Multiplicity of School Functions in the New Century:
The Shift of Paradigm in School Effectiveness Research

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(abstract)

How to enhance school effectiveness is one of the major concerns in current education reforms in both local and international contexts. Even though the volume of literature on school effectiveness research is rapidly increasing in the past decade, most of the findings suffer from the ignorance of the multiplicity of school functions and cannot provide comprehensive and powerful implications for policy making and school improvement. This paper suggests that there are multiple school functions including technical/economic function, human/social, political, cultural, and educational functions at the individual, institutions, community, society, and international levels in the new century. Therefore the research paradigm should be shifted from the traditional simplistic conception of school effectiveness with focus only on technical and social functions at the individual or institutional levels to a multi-level and multi-categorical conception of school effectiveness. In the new research paradigm, dilemmas from differences in constituencies' expectations on school effectiveness at different levels inevitably should be one of the key foci in studying school effectiveness. Since the relationships of school effectiveness between categories, between levels, or between effectiveness and efficiency may not be necessarily positive, there is a strong need to study these between-relationships. Inter-disciplinary cooperation is strongly encouraged to investigate multiple school effectiveness and develop a comprehensive theory to explain the between-relationships of multiple school effectiveness.

Various types of education reforms had started all over the world since the eighties, and have become important trends in the nineties. The major reform directions include implementing school-based management, establishing systems for quality assurance and accountability, emphasizing the application of strategic management and development planning, identifying and promoting characteristics of effective schools, and applying total quality management in schools (Caldwell & Spinks, 1988, 1992; Cheng, 1994; Dempster, Sachs, Distant, Logan & Tom, 1993; Greenwood & Gaunt, 1994; Hargreaves & Hopkins, 1991; Mortimore, 1993; Murgatroyd & Morgan, 1993; Murphy & Beck, 1995; Scheerens, 1992). Among the reform activities, how to enhance school effectiveness for improving education quality has always been the core research topic. In the past decade, related research literature has increased a lot, and an international organization (i.e. International Congress for School Effectiveness and Improvement) was also set up for promoting research on school effectiveness and practice of school improvement by
organizing conferences and publishing journals. International conferences were held in England (1988, 1991), Holland (1989, 1995), Israel (1990), Canada (1992), Sweden (1993), Australia (1994), Russia (1996) and USA (1997). This movement is very important to increase in research and discussion on school effectiveness and educational reforms. Even the development of research has been very rapid in this field, there is still lack of a clear and comprehensive conception of school effectiveness. It is not surprising that the research results are often not so convincing to support effective school practice (Cheng, 1994). The aim of this paper is to investigate the possible domains of school effectiveness research in terms of the multiplicity of school function, and suggest a shift in research paradigm. Hopefully it may contribute to the development of a new direction for future research on school effectiveness.

To different people, the definition of school effectiveness may be very different. Also, school effectiveness is often confused with the term "school efficiency". The critical elements of effectiveness conceptualization such as "what criteria", "whose criteria", "effective for whom", "who to define", "how to evaluate", "when to evaluate", and "under what environmental constraints" are often problematic because there seems no standard elements accepted by all concerned constituencies for evaluation (Cheng, 1993). Particularly, a school is an organization in a changing and complicated social context, bounded with limited resources and involving multiple constituencies such as education authorities, school administrators, teachers, students, parents, taxpayers, educators, and the public. Therefore the people concerned have different interpretations on school functions and goals:

- some regard the short-term effects as important, the others emphasize the long-term function; some stress the function on social integration, the others pay attention to personal growth. In such a social context, understanding school effectiveness is quite difficult without discussing about school functions. To different functions or goals, schools may have different performance and effectiveness. For example, some schools may be good at helping students' personal development but some may be excellent in producing competent technicians for the needs of the community. Therefore, it is necessary to clarify the aims and functions of schools before we can discuss what is school effectiveness. The following discussion concerning the multiplicity of school function may help to examine the current research of school effectiveness, and develop new directions for it.

Multiple School Functions
Cheng (1996) provided a comprehensive analysis of multiplicity of school functions. From the education aims of schools in USA and Hong Kong (Averch et al., 1974; The National Education Goals Panel, 1992; Education & Manpower Branch, 1993), school are expected to have multi
functions involving individual, institutional, community, national and international levels. In addition to education of students, schools serve other implicit or explicit functions at different levels in the society according to both Functionalism or the Conflict Theory in sociology (Blackledge & Hunt, 1985; Cheng, 1995). For example, Functionalism suggests that school education can facilitate social mobility and social change but the Conflict Theory argues that school education reproduces class structure and maintains class inequality at the society level. Based on the commonly espoused education goals, organizational studies and development studies (e.g., Bolman & Deal, 1991; Cameron & Whetten, 1981, 1983; Cheng, 1993; Blackledge & Hunt, 1985; Beare & Slaughter, 1993; Cheng, 1995), Cheng (1996) classify the potential school functions into five types: technical/economic functions, human/social functions, political functions, cultural functions, and educational functions, as shown in Table 1.

Technical/Economic Functions. They refer to the contribution of schools to the technical or economic developments and needs of the individual, the institution, the local community, the society, and the international community. At the individual level, schools can help students to acquire knowledge and skills necessary to survive and compete in a modern society or a competitive economy, and provide staff job training and opportunity. At the institutional level, schools are service organizations providing quality service; also they serve as a life place or work place of society for clients, employers and all those concerned. At the community and society levels, schools serve the economic or instrumental needs of the local community, supply quality labor forces to the economic system, modify or shape economic behaviors of students (future customers and citizens) (McMahon, 1987), and contribute to the development and stability of the manpower structure of the economy (Hinchcliffe, 1987). At the international level, school education supplies the high quality forces necessary in international competitions, economic cooperation, earth protection, and technology and information exchange.

Human/Social Functions. They refer to the contribution of schools to human developments and social relationships at different levels of the society. As indicated in nearly all formal education goals, at the individual level schools help students to develop themselves psychologically, socially, and physically, and help them develop their potential as fully as possible. At the institutional level, a school is a social entity or social system composed of different human relationships. The quality of social climate and relationships in it often determines the quality of work life and learning life for teachers and students. Therefore one of the important school functions is to provide an environment of quality. At the community and society levels, according to the perspective of Functionalism schools serve the social needs or functions of the local community, support social
integration of multiple and diverse constituencies of society, facilitate social mobility within the existing class structure, reinforce social equality for all people of different backgrounds, select and allocate competent people to appropriate roles and positions, and contribute to social change and development in the long run (Cheng, 1991a). From the alternative view of the Conflict Theory, it is possible that schools reproduce the existing social class structure and perpetuate social inequality (Blackledge & Hunt, 1985). Due to the growing global consciousness (Beare & Slaughter, 1993), schools are expected to play an important role in preparing students for international harmony, social cooperation, global human relationship, and elimination of national, regional, racial, and gender biases at the international level such that both the local community and the international community can benefit in the long run.

Political Functions. They refer to the contribution of schools to the political developments at different levels of society. At the individual level, schools help students to develop positive civic attitudes and skills to exercise the rights and responsibilities of citizenship. At the institutional level, schools act as a place for systematically socializing students into a set of political norms, values and beliefs, or for critically discussing and reflecting on the existing political events. Schools often become a political coalition of teachers, parents, and students that can contribute to the stability of the political power structure. At the community and society levels, schools play an important role to serve the political needs of the local community, legitimize the authority of the existing government, maintain the stability of political structure, promote awareness and movement of democracy, and facilitate the planned political developments and changes (Thomas, 1983). The growing awareness of international dependence reinforces the need for the contribution of school education to international understanding, global common interest, international coalitions, peace movements against war, and elimination of conflicts between regions and nations. It seems that the political functions of schools should also be important at the international level for the long term benefit of the world.

Cultural Functions. They refer to the contribution of schools to the cultural transmission and development at different levels of society. At the individual level, schools help students to develop their creativity and aesthetic awareness and to be socialized with the successful norms, values, and beliefs of society. At the institutional level, schools act as a place for systematic cultural transmission to and reproduction of the next generation, cultural integration among the multiple and diverse constituencies, and cultural re-vitalization from the outdated poor traditions. At the community and society levels, schools often serve as a cultural unit carrying the explicit norms and expectations of the local community, transmit all the important values and artifacts of the society to students, integrate the diverse sub-cultures from different background, and revitalize the strengths of
the existing culture such that the society or the nation can reduce internal conflicts and wastage and build up a unifying force for national benefits. Of course, the Conflict Theory provides an alternative view that for different classes of the society, schools socialize students with different sets of values and beliefs—different cultural capital such that some people may benefit more from the prestige cultural capital but some suffer from the poor culture (Apple, 1982; Cheng, 1991a; Collins, 1971; Giroux, 1981). In other words, schools reproduce and perpetuate cultural inequality within the society. Obviously, Functionalism and Conflict Theory have different views on the cultural functions of schools at the society level. At the international level, schools can encourage appreciation of cultural diversity and acceptance of different norms, traditions, values, and beliefs in different countries and regions, and finally contribute to the development of global culture through integration of different cultures.

Education Functions. They refer to the contribution of schools to the development and maintenance of education at the different levels of society. Traditionally, education is often perceived as only a means for achieving the economic, social, political, and cultural values and goals. Due to the rapid development and change in nearly every aspect of the world, people begin to accept education in itself as an important value or goal. Education represents learning and development. Like economics, politics, culture, and social relationship, education becomes a necessary component of our life particularly in an era of great change and transformation. The content, system, and structure of education need to be developed and maintained. At the individual level, it is important for schools help students to learn how to learn and help teachers to learn how to teach. Also, facilitating teachers' professional development is one of the key education functions at this level. At the institutional level, schools serve as a place for systematic learning, teaching, and disseminating knowledge, and as a center for systematically experimenting and implementing educational changes and developments. At the community and society levels, schools provide service for different educational needs of the local community, facilitate developments of education professions and education structures, disseminate knowledge and information to the next generation, and contribute to the formation of a learning society. In order to encourage mutual understanding among nations and build up "a global family" for the younger generation, schools can contribute to the development of global education and international education exchange and cooperation. At the international level, schools can make an important contribution to education for the whole world.

As shown in Table 1, there may be 25 categories of school functions in a typology composed of five types of functions at five different levels.
Table 1  Multiple School Functions at Multiple Levels

<table>
<thead>
<tr>
<th>Technical/ Economic Functions</th>
<th>Human/ Social Functions</th>
<th>Political Functions</th>
<th>Cultural Functions</th>
<th>Educational Functions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual</td>
<td>( students, staff, etc. )</td>
<td>Knowledge &amp; skills training</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Career training</th>
<th>Institutional</th>
</tr>
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<tbody>
<tr>
<td>Job for staff</td>
<td>As a life place</td>
</tr>
<tr>
<td>Psychological developments</td>
<td>As a work place</td>
</tr>
<tr>
<td>Social developments</td>
<td>As a service organization</td>
</tr>
<tr>
<td>Potential developments</td>
<td>As a social entity/system</td>
</tr>
<tr>
<td>Development of civic attitudes and skills</td>
<td>As a human relationship</td>
</tr>
<tr>
<td>Acculturation</td>
<td>As a place for political socialization</td>
</tr>
<tr>
<td>Socialization with values, norms, &amp; beliefs</td>
<td>As a political coalition</td>
</tr>
<tr>
<td>Learning how to learn &amp; develop</td>
<td>As a place for political discourse or criticism</td>
</tr>
<tr>
<td>Learning how to teach &amp; help</td>
<td>As a center for cultural transmission &amp; reproduction</td>
</tr>
<tr>
<td>Professional development</td>
<td>As a place for cultural re-vitalization &amp; integration</td>
</tr>
<tr>
<td></td>
<td>As a place for learning &amp; teaching</td>
</tr>
<tr>
<td></td>
<td>As a center for disseminating knowledge</td>
</tr>
<tr>
<td></td>
<td>As a center for educational changes &amp; developments</td>
</tr>
</tbody>
</table>
Community

Serving the economic or instrumental needs of the community
Serving the social needs of the community
Serving the political needs of the community
Serving the cultural needs of the community
Serving the educational needs of the community

Society

Provision of quality labor forces
Modification of economic behavior
Contribution to the manpower structure
Social integration
Social mobility/s social class perpetuation
Social equality
Selection & allocation of human resources
Social development & change
Political legitimization
Political structure maintenance & continuity
Democracy promotion
Facilitating political developments & reforms
Cultural integration & continuity
Cultural reproduction
Production of cultural capital
Cultural revitalization
Development of the education professions
Development of education structures
Dissemination of knowledge & information
Learning society

International

International competition
Economic cooperation
International trade
Technology exchange
Earth protection
Sharing information
Global village
International friendship
Social cooperation
International exchanges
Elimination of national /regional /racial /gender biases
International coalition
International understanding
Peace/ against war
Common interests
Elimination of conflicts
Appreciation of cultural diversity
Cultural acceptance across countries/regions
Development of global culture
Development of global education
International education exchanges & cooperation
Education for the whole world

Emphasis on Different School Functions
Taking the time span into consideration, school functions may be further divided into two types: long term functions and short term functions. Long term functions refer to the contributions or effects of schools that happen and continue in a long time (e.g., more than a few years). These functions are often very important even though they may not be so obvious to people's perception. Short term functions refer to those contributions or effects of schools that occur explicitly in a short time (e.g., a few months or less than a few years). In general, for each type of the technical/economic, human/social, political, cultural, educational functions, there may exist both long term and short term functions even though short term functions may be often more easily identified and commonly emphasized at the individual level or the institutional level.
To different people or constituencies, the expectations of school functions are often different. Some people may be more concerned with the technical and economic functions but others with the political functions. Some people may pay attention to the functions at the individual levels but others may focus more on the functions at the community level or society level. Even though in the past years school functions at the international level might not attract much attention, there seems to be a growing concern about it in recent years (Beare & Slaughter, 1993).
To different academic disciplines, the emphasis on types and levels of school functions may be different too. For example, school functions at the individual level may receive more attention in educational psychology. For sociology of education, school functions at the society level, particularly those related to social mobility, equality and class stratification, may attract more concern. Obviously, economics of education often focuses on the economic functions of schools at different levels. In the field of school management or organizational behavior, school functions at the institutional level are inevitably the major topic of study. Obviously different academic disciplines have different foci when doing research on school functions.
Based on different beliefs and emphases on the types of school functions, different strategies or policies are usually proposed for school management and improvement. Traditionally, people often focus
narrowly on a few categories of school functions such as technical functions and social functions at the individual levels and ignore the other categories. The ignorance of a wide spectrum of school functions inevitably sets a tight limit to policy-making and management effort for school improvement, and the situation that attend to one and neglect the other will often happen. Therefore, it is not a surprise that an educational reform policy mainly based on the beliefs about technical functions at the individual level cannot improve the cultural or social functions at the individual level or other levels.

Paradigm Shift in School Effectiveness Research

Based on different emphases on school functions, the conceptualization of research on school effectiveness may be very different. If we accept the importance of the multiplicity of school functions, we should consider to include it in school effectiveness research and avoid simplistic research conception and over-generalization of findings biased on a very narrow school function. The above classification of multiple school functions can provide a framework to develop a new research paradigm on school effectiveness and compare research studies that are based on different disciplines or perspectives.

Classification of School Effectiveness. From the conception of school functions, we may define school effectiveness as the capacity of the school to maximize school functions or the degree to which the school can perform school functions, when given a fixed amount of school input. Since there are five types of school functions, school effectiveness may be further classified into five types: technical/economic effectiveness, human/social effectiveness, political effectiveness, cultural effectiveness, and educational effectiveness. For example, technical/economic effectiveness represents the capacity of the school to maximize technical/economic school functions. Furthermore, since there are five levels of school functions, school effectiveness may be classified into five levels: school effectiveness at the individual level, at the institutional level, at the community level, at the society level, and at the international level. By the combination of 5 types and 5 levels, there are 25 categories of school effectiveness in a typology as shown in Table 2.

Table 2. Categories of School Effectiveness

School Effectiveness and School Efficiency. From an input-output perspective, high or low school effectiveness can be obtained from the comparison between the school functions or output a school can produce and what has been put into the school. Assuming that this preliminary idea of school effectiveness is acceptable, we may adapt Lockheed's (1988) ideas to school organizations and use them to further
differentiate school effectiveness from school efficiency in the following way (Cheng, 1993).

When the discussion is mainly in terms of non-monetary inputs or processes (e.g., number of textbooks, classroom organization, professional training of teachers, teaching strategy, learning arrangements, etc.), the comparison of output function to non-monetary input (or process) may be called "School Effectiveness". If the discussion is mainly in terms of monetary input (e.g., 1000 dollars input per student, cost of books, salary, opportunity cost, etc.), then the comparison between school output function and monetary input may be called "School Efficiency". With the consideration of the 5 types of school functions at five levels, school efficiency may be similarly classified into 25 categories including technical/economic efficiency, human/social efficiency, political efficiency, cultural efficiency, and educational efficiency at the individual, institutional, community, society, and international levels. This classification helps to clarify what kind of effectiveness is under discussion.

Relationship between Different School Functions. The term "school effectiveness" is used broadly in past studies but it may have different meanings. Some studies are interested in the school's social effectiveness but the others in cultural effectiveness or economic effectiveness. It is important to point out that the relationship between the five types of school effectiveness, between the five levels of school effectiveness, and even between effectiveness and efficiency may be very complicated, and not necessarily positive. A school's high technical effectiveness at the individual level does not necessarily promise high technical effectiveness or social effectiveness at the society level, although people often assume the existence of such a positive relationship (Grosin, 1994). For example, the success of some technical training in school does not imply high productivity for the society if these skills learned in school are found to be outdated (or useless) in students' later career life. Furthermore, many studies from radical perspectives challenge the traditional belief of schools' "positive" functions on social equalization by pointing out that schools do not promote social equality, they carry on the inequality of social class on the contrary (Blackledge & Hunt, 1985; Cheng, 1991a). Therefore even though schools have higher technical effectiveness at the institutional level, they do not necessarily have the effectiveness of promoting social equality as expected. To a great extent, the relationship between technical effectiveness and social effectiveness or cultural effectiveness is very controversial in the field of sociology of education. Also, the relationship between technical effectiveness and technical efficiency may not be simple. It is often a hot topic for research in the field of economics of education (Cheng & Ng, 1992; Psacharopoulos, 1987).

In general, a school high in a few of the 25 categories of effectiveness may not be high, too, in the other categories.
Furthermore, enhancement of one type of school effectiveness does not necessarily promise increase in the other four types. Similarly, increasing school effectiveness at one level does not certainly result in improvement of effectiveness at the other levels. Due to lack of existing studies concerning the inter-effectiveness relationships, not much were found.

The Traditional Research Paradigm. Until the past decade, there appeared a lot of studies on school effectiveness all over the world (Reynolds, 1985; Reynolds, Creemers & Peters, 1988; Reynolds, et al., 1994; Reynolds & Cuttance, 1992; Scheerens, 1992; Dimmock, 1993; Creemers, 1994; Creemers & Scheerens, 1990; Creemers & Reynolds, 1990-1995; Wimpelberg, Teddlie & Stringfield, 1989; Walberg, 1990, 1992, 1993) and different characteristics or models of effective schools were suggested (Edmonds, 1979; Ralph & Fennessey, 1983; Bosker & Scheerens, 1993; Scheerens & Creemers, 1990; Mortimore, 1993; Murphy, Hallinger & Mesa, 1985; Clark, Lotto & Astuto, 1984; Purkey & Smith, 1983; Levine & Lezotte, 1990; Levine, 1992; Beare, Caldwell & Millikan, 1989). For example, the famous Edmond's Five Factor Model (Edmond, 1979) suggested five characteristics of schools: (1) strong educational leadership, (2) emphasize the learning of basic skills, (3) safe and orderly atmosphere, (4) frequent assessment of students' progress, and (5) high expectation toward students' achievement. It is widely believed that school effectiveness could be enhanced through implementing these characteristics. In the eighties, many principal training courses and school reform programs were carried out according to these characteristics in the U. S. A. (Creemers, et al., 1992). It was not until the nineties that people began to doubt whether there was such a simple formula for improving education effectiveness or student achievement, and in accordance other more complicated combination of school characteristics were proposed. What Levine & Lezotte (1990) suggested was one of the famous examples. Recently, Mortimore(1993) integrated past studies, believed that in order to be effective, the school and classroom levels should have the following characteristics respectively:

At the School Level,
Leadership which provides clear aims and commitment within a positive ethos
Management which is efficient and skillful and which uses resources efficiently
Machinery for policy formulation which involves staff and where appropriate - the community, parents and students in developing strategies appropriate to the aims of the school
An environment which is both intellectually stimulating & safe
A school-wide curriculum and assessment process
Staffing policies which are cost-effective and which draw fully on the potential of individuals
Adequate levels of resources, including books, learning materials and information technology equipment
The capacity to cope with, and benefit from, change

At the Classroom Level:
Expectations which are pitched high and are sustained over time
Classroom management which is systematic and fair and which stresses rewards rather than punishment
Well prepared teaching
Detail and positive feedback
Support for students who need supplementary help
An appropriate and balanced curriculum
Flexible ways of working which relate well to school-wide aims and initiatives

However, most of these studies and models only concern about the effect of internal technical or operational effectiveness on students' academic achievement and learning attitude at the individual level. Even though there are some studies based on multi-level concept, they are limited to the internal multi levels (e.g., Scheerens & Creemers, 1990) and the external multi-levels are neglected as well as the other categories of effectiveness. Therefore, due to the lack of in-depth and comprehensive conception of school effectiveness, the implications of research results for policy-making and school practice are much limited and biased and cannot provide long-term overall guidance.

Shift to a New Research Paradigm.
From the above conception of school effectiveness for multi-functions at multi-levels, a new paradigm including the following new directions can be proposed for consideration in future research, policy-making and practice, as contrasted with the traditional one in Table 3. Traditionally, the discussion of school effectiveness is often based on the simplistic conception of school functions, involving technical / economic effectiveness and social effectiveness at the individual or institutional levels only. Neglecting the multiplicity and complexity of school effectiveness inevitably sets a great limitation for research results to generate significant implications for effective school improvement and development. Therefore, in the future study we should consider a wider spectrum of school effectiveness including technical/economic, human/social, political, cultural and educational functions. Also, not only the issues at the individual and institutional levels are strongly emphasized, but those at the community, society and international levels may receive sufficient attention. Traditionally, the short-term effectiveness is often the major focus of investigation. In the new paradigm, both the short-term and long-term effects of school should be important for research.
Table 3. New Paradigm and Traditional Paradigm in Studying School Effectiveness

New Paradigm

Traditional Paradigm

Nature of School Effectiveness

Based on multiple conception of school functions: technical, social, political, cultural & educational
Conception at five levels: individual, institutional, community, society & international
Both short-term & long-term considerations
Biased on simplistic conception of school functions, particularly on technical & social functions only
Conception only at one to two levels, particularly at the individual or institutional levels
Mainly short-term consideration

Expectation of School Effectiveness

To different constituencies, different types of school effectiveness are expected
Dilemmas exist
Emphasizing mainly technical or social effectiveness, assuming no big differences in expectations
Dilemmas are ignored

Assumption about Relationships

Complicated relationship between types
Complicated relationship between levels
Complicated relationship between effectiveness & efficiency

Between-relationships not necessarily positive, need to be studied and managed
Positive relationship between types
Positive relationship between levels
Positive relationship between effectiveness & efficiency
No strong need to study and manage between-relationships

Disciplines for Investigation
Interdisciplinary cooperation and efforts are needed
Mainly single discipline is used; separate efforts are made

Focus of Study & Discussion

Multi-types of effectiveness
Multi-levels of effectiveness
Relationship between types
Relationship between levels
Relationship between effectiveness & efficiency
Separate/single type of effectiveness
Separate/single level of effectiveness

Implications for Management & Policy

To maximize effectiveness in multi-types at multi-levels
To maximize efficiency in multi-types at multi-levels
Need to ensure congruence between types & between levels
Need to ensure congruence between effectiveness & efficiency
Mainly to maximize effectiveness in separate type at single level
Mainly to maximize efficiency in separate type at single level
No need to ensure congruence between types & levels
No need to ensure congruence between effectiveness & efficiency

In traditional discussion, people usually emphasize mainly the technical/ economic or human/social effectiveness and assume no big difference in expectations of different constituencies at different levels (e.g., parents, students, teachers, administrators, community,
economic sector, social service sector, policy-makers, the public, etc.). They may have ignored the potential dilemmas from differences in the constituencies' expectations on school effectiveness in such case. If we agree that schools have multi-functions and the constituencies at different levels have diverse expectations, what kind of management should we employ to enhance school effectiveness? The study and management of these dilemmas should be one of the key concerns in current movements of educational reforms. Obviously, how to decrease these dilemmas and allow schools acquire the greatest congruence between levels and between categories of effectiveness is a crucial research topic in the new paradigm (see Table 3).

Based on the simplistic conception of school effectiveness, traditional studies assume that there is a positive relationship between categories of effectiveness, between levels of effectiveness, or between effectiveness and efficiency, and it is not necessary to study and manage these inter-relationships. As we have discussed, this assume is very problematic. The inter-relationships may be very complicated, not necessarily positive. The increase school effectiveness in one category does not promise the other. Therefore there is a strong need in the new research paradigm to study these inter-relationships if we want to make sensible efforts in pursuing school effectiveness. Traditionally, school effectiveness studies may involve mainly one single discipline (e.g., educational psychology), or depend on separate effort of each discipline. Obviously it is not sufficient for studying the complexity of school effectiveness. In the new research paradigm, we should encourage inter-disciplinary cooperation (e.g., involving educational psychology, economics of education, sociology of education, anthropology, organizational theories, etc.) and efforts to investigate school effectiveness. The focus should include multi-categories of effectiveness at multi-levels, relationship between categories, relationship between levels, and relationship between effectiveness and efficiency. Meanwhile, we need to develop a comprehensive theory to explain each inter-relationship and provide practical guidelines for the enhancement of school effectiveness. (Table 3)

Traditionally, only some categories of school effectiveness or efficiency at one or two levels are stressed and studied, the rest are neglected, and little are know about the importance of inter-level congruence and the congruence between effectiveness and efficiency. No wonder many policy efforts seem not to be so successful for enhancing school effectiveness, if not end in failure. When we understand that there is a multiplicity in school effectiveness, the future direction for policy and management should aim to maximize school effectiveness and efficiency of multi-categories at multi-levels. How to ensure congruence among categories, levels, and between effectiveness and efficiency, how to enhance the overall school effectiveness at all levels without stressing a particular category, and how to solve the dilemmas from the different expectations of various constituencies
should be critical issues in the current movements of educational reforms for further investigation in the new paradigm.

Conclusion: Research Strategies
According to the above new research paradigm, we may propose the following research strategies to conceptualize school effectiveness research:

The single category and single level strategy: This strategy is very simple with the research conception focusing on a certain category of school effectiveness at a certain level. For example, to study the influence of school on students' learning mathematics. This strategy is often used in the traditional research because it costs less and it is easier to carry out.

The single category and multi-level strategy: The research focus of this strategy lies on a particular category of school effectiveness (e.g., economic or political effectiveness), but involves two or more levels (e.g., individual, institutional, community and societal level). Comparing to the single category and single level strategy, this strategy is more complex, and may have the chance to study the inter-level relationships. The findings may be useful to understand how a certain school effect can be perpetuated from one level to other levels.

The multi-category and single level strategy: This strategy puts its research focus on more than one category of school effectiveness and their inter-relationships (e.g., to study school's technical effectiveness, political effectiveness and cultural effectiveness, and their inter-relationships) at a particular level (e.g. at individual level). This strategy can provide the opportunities to understand whether one category of school effectiveness is congruent or conflicting with other categories and identify what approach would be used to manage the different school functions and enhance their effectiveness.

The multi-category and multi-level strategy: The research focus of this strategy includes multi-categories and multi-levels of school effectiveness. Obviously, it is more comprehensive and sophisticated than the above strategies. It can provide opportunities to understand how different categories of school effectiveness are related and how school effectiveness varies across different levels. The findings may have more powerful and sophisticated implications for educational reforms, school management, and educational practice to ensure congruence between school functions across and maximize multiple categories of school effectiveness. Of course, more resources and time will be needed and the research design will be more complicated for this strategy.

In order to facilitate school reforms and support educational practice, a more comprehensive research strategy should also be adopted for the future research on school effectiveness. Strategies 2, 3, and 4 should
be encouraged in the new research paradigm.

School effectiveness is the key issue of current educational reform. Even though the literature of school effectiveness research has been increased quickly in the past decade, the research results are not yet sufficient to support the ongoing school reforms in different parts of the world, due to the limitations in the traditional conception of school effectiveness. A new research paradigm based on the multiplicity of school functions in the new century is needed to support the current educational developments in both local and international contexts. Hopefully, the paradigm developed from the multi-level and multi-category framework of school effectiveness may provide new directions and new strategies for research and development.

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Brief introduction to the author
Professor Yin Cheong CHENG

Professor Cheng got his doctoral degree from Harvard University. He is the Director of the Centre for Research and Development of the Hong Kong Institute of Education and a professor in the Department of Educational Administration and Policy of the Chinese University of Hong Kong.

He has undertaken a number of large scale research projects on educational effectiveness, education quality, and school management, and has published numerous articles in local and international journals. He is the author of four books: Function and Effectiveness of Education (Wide Angle Press), School Effectiveness and School-based Management: A Mechanism for Development (Falmer Press), The Pursuit of School Effectiveness: Research, Management, and Policy, and The Improvement of School Management: Theory, Reform, and Practice (Hong Kong Institute of Educational Research). He won the 1994 Award for Excellence from the Literati Club in UK for his outstanding article. He is now serving on editorial boards of three international journals.

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