on some key areas, most notably enhancing the motivation of students, and the manner in which institutional requirements are communicated to students:

Amongst those who drop out of school, approximately twice as many cite reasons over which they had no control (institutional pressures, economic need, and family reasons) as those who say they left out of personal choice (boredom, lack of interest in education, desire to take up employment. Further, a characteristic likely to be common to all early school leavers is poor motivation to formal education. Indifference or resistance to education is an economic liability at a time when the labor market increasingly requires a continual updating of skills and competencies of the labor force.[127]

In addition Kovacs notes that schools do not provide students with the literacy and numeracy skills they need to be productive, contributing members of the societies in which they live:

> Data from the IALS [International Adult Literacy Survey] show that the reading and numeracy skills young people actually need in order to solve the problems with which they are confronted in their every day lives or at the work place correspond to the level expected from people having completed upper secondary education. Yet, in virtually all countries surveyed, there is a significant proportion of people with upper secondary qualifications whose reading skills are below this level. This calls into question the real value of the qualifications obtained.[128]

Stoll and Fink adopt a different approach in their analysis of failing or ineffective schools by focusing on key processes that are deficient. They caution readers that ineffective schools cannot be improved simply by taking steps to use the effectiveness attributes. In their view, "It is insufficient, therefore, to describe the characteristics of effective schools and assume that ineffective schools posses the mirror opposite of these factors."[129] Schools may be classified on a continuum from "moving or learning enriched [to] stuck or learning impoverished."[130]

Characteristics of "stuck" or "learning impoverished" schools, based on research conducted by Mortimore (1986) focus on both the school and classroom factors negatively related to overall pupil progress, achievement, and social development. Class size and split grades were thought to contribute to these areas: "There was some indication that larger class sizes and

126. See Karen Kovacs (1998): *Combating Failure at School: An International Perspective.* In Louise Stoll and Kate Myers (Eds.), No Quick Fixes: Perspectives on Schools in Difficulty, pp. 228-229.
127. Ibid, pp. 228-229.
128. Ibid, p. 229.
129. See Louise Stoll and Dean Fink (1996): *Changing Our Schools*, p. 32.
130. Ibid, p. 32.
131. Ibid, p. 33.

mixed age classes (split grades) were associated with ineffectiveness. These factors may not be solely responsible for a school's difficulties, but may put extra constraints in the school."[131]

Two other studies conducted by Teddlie and Springfield (1993) and Reynolds (1995) also informed Stoll's and Fink's choice of characteristics of ineffective schools. In summary form, these characteristics include:

1. **Lack of vision.** Schools were thought to have a maintenance mentality and teachers held little attachment to anything or anybody. School staffs were not knowledgeable about the change process, their context, or their schools' overall cultures.

2. **Unfocused leadership.** Stuck schools are characterized as routine, having a numbing sameness, unaided by principals who "mostly assumed the posture of a burrowing animal." Teachers complained about a string of broken promises causing loss of faith and even despair. Principals had lower academic expectations than did their teachers, devoted more energy to other aspects of student development than academic skills, and their actions had little effect.

3. **Dysfunctional staff relationships.** Staff relationships were characterized as irrational, reactive, fractured, listless, self-reliant, and resistant to asking advice. Staff development policies were not coherent and choices of in-service were random and indiscriminate. Staff experienced distress because of:

    - excessive control;
    - a striving to be right in all things and a consequent fear of failure;
    - blame;
    - denial of the basic freedoms (feelings, perceptions, wants, thoughts, and imaginings);
    - no-talk rule where issues are never discussed;
    - myth-making by which the real situations are masked;
    - non-completion because problems are never resolved; and
    - unreliability manifested by a lack of trust.

4. **Ineffective classroom practices.** These are characterized by:

    - inconsistent approaches to the curriculum and teaching with generally lower expectations for students of lower SES;
    - an emphasis on supervising and communicating about routines;
    - low levels of pupil interaction with the teacher engaged in housekeeping activities, pupils being left alone, and low levels of pupil involvement in the work;
    - pupil perceptions of their teachers as people who did not care, praise, provide help, or consider learning as important; and
    - frequent use of criticism and negative feedback. [132]

132. See Louise Stoll and Dean Fink (1996): *Changing Our Schools*, pp. 33-35.

Worse still, teachers in low SES schools reported "less satisfaction with teaching, a lack of teacher ownership for their ability to influence student outcomes, and greater teacher absence and desire to work in another school."[133] In short, the pervasiveness of ineffectiveness has a profoundly negative effect on those working within the school and more importantly upon those whom the school is to serve--the students. Improving these schools and holding them accountable for their actions are essential. The degree to which schools do or do not facilitate student progress, provide value-added interventions to their students, and achieve results has assumed great attention in the accountability movement.

School Effects on Student Achievement

Three points of view, differing only in degree, point to the importance of centering on the school rather than on genetic, psychological, or socio-cultural factors of the students to explain effectiveness. The first, advanced in the Victorian Accountability Framework for Education holds that:

- About 10% of the differences in student learning can be attributed to differences between schools.
- About 40% of the difference in student learning is due to differences in effectiveness between programs, classrooms, and year levels within schools.
- About 50% of the differences in student learning is due to factors external to schools such as social disadvantage, non-English speaking background, and family income. [134]

The second view, advanced by Kovacs is essentially the same save for the degree to which the school can address fundamental differences in the students it receives:

> A review of the literature suggests that school factors account for, at most, some 25% of the variance in student performance. Although this is still significant in policy terms, it does put the effort to change schools into perspective. School-based explanations have given rise to three types of measures for addressing failure: Integration of assessment into the teaching process; differentiated learning; and school improvement. [135]

The third view, advanced by Stoll and Fink, holds that:

> … most studies have identified that between eight and 14% of the total variance in pupils' achievement is attributable to the school. This does not sound like very much but it may turn out to be the crucial difference between success and failure.[136]

Notwithstanding the degree to which schools themselves can account for differences in student achievement, the research clearly shows that schools have a moral and professional obligation to make improvements to the overall quality of education offered to their students. In

133. See Louise Stoll and Dean Fink (1996): *Changing Our Schools*, p. 35.

134. The Victorian Department of Education (April 1998): *Building High Performance Schools: An Approach to School Improvement,* p. 11. Available at http://www.sofweb.vic.edu.au/ofreview

135. See Karen Kovacs (1998): *Combating Failure at School: An International Perspective.* In Loiuse Stoll and Kate Myers (Eds.): No Quick Fixes: Perspectives on Schools in Difficulty, p. 225

136. See Louise Stoll and Dean Fink (1996): *Changing Our Schools*, p. 37.

this way, the focus of school effectiveness shifts from an emphasis on school outcomes to student progress. Stoll and Fink emphasize this point: "Mortimore (1991) [states]: 'An effective school is one in which pupils progress further than might be expected from consideration of its intake.'"[137] Most importantly, this advice points to what the authors call the "value-added" by the school to overall student progress.

Value-Added Achievement

In Stoll and Fink's view, value-added "describes the boost given by the school to pupils' achievement over and above what they bring in terms of prior attainment and background factors."[138] Where pupils achieve more than what has been expected, determined through an assessment on multiple factors, value-added has been demonstrated. By using the "value-added" concept, the differences among students can be accounted for and the equity component of effectiveness broadened.

Stoll and Fink believe that a school is effective if it:

- Promotes progress for *all* [italics in the original] of its pupils beyond what would be expected given consideration of initial attainment and background factors;
- Ensures that each pupil achieves the highest standards possible;
- Enhances all aspects of pupil achievement and development; and
- Continues to improve from year to year. [139]

Sammons et al have[140] expanded knowledge of the value-added concept with research in England in one of the largest studies of school effects since Rutter's *Fifteen Thousand Hours.* Sammons and colleagues analyzed national exam results for over 17,000 students and 94 secondary schools over three years. The researchers focused on the relative progress of students with similar characteristics in different schools to make "like with like" comparisons. Schools selected for further study were identified with statistical significance as being academically ineffective (having broadly negative effects on student progress), academically effective (having broadly positive effects on student progress) and having mixed effectiveness. In a further research phase, detailed case studies of six schools (two in each category) and 30 subject departments probed the reasons for these variances in school performance.

In Sammons' view, value-added needs to focus on student progress over time. School effectiveness is determined by "separating the school's contributions from that which relates to intake by controlling for prior attainment and other background factors."[141] Information thus obtained shows whether students in any particular school made more or less progress than similar students at other schools. In Sammons' view, this information is far more valuable

137. See Louise Stoll and Dean Fink (1996): *Changing Our Schools,* p. 27.
138. Ibid, pp. 27-28.
139. Ibid, p. 28.
140. See Pam Sammons, Sally Thomas, and Peter Mortimore (1997): *Forging Links: Effective Schools and Effective Departments,* p. 185.
141. Ibid, p. 185.

than conventional school rankings based on academic scores or on academic scores in combination with other performance measures data:

> We believe strongly that the proper criterion for measuring school effectiveness is their impact on students' educational outcomes, and that measures of academic progress are important indicators. Schools are thus held accountable for what they are designed to influence--students' progress--which can be seen as the fundamental pre-existing inequalities in education. They should not be held responsible for all the pre-existing inequalities in society. [142]

New research conducted in Tennessee expands upon Sammons' concept of value-added measurement of learning for all students, irrespective of their socio-economic status. In addition, the research points to the critical importance of teaching in overall student achievement.

Pipho[143] reviews the work undertaken in Tennessee that attempts to determine how much value schools add to the educational achievement of their students. Known as the Tennessee Value-Added Assessment System (TVAAS), it is designed to collect a series of data on individual student achievement using norm-referenced tests to establish a profile of past and predicted academic growth. Pipho draws extensively on the work conducted by William Sanders at the University of Tennessee in advocating for a new method of measurement that can be used to facilitate the academic growth of students.

Traditionally, state and provincial governments have administered student achievement tests. Most often, as Pipho notes, "The use of these data has been restricted to placing an individual student somewhere along the distribution of the general population of students or to compare simple mean scores between districts and schools."[144] This has been criticized for being "fraught with unfair misinterpretation because of severe socio-economic biases [that] affect these rather simplistic views of the data."[145] In the comprehensive system adopted by the TVAAS, statistical calculations based on multivariate, longitudinal designs, can be used to provide "direct measures of the educational influences on student academic progress free of the undesirable socio-economic confoundings." [146]

In examining longitudinal achievement of students, Sanders, as cited by Pipho, outlined some major findings that account for the difference in the degree to which schools demonstrated the value-added component in student achievement:

- The single largest factor affecting academic growth of student populations is differences in effectiveness of individual classroom teachers.
- The effects of class size and the degrees of heterogeneity of prior achievement within a classroom are but two factors whose impact on student academic gain pales in comparison with the differences in teacher effectiveness.

142. See Pam Sammons, Sally Thomas, and Peter Mortimore (1997): *Forging Links: Effective Schools and Effective Departments,* p. 185.
143. See C. Pipho (1998). The Value-Added Side of Standards. Kappan, 79(5).
144. Ibid, p. 341.
145. Ibid, p. 341.
146. Ibid, p. 341. A comprehensive description of methodology used in calculating value added can be obtained from wsander2@utk.edu

- Research findings from the TVAAS--recently confirmed by other research efforts--suggest that teacher effects are cumulative and additive, with little evidence of later compensatory gain.
- The latent effects of teachers--both positive and negative--can be measured for at least three years after students have left the classroom, regardless of the effectiveness of the subsequent teachers.
- Lower-achieving students are the first to benefit as teacher effectiveness improves. With many exceptions, higher-achieving students do not have the opportunity to demonstrate academic growth at the same rate as lower-achieving students.
- More variability in teacher effectiveness exists in the higher elementary grades than in the lower elementary grades. As the grade level increases, teacher variability increases, and for math, the increase continues into high school.
- In the aggregate, principals have very little impact on the academic growth of their school population. Teachers are functioning as independent entities with little evidence of a community effect.
- When populations of students change buildings, there is a measurable drop in academic growth for the first year in the new building. This is true regardless of the grade level.[147]

Sanders' analysis of the effects of teaching on student academic growth is instructive. It identifies that "individual teachers are the most important factor in student academic growth."[148] Pipho comments further: "Teachers probably always assumed this when assessment scores went up, but they looked to socio-economic excuses when scores did not go up."[149] Sanders found that "variations in teacher effectiveness are often greater within a single building than across buildings within a school district."[150] This is especially important in schools with a low SES student population where the differences in teacher effectiveness become more pronounced. As Stoll and Fink note, "Teachers in low SES schools in Teddlie's and Stringfield's (1993) study, in particular, reported less satisfaction with teaching; a lack of ownership for their ability to influence student outcomes; and greater teacher absence and desire to work in another school."[151]

A major benefit of the value-added analysis approach would accrue to principals who, with new data at their disposal, could demonstrate enhanced leadership in dealing with overall teacher performance and growth.

One Canadian province has taken steps in this direction. Recently, Alberta Learning has provided longitudinal student achievement data to school jurisdictions and schools that show predicted student achievement over a three-year period on the provincial achievement tests. Essentially, student achievement data from tests administered at the end of grade three are used to predict student achievement three years later in grade six. Similar analyses are provided for grade six and grade nine performance. Thus, Alberta's reporting system partially

147. See C. Pipho (1998). The Value-Added Side of Standards. Kappan, 79(5), pp. 341-342.
148. Ibid, p. 342.
149. Ibid, p. 342.
150. Ibid, p. 342. More information on the TVAAS is available from wsander2@utk.edu
151.See Louise Stoll and Dean Fink (1996): *Changing our Schools*, p. 35.

meets two of Sanders' major requirements for determining a value-added score for schools: 1) Test scores are available for students each year, although these scores are available only at grades three, six, and nine; and 2) the test instruments provide a linear scale with appropriate standard errors of measurement, have appropriate stretch, and are highly correlated with curricular objectives.

Comprehensive analysis of these data will enable schools and school districts to examine present student achievement in light of predicted performance to assess the degree to which the schools have added value to student learning. Although not as comprehensive as the TVVAS, particularly in relation to providing performance information on individual classrooms, the material provided to school districts and schools can be used in school improvement initiatives.

Alberta schools may utilize the new data to enhance their participation in the Alberta Initiative for School Improvement. Equipped with information that serves as a reasonable predictor of student success, schools that are below predicted values can initiate projects to increase student achievement. And given Sanders' conclusions about the overall importance of teaching in student achievement and the variations in teacher effectiveness in individual schools, principals have a powerful tool to begin to work with teachers to improve performance.

Lessons Learned from the New Research

The new research is informative in that it highlights the notions of value-added and equity of opportunity for all students within school effectiveness or school success. It also is useful in that it notes school failure is not a mirror opposite of school effectiveness. Specific characteristics of school failure highlight a lack of vision, unfocused leadership, ineffective classroom practices, and dysfunctional staff relationships. By working in these areas, it is felt that schools can make progress in overall student achievement and learning.

The new research material adds key items to that summarized by Sergiovanni. These include context, district level support, and inputs to the effectiveness findings. These are critically important if schools are to improve. In addition, school success has been defined broadly to reflect overall student progress--in fact, success is defined by the degree to which the schools progress in this area.

The literature notes that schools have a moral, professional, and societal obligation to enhance opportunity for students. Parents, taxpayers, and society expect that schools will be accountable for the results they achieve. Notwithstanding some differences that emerged in the literature about what parents feel are the most important areas, parents want to know how the school is doing in overall student achievement, how money is spent, and how qualified the teachers are to teach in particular areas. Research also highlights the importance of overall satisfaction of the client--the parents and the students--with educational services.

Stoll's work in identifying the 11 areas of school effectiveness builds directly on those identified by other authors. What is needed is for schools to tackle the areas over which they have the most control--climate, culture, vision, leadership, classroom practices, and so on--to build on and add to what the students bring to the schools by way of natural ability, talent, and experiences.

Creemers' model provides valuable insight into an infrequently studied area of school effectiveness--the classroom and its linkages to the school, to the context in which the school operates, and to the students themselves. By stressing the criterion of consistency in quality of instruction and curriculum, grouping procedures, and teacher behaviors in relation to mission, climate, culture, policy, philosophy, evaluation, and feedback, student outcomes can be enhanced. Creemers' work recognizes that students bring to schools specific aptitudes and social background that have an effect upon their achievement. These are variables that affect student motivation, time on task, and the degree to which opportunities for learning that are offered to students are used most effectively by the students themselves. However, his model recognizes, in a manner consistent with the literature, that schools can and do make a difference in student achievement.

Sammons' work is extremely important in creating awareness of the primary area for which schools need to be held accountable--student progress. She and her colleagues point out that schools are not accountable nor can they compensate for the ills of society, many of which are made manifest in the students attending the schools. However, it is reasonable to expect that the schools will add to the education of all students, irrespective of the students' varying backgrounds and socio-economic status. Judgements about schools' effectiveness need to take into account differences of intake so that comparisons are only made between schools receiving similar kinds of students. Doing so does not provide an excuse for low expectations held by staff for student achievement. Rather, it focuses attention on measuring how much difference the schools have made to their students.

Lastly, the work of Sanders highlights the critical importance of teachers in making the difference in student learning. The long term effects of poor teaching and, conversely, good teaching, are marked and significant and are able to be measured for at least three years after the students leave the classroom. His primary conclusion, "The single largest factor affecting academic growth of student populations is the differences in effectiveness of individual classroom teachers," provides guidance for improvement efforts in the schools.

CHAPTER 4. LINKING SCHOOL EFFECTIVENESS AND SCHOOL IMPROVEMENT

"[A school is successful] if it promotes progress for all of its pupils beyond what would be expected given consideration of initial attainment and background factors." (Stoll & Fink, 1996)

The school effectiveness literature holds promise for informing school improvement efforts. Stoll notes that the question, "How do we know that what we are doing makes a difference to pupils?" is the fundamental issue in school effectiveness. For school improvement, the fundamental question is, "What can we do better to make a bigger difference in the achievement of our pupils?"

It is possible and appropriate to apply the lessons learned from school effectiveness to efforts to improve schools. A number of key principles to guide improvement efforts and two projects, one international and one national, provide direction in this regard.

Effectiveness Principles to Guide Improvement Efforts

The literature and practice have gone considerable distance from the mid-1960s when Coleman (1968) suggested that schools had very limited effects on what students took with them from school. Jacka (1999) notes that the legacy of the effective schools research is four indispensable principles that "may not be ignored without producing disastrous consequences for tomorrow's youth."[152] These include:

1. All students can learn under appropriate conditions.
2. School effectiveness depends on the equitable distribution of learning outcomes across the whole student population.
3. Effective schools take responsibility for students' learning outcomes, rather than blaming students and their environments.
4. The more consistent teaching and learning processes are within the school, the more effective it will be.

The first principle, almost a radical departure from the view that educational success is based on school wealth and the wealth of students and their families, is critical to believing that schools can and do make a difference to their students. Earlier in this review, effectiveness was defined as the degree to which schools add value to the achievement of the students-

152. Noreen Jacka (1999): *What Makes a Good School?* In CERIS Theme--Exemplary Schools and Best Practices. Available at http://ceris.schoolnet.ca/e/GoodSchool2.html

-building on the knowledge, skills, and attitudes the students bring with them to the school. Gaskell takes this concept one step further by stating that exemplary schools are known by "the measure of success particular schools have displayed in meeting the overall needs of their students."[153] Closely related to exemplary schools is the concept of goodness wherein the goodness of a school is determined as a measure of the extent to which schools meet social as well as academic goals. Stoll and Fink offer an excellent rationale in this regard: "Not only are schools in the business of developing good learners, they are in the business of good people."[154] Consequently, schools need to model the belief that "people, places, politics, practices, and programs in schools must communicate to pupils that they are able, responsible, and worthwhile."[155]

School effectiveness is concerned with the issue of determining if the actions within a school are making a difference to students. School improvement, on the other hand, is concerned with deciding which actions need to be taken to address areas in which weaknesses have been noted and which, consequently, have a negative effect on student achievement. In addition, school improvement is concerned with building on strengths to enhance student achievement.

The school effectiveness literature is instructive but should not be viewed as prescriptive. After reviewing Rutter's work, Stoll and Fink comment, "The combination of all the characteristics of effectiveness in their study into an overall concept of ethos was more powerful than the impact of any individual characteristic."[156] Authors caution against adopting the list of effectiveness criteria with a view that once implemented, schools will be effective. A simplistic notion such as this would be detrimental to any improvement efforts, as the focus becomes too broad. The military axiom of concentration of forces serves better in any improvement effort; it is far more valuable to focus on a limited number of key goals and devote efforts to their achievement.[157]

School improvement needs to address the value-added component that schools bring to the education of their students. Simply defined, value-added refers to the extra learning provided by the schools to the prior learning which their students bring, resulting in positive gains in achievement. Only when schools add value can they be considered as contributing directly to student achievement. In this regard, Goldstein suggests using a form of statistical analysis that adjusts for the intake characteristics of students and gives the value-added component of the school's contribution to student achievement.

The value-added concept is of critical importance in considering school effectiveness and school improvement in light of Stoll and Fink's earlier comments about students learning in spite of or despite school interventions. Without the value-added component, schools with higher achievement are viewed more positively and receive commendation for their effort. For these schools, an appropriate observation would be, "If we are doing this well, why should

153 Jane Gaskell (1995): *Secondary Schools in Canada: The National Report of the Exemplary Schools Project.* Toronto: The Canadian Education Association.

154 Ibid, p. 191.

155 Ibid, p. 191.

156 See Louise Stoll and Dean Fink (1996). *Changing Our Schools,* p. 41.

157 See H. Goldstein (1993): Assessment and Accountability. *Parliamentary Brief,* October.

we try to do better?" On the other hand, those schools with lower scores are deemed to be less effective and may receive criticism. A likely observation in these schools may be, "With what we have to work with, what do you expect?" The more fundamental question schools need to ask is: "Does this school add value to the education of students such that they are advantaged or does this school detract from student learning such that the students are disadvantaged?"

Heightened Demands for Accountability in School Effects

Notwithstanding the belief that school context needs to be considered actively in any improvement effort, parents, public, and governments expect that students will achieve at high levels. This has been and continues to be addressed through accountability initiatives in Canada, Australia, Great Britain, and the United States. However, accountability is more than answering for the execution of one's responsibilities--it also requires that schools use all the information at their disposal to make improvements to the education offered to their students. It is in this area that the linkage between the effectiveness research and school improvement can be seen most clearly.

The research on school effectiveness and its corollary, failure or ineffectiveness places heavy emphasis on outcomes and the processes necessary for those outcomes to be achieved. A prevailing view in the literature was that if schools knew the key areas of effectiveness, appropriate diagnostic or measurement activities would provide an indication of strengths and areas needing improvement. In this fashion, and much like Barth suggests in his book, *Changing Schools from Within*, the staff members would develop plans to begin the process of school improvement.

However, as Bradley notes, "Terminology and movements such as *excellence*, *reform*, or *improvement* [italics in the original] have been dependent upon arbitrary measures such as norm-referenced test scores, attendance percentages, dropout rates, or similar methods that are controversial."[158] Bradley suggests that client judgement needs to be added to the list of indicators in determining effectiveness, success, or overall quality. In his view, measuring the views of clients increases the degree of control the schools and school systems have over quality and quality improvement efforts. Bradley makes a strong point about the need to determine and address the perceptions of the clients: "In enterprises that depend upon public support for their existence, perception is truth. In education, it is not just that the public must be supportive from a programmatic point of view, but it must also be supportive financially."[159]

In short, Bradley argues that a much stronger system of education accountability is needed to provide assurance and reassurance to the public that the schools are meeting societal and economic demands. As he states, ". . . the new economic world order of increased competition has naturally increased the accountability demands on the schools. This accountability is taking shape in the form of technical improvements, parent choice, and other reforms that have, as a basic premise, improved quality."[160] Quality, as Bradley states," is determined by the client [and] is accomplished by continually meeting and exceeding client needs and expectations at a price they are willing to pay."[161]

158 See Leo H. Bradley, (1993) Total Quality Management for Schools, p. 3.
159 Ibid, p. 4.
160 Ibid, p. 5.
161 Ibid, p. 65.

The Victorian Department of Education in Australia made effective use of this principle in the development and implementation of its accountability framework for education.

The Australian Movement to School Accountability

The State of Victoria, Australia, began to focus on accountability as a method of improving overall school performance. The substance and outcomes of this initiative which began in 1993 are valuable to practitioners.

The Victorian Department of Education implemented an accountability framework with three basic components:

1. A "Schools of the Future" direction in which schools have direct control over their budgets and the capacity to select and manage their own staff.
2. A "Curriculum and Standards Framework" wherein the broad curricula and standards of achievement for students at various year levels have been explicitly identified.
3. A "Quality Assurance" direction in which schools develop a specific charter with the state government, produce an annual report, and participate in a formal review every three years. This aspect of the initiative "enables schools to plan for, monitor, report on, and systematically review their success in improving performance and, in particular, raising standards of student learning."[162]

In this context, schools are expected to manage for results, explicitly identify current levels of performance, and to develop achievable and manageable improvement plans. Ultimately, the accountability framework is designed "to assist schools in having information needed to link resources to performance targets, manage with a high level of participation, and report on and be accountable for performance."[163]

The accountability framework operates on five principles:

1. Client focus wherein schools are encouraged to focus on meeting the needs of their major clients, the students and the parents. This is to be accomplished by a strong focus on the core purposes of schooling that are defined as high and improving standards of achievement for each student.
2. A performance orientation wherein accountability is seen as a process for strategic and continuous improvement rather than an exercise in compliance.
3. Ownership and transparency wherein accountability, outcomes, and the targets for improvement are known and owned by the schools and the Department of Education.
4. Integration of the accountability mechanisms into the regular planning, policy, and operational activities of the schools and the Department of Education.

---

162 Victorian Department of Education (April 1998): *Building High Performance Schools: An Approach to School Improvement,* p. 3. Available at http://www.sofweb.vic.edu.au/ofreview

163 The Victorian Department of Education (1997): *Effective Schools and School Reviews: the Victorian Accountability Framework,* p. 3. Available at http://www.sofweb.vic.edu.au/ofreview

5. Commonality wherein all schools use the same framework and performance indicators to enable the schools to monitor their operations and to identify procedures and processes that need improvement.[164] However, "performance indicators do not tell the whole story of a school, its life, and its culture but they do flash warning lights when things are not working and, as often as not, they indicate where to start looking for what is going wrong,"[165]

Selection of indicators. In a companion document, the Victorian Department of Education[166] outlined a rationale for the selection of indicators that it uses in the school accountability initiative. The report notes,

> ...during the past 15-20 years, school effectiveness researchers have identified the characteristics of effective schools. While the results of research in different countries have varied in emphasis, there appears now to be general agreement on about five of these characteristics:

1. The quality of school leadership, with particular emphasis on leadership in the quality of instruction and the setting of academic goals;
2. A pervasive and broadly understood instructional focus, often interpreted to mean consistency of teaching approaches across the school;
3. An orderly and safe climate conducive to teaching and learning;
4. High expectations of achievement for all students and a pervasive belief that all students can learn; and
5. Consistent and regular use of student achievement measures as measures of effectiveness of teaching programs.

Levine and Lazotte (1990) first generated the above list in the USA. The British experience, particularly in the work of David Reynolds and his colleagues, has added parental involvement in the learning achievements of their children to that list.[167]

In this sense, effective schools must be effective organizations in which students can succeed. Thus, there is an expectation that "effective organizations in any field will lead, have committed staff displaying high levels of morale and goal congruence, are focused on the needs of their key clients and stakeholders, and regularly and routinely measure their performance for the purpose of improvement."[168]

Balancing autonomy and responsibility for outcomes. One of the fundamental principles adopted by the Victorian Department of Education relates to balancing the need for autonomy in self-managing schools and the need to ensure appropriate learning experiences and well-designed and well-delivered teaching programs for all students. The report, *Building High Performance Schools: An Approach to School Improvement*,[169] notes that the imposition of

164 The Victorian Department of Education (1997): *Effective Schools and School Reviews: the Victorian Accountability Framework,* p. 4.
165 Ibid, p. 6.
166 The Victorian Department of Education (December 1998): *Improving School Efficiency: Student and School Evaluation (School Efficiency Seminar),* pp. 1-3. Available at http://www.sofweb.vic.edu.au/ofreview
167 Ibid, p. 1.
168 Ibid, p. 1.
169 The Victorian Department of Education (April 1998): *Building High Performance Schools: An Approach to School Improvement.* Available at http://www.sofweb.vic.edu.au/ofreview

external priorities on the curriculum causes some schools to feel constrained in their ability to balance student learning across all eight of the Key Learning Areas (i.e., curricular programming). This may well lead to forcing students to take content because of requirements and not because they are able to master that content with previously acquired knowledge, skills, and attitudes. As such, schools can be excused from enhancing student learning by following the requirements. However, the Victorian Department of Education has recognized and addressed this possibility.

The research findings on the relationship of school effects and student achievement, demonstrate that policy and practice, both within the purview of the schools and the system, can have a profound effect upon reducing differences in student achievement. This message has been given to the Victorian schools as they attempt to make necessary improvements. In the implementation of an early literacy initiative, for example, focus was put on a number of research findings from the school effectiveness indicators:

• Commitment by the whole school to a central set of beliefs and understandings about the importance of literacy and about the approaches to literacy adopted by the school.

• Effective leadership and coordination of teaching programs so that there is a common approach to teaching literacy in the schools.

• Effective links between the school, home, and community.

• High expectations and explicit targets for literacy achievement for each student.

• Quality classroom programs conducted by professional teams of teachers, consistent with the approach to literacy teaching adopted by the school.

• School and class organization specifically designed to support literacy learning, including grouping children according to their ability from time to time within a mixed ability classroom.

• Comprehensive monitoring and assessment of progress.

• Intervention and special assistance for those students who are in danger of falling behind.[170]

However, schools need to focus on those areas that make the biggest differences in student learning. Through the use of extensive international research, the Victorian Department of Education constructed a set of indicators that reflected a balanced scorecard approach. These indicators point to specific school effects (e.g., results or outcomes) rather than to an overall statement of effectiveness.

170 The Victorian Department of Education (April 1998): *Building High Performance Schools: An Approach to School Improvement.* , pp. 10-11.

Indicators of school effects used by the Victorian Department of Education. Indicators have been developed in five key areas, all of which have an effect upon overall student achievement (student achievement has been included as a separate indicator but needs to be considered in light of the others):

1. Curriculum:
    - Time allocations to each of eight key learning areas
    - Parent satisfaction with the academic rigor in the school's curriculum
    - Course participation
2. Environment:
    - Accidents
    - Parent satisfaction with the quality of teaching in the school, the overall management of the school
    - Student attendance
    - Student opinion on the "Teachers and Teaching Scale" using a random and representative sample of students
3. Accountability:
    - Exit and destination data for students leaving school; proportion of students beginning at Year 7 who complete Year 12
    - Parent satisfaction with the quality of the school's reporting of student progress, overall school performance, the school's responsiveness to parents as its clients
    - Enrolment
4. Management:
    - Staff satisfaction with morale, progress towards goals and priorities established in the school's charter, quality of work life, leadership support, and professional interaction
    - Staff participation in professional development
    - Staff attendance
    - Implementation of statutory, policy, and other requirements
5. Resources:
    - Statement of annual financial results
    - Total receipts and expenditure [171]

171 The Victorian Department of Education (December 1998): *Improving School Efficiency: Student and School Evaluation,* pp. 15-16. Available at http://www.sofweb.vic.edu.au/ofreview

In the area of student achievement, the Victorian Department of Education has identified the following key indicators:

- Teachers' assessment of progress in English and mathematics using the standards outlined in the Curriculum and Standards Framework
- Average scores (all studies Victorian Certificate of Education)
- Average scores in English and Mathematics (Victorian Certificate of Education)
- Parent opinion of reasonable [student] progress against the standards set for schools (i.e., special education)[172]

Schools are expected to measure and report the results of the measures each year in their Annual Education Reports. Results are expected to be used to set priorities and performance targets. To the maximum extent possible, performance trends are to be used to provide parents and the public with a sense of overall improvement in the school in relation to targets that have been identified.

Preliminary effects of the accountability framework. Implementing the accountability framework has provided the opportunity to determine some initial effects. A review of the three reports documenting the accountability framework in the state of Victoria has identified the following key lessons:

- There has been a shift from provision-oriented goals to goals directed towards improved outcomes.
- Schools are willing to set higher expectations and specific targets.
- Monitoring and assessment are important in providing a detailed, systematic, and on-going profile of the progress of all students. Words such as "evidence-based", data-driven", and "value-added" now characterize professional conversations on school effects.
- There has been a shift in emphasis from multiple and broadly defined priorities to fewer, more clearly defined outcome-based priorities. Those areas receiving the most attention are literacy, numeracy, and information technology.
- Improvement requires a whole school approach with attention to classroom teaching programs, professional development opportunities for teachers, effective school and class organization, appropriate intervention and special assistance strategies, strong home/school/community links, and strong leadership and effective management.
- Beliefs and understandings about student learning and a supportive and healthy school culture and climate are central to any improvement efforts.
- Schools are beginning to identify their improvement needs and strategies through analysis of performance in the accountability framework.

172 The Victorian Department of Education (December 1998): *Improving School Efficiency: Student and School Evaluation*, p.15.

- Standards in education are generally used to refer to the level of difficulty and challenge for students in the school curriculum and the skills and knowledge gained by the students as a result of their experience at school.
- High standards are thought to mean that young people are expected to study courses that challenge them and increase and extend their skills and knowledge.
- High standards also mean that young people graduating from schools have high levels of skills and knowledge, are able to function as fully participating members of society, and are well prepared for further study or work.
- Evaluation reviews have focussed on organizational competence in the areas of curriculum provision, the school environment, management, and resourcing.
- Tackling the trailing edge in student achievement through targeted intervention strategies to improve student learning is essential to achieving higher standards for all students.

Overall, two fundamental questions guided the accountability framework:

1. *Has this program made things better?*
2. *Does what we do in this school improve learning achievement of our students?* [173]

Summary of the Victorian Indicators Research

The Victorian Accountability Framework reflects a strong research base in that it draws heavily on effective schools findings. Most importantly, the framework focuses on using results to make improvement to education. In this regard, schools are expected to report results annually to parents and, by so doing, develop plans and strategies that focus on those areas needing improvement. Unlike US approaches that provide for major sanctions against schools that do not measure up, the Victorian Accountability Framework places heavy emphasis on schools proceeding to make improvements because of a professional, moral, and social responsibility. The Victorian model also integrates both evaluation and accountability; the former undertaken through a review every three years and the latter through measuring and reporting on an annual basis followed by strategic planning activities.

Perhaps the best summary of the framework appears in the report in which it is described:

> The Victorian accountability framework is both integrated and comprehensive [using] innovative techniques such as staff and parent surveys as well as more common performance indicators such as test results. [As well], in its focus on the whole school, it recognizes a key finding of international research into school effectiveness--that effective schools take comprehensive and integrated approaches to improvements in performance.[174]

173 The Victorian Department of Education (April 1998): *Building High Performance Schools: An Approach to School Improvement.* Available at http://www.sofweb.vic.edu.au/ofreview

174 Victorian Department of Education (December 1998): *Improving School Efficiency: Student and School Evaluation,* p. 9. Available at http://www.sofweb.vic.edu.au/ofreview

The Manitoba School Improvement Program (MSIP)

The ethos of caring and the importance of quality instruction remain the hallmarks of school effectiveness. These two characteristics were and remain the focus of a major Canadian school improvement initiative, the Manitoba School Improvement Program.

Established in 1991, MSIP Inc. is "an independent, non-profit, non-governmental organization dedicated to supporting youth through the improvement of public secondary schools in Manitoba."[175] Sponsored by the Walter and Douglas Gordon Foundation, the goal of the project is to "improve the learning experiences and outcomes of secondary school students, particularly those at risk, by building schools' capacities to engage students actively in their learning."[176] It is the focus on at-risk students that establishes the connection between SES and student learning.

Twenty-two schools are participating in the improvement project. Support from MSIP Inc. includes financial incentives, the establishment of a network to provide schools with advice and assistance in their projects, and evaluation to determine the degree of success experienced by the schools participating in the project. In the same vein as the literature on the Alpha Co-efficient mentioned earlier in this review, MSIP holds the view that "school performance is one of the best predictors of adolescent and adult success."[177] Hence, there is an obligation for schools to deliver the best possible services so that students can achieve their maximum potential.

Simultaneously, MSIP holds expectations for the participant schools and prime amongst these is that schools will "focus on all students and their learning."[178] This expectation is inherent in any school improvement process; more importantly, it is this belief that all students can learn and succeed that is at the heart of teaching and learning and that serves as the philosophical underpinning of the existence of schools.

In the evaluation report on the MSIP, it is noted that secondary schools can change but the process is not an easy one. "School improvement is a complex human process [and] . . . many forces for inertia are inherent in secondary school organization and culture. People in the school--and in the school's community--must have a 'can-do' attitude. Then, school improvement requires a new set of skills."[179] Does the school improvement process work? The evaluation report cites the views of Dr. Michael Fullan, Dean of Education at the Ontario Institute of Studies in Education, on this matter: "At the secondary school level, I know of no other strategy which has taken 20 or more schools and shown this level of success--even more quickly than we thought possible--and in a cost-efficient way."[180]

Fullan[181] comments that there is little known about how schools can begin the school improvement process. The literature is replete with material on effective schools; translating

175 See the Manitoba School Improvement Program Inc. (1998): Summary Evaluation of the MSIP, p. 1. Available at http://www.sunvalley.ca/msip/3_evaluation/3_summary.html
176 Ibid, p. 1.
177 Ibid, p. 1.
178 Ibid, p. 2.
179 Ibid, p. 3.
180 Ibid, p. 3.
181 Ibid, p. i.

this material into school improvement efforts, however, remains a difficult and daunting task at the school level. Fullan notes that schools get better results when they:

- Develop a professional learning community among themselves and others
- Develop a regular process that focuses on who their students are and how well they are learning
- Use what has been determined to change how they relate to and teach students[182]

Key assumptions about school improvement. Using principles that emerge from literature on effective schools and that are borne out in practice, Fullan identifies some key assumptions[183] that need to be considered in any school improvement process. These include:

1. Motivation for improvement must come from within rather than from being imposed from without. In this context, schools and school systems are advised to "start small, think big."
2. Schools committing to school improvement require both pressure (internal and external) and support.
3. School improvement projects must be unique to each school and reflect ". . . personal attention to each school, its people, timing, and context--a non-bureaucratic approach."[184]
4. Government initiatives are necessary in school reform but they are not necessarily sufficient to sustain any reform movement. The continued support for school improvement must come from within and be complemented rather than directed by outside influence.
5. Change in schools is a difficult process; getting people to articulate issues and agree to a plan or course of action to address them is particularly difficult for professional educators. Pressures for enhanced accountability, higher standards for student achievement, and involvement of parents and the community in the school, for example, create stress for teachers. Compound these stresses with the plan for improvement and teachers could feel overwhelmed.
6. A focus on learning for all students is essential and underpins all actions to be taken.
7. Plans once made may need to be changed. Neither change nor improvement is a linear process. Tracking results achieved is necessary to determine things that work and things that do not. Schools need to learn from their efforts, reward success, reflect on what did not work, and make adjustments to continue the improvement process.
8. Schools need to remain energized and committed to the improvement process.
9. Schools engaging in improvement need to be involved with others engaging in the same process. Fullan provides excellent advice in this regard: "School change will not survive if it is only the work of lonely innovators."[185]

182 See Lorna M. Earl and Linda E. Lee (1998): Evaluation of the Manitoba School Improvement Program, p. i.
183 Ibid, pp. ii-viii.
184 Ibid, p. i.
185 Ibid, p. iii.

Earl and Lee's evaluation of the MSIP provides valuable information about areas that have the most profound effect upon school improvement and the manner in which school improvement can be measured. Perhaps the most pronounced effect of the improvement process in Manitoba is reflected in Fullan's summary statements in his preface to the evaluation report:

> This program shows that with resources, commitment, and careful strategy, teachers can find new ways to work together to help kids learn. It offers a way of turning things around. In focusing on the importance of what you do with kids, you can create something that becomes a lifeline of activity for a school. Targeted resources and attention can go a long way [in facilitating school improvement]. The nature of these resources--some additional money, access to assistance, networking among peers, and the opportunity to participate in a publicly recognized project to help students make a difference in their lives--was crucial . . . in unleashing positive energy for change.[186]

While Fullan's compliments are deserved, they may be overly generous given the degree of improvement experienced by the 22 schools. The evaluation shows some schools improved substantially, some remained the same, and others fell back. However, the project highlights what can be done when those in schools set out to make improvements to facilitate higher student achievement.

Changing the conditions of learning as the focus of improvement efforts. Consistent with the literature on school change and school effectiveness, the MSIP evaluators focused on the areas that dealt with "changing the situation and conditions for learning in the school rather than identifying the student as the problem."[187] The focus of the MSIP is building internal capacity for change. Hence, funding is provided for extensive professional development of the teachers, shared planning time, release time, and professional resources rather than for the purchase of capital equipment. The project also recognizes the advantages of district involvement in the improvement projects and has also focused on "student voice"[188] or the direct involvement of students in the decision-making processes that affect their learning environment and their opportunities to learn. From its inception, MSIP sought to "effect whole school change so that the schools would be better places for all students, including and especially, students at-risk, to succeed and flourish."[189] In this sense, interventions needed to focus on capacity-building so that the improvement could be sustained over time.

Measuring the success of school improvement programs. Measuring the outcomes of any school improvement process is difficult. Earl and Lee note that achievement measures are a necessary component of measuring the outcomes but they are a small part of determining the effectiveness of any of the projects. In this regard, the authors draw on the writings of

186 See Lorna M. Earl and Linda E. Lee (1998): Evaluation of the Manitoba School Improvement Program, p. viii.
187 Ibid, p. 1.
188 Ibid, p. 5.
189 Ibid, p. 6.

Creemers (1998) who enumerated the issues inherent in measuring the effects of any educational change. These include:

- Developing a range of outcome measures of school effects in social and affective areas
- Focusing and refining the measurement of student learning
- Conceptualizing and measuring the school improvement process
- Identifying and measuring factors that contribute to effectiveness
- Developing measures for describing changes that schools make in order to improve
- Conceptualizing and measuring school culture
- Developing qualitative research methodologies to provide in-depth analysis of school change [190]

While the aim of the MSIP was and remains the improvement of learning for students at-risk, one would reasonably assume that student achievement would be a key measure of the success of the improvements. Earl and Lee specifically note that "there are no obvious accepted indicators of student outcomes in multi-dimensional school improvement programs."[191]

The effective schools literature suggests that determining effectiveness solely on academic achievement measured through test scores is inappropriate. In this regard, Stoll and Fink state, "School effectiveness research seeks to describe what an effective school looks like. [However], school effectiveness is not just defined as quality in outcomes."[192] The same authors note that it is possible for students to have high achievement in a school in spite of the school. Other students' progress and achievement can improve over time but may not be optimized. Earl and Lee attribute the difference to the students' starting points:

> The first kind of school is high performing not because of the school but because of the quality of the learning that students bring to it. In the second, the schools' success with less advantaged students does not show in the raw achievement results because the students are starting from a low base of prior learning.[193]

Earl and Lee, in a review of the value-added concept, note that coming up with a composite value for this area requires considerable data. At a minimum, the authors note that this requires annual test scores for students; testing instruments that provide a linear scale with appropriate standard errors of measurement, have appropriate stretch, and are highly correlated with curricular objectives; and background characteristics of students.[194]

In the evaluation model for the MSIP, multiple measures of student learning were used when available, data from the project itself, and extensive qualitative data from the teachers were gathered through a variety of methodologies including questionnaires, interviews, and focus groups. For schools that did not have senior high school populations, graduation rates and

190 See Lorna M. Earl and Linda E. Lee (1998): Evaluation of the Manitoba School Improvement Program. pp. 9-10.
191 Ibid, p. 12.
192 See Louise Stoll and Dean Fink (1996): *Changing Our Schools,* p. 27.
193 See Lorna M. Earl and Linda E. Lee (1998): *Evaluation of the Manitoba School Improvement Program,* p. 13.
194 Ibid, p. 14.

credits earned could not be used. As a proxy, students' work was reviewed to determine student progress. Where target groups were small in relation to the total school population, comprehensive achievement data were not always available.

A school improvement index. The MSIP evaluators used traditional measures and methods to gather information on school improvement. These included graduation rates, student marks, and credits obtained. Interviews, questionnaires, and focus groups also were used to gather data. From the data collected, the evaluators developed an improvement index that consists of four major areas: student learning, student engagement, school improvement processes, and project success based on individual school goals.

Student learning. The evaluation report notes that the first area, student learning, "is at the heart of school improvement [and] requires intentional and sustained emphasis."[195] Also, the report comments that in addition to academic performance student learning "includes a broad range of knowledge, skills, and attitudes and is best measured through multiple sources that represent genuine student performance."[196]

Student engagement. This area comprises students' relationship with their learning environment and to their own learning. Earl and Lee note that ". . . student engagement is active involvement, commitment, and concentrated attention (in contrast to superficial participation), apathy, or lack of interest. [It also is characterized] as participation in and identification with the life of the school."[197] Using this definition, the degree of student engagement can be ". . . inferred from a student's participation in academic work, interest in school, care in completing work, motivation to succeed, attitudes toward school, sense of membership in the school, and [the] student's perception of authenticity of real-world connection of their work."[198]

Criteria used to assess improvement in students' relationship to their environment include school atmosphere and climate, participation in school activities, voice in school direction and decision-making, positive changes in the school, relationships with teachers, and students' overall rating of their school.[199] Aspects of students' relationship to their own learning include motivation to learn, confidence in their ability to succeed, relevance of and interest in the courses and curriculum, and increased responsibility for learning.[200]

School improvement processes. This third area refers to the actions that the school must take to promote positive change. Earl and Lee note that "school improvement is not a given nor is it static. It is a complex, dynamic, and challenging process of finding ways to promote success for all students and accomplish educational goals more effectively."[201] Stoll and Fink

195 See the Manitoba School Improvement Program Inc. (1999): *Summary Evaluation of the MSIP,* p.4. Available at http://www.sunvalley.ca/msip/3_evaluation/3_summary.html
196 Ibid, p. 4.
197 Ibid, p. 17.
198 Ibid, p. 17.
199 Ibid, p. 4.
200 Ibid, p. 5.
201 Ibid, p. 18.

outlined 11 key attributes of school effectiveness that formed the basis of the work undertaken in the MSIP. These are explored in this review but need to be reiterated:

- Climate setting
- Vision
- Joint planning
- Leadership
- Involvement and empowerment
- Partnership
- Mentoring and evaluation.
- Problem-solving and problem-seeking
- Staff development and resource assistance
- Adapting management structures
- Creativity in relation to external mandates [202]

The MSIP evaluators also added criteria established by Newman and Wehlage:

- Focus on student learning
- Authentic pedagogy
- School organizational capacity
- External support [203]

The schools involved in the MSIP were asked to pay careful attention to these criteria in developing their plans. However, it is important to note that Earl and Lee caution that "these school-related factors are not fixed but that they represent the way that change can occur in schools. They are not solutions in themselves, but are actions and processes that schools undertake as strategies for change, usually associated with teacher and/or organizational changes."[204] Overall, MSIP schools were asked to concentrate on 10 key areas of improvement:

- Focus on student learning, curriculum, and instruction
- Involvement of teachers, parents, and the community
- Broad leadership
- Redesign of time and structure
- Coherence and integration among the school initiatives
- Relationship with the school district
- Connections outside the school
- Shared goals and values
- On-going inquiry and reflection
- Increased capacity for change[205]

202 See Louise Stoll and Dean Fink (1996): *Changing Our Schools*, p. 31.
203 See F. Newmann and G. Wehlage (1995): *Successful School Restructuring.*
204 See Lorna M. Earl and Linda E. Lee (1998): *Evaluation of the Manitoba School Improvement Program,* p. 19. Available at http://www.sunvalley.ca/msip/3_evaluation/3_summary.html
205 Ibid, pp. 9-20.

The key aspects in this improvement process were a strong focus on student learning, engagement of the school community, connection to the world outside the school, use of ongoing inquiry and reflection, coherence and integration among school goals and initiatives and building internal capacity for change.[206]

It is interesting to note that the characteristics of the school improvement process advocated by Earl and Lee have been used successfully in a major initiative for school improvement in El Paso, Texas. Started in 1993, the El Paso project channeled efforts towards:

1. The use of standards in seven key subjects defining what graduating students should know and be able to do
2. Assessment aligned with standards
3. The development of a collaborative process that involves the schools and the system
4. Data collected at key points to determine progress made
5. Policy development that encourages renewal and school improvement
6. Accountability
7. Involvement of parents and community in designing and sustaining changes
8. A mechanism for providing support and assistance, especially professional development for schools that focuses on teachers, principals, and other site administrators[207]

While each of these areas is germane to the evaluation criteria used in the MSIP, Navarro and Natalicio note that the improvement process is

> . . . centered on the core of schooling: the relationship between teacher and student; the ways in which knowledge is constructed in classrooms, the ways in which teachers and students interact with one another around knowledge, problem-solving, and learning; and the expectations teachers and students have for themselves and for one another. The program helps build the organizational capacity of schools to provide high quality education to each child.[208]

Rating school improvement efforts. The work of Earl and Lee in documenting the success of the schools participating in the MSIP is instructive for it provides a valuable method of determining the outcomes achieved in both a quantitative and qualitative manner. Stoll and Fink, whose work contributed heavily to the conceptual framework used in the MSIP evaluation, provide an excellent typology for schools as they attempt to improve their overall effectiveness and success in the teaching and learning process. Schools may be classified on a con-

206 See the Manitoba School Improvement Program Inc. (1999): Summary Evaluation of the MSIP, p.5. Available at http://www.sunvalley.ca/msip/3_evaluation/3_summary.html.
207 See Susana Navarro and Diana Natalicio (1999): Closing the Achievement Gap in El Paso. Kappan, 79(4), pp. 597-601. More information on the Texas initiative is available at http://www.tea.state.tx.us/
208 Ibid, p. 599.

tinuum from "moving or learning enriched [to] stuck or learning impoverished."[209] Earl and Lee provide an excellent description of this typology:

- *Moving schools* are effective at adding value to their students' learning and they are working to respond to the changing context and to keep developing. They have the will and the skill to get where they are headed.
- *Cruising schools* are perceived as effective; students are doing well but the schools are not necessarily adding value to their already advantaged students and may be doing them a disservice by not preparing them for a changing world.
- *Strolling schools* are involved in school improvement, but at an inadequate rate. They often have ill-defined and conflicting aims that inhibit improvement efforts.
- *Struggling schools* are ineffective and know it. They are working to change and try anything that might make a difference. They have the will and need to develop the skill.
- *Sinking schools* are not only ineffective but are not prepared or able to change.[210]

A complete description of the methodology used in quantifying the overall degree of school improvement can be found within the comprehensive evaluation framework of the MSIP. The numerical ratings were used to categorize the schools according to the typology devised by Stoll and Fink.

MSIP Evaluation Findings

A four-point scale was used to rate progress in each of the four areas identified earlier; thus, a perfect score would be 16. Of the 22 schools involved in the project, seven schools had a composite score of 11 or above; 10 schools had a composite score of between eight and 10; four schools had a composite score of less than eight; and sufficient data was not available for one school.

Using the Stoll and Fink typology,

- seven schools (six senior and one middle) were classified as *moving*;
- two schools (senior) were *cruising* schools characterized as largely "traditional schools with formal approaches where the status quo was maintained and where teachers operated relatively independently from one another. They had positive reputations and were perceived to be effective schools because their students do well."[211]
- two or three of the schools could be classified as *sinking.*
- 10 or 11 of the schools are classified as *strolling.* As Earl and Lee note, "[These] are undertaking some actions for school improvement but at an inadequate rate to cope with the pace of change. They often have ill-defined or somewhat conflicting aims that inhibit their efforts. [They] could be on the verge of movement to active school improvement."[212]

209 See Louise Stoll and Dean Fink (1996): Changing Our Schools, p. 32.
210 See Lorna M. Earl and Linda E. Lee (1998): Evaluation of the Manitoba School Improvement Program, pp. 23-24. Available at http://www.sunvalley.ca/msip/3_evaluation/3_summary.html
211 Ibid, p. 34.
212 Ibid, p. 36.

Lessons Learned from the MSIP

The MSIP evaluation provides some valuable insights into the school improvement process and conditions under which it can succeed. Most importantly, the evaluation points to the phenomenon that the drive to improve and to offer students the best possible education needs to come from within. Schools that take the time, devote the energy, have the vision, and reflect upon what they do and how well they are doing it have the greatest chances for success. There are significant lessons that can be applied.

Urgency. Most successful MSIP schools experienced an event or a series of related events that caused staff members to realize they need to make changes and make them quickly. Earl and Lee term this an "epiphany," best described as a recognition that the ways that things were done are no longer good enough or no longer apply to the situation. "When staff recognize that their view of the work is at odds with the compelling evidence, they experience a sense of dissonance."[213] The dissonance was most pronounced in those schools that have "[a] large high-risk student population or ones where the demography or background of the students differed from the teachers' experience of students."[214] Most importantly, teachers recognize that something must be done differently to meet the needs of their students.

Energy and agency. Urgency results in forces being mobilized to do something. In the successful schools, "teachers experienced a sense of having control and knowing what they were doing, an overarching sense of professional identity, influence, and pride in their efforts."[215] With the feelings of energy and success, successful MSIP schools found the ways and means to make the changes. The most powerful means by which teachers effected change was through professional development and training. As Earl and Lee note, ". . . the teachers experienced a growth in several different areas. They increased their knowledge and their skills, changed their dispositions and established positive views about themselves and their role in changing education."[216]

Supports. Change requires support for teachers and schools. Support can take many forms including financial, moral, technical, evaluation, and professional. Earl and Lee note, "There was no clear relationship between the amount of funding or the amount for support and success. The MSIP experience suggests that it is not just quantity, or even quality, of support, that matters, but access to the right type of intervention at the right time."[217] The lesson learned from this is obvious: those providing the supports need to stay in close and constant touch with the schools to ensure the right supports are provided at the right time. Also, those in the schools need to feel secure enough to request the supports in a proactive manner. Supports, however, cannot be provided adequately or thoroughly unless and until a common sense of direction has been established and individual and group needs identified, especially in the professional development area.

Leadership. Consistent with the theme of capacity-building, leadership in successful MSIP schools was shared. Early in the projects …almost every school opted to use some portion of its funding to release a staff member to serve as the project coordinator in the school. The coordinator played an invaluable role in initiating and facilitating the development of the project. In the successful MSIP schools, the coordinator's role has become one of getting every

213 See Lorna M. Earl and Linda E. Lee (1998): Evaluation of the Manitoba School Improvement Program, p. 50.
214 Ibid, p. 51.
215 Ibid, p. 53.
216 Ibid, p. 55.
217 Ibid, p. 57.

thing in place, trouble-shooting, and inspiring and supporting others.[218]

School principals were facilitators, typically encouraging others to take on the direction of the project. Administrators were viewed as necessary but not sufficient to ensure project success in the schools. On the other hand, as Earl and Lee comment, "There also was indication that administrators could thwart school improvement through neglect, lack of support, or sabotage."[219]

Students also were involved in leadership roles and demonstrated enhanced responsibility in their own learning, motivation to succeed, and relationships with others.

Reflection and inquiry. Reflection and inquiry were essential components in the successful MSIP schools. In these processes, schools began to analyze and use data to focus efforts for improvement. Successful schools "saw data as an invaluable tool or compass for planning their progress, charting their journey, and deciding about the resources they required. It helped them modify their course, rather than pointing them on an already established path."[220]

A caring environment. Perhaps the highest compliment given to staff in the successful MSIP schools was expressed by a student: "She does it because she cares so much about the students--and the students who aren't here yet, she cares about them too."[221] This is of particular importance given that many of the schools had high populations of at-risk students. Earl and Lee sum up the importance of caring:

> No matter what the project, staff in the successful schools shared a deep and pervasive caring for their students as individuals and the students knew it. Caring is one of the most ephemeral and difficult educational concepts to describe. It is not just soppy affection for young people. In the successful MSIP schools, it was concerned, consistent, and relentless attention to students. Teachers in successful MSIP schools established relationships with their students that made them feel safe and valued. They established lines of communication, particularly in relation to effective learning and teaching. And, they went out of their way for their students' sake.[222]

A focus on learning. The successful schools articulated and modeled a belief that all students could succeed. As Earl and Lee note, "Although [all schools] were engaged in school improvement activities, the focus on student learning was marginal for over half of them and they were not able to show much evidence of increases in learning. Whatever else, learning can not be overlooked or taken for granted. It is the major purpose of schooling."[223]

The lessons learned from MSIP pertaining to the essential internal conditions for school improvement were echoed in a recent study in Washington State. An examination of 40 schools serving similar student populations identified differences between schools whose students had improved significantly on state 1997-99 assessments and those schools showing little gains. The findings concluded, "Whether a school improved depended upon what the adults in the school did."[224]

---

218 See Lorna M. Earl and Linda E. Lee (1998): Evaluation of the Manitoba School Improvement Program p. 60.
219 Ibid, p. 62.
220 Ibid, p. 64.
221 Ibid, p. 64.
222 Ibid, p. 65.
223 Ibid, p. 67.
224 Lake, Robin, Paul T. Hill, Lauren O'Toole & Mary Celio (1999): *Making Standards Work: A Case Study of Washington State*. Fordham Foundation. Washington, DC. p.2

CHAPTER 5. CONCLUSION

"Evidence shows that schools can and will improve if they gear up to strive for increasingly better results by examining and refining the processes that most directly contribute to designated results." (Schmoker, 1996)

This literature review attempts to provide a focus for schools as they move towards enhancing student learning for all students. What can be learned from the research and the literature about school effects and student achievement? Three key aspects will be restated:

1. Socio-economic status plays an important role in student achievement and outcomes. However, schools can make a difference and the largest difference stems from quality teachers offering quality instruction in a caring environment.
2. School effectiveness has been defined as the degree to which schools add value to the educational achievements of its students.
3. School improvement is neither a simple nor an easy process. However, committed teachers, focusing on student learning, make the difference in school improvement efforts. They must be supported and encouraged in the process.

Socio-Economic Status and Student Success

Without doubt, socio-economic status affects the degree to which students can achieve in their school program. Numerous writers have identified that SES alone can account for one-third to one-half of the differences in student achievement in a school. However, ascribing to the views of early writers such as Coleman and Jencks that the background of the students is the only aspect influencing outcomes negates the very reason schools exist. Worse, it continues to deny a large segment of students the opportunity to succeed, grow, and be caring and contributing members of society. That schools do make a difference in student learning has emerged strongly in the research. When schools use socio-economic factors as an excuse for low achievement, schools themselves become agents of continued inequality in society.

What works to address social inequality and its effect on student achievement? Studies have shown that supportive, caring school environments that also emphasize individual effort and improvement facilitate adaptive patterns of cognition, affect, and behaviour. Students connect

to the school in a caring and supportive atmosphere that focuses on students. If schools continue to use SES as an excuse for low student achievement, perhaps knowledge of the Alpha Co-efficient could spur improvement efforts. Students whose learning and achievement are not addressed in school are bound to live the lives from which they come; the screening effects of schooling play too important a role in determining students' futures.

Perhaps no finding has as a great an impact on student learning as that of Sanders' research. Adding value to student learning stems from effective teaching. As Pipho noted, "The single largest factor affecting academic growth of student populations is differences in effectiveness of individual classroom teachers." Efforts must be directed to enhancing teacher effectiveness if student learning is to be enhanced.

School Effectiveness

Perhaps no stronger statement can be made about school effectiveness than that made by Stoll and Fink. In their view, a school is effective if it:

- Promotes progress for all of its pupils beyond what would be expected given consideration of initial attainment and background factors;
- Ensures that each pupil achieves the highest standards possible;
- Enhances all aspects of pupil achievement and development; and
- Continues to improve from year to year.

Schools have access to greater information than in the past about attributes of effectiveness, performance indicators and measures, and processes by which the schools can focus on specific areas in need of improvement. As the MSIP showed, however, the success of any improvement exercise is dependent upon the collective will of teachers within a school and the leadership of individuals who are committed to making a greater difference in the success of their students. Only when teachers take greater responsibility for modeling effective practices will we realize high performance for all students. Value-added and enhanced equity in learning will occur only through the work of committed teachers.

The findings of the Exemplary Secondary Schools in Canada study conducted by Jane Gaskell and HRDC point clearly to the importance of individual teachers and their contributions to a team effort in determining overall school success. As Haughey noted in her summary, the preponderance of findings in the teacher category suggests that teachers make the difference in successful schools and underscores the importance of the human relations model in determining any school's effectiveness.

School Improvement

Consistent with Stoll and Fink's definition of school effectiveness, Jacka offers four indispensable principles that need to be adopted in any school improvement exercise:

1. All students can learn under appropriate conditions.
2. School effectiveness depends on the equitable distribution of learning outcomes across the whole student population.
3. Effective schools take responsibility for students' learning outcomes, rather than blaming students and their environments.
4. The more consistent teaching and learning processes are within the school, the more effective it will be.

Jacka advises that ignoring these principles will have disastrous consequences for tomorrow's youth.

Little more need be said about school improvement save its primary emphasis must be to increase learning for all students. We return to the words of Earl and Lee in the *Foreword* to conclude this review, for they summarize best what schools, education, teaching, and learning are all about: "Whatever else, learning cannot be overlooked or taken for granted. It is the major purpose of schooling."

REFERENCES

Barth, R. S. (1990). *Improving Schools from Within.* San Francisco: Jossey-Bass.

Bossert, S.T. (1988). *School Effects.* In Norman J. Boyan (Ed.), The Handbook of Research on Educational Administration: A Project of the American Educational Research Association, pp. 341-352. Longman: New York.

Bradley, L.H. (1993). *Total Quality Management for Schools.* Lancaster, PA: Technomic Publishing.

Canadian Education Association (June 1999). *Shape the Future brochure.* Toronto: Author.

Cawelti, G. (1994). *High School Restructuring: A National Study.* Arlington VA: Educational Research Services.

Coleman J.S., Campbell, E., Hobson, C., McPartland, J., Mood,A., Weinfeld, F., & York, R. (1968). *Equality of Educational Opportunity.* Washington, DC: U.S. Department of Health, Education, and Welfare.

Cowley, P. & Easton, S. (2000). *The Fraser Institute's Third Annual Report Card on British Columbia's Secondary Schools.* Vancouver, BC: The Fraser Institute.

Creemers, B. (1996). *The School Effectiveness Knowledge Base.* In David Reynolds, Robert Bollen, David Hopkins, Louise Stoll, & Nijs Lagerweij (Eds.): Making Good Schools: Linking School Effectiveness and School Improvement. London, GB: Routledge.

Earl Lorna M, & Lee, Linda E. (1998). *Evaluation of the Manitoba School Improvement Program*, p. i. Available at http://www.sunvalley.ca/msip/3_evaluation/3_summary.html

Fägerlind, I (1987). Ability: Effects on Earnings. In G. Psacharopolous (Ed.): *Economics of Education: Research and Studies*, pp. 285-286. Oxford, GB: Pergamon.

Gaskell, J. (1995). *Secondary Schools in Canada: The National Report of the Exemplary Schools Project.* Toronto: The Canadian Education Association.

Goldstein, H. (1993): *Assessment and Accountability. Parliamentary Brief*, October, 1993. London, GB: House of Commons.

Heyns, B. (1978). *Summer Learning and Effects on Schooling.* New York: Academic.

Haughey, Margaret (1997). *Successful Secondary Schools in Canada: A Report on the Exemplary Schools Project.* The Canadian Administrator, 36(5).

Human Resources Development Canada (1996). *How Schools Succeed: The National Report of the Exemplary Schools Project.* Bulletin, 2(1), Winter 1995-96. Available at http://www.hrdc-drhc.gc.ca/arb/publications/bulletin/vol2n1/vol2nla9_e.html

Jacka, Noreen (1999): What Makes a Good School? In CERIS Theme--*Exemplary Schools and Best Practices.* Available at http://ceris.schoolnet.ca/e/GoodSchool2.html

Jencks, C. (1972). *The Coleman Report and the Conventional Wisdom.* In F. Mosteller & D. Moynihan (Eds.), On Equality of Educational Opportunity. New York: Vantage.

Jencks, C. (1972). *Inequality: A Reassessment of the Effect of Family and Schooling in America.* New York: Basic.

Kaplan, R.S. & Norton, D.P. (1993). *Putting the Balanced Scorecard to Work.* In The Harvard Business Review, September-October, 1993.

Kaplan, R.S. & Norton, D.P. (1996). U*sing the Balanced Scorecard as a Strategic Management System.* In The Harvard Business Review, January-February, 1996.

Kovacs, Karen (1998). *Combating Failure at School.* In Louise Stoll & Kate Myers (Ed.), No Quick Fixes: Perspectives on Schools in Difficulty. London, GB: The Falmer Press.

Lake, R., Hill, P.T, O'Toole, L., & Celio, M. (1999). *Making Standards Work: A Case Study of Washington State*. Washington, DC: The Fordham Foundation.

Levine, D.U. & Lezotte, L.W. (1990). *Unusually Effective Schools: A Review and Analysis of Research and Practice*. Madison, WI: National Center for Effective Schools Research and Development.

Louis, K.S. & Smith, B.A. (1990). *Teachers' Work: Current Issues and Prospects for Reform*. In P. Reyes (Ed.), *Productivity and Performance in Educational Organizations*. Newbury Park CA: Sage Publications.

Loveless, Tom (1997). *The Structure of Public Confidence in Education*. American Journal of Education, 105(2), February 1997.

Manitoba School Improvement Program Inc. (1998). *Summary Evaluation of the MSIP*. Available at http://www.sunvalley.ca/msip/3_evaluation/3_summary.html

McCreary Centre Society (1999). *Healthy Connections: Listening to BC Youth*. Vancouver: Author.

McEwen, Nelly (1998). *Satisfaction with Education in Alberta.* The Alberta Journal of Educational Research 44(1), Spring 1998.

Metz, M.H. (1978). *Classroom and Corridors*. Berkeley: University of California Press.

Navarro, S. & Natalicio, D. (1999): *Closing the Achievement Gap in El Paso.* Kappan, 79(4), pp. 597-601. More information on the Texas initiative is available at http://www.tea.state.tx.us/

Newmann, F. & Wehlage, G. (1995): *Successful School Restructuring.* Madison, WI: Center on Organization and Restructuring of Schools.

OECD Center for Educational Research and Innovation (1997). *Education Policy Analysis 1997.* Paris: OECD Publications Service.

Pelligrino, J. W. & Varnhagen, C. K. (1987). *Intelligence Theories and Tests.* In G. Psacharopolous (Ed.), Economics of Education: Research and Studies, pp. 273-278. Oxford, GB: Pergamon.

Pipho, C. (1998). *The Value-Added Side of Standards*. Kappan, 79(5).

Renaissance Worldwide Strategy Group (1998). *The Balanced Scorecard--An Overview* Available at http://www.rens.com/

Rosenbaum, J.E. (1975). *The Stratification of Socialization Processes.* American Sociological Review, 40, pp. 48-54.

Rosenbaum, J.E. (1976). *Making Inequality: The Hidden Curriculum of High School Tracking.* New York: John Wiley.

Roser, R.W., Midgely, C., & Urdan, T.C. (1996). *Perceptions of the School Psychological Environment and Early Adolescents' Psychological and Behavioural Functioning in School*: *The Mediating Role of Goals and Belonging*. Journal of Educational Psychology, 88, pp. 408-422.

Rutter, M. (1983). *School Effects on Pupil Progress: Research Findings and Policy Implications*. In L.S. Schulman and G. Sykes (Eds.), Handbook of Teaching and Policy. New York: Longman.

Rutter, M., Maugham, B., Mortimore, P., Outston, J., and Smith, A. (1979). *Fifteen Thousand Hours: Secondary Schools and Their Effect on Children.* Cambridge, MA: Harvard University Press.

Sammons, P., Thomas, S., & Mortimer, P. (1996). *Forging Links: Effective Schools and Effective Departments.* London, GB: Chapman.

Scheerens, J. (1995). *Internationally Comparable Indicators of Educational Programs and processes: Identification, Measurement, and Interpretation.* In OECD Center for Educational Research and Innovation (Ed.), Measuring the Quality of Schools. Paris: OECD Publications Service.

Schlechty, Phillip C. (1997). *Inventing Better Schools: An Action Plan for Reform*. San Francisco: Jossey-Bass Publishers.

Schmoker, M. (1999). *Results: The Key to Continuous School Improvement (2nd Edition).* Alexandria, VA: ASCD.

Schonert-Reichl, Kimberly A. (2000). *Children and Youth at Risk: Some Conceptual Considerations*. Paper prepared for the Pan-Canadian Education Research Agenda Symposium, "Children and Youth At Risk," April 6 and 7, 2000. Vancouver, BC: University of British Columbia.

Sergiovanni, T. J. (1991, 1995). *The Principalship: A Reflective Practice Perspective.* Needham Heights, MA: Allyn and Bacon.

Sergiovanni, T.J. (1996). *Leadership for the Schoolhouse: How Is It Different? Why Is It Important?* San Francisco: Jossey-Bass.

Spady, W.G. (1973). *The Impact of School Resources on Students*. In F. Kerlinger (Ed.), Review of Research in Education. Itasca, IL: Peacock.

Statistics Council (1996). *Education Indicators in Canada: Pan-Canadian Education Indicators Program.* Toronto: Author.

Stoll, Louise & Fink, Dean (1996). *Changing Our Schools.* Philadelphia PA: Open University Press.

Summers, A.A. & Wolfe, B.L. (1975). *Equality of Educational Opportunity Quantified: A Production Function Approach.* Philadelphia: Federal Reserve Bank of Philadelphia.

Victorian Department of Education (1997). *Effective Schools and School Reviews:* The Victorian Accountability Framework. Available at http://www.sofweb.vic.edu.au/ofreview

Victorian Department of Education (1998). *Improving School Efficiency: Student and School Evaluation.* Available at http://www.sofweb.vic.edu.au/ofreview

Victorian Department of Education (1998). *Building High Performance Schools: An Approach to School Improvement.* Available at http://www.sofweb.vic.edu.au/ofreview

Wiley, D.E. (1976). *Another Hour, Another Day: Quantity of Schooling--A Potent Path for Policy.* In W. Sewell, R.M. Hauser, and D.L. Featherman (Eds.): Schooling and Achievement in American Society. New York: Academic.

Wimpleberg, R.K., Teddlie, C., & Stringfield, S. (1989). *Sensitivity to Context: The Past and Future of Effective Schools Research.* Educational Administration Quarterly, 25(1), pp. 82-108.

Woodhall, M. (1987). *Cost-Effectiveness Analysis in Education.* In George Psacharopoulos (Ed): Economics of Education: Research and Studies, pp. 348-349. Oxford: Pergamon Press.