## CHAPTER – 5

### SUMMARY, DISCUSSION AND FINDINGS

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Contents</th>
<th>Page No</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.0</td>
<td>Introduction</td>
<td>115</td>
</tr>
<tr>
<td>5.1</td>
<td>Summary</td>
<td>115</td>
</tr>
<tr>
<td>5.2</td>
<td>Discussion</td>
<td>120</td>
</tr>
<tr>
<td>5.3</td>
<td>Findings</td>
<td>125</td>
</tr>
<tr>
<td>5.4</td>
<td>Research Contribution</td>
<td>126</td>
</tr>
<tr>
<td>5.5</td>
<td>Recommendations for Future Research</td>
<td>126</td>
</tr>
<tr>
<td>5.6</td>
<td>Conclusion</td>
<td>127</td>
</tr>
<tr>
<td></td>
<td>Reference</td>
<td>128</td>
</tr>
</tbody>
</table>
CHAPTER – 5
SUMMARY, DISCUSSION AND FINDINGS

5.0 Introduction

This chapter concludes the research work ‘Development of Quality Excellence Model for Schools: QEMS’, undertaken to assist the schools in establishing credential creditability through process viability assessment. The chapter proceeds with discussion, findings, contribution to education research community and finally the recommendations for future research.

5.1 Summary

Introduction

Quality may be viewed as building in the child the ability to think, understand, deduce and apply concepts learnt in class to daily life and vice versa. It encompasses within its scope, the building of life skills for harmonious living. Certainly it goes beyond the achieving of outcomes like ‘grade wise competencies’. Quality education connotes facilitating environments that promote high calibre curriculum and instruction to enable all children to meet the challenging academic standards and use all the communities assets a resource for learning to be able to acquire life skills and social skills to develop their assists and talents, form a positive relationships with peers and adults and serve as resource to their community. The schools need this ability to develop empirical, analytical, evaluative, strategic, practical and communicative skills (Jenson & Kiley, 2005) [1]. The critical thinkers have the ability to connect knowledge, theory and research evidences to the everyday practicing (Berman & McLaughlin, 1978) [2]. Today schools are exposed to a number of challenges. One major challenge for the schools today is dealing successfully with the diversity in learning abilities and needs of the students. According to O’Day, J(2002) [3], preparing schools to work diverse settings and make a difference in the lives of students from another culture continues to escalate. The list of challenges could go on.
How so ever the question that arises and needs to be answered is, how do schools identify with these challenges and initiate their journey towards excellence?

The quality status of the Indian schools was studied and analyzed to get a more focused picture of the educational scenario in the country. Firstly the focus was on gathering information and data on the current quality education picture of the Indian schools and comparing its performance status to that in the International market. Secondly, the various tools used for the quality assessment of the schools were studied. The comparative study of these techniques used for quality assessment also provided the input for the study. Finally the chapter concluded by quoting some related studies undertaken. The reports referred were;

**The progress of school education in India**, by Geeta Gandhi Kingdon, global poverty research group, 2007 [4] was studied to examine the progress of school education in India. The findings of the work suggest poor and unsatisfactory quality of school education in India.


**Annual Status of Education Report (ASER)** [6] was also unbelievable. The data on the basic arithmetic and language skills reflected the poor learning achievements. Though in the ASER 2008, some improvement could be observed in the learning achievement of states like Bihar.

The comparative data on learning achievement of children at the international level was rarely available. How so ever analyzing the available statistical figures interprets that India lags far behind in the international market.

Certainly, the way for excellence passes through the ladder of continuous improvement, which is only possible with effective assessment and analysis of the
parameters defining excellence. Thus to find a solution to the concern, present study “Development of Quality Excellence Model for Schools” was undertaken by the researcher to develop a model for assessing the performance excellence of the Indian educational institutes for quality education.

The present study involved identifying the challenges, defining the challenges in terms of achievable goals, analyzing and assessing the defined goals for facilitating continuous improvement, keeping into consideration the dynamic nature of excellence. The research work has been undertaken with the following objective:

1. To study the Malcolm Baldrige Education Criteria for Performance Excellence in Indian context.
2. To identify and understand the quality related processes in context to Indian schools
3. To develop the quality excellence model for schools.
4. To study the applicability of the above model on Indian schools.

**Review of Related Literature**

The excellence quality assessment models discussed were:

- The ISO 9000:2000 model
- The Capability Maturity Model
- The Six Sigma model
- Total Quality Management
- The NAAC Model
- The Malcolm Baldrige Education Criteria for Excellence

The Malcolm Baldrige Education Criteria for Excellence provided a useful input for the model development. The model was studied in the Indian context so that the philosophy could be applied for the quality assessment of the Indian schools, the
model observes four elements as the core model, and these are Approach, Deployment, Learning and Integration.

Some related studies in the context were also referred. These are:

1. Standard for Quality School Governance, undertaken by NABET under the Quality Council of India (QCI).

2. Quality Assurance Toolkit for Teacher Education Institutes (QATTEI), by NAAC, in collaboration with the commonwealth of learning (COL).

3. Karnataka Schools Quality Assessment Organization (KSQAO), the project undertaken by the Government of Karnataka and Sarva Siksha Abhiyan in 2006.

4. Evaluation practices in primary school of Delhi, a scheme of school-based evaluation conceptualized by the department of educational measurement and evaluation, NCERT.

5. The Tata Steel Excellence Model, based on Malcolm Baldrige Education Criteria for Performance Excellence for school quality improvement.

**Research Methodology**

New Product Development (NPD) methodology was adopted for the development of the quality assessment model for school, education. The model is developed in four phases:

- Market Research

- Product Design

- Product Testing Phase

- Product Pre implementation Phase

The first phase, Market Research, studies the Malcolm Baldrige Education Criteria for Excellence in Indian context as an effective quality assessment tool. Further the quality related issues of the Indian schools are understood. To facilitate the same the schools from Pune district were consulted, adequate discussions and
meetings held with presentations. The process involved expertise from eminent educationalists, management personnel, senior leaders, teachers, students and stakeholders. Thus the first phase provides the input for further processing and designing the QEMS.

In the second phase, Product Design, the data and information is used to design the QEMS. The quality issues identified in the first phase were broadly categorized into five Quality Criteria, which were further divided into twenty eight Quality Areas. The Quality Areas in turn addressed the quality issues in the form of seventy nine Quality Indicators. The seventy nine Quality Indicators were described in detail in terms of its operational definition, relevance, data and information, quality process and quality result. At this stage the experts review was used to validate the QEMS structure. The QEMS designing involved the following systematically framed steps:

- Listing the Basic Features of QEMS
- Framing the Structure of QEMS
- Screening of Quality Indicators
- Questionnaire Preparation
- Scoring System Preparation
- Quality Indicator Description
- Finalization of QEMS Structure

The third phase, Product Testing, is concerned with the testing of the QEMS structure the real situations for validity using quantitative method. The QEMS was applied to ten randomly selected schools. These sample schools were further assessed by selected ten experts. The scores calculated through QEMS application and expert assessment was correlated using Pearson’s Correlation formula. The correlation value calculated validated the QEMS for its behaviour in the real situation.

The last phase, Product pre implementation, the same procedure was repeated after a considerable period of time establishes QEMS reliability. The correlation value calculated established behaviour pattern validity (reliability) of the model.
The QEMS development process was thus completed in the four phases. The process of QEMS validity was observed as an ongoing process with each development phase.

5.2 Discussion

In retrospect, the quality concerns that led to the development of the model QEMS, as the self assessment tool was achieved. The methodology adopted enabled active and productive participation of the education experts in the development of the model. The developed model for excellence performance would enable the schools realize their potential for excellence and thus aim to deliver the quality educational services to all the concerned. The model is designed with features like user friendly, easy to access, flexible to cater to the needs and requirements of the differently abled group of users, easily understandable, cost saving and still sensitive enough to catch the dynamism inherent in the quality related processes. All these features facilitate the model to be used as a self-assessment tool for achieving credential creditability through process viability assessment.

In the course of literature review some of the prominent quality assessment tools were studied and analyzed for their efficacy with respect to the school quality improvement. These tools and techniques had their own scope and limitations. For instance, though the concept of Total quality Management provides the guiding principles for needed educational reform, its effective implementation requires vision and skills in leadership, management, interpersonal communication, problem solving and creative cooperation. Similarly, the ISO benchmarks are set to promote quality standards, but at the same time they compel the organizations to think that just certification could lead to better quality without emphasizing on the actual improvement of quality. In contrast, the developed QEMS not only facilitates and assures the required vision and skill for quality improvement, but also promotes the much needed awareness towards potential for excellence among the schools.

The philosophy behind Six Sigma is to reduce the variation and defects and subsequently enhance the customer satisfaction and gains. But as Juran (2001)\textsuperscript{[7]} states the concept is based on no new innovative idea. Critics argue that there is a
overselling of Six Sigma by too great a number of consulting firms, many of which claim expertise in Six Sigma when they only have a rudimentary understanding of the tools and techniques involved. Peter (2002)\textsuperscript{8}. To put in the simplest words, unlike the QEMS, the Six Sigma fails to address the emerging concerns related to quality issues.

The Capability Maturity Model is recognized as an important quality assessment tool for excellence. It provides a framework for continuous improvement and is thus regarded more explicit than the ISO standards in defining the means to be employed to that end. It identifies five maturity levels, key process areas, goals, common features and the key practices as its major components. But implementing similar multiple models that are not integrated within and across an organization are costly in terms of training, appraisals and improvement activities.

The NAAC initiative for quality assessment and accreditation of higher education is remarkable though it took quiet an effort to establish its identity and usefulness of the purpose among the higher education institutes. The NAAC model identifies seven quality criteria in comparison to five identified in the QEMS. The quality criteria identified in the NAAC model and the QEMS differ in context to their objectives, purpose and relevance in the higher education institutes and the school education respectively. Howsoever, both tend to share a common philosophy with the dynamic Malcolm Baldrige Education Criteria for Performance Excellence.

The Malcolm Baldrige Education Criteria for Performance Excellence provides an integrated framework of seven quality criteria based on certain core values, viz: visionary leadership, learning centered education, organizational and personal learning, valuing partners, staff and faculty, agility, focus on future, managing for innovation, management of facts, social responsibility, focus on results and creating values and system perspective. Based on the same philosophy the QEMS also seeks to provide a guideline for continuous improvement revising plans based on process viability assessment findings, learnings, new inputs, new requirements and opportunities for innovation. On one hand were Malcolm Baldrige Education Criteria for Performance Excellence, due to its complex nature finds its application limited to the hand full of ‘high level schools’ only, the QEMS is framed keeping into
consideration the quality needs of the Indian market and the issues related to it. Thus making the QEMS more accessible, effective and relevant for the Indian schools.

The model seeks to provide a systematic approach towards quality process viability assessment for school education. The quality indicators defined in the model would serve for the quality improvement of schools by ushering the awareness for quality among the schools and by applying as guidelines for self-assessment and carrying out management functions efficiently and effectively.

Nevertheless, the process of any product development is an exploratory, rhetorical, emergent, opportunistic and reflective human activity, it is indirectly influenced by a number of unexamined assumptions. For instance, though the QEMS is based on the Malcolm Baldrige Education Criteria for Performance Excellence, but still it is different in many respects. Foremost the Quality Indicators defined in QEMS are in the context to the quality needs and requirements of the Indian schools. The QEMS applies similar philosophy as of Malcolm Baldrige Education Criteria for Performance Excellence. The same can be viewed in the 'Accreditafion Standard for Quality School Governance' framed by the National Accreditation Board for Education and Training (NABET) functioning under the Quality Council of India (QCI), which identifies fifty quality parameters in comparison to seventy nine identified in the QEMS.

The effectiveness of quality assessment models based on Malcolm Baldrige Education Criteria for Performance Excellence is also evident from the Tata Steel Education Excellence Model. The model is developed based on Malcolm Baldrige Education Criteria for Performance Excellence and facilitates the famous national Dr. J.J Irani Awards for school excellence. The Tata Steel Education Excellence Model, unlike the QEMS identifies similar quality criteria and assessment procedure as were mentioned in the Malcolm Baldrige Education Criteria for Performance Excellence in the 1990's, which is a big concern. The reason being, the Malcolm Baldrige Education Criteria for Performance Excellence, every year reviews the quality criteria and makes the amendments as necessary to keep pace with the changing quality needs and requirements, now how far the phenomena applies for Tata Steel Education Excellence Model is a question that is to be answered.
Other than this, one of the concern in QEMS development is that though the model seeks to find application in all schools of Indian origin irrespective of any factor like management, strength, infrastructure, place etc, but the procedure of Market Research for studying the quality related processes in the Indian schools was confined to schools from Pune city only. Howsoever could be explained as Pune city being considered as one of the most versatile educational center in India.

The selection of experts for both, developing the QEMS in the Product Design phase and studying the applicability of the QEMS in the Product Testing Phase and Product Pre implementation Phase was one of the most crucial tasks of the study as the structure and the behavior validation of the QEMS completely depended on the expertise provided by the selected experts. For the selection of experts no standardized tool for measuring the expert’s expertise was taken into consideration. It could be claimed that the expertise of the selected experts was at different level and therefore equating the same could not be scientifically justified, specifically in case of the ten experts selected for ten sample school for studying the applicability of the QEMS. But at the same time, considering the objective of the present study and examining the whole scenario from a different perspective this variance added to the broad spectrum of the expertise making the source much more enriched.

Another issue is that the term ‘quality’ in itself is dynamic in nature and therefore the parameters defined to assess the same have to be dynamic. It is for this reason that though the quality parameters defined in the model are of dynamic nature, also, there is a provision of adding or modifying the currently identified quality parameter to address the quality requirements of differently abled schools.

Further, all measures were taken to describe the quality indicators using the most appropriate vocabulary, but owing to the nature of the subject chances of its misinterpretation cannot be denied. Also a few quality indicators identified in the model structure are not purely quantifiable, as a result while scoring these quality indicators more emphasize is given on the perception of the scorer rather than on the concrete evidence. This could lead to varied results in some cases.

At present the model QEMS has established positive correlation with the predefined qualities for school education for excellence when applied to ten selected schools of Indian origin. Howsoever the aim is to further test and validate the model
so as to gather more data to confirm the applicability of the model in the schools of Indian origin.

In the present scenario, the QEMS resulted in the improvement of the performance level of all the ten sample schools that further confirms the chances of successful applicability of the developed model in the Indian schools for achieving excellence in performance.

The researches have emphasized the role of quality assessment tools in enhancing the learning achievements of the students through a continuous improvement. The results of the present research work are supported by the following research studies;

**Accreditation Standard for Quality School Governance:**

The National Accreditation Board for Education and Training (NABET) functioning under the Quality Council of India (QCI) standardized the parameters for quality school education. The developed framework provides the basis for assessment for facilitating further improvement. The main focus is on enabling high quality learning through cycle of continuous improvement. Howsoever the developed framework identifies five quality criteria divided into quality indicators, further divided into fifty quality indicators in comparison to the seventy nine quality indicators defined in the QEMS. The quality criteria in the QEMS differ from the quality criteria identified by the NABET framework for quality school governance.

**Karnataka Schools Quality Assessment Organization (KSQAO):**

The project was undertaken by the government of Karnataka and the Sarva Siksha Abhiyan to gauge the quality of schools by assessing student learning outcomes across the state. Within a period of three years the project aimed to achieve enrolment of all children in the age group of 6 to 14 with high level of competencies. The KSQAO identifies the quality parameters based on the quality challenges faced by the schools of a particular community. On one hand where the KSQAO focuses on the measuring the learning achievements of students at a state level the QEMS finds applicability in all the primary/secondary schools of Indian origin. The quality issues identified in the QEMS find relevance in the all primary/secondary schools of Indian origin.
5.3 Findings

Major Findings

- The Malcolm Baldrige Education Criteria for Performance Excellence was found to be an effective quality assessment tool for improving the performance of the schools. Studying the same in Indian context provided a rich source of input for developing QEMS.

- The understanding of quality related issues of Indian schools emphasized on the strong need for an effective quality assessment tool that could help them achieve excellence through continuous improvement.

- The Quality Indicators identified in the developed QEMS exhibited positive relationship with the true system outside represented by the 'expert's assessment' (using Pearson's Correlation formula). Thus the same may be considered effective and relevant in addressing the quality issues of the Indian schools.

- The assessment of the Quality Indicators identified in the QEMS resulted in improvement in the performance level of the ten sample schools and thus the model may be recommended as effective and relevant to find application in the Indian schools.

- The Quality Indicators identified in the Quality Criteria 1; leadership and School Governance, exhibited positive relationship (using Pearson's correlation formula), and thus may be considered effective and relevant in addressing the quality needs and requirements of the Indian schools.

- The Quality Indicators identified in the Quality Criteria 2; Infrastructure and the Learning Resource management, exhibited positive relationship (using Pearson's correlation formula), and thus may be considered effective and relevant in addressing the quality needs and requirements of the Indian schools.

- The Quality Indicators identified in the Quality Criteria 3; Student Focus Management, exhibited positive relationship (using Pearson's correlation formula), and thus may be considered effective and relevant in addressing the quality needs and requirements of the Indian schools.
• The Quality Indicators identified in the Quality Criteria 4; Human Resource Management, exhibited positive relationship (using Pearson’s correlation formula), and thus may be considered effective and relevant in addressing the quality needs and requirements of the Indian schools.

• The Quality Indicators identified in the Quality Criteria 5; Stakeholder and Market Relationship Management, exhibited positive relationship (using Pearson’s correlation formula), and thus may be considered effective and relevant in addressing the quality needs and requirements of the Indian schools.

5.4 Research Contribution

The present study ‘Development of Quality Excellence Model for Schools: QEMS’ certainly provides a pioneer foundation to further strengthen the future research work that may be undertaken towards the quality improvement of school education in India. Howsoever the research contribution to the education community may be stated as:

• Provides a meaningful understanding of the Malcolm Baldrige Education Criteria for Performance Excellence as an effective quality assessment tool for improving the performance of the schools in Indian context.

• Emphasizes on understanding of quality related issues of Indian schools to help them achieve excellence through continuous improvement.

• Developing Quality Indicators that were considered effective and relevant in addressing the quality issues of the Indian schools.

• Developing quality indicator assessment procedures that led to the improvement in the performance level of the Indian schools.

5.5 Recommendations for Further Research

The recommendations for future research that may be considered are:

1. The implementation of model at a much larger scale may be helpful in more accurate generalization of the results to the population.
2. The school sample size for understanding the quality related issues of the Indian schools may include Indian schools from different states with different background.

3. The time period between the two consecutive implementations of the QEMS may be considered for a year or more.

4. Data from more than one consecutive implementation of QEMS may be required to further confirm the model reliability.

5. Parallel model for the educational sector can be developed.

5.6 Conclusion

Hereby it can be stated that achieving excellence in school education would require high standards and tireless efforts to deal with the growing needs and requirements of the society, QEMS is one of the sincere initiative taken in the path to rejuvenate the schools. QEMS, developed with the objective of building quality awareness among the Indian schools would certainly prove helpful in establishing credential creditability through process viability assessment.
References


