Determinants of School Effectiveness: A study at Punjab level

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Abstract

The aim of this study was to find out the determinants of school effectiveness in Pakistani context. For this purpose, researchers investigated how the teachers and administrators perceive school effectiveness. A sample of 800 teachers, administrators and curriculum experts was randomly selected from the different districts of Punjab. A questionnaire was developed based on the opinions of experts and educationists about the determinants of effective schools. A thorough review of literature was done. The questionnaire consisted of 17 determinants of school effectiveness having 68 items. The analysis of the data revealed that all the variables were strongly interrelated with each other. Researchers developed a four factor model of effective schools based on these determinants. The participants strongly agreed that the implementation of this model will raise the quality of education in Pakistan.

Key words: School effectiveness, administration, environment, professionalism, quality factors

Introduction

One of the primary concerns of School Effectiveness Research is the question of what constitutes school effectiveness (SE). Researchers generally lack consensus on what constitutes school effectiveness. School effectiveness refers to effectiveness enhancing conditions at school level (Scheerens, 2004). It includes all the contextual variables related with school such as teaching, learning, administration, students' motivation and community involvement. In the early studies on school effectiveness the emphasis was on the enhancing conditions of schooling and output measures, mostly achievement of the student.

Other studies rejected this stand and stated that school effectiveness should not focus on mere academic achievement but other factors such as classroom behavior, student participation rates, and attitudes towards learning (Rutter, 1983; Sammons et al., 1996). Coleman (1966), the pioneer in school effectiveness studies concluded that student background characteristics were far more powerful in determining student achievement than any school-level factors. In response to the results of studies of Coleman it was fond out that "Schools can make a difference" (Brookover, W.B., Beady, C., Flood, P. et al. 1979) and "School matters" (Mortimore et al., 1988). The other researchers (Edmonds & Frederikson, 1979; Brookover & Lezotte, 1978) in the effective schools movement also disagreed with the conclusions given by Coleman. These researchers tried to investigate correlates that resulted in some schools from the low Socio-Economic-Status producing high achieving students under difficult environmental conditions.

Another approach is to identify the causes of school *failure*. For instance, Stoll (1995): has drawn our attention to lack of vision, unfocused leadership, dysfunctional staff relationships, and ineffective classroom practices as mechanisms through which the effectiveness of schools can deteriorate (Mortimore 1997: 481). Weber (1971) found out a number of characteristics for successful schools such as strong leadership, high expectations, and good atmosphere. According to Subbs (1995) the correlates of effective schools can be defined as the means of achieving high and equitable levels of student learning. It is expected that all children regardless their socioeconomic and background characteristics will get at least the essential knowledge and skill (Kirk and Jones 2004). Another view, derived from the studies done at Netherland, concluded that effective schools are those that successfully progress the learning and personal development of all of their students (ACT, 2005) is opposite to the U.K. and USA perspective of an effective school being judged merely by academic performance.

The definition of effective schools differs from one researcher to the next. Some researchers have focused on academic achievement of the students. Other did research concerning differences in attitudes and behavior of the students (Dodson 2005). Edmonds (1982) synthesized the research and identified some variables strongly correlated with SE such as strong administrative leadership, basic skill acquisition, high expectations for student achievement, a safe and orderly environment and frequent assessing of student achievement (Harbaugh 2005). In the literature this summarizing is sometimes identified as the "five-factor model of school effectiveness". Lezotte (1991) in conducting school effectiveness research found out seven correlates of effective schools which evolved the original correlates shared by Edmonds (1982) and added two variables by actual research findings: (1) instructional leadership, (2) clear vision and mission, (3) safe and orderly environment, (4) high expectations for students achievement, (5) continuous assessment of student achievement, (6) opportunity and time on task and (7) positive home-school relations. Student achievements should be the basic products of effective schools. Otherwise no body can evaluate the effectiveness of school. Gaziel (1996) in a mix-methods study intended "….to compare parents', teachers', students' and principles' rating of the importance of school effectiveness indicators" (p.488), he found that "parents attach much more importance to school outputs, than do the other subgroups, which supports the 'goal' model" (p.48), whereas students "…attach great importance to teaching skills….", which support the 'system resource' model. For teachers, "….diffusing values among students are the most important indicator of school effectiveness…" which falls within the 'process' model. Principals, by contract, "…perceive school effectiveness in terms of collecting inputs which can fuel the school processes and lead to school success", a 'system resource' model perspective.

Gaziel (1996) cites Cameron (1984) and Mackenzie (1983) in presenting six different models whereby effective schools can be classified, namely goals, system resource, internal process, strategic constituencies, legitimacy, and organizational learning. Clark, Lotto and McCarthy (1980) view school success "as positive changes in any one, or a combination, of the following four variables: 1) student achievement, 2) student attitudes toward the school or themselves as learners, 3) teacher attitudes toward the school or students as learners, 4) community/parent attitudes towards the school" (p.467). Erickson and Carl (1982) offer a similar definition. They say, "an effective school is one in which essentially all of the students acquire the basic skills and other desired behavior within the school" (p.7), such as literacy and mathematics competence, as well as problem solving and social skills. Hartwell and Vargas-Baron (1998) propose an idealistic "concept of quality that is not based on how well a few succeed, but rather on how well all succeed. Quality, thus, is attained when all student succeed in learning, according to their learning styles and abilities, not just those who are judged in traditional terms to be the most able" (p.10).

All of these definitions differ from that used by many of the first studies of school effectiveness, which usually limits effectiveness to student results on standardized exams, particularly in math and reading (Murphy, Hallinger and Mesa 1985). Reynolds, et al (1996) views that school effectiveness depends on people and the resources available. Reynolds and Packer (1992) concluded from their review of school effectiveness research that schools have an independent effect of only 8-15 per cent on student outcomes. However, what educators perceive as important outcomes of schooling may not tally with the view of pupils, parents, governors, the local community, government or the media (Stoll and Fink, 1996). Ninan (2006) views that the effectiveness of a school is dependent more on its 'processes' and gauged by its 'outcomes' than on its 'intake'. This is contrast with later research that differential effects of schools for different groups of students having different SES or with different prior levels of attainment plays a role in school effectiveness (Teddlie and Reynolds, 2000). Hence it can be argued that while school effectiveness is dependent on the schools' processes and seen in its outcomes, intake plays a major role and not just a marginal role. A somewhat similar definition is put forward by Cuttance (1985) that school effects are those that describe the influence of schools on individual pupil outcomes.

In practice, School effectiveness is a very much broader concept. There exists a conceptual hierarchy of bivalence where effective and ineffective schools are measured by characteristics (Ball, 1997). Critics dismiss this sort of approach to school effectiveness as positivist and this means/ends construction reduces educational success to factors that can be measured (Morley and Rasool, 1999). This aligns with Sammons' (1994) argument that definitions on school effectiveness are dependent on a variety of factors among them sample of schools examined and choice of outcome measured (Sammons et al., 1994).

Factors Determining School Effectiveness

After reviewing the literature about school effectiveness the following determinants of school effectiveness has been identified. School goals, Curriculum, Instructions, Assessment and evaluation, Class room management, Leadership, Community Involvement , Safe and Orderly environment, Professionalism, Student motivation, Home Environment, High Expectations, Professional Development, Social Skill, Quality Assurance and Coordination between head teacher and the staff.

Education in Pakistan

Pakistan is the second largest Muslim countries in the world, however, its literacy rate as well as development in the social sector is one of the lowest in the world. Almost one-third of the population lives below the poverty line (Economic Survey, 1999-2000). The literacy rate was estimated 47.1 percent. For males it was 59% and for females 35.5 % (Economic Survey, 1999-2000). Earlier educational policies of Pakistan emphasized on a commonality of core themes, which among others include, a) ideological base, b) national unity, c) individual development, d) societal development, e) economic progress, f) equality of education, and g) quality of education. Later, the national education policy 1998, added to the list, and emphasized on setting up realistic goals, public-private collaboration, administrative reforms and the development of skills. In the education sector reforms 2000, the focus has been more in the areas of basic education and literacy, higher education, public-private partnership, and good governance rather than the previous rhetoric of ideology and Islam. The general aim of all policies and reports has also been to improve the literacy rate in the country. Despite all these measures, it has been generally observed that the academic standards at all levels are low (World Bank Report, 1990), and the literacy rate of Pakistan remains less than a number of developing countries in South Asia.

Critics and educationists have lamented the inability of Pakistan's education sector to curb illiteracy and promote quality education on ill-advised education policies of various regimes, the English-Urdu medium divide, poor implementation of reforms due to inefficiency and massive corruption, and the rise of the *madrassahs*. Burki(2000), points out the major indicators of the crisis in the education sector in Pakistan as : 1) illiteracy, especially among women, that is twice as much as enrollment and retention rates as seen in the fact that only 48% of the primary enrolled students drop out by the time they reach grade 5; 2) poverty, resulting in 50 million people living in poverty; 3) the nationalization of private owned educational institutions in 1970; 4) the misuse of public funds donated by international agencies by the government ; 5) the sharp division in the educational system in Pakistan comprising four major areas that include, a) the public sector education that is characterized by poor quality education and corruption and where the emerging graduates find jobs mainly in the government institutions and weaken them;

b) the several thousand *deeni madrassahs* providing only religious education to around a million students resulting in the inability of these graduates to find jobs in the market except to join mosques of jihadis (religious warriors) waging war in various parts of the world; c) the privately managed schools, colleges and universities that support the modern sector of the economy and society; and finally d) the education system that provides education in disciplines such as health sciences, business management, and banking and finance that produces only a small number of graduates as workers for the modern sector in Pakistan.

All the above mentioned weaknesses affected the quality of education. The basic education for all in Pakistan is neither achievable nor sustainable without the continuous delivery of quality education by schools.

Rationale of the Study

Educational system in Pakistani needs immediate interventions to remove deficiencies at schools level. The objective of present study is to explore the determinants of quality education which could make the schools effective. Arrangements to monitor the effectiveness of schooling and accountability of the school systems are necessary to improve education. Pakistan is challenged by material constraints such as well-constructed and well-furnished school buildings and classrooms, resources, well- designed curriculum, teachers' experience and a manageable class size. There are non material factors such as lack of vision and goals, a learning environment, professional leadership and pupil rights and responsibilities. These factors being inadequate are affecting school effectiveness. Making the schools effective is not an easy task as the system needs changes from the grass root level, from curriculum change to attitude change. Present research is an effort to identify the determinants of effective schools and develop a comprehensive model of school effectiveness. As Preedy (1993) says, "effectiveness, cannot be static, but must be continually reassessed for each school in its own particular circumstances." (p.8)

Statement of the Problem

This study was aimed at finding the determinants of school effectiveness in Pakistan.

Objectives of the Study

The main objective of the study was to identify various sources which effect school efficiency. The specific objectives of the study were:
- Investigate into the term of school effectiveness
- Identify the determinants of school effectiveness as perceived by the Pakistani educationists and administrators.
- Recommendations for the Implementation of determinants of school effectiveness to policy makers and administrators.

Research questions

1. What are the determinants of school effectiveness in Pakistan?
2. What conception do teachers and administrators hold about the school effectiveness?
3. What are the variables which can bring about improvements in Pakistani schools?

Sample

A random sample of 800 teachers and administrators was selected for the study from the province of Punjab. Eighteen (50%) out of 36 districts of Punjab were randomly selected for the study. Eight administrators were randomly selected from each district i.e. one Executive District Officers (EDO), one District Education Officers (DEO) , two Assistant Education Officers (AEO), four Head Teachers (HT). From Each district two rural and two urban schools were selected. Twenty teachers (Males =10, Females=10) were selected from each school. Members of Curriculum Wing from Punjab Text Book Board and faculty of University of Education were also selected for the study.

Research Design

It was a descriptive study and both qualitative and quantitative methods were used to achieve the study objectives.

Instrumentation

The researchers developed a questionnaire to find out the determinants of School effectiveness. The questionnaire consisted of 17 variables, having 68 items related with school effectiveness.

The items were formatted on 5 point Likert Scale. The response format for the items was strongly agree=5, agree=4, neutral=3, disagree=2, strongly disagree=1. It was a unidimentional scale and its score index ranged from 68 to 340, the lower end of the score index showing low SE and higher end of the score index showing high SE. A pilot study was conducted to ensure the appropriateness of items. Items of questionnaire were modified by experts and educationists after analyses of pilot study. The results of the pilot study showed some ambiguities in the items.   The questionnaire was modified and distributed for the main study to the participants.

Data Collection

Questionnaires were posted to participants. The response rate was 80%. Data was coded and entered using Mircosoft Excel 2007. Data was analyses using different statistical techniques.

Section 1: Demographics Information

The demographic information about the participants consisted of gender, age, academic and professional qualification. The sample was consisted of 452 (56.5%) males and 348 (43.5%) females. The minimum age of thirty four (4.3%) respondents was 20; whereas, 174 (21.8%) respondents were above 50, the rest of respondents ranged between these limits. The minimum academic qualification of the respondents was B.A , only 44(5.5%) respondents fall in this category, whereas most of the respondents (530, 66.3%) were MA/MSc. B.Ed was most common professional qualification among respondents.

Section 11 Descriptive Statistics

Table 4 Scale Reliabilities for the Variables of School Effectiveness

Variables	No. of Items	Mean	SD	Cronbach Alpha
1. School goals	2	7.36	1.96	.86
2. Curriculum	6	17.81	4.57	.87
3. Instruction	10	39.76	8.88	.89
4. Evaluation	4	14.76	3.49	.84
5. Class manage	6	22.04	4.62	.80
6. Leadership	8	29.47	6.48	.88
7. Safe environment	4	15.56	3.74	.84
8. Orderly environment	3	11.27	2.33	.71
9. Professionalism	4	15.96	3.07	.85
10. Community involvement	2	7.54	1.89	.74
11. St. motivation	3	11.12	2.32	.56
12. Home environ	2	7.30	2.04	.80
13. High exp.	3	11.28	2.46	.80
14. Prof development	2	7.56	2.00	.84
15. Social skill	2	7.39	1.87	.80
16. Quality Ass.	4	14.84	3.54	.88
17. Coordination	3	11.92	1.91	.69
Total	68	253.02	45.74	.98

Note. Orderly envir= Orderly environment, Community invol = Community involvement, St. motivation= Student motivation, Home environ= Home environment, High exp= High expectations, Prof dev= Professional development, Quality Ass= Quality Assurance.

The internal consistency was derived for the full scale as well as for the subscales. The cronbach alpha for total scale was .98. For subscales it ranged from .56 to .88 depicting that the scales are internally consistent. The highest alpha was for the subscales 'Leadership' and 'Quality Assurance'. The lowest alpha was for student motivation (.56).

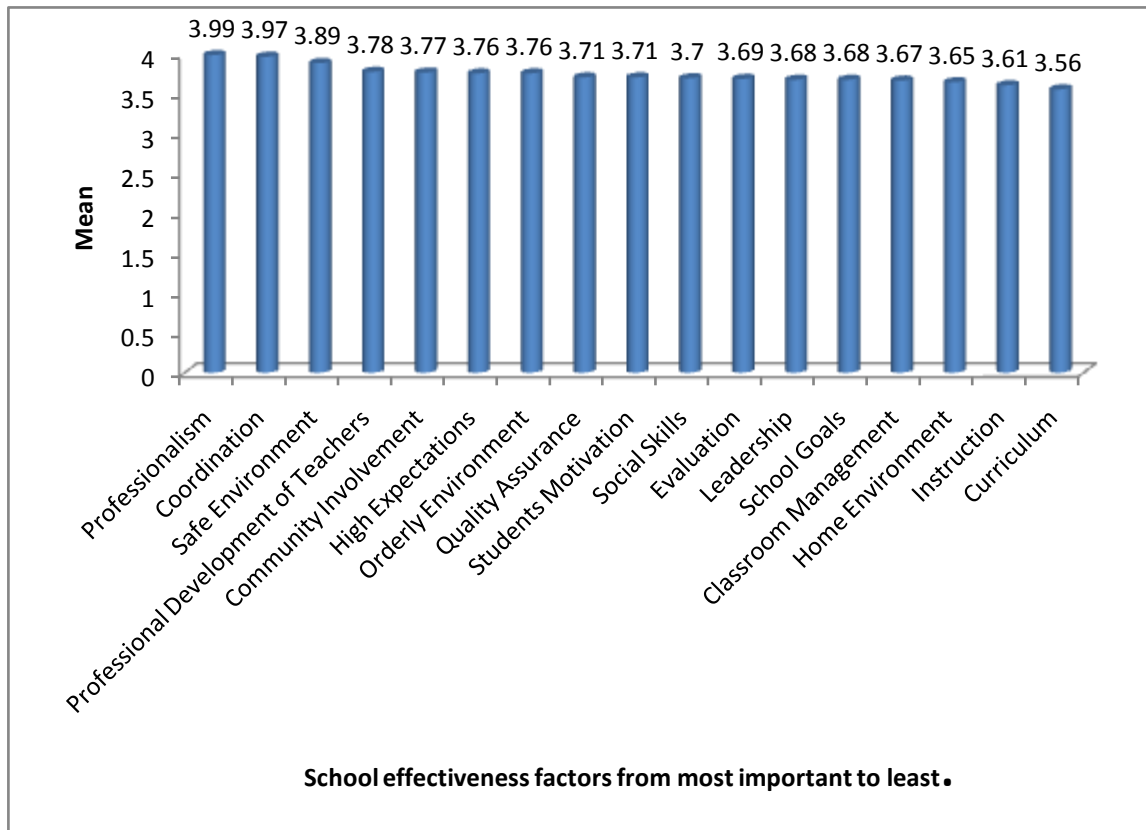**Figure 1.   Participants' Preferences Regarding School Effectiveness**

Figure 1 is showing the dimensions of school effectiveness. Weighted mean was derived for all the determinants of SE. It helped to analyze the participants' preferences regarding school effectiveness. All the teachers and administrators agreed that 'Professionalism' was the most important factor in SE. 'Coordination' variable got second highest preference among the participants. Safe environment was the third preference for the participants. According to the teachers and administrators, although 'Curriculum' and 'Instructions' were important as there mean was 3.56 and 3.61 but remained at the end of preference list.

Table 5 Correlation between the School Effectiveness Variables

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	School Goal	1	.66**	.68**	.53**	.50**	.60**	.46**	.52**	.50**	.54**	.46**	.46**	.55**	.52**	.47**	.52**	.43**
2	Curriculum		1	.79**	.64**	.57**	.62**	.50**	.52**	.46**	.49**	.54**	.52**	.54**	.50**	.50**	.55**	.40
3	Instructions			1	.77**	.72**	.78**	.63**	.64**	.58**	.58**	.64**	.65**	.65**	.60**	.56**	.70**	.50**
4	Evaluation				1	.72**	.70**	.50**	.56**	.50**	.52**	.60**	.53**	.56**	.53**	.45**	.60**	.40**
5	Class Manage					1	.70**	.61**	.62**	.56**	.45**	.58**	.52**	.55**	.47**	.47**	.56**	.46**
6	Leadership						1	.72**	.70**	.70**	.60**	.65**	.71**	.61**	.63**	.57**	.68**	.50**
7	Safe Environ							1	.73**	.71**	.50**	.64**	.59**	.56**	.61**	.51**	.60**	.43**
8	Orderly Env.								1	.68**	.58**	.60**	.60**	.58**	.56**	.52**	.55**	.43**
9	Professionalism									1	.58**	.67**	.60**	.58**	.62**	.53**	.57**	.54**
10	Comm Involv.										1	.58**	.54**	.53**	.58**	.56**	.62**	.46**
11	Stud. Motivation											1	.65**	.62**	.62**	.55**	.60**	.53**
12	Home Env.												1	.62**	.54**	.52**	.63**	.43**
13	High Expectation													1	.58**	.67**	.58**	.50**
14	Prof. Develop.														1	.70**	.64**	.48**
15	Social Skills															1	.57**	.42**
16	Quality Assur.																1	.53**
17	Co-Ordination																	1

Table 5 shows the bivariate correlation of study variables. All the SE variables are strongly related with each other. The first variable 'School goals' is positively related with other school variables. Its highest correlation is with 'Curriculum' which means that curriculum should be based on school goals. Curriculum is significantly associated (r=.79 p=) with 'Instructions'. The best curriculum, if not taught with clarity and enthusiasm, can't produce desired results. Its lowest correlation is with 'Co-ordination' (.40). Evaluation is best correlated with classroom management (.72). The interrelationship of all these variables shows that school effectiveness depends on all these factors and exclusion of any one will affect the school efficiency.

Discussion

This study is an effort to explore the determinants of school effectiveness in Pakistan. The researchers tried to identify the determinants of school effectiveness by exploring the teachers, educationists and experts' views about school education. Three important research questions are raised 1) what are the determinants of school effectiveness in Pakistan? 2) What conception do teachers and administrators hold about the school effectiveness? 3) What are the variables which can bring about improvements in Pakistani schools?

Regarding first research question the answer is that there are 17 determinants of school effectiveness which constitute four factors i.e. Environment, Administration, Professionalism and Quality, perceived by the school teachers, educational administrators and experts. Regarding the second research question the participants have clear conception of the variables which make the schools effective. The priority list for these variables is obtained. 'Professionalism' is the most important factor for making the schools effective.

As regards 'coordination', participants keep it next to 'professionalism', stressing that there should be a network of coordination among the heads, teachers, students and senior management team. When they were asked about the 'safe and orderly environment' such as furniture, lighting, equipped labs, rules and disciplines all agreed that these factors were the essential part of quality education. Similar findings have been presented by Weber (1971) who listed a number of characteristics for successful schools such as strong leadership, high expectations, and good atmosphere.

Next variables are 'professional development', 'high expectations' 'quality education' and 'student's motivation' on the priority list of school effectiveness. Professional development is continuous development of teachers through seminars, training sessions and workshops. High expectations (Mortimore, 1997) about pupil behavior & success and an investment in good relations with parents & the community are the determinants of school effectiveness. Creemers (1994) stressed the impact of three key concepts on school effectiveness that is quality, time for learning and opportunity.

As regards 'Evaluation', it should be continuous and increasing higher order thinking. Regarding 'curriculum and instructions', participants agreed with the statements that the 'curriculum is restricted to a set of objectives' and 'continuous assessment of the students is done'. Implementation of the curriculum is another big problem. The curriculum being developed at the centre and being implemented by the teachers who themselves do not really understand what the curriculum is, results in an un-bridged gap between the formal and the actual curriculum. Curricula have widely been criticized for being too academic. In Pakistan, teachers' involvement in curriculum development is not encouraged as teachers are supposed to lack confidence, competence, experience and capabilities for undertaking any activities other than those which involve familiar and safe teaching routines. Teachers who are the actual practitioners in educational field should be included in curriculum design.

All the variables of school effectiveness are interrelated showing that efficiency of a school can be established only when all variables will be applied rigorously in schools. Based on these variables researchers developed a comprehensive model of school effectiveness. The model included four factors i.e. school environment, professionalism, management and quality. The results of the empirical data show that the implementation of this model in schools will help to achieve social, affective and achievement related objectives.

Recommendations

Recommendations, based on the results of present study, include: emphasizing the school leadership as key to school effectiveness, involving the community in local school governance, using decentralized pre-service / in-service teacher training, including locally-determined infrastructural improvements, designing the curriculum according to the needs of society and teaching it while keeping individual differences in mind.

Further Research

Another study could analyze the stability of school effectiveness model based on the Pakistani collaborators concepts, and additionally, it might be interesting to investigate links between cultural dimensions, such as those presented by Hofstede (1991) and school effectiveness factors, since nearly six decades of research have not produced a single recipe that has been found for making a school effective. The relationship could be studied in more depth, including research on other cultural dimensions in order to see if there are specific school effectiveness factors which vary in relation to cultural aspects.

Finally, because the generalizability of this study is limited to Pakistan only, research using a similar approach should be conducted in other countries with similar educational and social contexts to look for commonalities.

As present studies on school effectiveness focus on the teacher, head teacher and educational authorities, there is a need for future studies to consider the views of characteristics of effective schools from the perceptions of other stakeholders ,students, parents, local community and NGO heads as well as two new stakeholders in this area of educational research.

Another interesting comparative study would be to gauge the view of the characteristics of school effectiveness model from principals, heads of department, teachers and students in private schools in comparison to public schools; rural school with urban school; a boys' school with a girls' school and primary with secondary schools.

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