CHAPTER – 1

REVIEW OF LITERATURE

- Introduction
- India and Secondary Education
- What is Quality
- Quality in the Education
- Quality Improvement
- Quality and its Assessment in School
- Parameters of Assessment
- Tools of Assessment
- Qualitative Assessment of Institutions
- Appendix
REVIEW OF LITERATURE

Multifarious utility of the secondary education is now acknowledged all over the world. Universal secondary education is necessary for the production of more educated and skilled labours needed for the Knowledge and Technology age of the 21st century. Since the Macaulay Era, in India the governmental efforts stressed mostly higher and primary education and least attention was given to secondary education. This trend continued even in independent India for some times. The policy makers of the government of India and general public, however, have shown a growing interest for secondary education in recent time. As a result the growth of education has been phenomenal. A massive quantitative expansion is evident at all levels including secondary education. Yet, much has to be achieved to reach the national goal of universal secondary education in our country. The challenge of education today, however, can be broadly categorized into two priority areas: 1) expanding the opportunities i.e. access to secondary education to all youths irrespective of religion, cast, gender, creed, and sect of the society, and 2) improving relevance and quality of the secondary education.

Five Year Plans of India and Secondary Education

Since independence, the government of India initiated a series of steps to improve the level of quantity and quality of education in the schools across the country. During 1990s, the government imparted a great push to expand and improve schooling in India. Significant advances were made in extending access to primary education to girls, scheduled castes, and scheduled tribes and in narrowing the gaps
between urban and rural areas. Between 1993 and 2001 the Gross Enrolment Ratio (GER) for primary education (grades 1-5) increased from 82 to 96 percent, the GER for upper primary grades (6-8) increased from 54 to 60 percent, and the GER for secondary education rose from 31 percent to more than 49 percent. About 160 million students were enrolled in elementary education (primary and upper primary), 30 million in secondary education, and 1.5 to 2 million in vocational education and training institutions. By 2001 the efforts had been extended to upper primary education (equivalent to lower secondary education elsewhere). In 2002 the constitution was amended to make eight years of elementary education a fundamental right of every child. The Government of India launched the National Program for Universal Elementary Education, which aims at ensuring that all children between ages 6 and 14 complete eight years of education of satisfactory quality by 2010. Since the states have primary responsibility for providing and financing education, the Elementary education program provides for fiscal transfers from the Union Government to State Governments to support their efforts, in a cost-sharing arrangement in which 75 percent from the center is to be matched by 25 percent from the states. This would provide additional resources of about 9 percent over the existing operating expenditure on elementary education. Although the National Program for Universal Elementary Education began only a few years ago, preliminary results show a dramatic reduction in the number of out of school children – from 25 million in 2003 to fewer than 10 million in 2005. This outcome is the fruit of intense social mobilization and concerted efforts at all levels of government. Dropout has also been reduced modestly, as a consequence of some improvement in school quality. It can be expected that the demand for secondary education
(grades 9 and 10), senior secondary education (grades 11 and 12), and vocational education and training (VET) will increase many fold within a few years. By 2010 it was envisaged that an additional 10 million primary school graduates will be seeking admission to secondary school. A few years later, this demand will spread to tertiary education.

The key issues during the Tenth Plan (2002-2007) was continuing focus on improving access to secondary education: reducing disparities, renewal of curricula with emphasis on vocationalization and employment oriented courses; expansion and diversification of the Open Learning System, reorganization of teacher training and the greater use of new information and communication technologies, particularly computers. As against a budgetary allocation of Rs.2593.31 crores in the Ninth Plan, an outlay of Rs.10,205.02 crores has been proposed for the Tenth Five Year Plan by the Working Group on Secondary Education. A number of Centrally Sponsored Schemes have been implemented for quality improvement/modernization and revision of curricula. These include: 1) Promotion of Science Education, 2) Development of Computer and IT related education, 3) Environmental awareness, 4) Population education, 5) Promotion of Yoga, and 6) Cultural and Value Education. Another important effort was establishment of more secondary schools. The Department of Secondary and Higher Education has proposed convergence of following six Centrally Sponsored Schemes of Secondary Sector under one Scheme/Head “Quality Improvement in Schools” .... Promotion of Science Laboratories – Environmental Orientation to School Education – Population Education Project, - International Science Olympiad – Promotion of Yoga – Strengthening of Hostel/Boarding Facilities for Girl students. For “Quality improvement in schools” the State
Governments would develop training modules for in-service training of teachers and provide infrastructure and research inputs. Rs.500/- crores has been proposed for the scheme of Quality Improvement in the Tenth Plan. Keeping in view the current demand for IT and computerization, a major thrust in the Tenth Plan was given to the schemes of Class and Educational Technology. These two schemes were converted into one scheme “ICT in Schools”.

The Eleventh Five Year Plan (2007-2012) had focused on improving the quality of school education. It read as “The meaning of ‘improved quality’ needs to be defined in operational terms through clearly identified outcome indicators for various dimensions like teachers’ competence, classroom processes, teaching learning materials, students’ performance etc.”.

The 12th Plan (2012-2017) focuses further on ensuring quality of secondary education with relevant skills including basic competency in mathematics, science, languages and communication; Implementation of common curricula and syllabi of nationally acceptable standards for Science, Mathematics and English in all schools in the country. It also suggested development of life skills including skills of critical and constructive thinking, use of Information and Communication Technology, organization and leadership, and community services. The plan further suggested extension of the National Mission for Secondary Education (RMSA) gradually to Higher Secondary stage and cover all Government and Aided Schools. The twelfth plan also focuses - Increase of Secondary Education Gross enrolment ratio (GER) to 90%, and Sr. Secondary GER to 65% - Common syllabi & Examination/Assessment Reforms, Quality Assurance & Teacher Efficiency Test and emphasis on revampment of vocational education.
What is Quality?

Quality is a complex issue in education and should be seen in a holistic manner. Literature with respect to the concept of quality of education in an educational institution is voluminous. In this report an attempt has been made to present a few of the selected documents. According to the Oxford English Dictionary, the notion of quality includes all the attributes of a thing, except those of relation and quantity. The British Standards Institution (BSI 1991) defined quality in functional terms as the totality of features and characteristics of a product or service that bear upon its ability to satisfy the stated or implied needs. Since quality is a dynamic and positive idea, it has endless possibilities of evolution and unfolding, making it an endless journey with a deliberate purpose and design and not necessarily a destination (Shejwalkar, 1999). Concept of quality is pervaded in every sphere of human activities and services since the dawn of civilization as man was striving for quality in food, health, clothing, housing and self preserving techniques. Concept of quality of human products or services became of great concern and highly debated after development of industrial products during the 19th and 20th century and voluminous literature accumulated (Oakland, 1988; Sallis, 1996; Navaratnam, 1997). Most quality-masters believe that quality means how useful or valuable is the product to the buyer (Deming, 1986). Shejwalkar (1999) was of the opinion that quality is essentially a product of intensive investment of capital, talent and hard work. According to Navaratnam (1997), quality is not a destination, but a continuous journey. The quality journey was characterized by a customer focused approach to continuous improvement of processes, products and services through an inter-
depended system of planning, implementing, evaluating and decision making.

**Quality in Education**

The perception of quality in education is more than meeting the expectations of the customer. In contrast, industrial product’s quality focuses mainly on meeting the expectations of the customers. Depending upon the goals, the quality in education has been variously defined as (Mukhopadhyay, 2006):

(a) Excellence in education (Peter and waterman, 1982),
(b) Value addition in education (Fiegenbaum, 1983),
(c) Fitness of educational outcome and experience for use (Juran and Gryna, 1988),
(d) Conformance of education output to planned goals, specifications and requirements (Gilmore, 1974),
(e) Defect avoidance in education process (Crosby, 1979),
(f) Meeting or exceeding customer’s expectations of education (Parasuraman et al., 1985).

Issues of quality in education are basic to national development. Education is something that is expected to benefit not only individuals but also to do the general social good. According to Fullan (1982), school quality influences the child’s occupational attainment and levels of national income. Mellor and Chapman (1989) were of the opinion that ‘quality of an educational enterprise is a function of inputs and the efficient management of these inputs in relation to desired targets’. Moodie et al. (1991) provided three different meanings of quality: 1) High academic standards, 2) The kind of education provided, 3) Excellence of different kinds. It is generally conceptualized that any human activity is identified by the quality of its product. The same rule
applies to education. The quality of education is therefore responsible for the quality of its “product”: the students. Various forms of education are present in different places, at various times, under different circumstances and terms. Brookover et al. (1979) stated that ‘there is no simple combination of variables that will produce a quality school and there is no universal recipe for successes’. Earlier Shipman (1967) mentioned that each school is a unique society and each school has its own characteristics which are shaped by such factors as its location, pupil-intake, size, resources and quality of its staff. Following the concept of application of Total Quality Management (TQM) to school system as proposed by Deming (1986), Wilson and Schomolczer (1973) mentioned that school quality is based on democratic atmosphere, supportive leadership, team and collaborative efforts, clear and unified purpose, a regular analysis and evaluation of student performance.

Newton and Hoyle (1994) emphasized the role of organizational culture in improving the quality of the school. Kerawalla and Pandya (1994) were of the opinion that Schools are effective in facilitating the academic achievements of the students through their ethos. They further strengthen their idea by saying that the effectiveness arises due to the processes going on in the school rather than the inputs in the school. Dimmock (1995) stated that “the quality of a school is best judged by the quality of teaching and learning provided by the institution and all other activities like leadership, management, administration, etc. are of secondary importance.

During the Tenth Five Year Plan, Government of India adopted a composite centrally sponsored scheme (CAA) of ‘Quality Improvement in schools’ by converging the following five existing schemes; (i)
Improvement of Science Education in schools, (ii) Promotion of Yoga in Schools, (iii) Environmental Orientation to School Education, (iv) National Population Education Project, and (v) International Science Olympiads. Improvement of Science Education in Schools has since been transferred to the States as a State sector scheme and the remaining four components are being implemented by NCERT. Apparently the whole purpose was to improve the curriculum for quality education. The Eleventh Plan aims to ensure good quality secondary education with focus on Science, Mathematics, and English; and the other measures for improving quality in secondary education would include recruitment of quality teaching faculty; long pending institutional reforms in school management, and ensuring accountability at all levels. The Twelfth Plan ensures quality secondary education with relevant skills including basic competency in mathematics, science, languages and communication; implement common curricula and syllabi of nationally acceptable standards for Science, Mathematics and English in all schools in the country; develop life skills including skills of critical and constructive thinking, use of ICT, organization and leadership, and community services.

It is evident from the above discussion that ‘Quality of education is a much discussed issue and, there is no clear consensus on what constitutes quality, how to measure it, or whether it can be measured at all’ (Tenth plan of India). The report further indicated that quality is sought by all, but the process of attaining quality or even defining quality is very subjective. Some educationists have tended to equate with school effectiveness and treat learner achievement as the indicator of quality. Such approaches, however, do not provide an assessment regarding different dimensions of quality. In order to arrive at holistic
picture of quality, one will have to consider various factors and processes that take place in the actual function of the school. Thus it is logical to consider the school as an organization with a personality of its own (Berry, 1996).

Despite rapid development of educational evaluation and increased emphasis on quality issues in almost every strand of life, there is no simple view of a high quality education system. Good education is closely interconnected with cultural, political, social and economical contexts. Each education system that wishes to establish a quality assurance system within its structures has to start this work by analyzing various aspects of excellence in education and defining its own idea of quality.

‘Globalization’ has added a new dimension to the concept of quality education, because it is not just the globalization of the economy but also the globalization of socio-cultural institutions including education. In the new era of learning societies, there is a paradigm shift regarding the conceptions of knowledge and learning. The new thought process is that it is far more valuable to be able to process information and construct new knowledge than merely be familiar with the quantum of knowledge. Education and learning have played a key role in the cultural evolution of people. Skills such as gathering and analyzing data, applying knowledge in new situations, solving problems and regulating our own intellectual processes are the core of high quality education and learning. The need all over the world is now quality education for all at all levels so that the competency of the Indian youths can be comparable to that of world standard. Without this India would not be able to exploit the socio-economic benefits of globalization. The challenge today is educating 120 crores of people of
India with quality education. Quality education is intricately related to quality of institution. Primary imperative therefore, is assessment of the quality of the institution.

**Quality Improvement**

Quality improvement is achieved by quality management. Quality management has been defined as a ‘set of concepts, strategies, tools and beliefs’ that can impart quality of the products (Navaratnam and O’Conner, 1993). There are number of researchers who have formulated frameworks for quality improvements (Johnson, 1993; Susan, 1995). These frameworks are known as Continuous Quality Improvement (CQI), Strategic Quality Management (SQM) or Total Quality Management (TQM). The latter term is most commonly used to denote quality assurance efforts (Navaratnam and O’Connor, 1993). The concept of TQM was first coined by Feigenbaum (1983) and it means ‘a system of managerial method for maintaining the quality of manufactured articles at a desired level’ (International Encyclopedia of Social Sciences, 1979). Development of a comprehensive philosophy and strategy for TQM was made by Deming (1986), Juran (1988, 1989), Crosby (1979, 1984) and Ishikawa (1983, 1985). Since then many researchers contributed to this philosophy and the voluminous literature has been reviewed by several educationists (Green, 1994; Kaufman, 1992a; Mukhopadhyay, 2003, 2000). The key principles of TQM advocated by Deming, Juran and Crosby have been shown in boxes 1, 2 and 3 respectively in Mukhopadhyay (2001). The most basic object of TQM is human resource development (HRD) and building of technical capacity and managerial and participative capacity of all those involved in the production. The TQM philosophy stresses involvement of everyone and everything; all processes and systems. It also
emphasizes the use of people involved in multi-functional teams, to bring about improvement from within the organization (Mukhopadhyay, 2006). The pivotal concept of TQM is not only the managing of the quality, the input and processing points but to develop a ‘quality culture among the employees’ (Mukhopadhyay, 2001). According to Corrigan (1995), TQM is a management philosophy that builds a customer-driven, learning organization dedicated to total customer satisfaction by continuous improvement in the effectiveness and efficiency of the organization and its processes. According to Kaufman (1992b), TQM provide what is required as judged by the client. It is accomplished through everyone in the organization being committed to achieve results, a passion for quality and decisions based on performance data. Most TQM masters advocated for three main notions: i) continuous improvement, ii) customer satisfaction and iii) tools and techniques or methods used (Pour and Yeshodhara, 1992).

TQM in education was first introduced in 1988 at Mt. Edgecombe High School in Sitka, Alaska, by David Langford, who was the school’s technology teacher and coordinator in his classes. Since then Total Quality concept has become increasingly popular in education and a large number of books and journal article have been published on the issue. In support of the TQM in education, Crawford and Shutler (1999) recommended Crosby (1984) model that suggested a practical strategy for using TQM principles in education. This strategy focused on the quality of the teaching system used rather than on students’ examination results. The argument put forward is that examinations are a diagnostic tool for assuring the quality of the teaching system. To satisfy the education needs of students, continuous improvement efforts need to be directed to curriculum and delivery services. Voluminous
literature available, points to a growing interest in applying TQM in education for a wide variety of reasons (Thakkar et al., 2006; Temponi, 2005). Some of the basic reasons are: i) pressure from industry for continuous upgrading of academic standards with changing technology, ii) government schemes with allocation of funds, that encourage research and teaching in the field of quality, iii) increasing competition between various private and government academic institutions, and iv) reduction in funds for research and teaching, implying that only reputable (accredited) institutions will have a likely chance of gaining access to various funds. According to Pour and Yeshodhara (1992), the TQM framework should be built upon a set of core values and concepts. These values and concepts provide foundation for integrating the key performance requirements within the quality framework. A set off fundamental core values forming the building blocks of the proposed TQM framework is: Leadership and quality culture; continuous improvement and innovation in educational processes; employee participation and partnership development; fast response and management of information; customer-driven quality and partnership development, both internally and externally; a quality circle consisting of small group of people that meet on a regular basis to discuss problems, to seek solutions, and to cooperate with management in the implementation of those solutions.

Quality improvement and management in education can be achieved by more than one way. This can be capital intensive, infrastructure intensive, technology intensive and human intensive (Mukhopadhyay, 2006). Many educational administrators believe that quality can be achieved only with high quality infrastructure and high quality technology. However, these are not borne out by evidence. Both
infrastructure and technology are instruments at the hands of humans in the system. Hence, both technology intensive and infrastructure intensive approaches to quality management depend upon human quality and human intensive approach. In real terms, human efforts in quality improvement and management can be meaningfully catalyzed by infrastructure and technology. Within the given infrastructure, human efforts are capable of achieving major breakthroughs. Without timely support of infrastructure and technology, its performance may be stunted. Nevertheless, there is no better alternative to human intensive approach to quality management in education (Mukhopadhyay, 2006).

Quality and its Assessment in School

Assessment of quality of an educational institution is a necessary prerequisite for improvement and sustenance of the institution. Assessment is defined differently by different thinkers. Peter and Austin (1991) defined it as “the gathering of information concerning the functioning of students, staff and institutional facilities of educational institutions. Banta et al. (2002, 2009) considered that assessment is collecting evidence of (1) student performance on specified measures of development, (2) program strengths and weaknesses, and (3) institutional effectiveness. Upcraft and Schuh (1996) stated that it is any effort to gather, analyze, and interpret evidence which describes institutional, departmental or agency effectiveness. It is now well accepted that institutional assessment can be effectively used for organizational diagnosis and also for benchmarking. Benchmarking is a “continuous, systematic process for evaluation the products, services, and work processes of organizations that are recognized as representing
best practices for the purposes of organizational improvement” (Spendolini, 1992).

In India, the National Curriculum Framework was instituted 2005 to look after every aspect of school education. The document states that examinations require systemic reforms in the context of evaluation and assessment. The high failure rates, increasing number of school drop outs, unhealthy competition, stress, nervous breakdowns and suicide among learners make it imperative for Indian educationists to look into the evaluation system of the country which is at present examination oriented. The need of the hour is to prepare our young learners as innovative problem-solvers and not as rote-learners. However, the present system of examination is inflexible. It is based on a ‘one-size-fits-all’ principle, wherein the individuality and creativity of the learner are not taken into account. There is a failure to measure the real potential of the learners, and the marks awarded to the students are raw marks which do not give a real picture of the learners. The pattern followed in the school leaving exams known as board exams, is adhered to even in schools and the emphasis is on scores thereby defeating the whole purpose of education. This backlash effect of examination has taken its toll on the pedagogical principles of teaching and learning (Kapur, 2005). To correct this distortion National Curriculum Framework 2005 has proposed some guiding principles for school education, which are:

- connecting knowledge to life outside the school,
- ensuring that learning is shifted away from rote methods,
- enriching the curriculum to provide for overall development of children rather than remain textbook centric,
• making examinations more flexible and integrated into classroom life and,
• nurturing an over-riding identity informed by caring concerns within the democratic policy of the country. *(National Curriculum Framework 2005, p.5)*.

In India after independence assessment and benchmarking are performed in different states by their State Council of Educational Research and Training (SCERT). In West Bengal, the Directorate of School Education is entrusted with the responsibility of administration and to bring about improvement in the field of school education. To ensure qualitative and quantitative output, the function of the directorate has been decentralized. Inspection and supervision of the schools are carried out at district level, sub-division level and at the circle level. The Directorate is further divided into two Inspectorates at the district level – District Inspectorate Primary Education and District Inspectorate Secondary Education. The role of the Inspectors has become more known to public since the commencement of SSA and publication of National Curriculum Framework of School Education in 2005. Apart from inspection and supervision, the Inspector now serves as a facilitator, extending their support from school infrastructure to learning process of the children. They are also entrusted to look into the improvement in the quality of education. The Inspectorate is also accountable to record the best practices and the failures of the school, and accordingly make an assessment and put forward suggestions. Government Inspectors are therefore, responsible for evaluation and benchmarking in West Bengal. Unfortunately one district inspector for a district is extremely insufficient for management and inspection of all the schools in the district.
Irrespective of the personalities performing the assessment, Mukhopadhyay (2005) pointed out that there are several interrelated issues with respect to the assessment of institution. The important issues are: (i) Parameters of assessment, (ii) Tools of assessment, (iii) Participants in the assessment, (iv) Quantitative versus qualitative analysis, and (v) Use of assessment data. Voluminous research has been made on these five issues and a brief discussion of each is presented below.

**Parameters of Assessment**

Selection of parameters of quality basically means determining quality indicators. Educationists are of different opinions about the selection of quality indicators of the school. Kevin (1997), mentioned sense of responsibility, open mindedness, critical thinking ability, multi-language proficiency and active interest in other cultures should be considered as institution quality indicators. Moore (1996) stated that teacher quality is an important indicator of school quality. Fetler (1989), working on the California School Quality Indicator System, dealt with administrative mechanisms in quality management. Study of Davies and Ellison (1995) is different from the studies referred above. They depended on the perceptual aspect of school quality. They identified three categories of respondents namely, students, teachers and parents.

The perception of the students gave heavy emphasis on quality of teaching and learning they obtained from the institution and the quality of the facility available in the school and also their satisfaction with the quality of the staff. On the part of the parents the same aspects were thought to be very important by Davies and Ellison. On the part of the teacher the important aspects considered were the communication in
the institution, the quality of working environment of the staff, quality of the education supplied by the institution, professional support offered to the teacher by the governing body and professional environment in the institution (cited in Mukhopadhyay, 2001).

Frazier (1997) suggested that several factors like identification of internal and external customers, surveying the customers for valid requirements and satisfaction, scanning of environment for current and future trends in the teaching-learning process of institution are necessary for comparative analysis of institutional quality. Navaratnam (1997) mentioned that quality education is managed education. It would be evident that the quality indicators for a school vary from one category of respondents to another. This is largely due to client orientation vis-à-vis quality of schooling.

According to Boyer (1996), there are five priorities for quality schools, such as:

1. Building a sense of community within that institution;
2. Centrality of language study and use of symbols;
3. Curriculum with coherence;
4. Creating a climate for creative learning – a place for active, not passive learning a place where people learn to be creative, not just conforming where they learn to cooperate, as well as to compete; and
5. Creating climate that affirms the building of character for every student.

Sallis (1996) presented a comparative picture of Quality and Ordinary Institutions and listed 10 differences between a Quality
Institution and Ordinary Institution. The major 10 differences are given below:

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<tr>
<th>Sl.No.</th>
<th>Quality Institution</th>
<th>Ordinary Institution</th>
</tr>
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<tbody>
<tr>
<td>1.</td>
<td>Customer focused.</td>
<td>Focused on internal needs.</td>
</tr>
<tr>
<td>2.</td>
<td>Focus on preventing problems.</td>
<td>Focus on detecting problems.</td>
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<tr>
<td>3.</td>
<td>Has a strategy for quality?</td>
<td>Lacks a strategic quality vision.</td>
</tr>
<tr>
<td>4.</td>
<td>Treats complaints as an opportunity to learn.</td>
<td>Treats complaints as a nuisance.</td>
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<tr>
<td>5.</td>
<td>Has defined the quality characteristic for all areas of the organization?</td>
<td>Is vague about quality standards?</td>
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<tr>
<td>6.</td>
<td>Has a quality policy and plan?</td>
<td>Has no quality plan.</td>
</tr>
<tr>
<td>7.</td>
<td>Senior management is leading quality.</td>
<td>The management role seen as one of control.</td>
</tr>
<tr>
<td>8.</td>
<td>Has clear evaluation strategies?</td>
<td>Has no systematic evaluation strategy?</td>
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Mukhopadhyay (2001) reported that in one of the workshop on Quality Management in Schools, the participating senior educational administrator cited the following indicators of quality:

(i) Discipline and punctuality of students and staff;
(ii) Cleanliness and up-keep of the school campus;
(iii) Excellence in academic achievement;
(iv) Excellence in non-academic achievement and
(v) **Organizational climate and satisfaction of the customers.**

The emphases on all the five components are on the outcome - excellence in academic and non-academic activities are tangible and overt, whereas outcome in discipline, punctuality, cleanliness, and job satisfaction are intangibles and covert. There is another way of looking at it. Punctuality, discipline, cleanliness or a healthy physical environment is pre-requisite to planned instruction that can lead to excellence in performance. Thus, certain dimensions mentioned above are pre-requisites to quality and certain others are the manifest form of quality.

Most educationists are of the opinion that the first stage of assessment is to clearly find the indicators of quality, as far as possible in measureable terms (Frazier-1997, Mukhopadhyay-2001). The quality of students, teachers (leadership qualities of the) principal, physical infrastructure, instructional resources, financial resources are some of the examples of input for quality. Similarly, the quality of classroom and out-of-the-classroom instruction, student assessment and examination, co-curricular activities, office management, and linkage with outside agencies are some of the indicators of quality vis-à-vis process of schooling. Performance in external, examination, zonal, district, state and national level sports and other such co-curricular activities, staff morale and satisfaction on the job, etc. are the indicators of quality vis-à-vis product of a school (Mukhopadhyay, 2001).

Following the TQM concepts the indicators of quality in education can be summarized in seven basic areas as given below:

1. **Curriculum**
• structure of the curriculum (program/goals, tasks, focus on development of functional tasks, focus on students’ activities, integration of programs within and between areas);
• courses and programs;
• key competences that students develop in the given school.

2. **Achievements** (evaluated by external, independent agencies)
   • achievement quality compared with the set goals.

3. **Learning and teaching**
   • teachers’ work;
   • students’ work and experience;
   • meeting the needs of the students;
   • monitoring and evaluating the work of students and teachers.

4. **Students’ support**
   • students’ personal, social and spiritual growth;
   • progress and achievement monitoring;
   • support in all aspects of learning, progress, students’ and teachers’ personal development.

5. **School ethos**
   • school policy;
   • school atmosphere and relations;
   • specific goals of each individual school;
   • orientation towards students, teachers’ and parents’ satisfaction.
6. **Resources**

- school resources;
- teachers, professional associates, the principal, their education;
- teamwork, cooperation; being open to innovation;
- material resources and premises;
- efficient human and material resources;

7. **Management, leadership and quality assurance**

- approaches to leadership and management.

The guiding principles of NCF (2005) show a major shift in the approach towards teaching and learning, as compared to the traditional methods i.e. a shift from behaviorism to constructivism. The new approach to teaching is learner-centered and the process of assessment also aims at enhancing the learning capabilities of the learner by taking into cognizance their overall progress. This shift in approach in itself requires a major change in assessment tools and techniques as well. NCF (2005) further mentioned that under the behaviorist approach the students’ achievement was determined on the basis of memory, as a result of which, the meta-cognitive skills such as critical thinking; reasoning ability and problem solving were totally neglected and this should be changed.

Constructivism, on the other hand, believes that learning is an active process in which meaning is developed on the basis of experience, and that learning should be situated in realistic situations, should promote social interactions and use authentic learning materials/tasks. In a constructivist class students are encouraged to
take the initiative in the process of learning. Students are encouraged to ask questions, interact freely and develop independent thinking. This in turn helps them develop critical thinking and problem solving attitudes. As a part of this approach, students are asked open-ended and extrapolatory questions and their ideas are given due recognition. Group work and pair work are encouraged because sharing of ideas helps in conceptual clarity and language learning. The constructivist approach is based on the premise that all human beings construct their own knowledge and that given the right opportunity and environment, learners will be able to construct their own knowledge. This new approach to teaching demands corresponding changes in evaluation as well.

In India, data obtained from the exam results of the Central or State Board of Secondary Education shows that the maximum number of failures and dropout rates are in two subjects i.e. Math and English. The evaluation and assessment procedure need to be reviewed in order to make learning these two vital subjects a worthwhile experience in school.

Assessment can be Summative, Formative or Diagnostic. Summative assessment is usually carried out at the end of a course or academic session to assign the students grade. It involves judging overall competence and sometimes assigning grades, levels or scores to individual pupils.

Formative assessment is usually carried out throughout the academic session also known as educative assessment. The main purpose of this kind of assessment is to aid the process of teaching and learning. This can be done by teachers as well as peers of the learner by
providing feedback on a student’s work. The feedback may not necessarily be used for grading purposes. A number of researches have shown that formative assessment has a strong impact on children’s progress in primary and early years’ settings (McCallum, 2000, Siraj & Blatchford et al., 2002). Diagnostic assessment is part of formative assessment. The purpose of diagnostic assessment is to measure a student’s current knowledge and skills to identify an appropriate course or syllabus or materials for learning. It is also used to have an in-depth analysis of a learner’s difficulties and needs in a specific area and is followed by appropriate educational support and guidance. Then there are proficiency tests and achievement tests. Proficiency tests are used to measure an individual’s general competence in second language. They can be independent of any curriculum or course and may directly or indirectly assess skills. Achievement tests are closely related to curriculum and they only test what has been taught. The purpose of the achievement test is to evaluate students’ acquisition of certain specified course content.

The Rastiya Madhyamik Siksha Avijan (RMSA) or the National Mission for Secondary Education has proclaimed the following quality indicators of Secondary education: 1) student learning outcomes, 2) government of school, 3) quality staffs, infrastructure facilities, and 4) resources for learning including ICT.

The Central Board of Secondary Education (CBSE) has recently taken a program of assessment of all CBSE schools in India (CBSE, 2005). It has specified the indicator qualities as “what is to be tested”? It has specified the followings: 1) academic processes and outcome, 2) co-scholastic processes and outcomes, 3) infrastructure (adequacy of functionality and aesthetics), 4) human resources, 5)
management and administration, 6) leadership, and 7) beneficiary satisfaction. The seven domains identified by CBSE are focused on the seven areas and processes of developing the capabilities of school holistically.

The West Bengal Government Directorate of School education considered some indicators like drop-out rates, total enrolment, school infrastructure, teacher student ratio, pass out rate and result with respects to government aided school. In respect to private schools such data are not available (Ghosh, 2008).

**Tools of Assessment**

A researcher requires many data gathering tools or techniques. One has to select from available tools that will provide data he seeks for testing hypotheses. It may happen that existing research tools do not suit the purpose in some situation, so researcher should modify them or construct his own research instrument that is defined as what the researcher chooses for the data collection tool, such as survey, experiment etc. The seven basic tools of quality refer to a set of graphical techniques that are generally used for assessment of quality of an institution or program. These are:

1. **Fishbone diagram** (or Ishikawa diagram) : Also called as cause-and-effect diagram. It is a fishbone-structured diagram for identifying cause/effect pattern, in which primary categories are generally pre-determined. It is generally used in the engineering and manufacturing disciplines.

2. **Checklist or check-sheets** : pre-formed lists for noting incidence, frequency, etc., according to known useful criteria. It is used generally in mainstream management.
3. **Control chart**: a standard pattern of performance/time for a given process, often in Run Chart formal. It is also used mostly in mainstream management.

4. **Scatter Diagram/Scatter plot**: a graph which plot points according to two variables that indicates the relationship between the two variables.

5. **Histogram**: a bar graph displaying data in simple categories which together account for a total.

6. **Pareto Charts**: a line and bar graph displaying cause/effect ratios, especially the biggest relative cause.

7. **Flow Charts**: Boxes and arrows method examining activities, potentially used in brainstorming. It used in business process modeling.

In this investigation the researcher wanted to survey the quality of selected Secondary and Higher Secondary schools of West Medinipur and selected a normative survey of the schools. Several instrument of institution assessment are available in the literature. Notable of this are: 1) Johnston country schools; Total Quality in education (Frazier, 1997), 2) Department of Education, Government of Maharastra (Mukhopadhyay, 2001), 3) every country is using National Assessment of progress in education using instrument developed by it (Department of International Development, website: http://www.gov.uk/.../not-in-assess). In India Mukhopadhyay (2001) developed the instruments called MIAS (Mukhopadhyay’s Instructional Assessment System). The MIAS has adopted a comprehensive institutional assessment system that covers all aspects of an institution. The MIAS covers the following perceptual areas:
1. Leadership of the principal
2. Teacher quality: perception, competence, commitment
3. Linkage and interface: communication with environment
4. Students: academic and non-academic quality
5. Co-curricular activities: non-scholastic areas
6. Teaching: quality of instruction
7. Office management: support services
8. Relationship: corporate life in the institution
9. Material resources: instructional support
10. Examination: purposefulness and methodology

It also includes both qualitative and quantitative methods of assessment (Mukhopadhyay, 2006). This instrument also has designed an assessment system where the educational institution is assessed by the Principal and supervisors, teachers, students, parents, and the community. The instruments in the MIAS are the following:

- Teachers question (MIPQ)
- Headmaster’s questionnaire
- Students’ questionnaire
- Parents’ questionnaire
- Data and information blank about the material and human resources of the school inclusive of the performances of the students in Secondary and Higher Secondary examinations.
The MIAS of Mukhopadhyay (2001) has been selected because of ease of operation. A large number of institutions in India have used these instruments (Mukhopadhyay, 2006). A detailed discussion of the instruments has been presented in the Chapter II (Methods and Tools). Before the initiation of this project, University Grants Commission of Government of India established the National Assessment and Accreditation Council (NAAC) in 1994. The mandate of NAAC is making assessment of the quality of higher education inclusive of university and college education and accredit the institution by grading (NAAC, 2006).

In conducting the assessment process, the NAAC follows a four-stage process (NAAC Website):

- Developing the national criteria of assessment, which varies by institution type; development of institutional self-study questionnaires;
- Preparation and submission of a self-study report by the institution;
- External peer team would visit the site and assess the validation of the self-study report by an interacting inspection and discussion with the Vice-Chancellor, and other officers like Registrar, Finance Officer, Controller of Examinations, Librarian etc. The peer team also visits each department and other infrastructure facilities along with discussion with the teachers, students and non-teaching staff.

NAAC selected seven criteria based on which the grading is done and they are:

1. Promotion of Research
2. Resource Mobilization for Research
3. Research Facilities
4. Research Publication and awards
5. Consultancy
6. Extension Activities and Institutional Social Responsibility
7. Collaborations.

This is followed by drafting of recommendations for the assessment outcome. The report is shared with the head of the institution at the end of the visit and is reported to the NAAC along with a confidential recommendation for grading.

The following seven criteria with corresponding scores were selected by the NAAC for its assessment procedures:

- Curricular Aspects (150)
- Teaching, learning and evaluation (250)
- Research, Consultancy and Extension (150)
- Infrastructure and Learning Resources (150)
- Student Support and Progression (100)
- Organization and Management (100)
- Healthy Practices (100)

Based upon the score values the Cumulative Grade Point Average (CGPA) is statistically computed for each criterion. Detailed procedure for CGPA computation is to be found at website www.naac.gov.in. The institutions are then graded as shown in the following chart:
<table>
<thead>
<tr>
<th>Range of institutional CGPA</th>
<th>Letter Grade</th>
<th>Performance Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.01 – 4</td>
<td>A</td>
<td>Very good (Accredited)</td>
</tr>
<tr>
<td>2.01 – 3</td>
<td>B</td>
<td>Good (Accredited)</td>
</tr>
<tr>
<td>1.51 – 2</td>
<td>C</td>
<td>Satisfactory (Accredited)</td>
</tr>
<tr>
<td>≤ 1.50</td>
<td>D</td>
<td>Unsatisfactory (Not Accredited)</td>
</tr>
</tbody>
</table>

School Quality Assessment and Accreditation (SQAA) has become mandatory for all CBSE school (1150) of India. The CBSE program has focused on the seven areas or domains and processes of developing the capabilities of school holistically and these are: scholastic and Co-scholastic domains, Infrastructural Areas, Human Resources, Management and Administration, Leadership and Beneficiary Satisfaction. The Domains are further divided into sub-domains which qualify the various aspects of that particular domain. The list of instruments used by Peer Assesses Team (PAT) and SQAA are: 1) School Profile and School Quality Assessment and Accreditation Farm, 2) Questionnaire for students, 3) Questionnaire for parents, 4) Questionnaire for Teachers; 5) Questionnaire for Non-Teaching Staff, 6) Safety check list (CBSE, SQAA Manual, 2005).

**Qualitative assessment of Institutions**

One of the most important qualitative methods of assessment of an institution is SWOT analysis. SWOT is the combination of four major terms as strength, opportunity, weakness and threats (Mukhopadhyay, 2005). SWOT analysis aims to identify the key internal and external factors that are important for improving the quality of the school.
Internal factors are strength and weaknesses and external factors are opportunities and threats. Strength refers to inherent abilities to compete and grow story. Strengths refer to the things the organization does well. It may be the curriculum, leadership, school relationships, faculty and/or reputation. Other questions could be asked “What does the school do better than anyone else?” What are indicators of success at your school? Strengths can be trusted and built further upon. Weakness refers to the things the organization needs to improve. It could be lack of funds; shortage of qualified staff, absence or inadequate infrastructure facilities and like others. It is therefore, denotes to factors that would have to be taken care of and improved.

Opportunities are trends that the institution could take advantage of. Opportunities of the institution can be converted into strength. Among the opportunities of the Secondary school in West Bengal are the changes in Government policies related to secondary education. Special mention should be about the RMSA and ICT literacy introduction and aids for infrastructure developments. This is an external factor and it should be utilized judicially and promptly.

Threats are the obstacles faced by the institution. The problems of dropouts, attendance of the students’ participation of the parents in school affairs and non-interaction of the community and industry in school affairs, and decrease in grants are important threats that threaten the growth and survival of the institution.

In many cases it has been found that structured assessment tools like MIPQ, quantity data, and then go for qualitative analysis with or without SWOT analysis sheets (Mukhopadhyay, 2006). A typical SWOT analysis sheet is show below.
<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weakness</th>
</tr>
</thead>
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<tr>
<td>1</td>
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<tr>
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<td>3</td>
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<td>4</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Opportunities</th>
<th>Threats</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
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<tr>
<td>2</td>
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<tr>
<td>4</td>
<td>4</td>
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<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

This SWOT Sheet is taken from Mukhopadhyay (2006)
Appendix- 1 : Deming’s 14 point philosophy of Quality

1. Create constancy of purpose for improvement of product and service, with the aim to become competitive and to stay in business, and to provide jobs.

2. Adopt the new philosophy. Organization can no longer compete if they continue in the old way of accepting delays, mistakes and defects. They have to make the required shift and adopt new ways of working.

3. Cease dependence on mass inspection to achieve quality. Instead of inspection at the end, staff should be trained to monitor and develop their own quality.

4. End the practice of awarding business on the basis of price tag alone.

5. Improve constantly and forever the system of production and service, to improve quality and productivity, and thus to constantly decrease costs.

6. Institute training on the job. Failure to use the available talent in the organization is a greatest waste. Training is a powerful tool to improve quality.

7. Institute leadership. Management must lead by example and not just supervise. Leadership should help people to do a job better.

8. Drive out fear, so that everyone may work effectively for the company.

9. Break down the barriers between departments.

10. Eliminate slogans, exhortations, and targets, asking for new levels of productivity without providing the workforce with the methods to do the job better.

11. Eliminate work standards that prescribe numerical quotas.

12. Remove the barriers that rob people of their right to pride of workmanship. This is to remove the appraisal system that encourages competition among staff.

13. Put everyone in the company to work to accomplish the transformation.
Appendix- 2: Juran’s 10 point quality improvement steps
1. Create awareness of the need and opportunity for improvement.
2. Set explicit goals for improvement.
3. Create an organizational structure to drive the improvement process.
4. Provide appropriate training.
5. Adopt a project approach to problem solving.
6. Identify and report progress.
7. Recognise and reinforce success.
8. Communicate results.
10. Build an annual improvement cycle into all company processes.

Appendix- 2: Crosby’s Fourteen Steps for Quality
1. Management should be convinced of the need for quality improvement, and there should be full commitment.
2. Set up a quality team to drive the programme.
3. Introduce quality management procedures.
4. Define and apply the principle of the cost of quality.
5. Institute a quality awareness programme.
6. Introduce corrective action procedures.
7. Plan for the implementation of zero defects.
8. Implement supervisory training.
9. Announce zero defects day to launch the process.
10. Set goals to bring about action.
11. Set up employee-management communications systems.
12. Recognise those who have actively participated.
13. Set up quality councils to sustain the process.
14. Do it all over again.