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Abstract of Doctoral Dissertation[1]

Total Quality Management in Higher Secondary School Education in Kerala

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I. Introduction

Education is one of the most crucial factors in empowering people with skill and knowledge and in giving them access to productive employment in the future and the quality of education is absolutely essential for the steady progress of a nation. Educational quality in every stage is thus a serious concern all over the world. This becomes all the more important in the age of globalization which ensures that only the fittest can survive. The changing global scenario and resultant major changes have had their implications in all sectors. The field of education is no exception to this. Therefore, it is inevitable to provide quality education and equip the learner with the ability to face the growing challenges of this complex world. The Education Commission, while describing the role of education in the social and economic transformation of India, has commented that the destiny of India is now being shaped in her classrooms. As per the Human Development Index[2] (HDI) of UNDP, 2011, India ranks 134th with HDI value of 0.547, while the HDI value of the world in the same period is 0.682. This means, India stands behind 133 countries of the world, in terms of HDI value and is grouped among the countries with medium human development. In 1980 the HDI was 0.344 and it is reported to have an average annual growth rate of 1.56 from 2000 to 2011. India's Education Index[3] was 0.232 in 1980 which has improved to 0.450 in 2011. Within India, when different states are compared, there is quite a disparity in the progress of education. Kerala stands miles ahead of the other states of India, in terms of, a number of important social development indicators, education being one among them. Kerala has attained this growth in education, not in a short period of time, but through the enlightened efforts of the rulers, from the very early times and the intellectual pursuit of the people, spread through several centuries. This trend continues even today, as is evident from the initiatives of the government and other educational agencies, which are in a relentless pursuit of improving the quality of education, and

[1] The thesis was submitted to Mahatma Gandhi University, Kottayam, Kerala, India, in April 2013 for the award of Ph.D Degree and awarded in January 2014. The work was done under the supervision of Dr. Joy Joseph Puthussery, Principal, Bharat Mata College, Thrikkakara, Ernakulam, Kerala, India.

[2] Human Development Index (HDI) is a composite index, measuring average achievement in three basic dimensions of human development – like a long and healthy life, knowledge and a decent standard of living.

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have been churning out quality improvement programmes and schemes.

The initiation of technology in various functions of the education department like payroll management through 'Service and Payroll Administrative Repository for Kerala' (SPARK) programme, common admission, via, 'Centralised Allotment Process for Higher Secondary Courses' (HSCAP), are contributing factors to the up gradation of quality in the educational department in Kerala. The National Education Policies and schemes, sponsored by the Union Government, such as Minimum Levels of Learning (MLL), Universalisation of Elementary Education (UEE), District Primary Education Programme (DPEP), Sarva Shiksha Abhiyan (SSA) and Rashtriya Madhyamik Shiksha Abhiyan (RMSA), are all quality up gradation efforts of the government, which are expected to have remarkable impact on school education in the state. Improvements have also been introduced in the curriculum, through the introduction of continuous and comprehensive internal evaluation of students together, with the learner centered and activity oriented teaching methodology that intends to ensure better academic performance of students. The activity based, process oriented and learner centered pedagogy has been introduced in the schools from the 1st standard onwards and it was continued in the higher secondary classes from the year 2005. The teachers have been equipped to handle the new methodology of teaching and learning. Clusters are formed as quality circles to pave way for serious academic deliberations and interactions among teachers. All these quality improvement initiatives could be brought under the broad spectrum of Total Quality Management (TQM). Nomenclature may be different, but the intention is nevertheless the same, which is, to satisfy the customers of education by constantly and continuously improving educational service, through the whole hearted efforts of everybody involved in the process. This is absolutely the true essence of total quality management.

II. Statement of the Problem

Of lately, the quality of education in Kerala is on the downhill of progress. However, quantity-wise the progress is astounding, as evidenced through the study reports of NCERT and such other agencies and individual research endeavors. This is further confirmed through the surveys conducted by voluntary agencies like Kerala Sasthra Sahitya Parishat. Parents and people in general are not satisfied with achievements made by government run schools and private aided schools. This is one of the reasons for the flight of students in search of quality to other schools and for the increasing number of uneconomic schools. The above scenario called for a drastic change in each of the components of the system of higher secondary education, starting from the administration, right down to the individual schools. It is in this back ground, that the applications of the concepts of TQM in education are being experimented on a large scale in Kerala. The government has been taking initiatives for imparting training and education to teachers for imbibing the philosophy of TQM into them; significant changes were made in the curriculum and in the administration of the education system. Massive efforts are also being taken with respect to building infrastructural facilities. In 2004, following the "Total Quality", envisaged by the educational authorities, a vision-mission statement was developed in a Training Need Analysis (TNA) workshop and ever since it has been used in all official documents. The vision envisages a central agency of the state government to promote all round excellence in higher secondary education, by establishing appropriate philosophies, adequate institutional network, effective administrative systems, and well qualified, competent and motivated staff necessary to carry out academic and administrative responsibilities. The mission

provides to serve as a professional institution in formulating and maintaining the standards of higher secondary education and in providing need-based, time-bound, effective and sustainable services to the students and teachers. Curriculum envisages the teachers to do lesson planning for achieving the curriculum objectives, and this is considered vital for delivering quality education within the available time span. However, it is alleged that only a few teachers engage themselves in the process of planning for classroom transactions and in its implementation. Another area of quality initiative introduced was in the method of evaluating students. The continuous and comprehensive evaluation of the learning process is introduced by applying activity oriented; student centered learning and evaluation strategies. There have been apprehensions among the teaching community with regard to the effectiveness of such quality initiatives and the negative impact it might have on their workload. The total quality encompassing involvement of everybody concerned, is met by building teams, which function like 'quality circles', popularly called as *'clusters'*, where periodical academic deliberations and training are provided. It is desired that the teachers would actively participate in such endeavors. Observations throw light on the facts which are contrary to what is desired. It is doubtful that the agenda of quality improvement efforts in the higher secondary education in Kerala has struck with some amount of disapproval and reluctance to change from the part of the teachers and related authorities. Therefore, it is highly inevitable to evaluate the quality improvement initiatives of the government, leading to the successful implementation of TQM process in the higher secondary school education in Kerala.

III. Objectives of the Study

The study has been designed with the following objectives in view;

1. Assess the continuous improvement in teaching, teachers, evaluation and infrastructure, as part of application of TQM in higher secondary school education in Kerala.
2. Examine the team work among teachers, as part of application of TQM in higher secondary school education in Kerala.
3. Examine the customer satisfaction attained, as part of application of TQM in higher secondary school education in Kerala.
4. Identify the problems in the implementation of TQM in the higher secondary school education in Kerala.

IV. Hypotheses

Based on the above objectives, the following hypotheses were formulated for the study.

1. The overall continuous improvement achieved, as part of application of TQM in higher secondary school education in Kerala, is moderate.
2. The continuous improvement in teaching, teachers, evaluation and infrastructure, as part of application of TQM in higher secondary school education in Kerala, is the same, irrespective of, the type of ownership of the schools, location of the schools and subject taught.
3. The overall team work achieved among teachers, as part of application of TQM in higher secondary school education in Kerala, is moderate.
4. The opinion of the teachers with regard to overall teamwork, as part of application of TQM in higher secondary school education in Kerala, is the same, irrespective of, the type of ownership of schools, location of schools and subject taught.

5. The overall satisfaction level of teachers and students achieved, as part of application of TQM in the higher secondary school education in Kerala, is moderate.

6. The overall satisfaction of teachers in higher secondary school education in Kerala is the same, irrespective of, the type of ownership and location of schools.

V. Methodology

The study is descriptive in nature examining the application of TQM in higher secondary school education in Kerala. It is concentrated on the three important tenets of total quality management namely; continuous improvement, teamwork and customer satisfaction, and the opinion on these three tenets were elicited from the respondents, selected as sample.

V. (A) Sample Design

The population of the study comprises of, the teachers, students and parents belonging to the government, aided and unaided higher secondary schools coming under the Directorate of Higher Secondary Education in Kerala. There were 760 government higher secondary schools, 686 aided and 461 unaided higher secondary schools in the state in the year 2010-11 totaling to 1907 higher secondary schools in all. From the total number of schools in the state, about 1.5 per cent (30) schools were selected for the sample through a multi-stage sampling process. Schools were included in the sample proportionately from, government, aided and unaided sector. Thus, 13 schools were included from government, 11 from aided and 6 from unaided higher secondary schools. For getting a complete representation of the state (14 districts in all), it is divided into three zones, northern, southern and central. From each of these zones a district was selected and from each district government, aided and unaided higher secondary schools were selected proportionally. Thus altogether 10 schools were selected from each district. From each of the school selected, 10 teachers, 10 students, 10 parents were selected. Thus data were collected from 300 teachers, 300 students and 300 parents. The teachers who are having minimum five years experience and the students of the plus two classes and one parent of each student selected are included in the purview of the study.

V. (B) Tools of Analysis

The opinion of the teachers, students and parents were collected using a pre-tested structured survey schedule and marked on a five point Likert-type scale. Percentage analysis and descriptive statistics were computed for identifying the nature of the data. The hypotheses are tested using Z test, one sample t test, one way analysis of variance (ANOVA) along with least significant difference test for comparison between more than two groups and independent t test for comparing between two groups and also correlation. The level of significance was fixed at 5 per cent. In order to identify the dimensions of the problems faced by the teachers in the implementation of new curriculum, factor analysis on a set of thirty six statements with the Principal Component Analysis as an extraction method and Varimax as Rotation method with Kaiser Normalization was performed. Bartlett's Test of Sphericity and KMO measure of Sampling Adequacy were performed to confirm the suitability of the data for factor analysis.

VI. Organization of the Report

The thesis is organized under eight chapters. The first chapter provides an introduction to the study. It includes a review of the literature, in the order of relevance to the present study and the research design. The second chapter describes the concept of quality with special emphasis on the quality of service especially education and the concept of

total quality management and its application in the field of education. The third chapter unveils the history of school education in Kerala and evolution of higher secondary school education and also discusses the educational programmes of quality up gradation. The fourth chapter deals with the assessment of continuous improvement in teacher, teaching, evaluation and infrastructure. The fifth chapter examines the teamwork among teachers at school resource group level and at cluster level and also the overall teamwork among teachers in higher secondary school education in Kerala. The sixth chapter examines the level of customer satisfaction, in the higher secondary school education, taking into account the satisfaction of teachers, students and parents. The seventh chapter deals with the identification of the problems of implementation of total quality management. The eighth chapter presents the major findings, suggestions and conclusion.

VII. Major Findings of the Study

The major findings of the study from each area are summarized below in four heads.

VII. (A) Continuous Improvement

Continuous improvement is assessed in four pertinent aspects of higher secondary school education such as Continuous Improvement in Teaching, Continuous Improvement in Teachers, Continuous Improvement in Evaluation and Continuous Improvement in Infrastructure.

1. Continuous Improvement in Teaching

Continuous improvement in teaching is the systematic process of planning for class room transactions, implementing, evaluating and re-implementing these plans, continuously, for the purpose of attaining higher level of efficiency and customer satisfaction. The percentage score of continuous improvement in teaching as part of total quality management is 78.69. Continuous improvement in teaching is found to be the same in government, aided and unaided higher secondary schools (p value 0.611). Similarly, continuous improvement in teaching is the same among the teachers handling different subjects (p value 0.389).

2. Continuous Improvement in Teachers

Continuous improvement in teachers is the improvement attained by the teachers, by attending the faculty development programmes, conducted by the Directorate of Higher Secondary Education and SCERT. The opinion of the teachers about the training sessions is the basis for assessing continuous improvement achieved by them through these faculty development programmes.The percentage score of 'continuous improvement in teachers' is at 72.82. The study found that 'continuous improvement in teachers' is the same among government, aided and unaided higher secondary school teachers (p value 0.388), among male and female teachers (p value 0.062), teachers of different age groups (p value 0.135) and those teaching different subjects (p value 0.524).

3. Continuous improvement in Evaluation

'Continuous improvement in evaluation' is an assessment of the extent to which students in the higher secondary school education are subjected to continuous and comprehensive internal evaluation as part of the teaching-learning process and continuous improvement in the conduct of practical and terminal evaluation. The percentage score of overall continuous improvement in evaluation is 69.02.There is lesser continuous improvement in 'continuous and comprehensive internal evaluation', than the other two types of evaluation. It means this new method of evaluation, introduced as part of quality improvement, is yet to be carried out as envisaged. It can be understood that teacher centeredness still prevail to a certain extent in the classrooms, and that, it has to work on, for being more activity oriented. Out of the three sets of evaluation assessed, 'continuous and

comprehensive internal evaluation', has got much importance in determining, the extent of 'continuous improvement in evaluation', from the perspective of total quality management. This is because; it is this mechanism which ensures that the output, i.e., the students, is of the desired quality.

There are striking differences in the conduct of 'continuous and comprehensive internal evaluation', by the teachers of different types of schools on the basis of ownership; it is done on a higher scale by the government school teachers when compared to the unaided school teachers (p value 0.044). The findings of factor analysis on the 'problem of continuous internal evaluation', also affirmatively shows that, this problem is more for the unaided school teachers than aided and government school teachers (p value 0.015). The difference in the conduct of 'continuous and comprehensive internal evaluation' (C.E) is highly significant among teachers, teaching Science (mean 31.84) and other subjects. The conduct of C.E is more among Language (mean 38.71), Humanities (mean 35.29) and Commerce (mean 34.83) teachers, than among Science teachers (p value less than 0.001). The 'problem of vast syllabus', studied through factor analysis is also more in the case of Science subjects when compared to Languages (p value less than 0.001), which acts as a major constraint in the implementation of continuous and comprehensive internal evaluation process in the case of Science subjects.

4.Continuous Improvement in Infrastructure

'Continuous improvement in infrastructure' is an assessment of the incremental changes brought about in the infrastructure of the school, comprising of buildings (classrooms, staffrooms, and toilets), common space, laboratories, playground, library and water including drinking water, electricity supply, computer and other technology. The study found that the improvement in 'infrastructure' (percentage score 68.53) is way behind. The 'continuous improvement in infrastructure' in government schools is inferior to aided and unaided schools. It is specifically noted that the difference between government, aided and unaided higher secondary schools lies only in the differences in continuous improvement in 'infrastructure' and not in 'teaching', 'teachers' or 'evaluation'.

5. Overall Continuous Improvement

The 'overall continuous improvement' achieved as part of application of TQM in higher secondary school education in Kerala is above moderate. 'Overall continuous improvement' is the same in government, aided and unaided schools and in urban and rural higher secondary schools in Kerala.

VII. (B) Team work

Team work among teachers, as part of application of TQM in higher secondary school education in Kerala, has been examined under two levels, at the school resource group level and at the 'cluster' level. The 'overall teamwork', comprising of teamwork at school resource group level and team work at cluster level, achieved among teachers as part of application of TQM in higher secondary school education in Kerala, is moderate. The opinion about 'overall teamwork' in the higher secondary school education in Kerala is the same among government, aided and unaided school teachers. The teachers of different subjects may be having difference of opinion on teamwork, because 'clusters' or teams are formed based on subjects. It is interesting to note that although teachers cluster together based on the subject, every cluster group, irrespective of the subject they represent, have the same opinion with regard to 'overall teamwork'.

VII. (C) Customer Satisfaction

1. Satisfaction of Teachers

The 'overall satisfaction' of teachers is assessed and found to be above moderate. It is found that the teachers of aided schools are more satisfied than government school teachers and unaided school teachers. The unaided school teachers are lesser satisfied about the service aspects of their job like compensation and attitude of management than with the infrastructural facilities. The government school teachers show lesser satisfaction than aided school teachers on infrastructural facilities and the reason for the government school teachers to have lesser 'overall satisfaction' than the aided school teachers lies in the inadequacies of infrastructure rather than service related matters.

2. Satisfaction of the Students

The study found that the overall satisfaction of the students is above moderate. The study found that, the satisfaction level of aided and unaided school students is significantly higher than that of students of government schools and the reason for the differences in satisfaction is not due to the differences in the satisfaction level about 'teachers and their attitude' or 'conduct of examinations' but only on the inadequacy of infrastructure. The overall satisfaction on infrastructure is significantly lesser for students in co-educational schools than the students in boys only schools and students in girls only schools. It is also important to note that the students of boys only schools are lesser satisfied than girls only and co-educational schools in the matter of 'teachers and their attitude'.

3. Satisfaction of Parents

The satisfaction of parents of the students of higher secondary schools are assessed using different variables like 'infrastructure', 'teachers and their attitude', 'attitude of the principal' and 'other supporting system', which comprises of aspects like conduct of parent-teacher meetings, teacher-student ratio, number of working days in a year, permanency of faculty, selection of teachers, counseling for students and parents, career guidance, academic achievement of the school, and importance given to co-curricular and co-academic activities. The study found that the overall satisfaction of parents of students of the higher secondary schools in Kerala is above moderate. It is interesting to note that the difference in the satisfaction level of parents of government school students is not due to inadequacies of satisfaction in 'teachers and their attitude', 'attitude of principal' and 'other supporting system' but on a more rectifiable factor, 'the infrastructure'.

VII. (D) Problems in the Implementation of TQM

In order to analyze the collected data and to identify the dimensions of the problems faced by the teachers in the implementation of TQM, factor analysis on the thirty six statements is performed, which has statistically helped to reduce the problems to a significant set of ten factors. The study found that 63.44 per cent of the total variance in the problem is explained by these ten factors. The factors identified are, 'Socio-Economic problem', 'Implementation problem', 'Vast syllabus', 'Problem of Terminal Evaluation', 'Problem of continuous internal evaluation', 'Problems related to lesson planning', 'Problem of working hours', 'Problem of remedial teaching', 'Problem of clusters' and 'Influence of Association'. The least problematic, out of the ten factors, is 'influence of association' in the teachers' work related matters (percentage score 58.3) and 'problems related to lesson planning' (percentage score 58.9). But, the most problematic among them are of 'vast syllabus' (77.1), 'remedial teaching' (77) and 'continuous internal evaluation' (79.1). The 'socio-economic problem' is more severe in the government schools

than in the aided schools but it is the least in the unaided schools. The problem of continuous internal evaluation (percentage score 79.1), is the same for aided and government school teachers but, higher for unaided school teachers. It is found that the problem of vast syllabus is very high for Science, Humanities and Commerce teachers than for the Language teachers. The problem of 'continuous internal evaluation' is more for Commerce teachers than for Language teachers. Science and Commerce teachers have more problem than the Language teachers with respect to 'problem of working hours'.

VIII. Suggestions

The core concept of total quality management stresses on the importance of constantly striving to attain higher levels of improvement and satisfaction. Thus, the extent of continuous improvement achieved in teaching, teachers, evaluation and infrastructure and the levels of satisfaction of the teachers, students and parents attained, should not be considered as the ultimatum, but the education system on the whole, should strive for new heights insatiably. The study has assessed continuous improvement, team work and customer satisfaction in the higher secondary school education in Kerala and has also focused on the problems faced in the implementation of TQM and therefore, has been able to highlight the key areas were concerted efforts could be taken to improve the TQM process. Based on the study the following suggestions are proposed as suitable remedies for attaining higher levels of improvement in the teaching learning process, teamwork and customer satisfaction.

1. Even though continuous improvement in teaching, teachers and evaluation are the same in government, aided and unaided schools, the continuous improvement in infrastructure in the government schools is way behind. Therefore, infrastructural facilities covering, adequately sized classrooms, library, toilets, auditorium, computer labs, technological aids and staffroom, in the government higher secondary schools have to be addressed to, immediately.

2. Most of the problems in the implementation of TQM are associated with the 'problem of vast syllabus' especially in the case of Science, Humanities and Commerce subjects. The syllabus being vast, the teachers, especially, Science teachers, find it difficult in conducting the continuous and comprehensive internal evaluation. Failing to conduct internal evaluation effectively would undermine the quality of education. Therefore, efforts should be taken by the authorities to redesign and reduce the syllabus, suitably.

3. Higher the extent of teamwork, higher is the effectiveness of the 'school resource groups' and 'clusters' of teachers. It is found that the teamwork achieved in the higher secondary school education is moderate. The assessment of the problem of clusters also shows a percentage score of 72.8, which indicate that teamwork through clusters, are not devoid of inefficiencies. The teachers feel that the clusters are not productive; and that school working days are adversely affected due to cluster meetings and they do not participate actively in clusters. Therefore, efforts should be taken to improve the teamwork in the clusters and school resource groups. For this purpose the opinion of the teachers should be obtained, through a feedback mechanism, so that, improvements could be made in the future sessions of clusters. The clusters can also be made more productive by engaging expert resource persons from outside, instead of engaging trained teachers of higher secondary schools, since,

psychologically, resource persons from outside are more acceptable than fellow-teachers. Training provided in the 'clusters' should also be placed in the hands of experts in the field of teaching methodology and management. This would enable the teachers to efficiently implement the changes in the teaching methodology, application of total quality efforts in classrooms and to have better understanding of the philosophy of TQM in education. Teachers should also be provided training and education to refresh their knowledge in their respective subject, in the use of hi-tech teaching aids, and also to deal effectively with adolescent children. The presence of officials from the department is desirable in all clusters, at least in the initial period, or until the teams become self-reliant.

4. The satisfaction of the higher secondary school teachers is above moderate. However, with regard to certain key areas, there is comparatively lesser satisfaction. One such area is the satisfaction on workload which is assessed to reflect a percentage score of 61.2, which is lower when compared to the percentage scores on other aspects like attitude of parents, attitude of students, compensation, attitude of management and principal and relationship with co-workers. Therefore, efforts should be taken to improve the satisfaction of the teachers on workload by reducing the number of working days per week, as the higher secondary school teachers' work for six days a week. This will also help to safeguard and keep up the physical and mental health of teachers as well as students. Adequate supporting staff should be appointed in higher secondary schools and the teachers should be left to concentrate on classroom activities instead of administrative jobs which increase their workload.

5. The problem of 'continuous internal evaluation' is at a percentage score of 79.1 and is the most pertinent problem of the teachers. High teacher-student ratio is one of the factors contributing to this problem. An effective learner centered, activity oriented, teaching methodology is incompatible with high teacher-student ratio. Therefore, the teacher-student ratio should be reduced.

6. The continuous and comprehensive internal evaluation, if not done scientifically, will place no significant difference between students who excel and students who do not and would destroy the whole purpose of the education system. The philosophy of TQM emphasizes on, the need to be self-critical and to involve whole heartedly, so that, there is no need for coercion and control from outside. Therefore, the teachers should take sincere efforts to conduct 'continuous internal evaluation process' as envisaged and inspection of the irregularities in internal evaluation conducted periodically should be dropped from the system in the long run.

7. The socio-economic problem which denotes health problems of parents, alcoholism, use of narcotic drugs by students etc could be solved by providing counseling to both parents and students. The existing system of providing counseling should be made more effective by starting counseling centers in every school. For ensuring privacy to the students seeking help, separate room should also be provided for the purpose of giving counseling.

8. The 'implementation problem' identified through factor analysis is at 69.3 per cent. Implementation problem comprises of the problems like, lack of interest of the students, inability of the students in doing their assignments on their own etc. Most of the

students do not participate actively in such learner centered classrooms, mainly because; they do not know how to involve. Orientation programmes should be given to students by the teachers, for reaping the benefits of student-centered learning. This will enlighten the students about the role they have to play in activity oriented learning and thus enable them to involve more effectively in an activity oriented classroom. In order to improve, on the basic entry quality, classes for updating the basics, in the form of bridge courses should also be given for the students in the beginning of the academic year. The government can also set apart fund for remedial teaching, for the purpose of providing additional remuneration to the teachers, who engage extra hours for remedial teaching.

9. Quality takes birth is the classrooms; therefore, importance should be given to ensure that TQM is properly applied in the classrooms. The educational authorities, like SCERT, have brought out 'Teacher's Source book' containing models of lessons, prepared by experts. The teachers should be encouraged to make intensive use of the teacher's source book. The source book should be revised and updated.

10. The problem of terminal evaluation is at a percentage score of 68.5. It comprises of, issues about, proper valuation of answer papers and also on the setting of proper question papers. Over importance is given to application level questions in the terminal evaluation and in the case of Language subjects, questions based on the text books are not included, which has in a way adversely affected the basic communication skills of students. Thus, for languages, the traditional system of learning text books should only be supported and not replaced with activity oriented learning.

11. The concepts and application techniques of TQM must be included in the syllabus of B.Ed. programme, a mandatory programme, to become teachers, - 'to catch them young'. This would help in instilling into the teachers the philosophy of total quality management in education.

12. In order to ensure the quality standards, a new hierarchical network of quality managers or facilitators having management qualifications should be appointed at school, district and state level, as vehemently suggested by the Kerala State School Education Commission 2003-04.

IX. Conclusion

The examination of the TQM initiative in higher secondary school education in Kerala could reveal a number of pertinent information about the process of implementation, current scenario of the initiative and the flaws in its implementation process. The results of the study reporting 'above moderate level' of continuous improvement in teaching, teachers, evaluation and infrastructure by ensuring above moderate satisfaction level of teachers, students and parents, about the process, are strong indicators of the efficient implementation of TQM, in higher secondary school education in Kerala. Continuously improving quality of education, based on, vision and revisited mission, to attain and cope-up with changing standards of education world around, are inevitable. Benefits of total quality management could be reaped by efficient implementation of the periodically updated, quality initiatives through the process of effective team work. This would enable the higher secondary school education in Kerala; reap exponential benefits in the long run. By the constant and continuous implementation of the TQM measures, the higher secondary school education in Kerala through government, aided and unaided schools, could reach the heights of national and international standards.

(Footnotes)

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