

**A MANAGEMENT STRATEGY FOR THE IMPROVEMENT OF
THE EFFECTIVENESS OF SECONDARY SCHOOLS THROUGH
TOTAL QUALITY MANAGEMENT**

**PHILLIPUS PETRUS DE BRUYN
M.A., M.Ed., HDE, FDE**

Thesis submitted for the degree Philosophiae Doctor in Education
Management at the Potchefstroomse Universiteit vir Christelike Hoër
Onderwys

Promoter: Prof. P.C. van der Westhuizen

POTCHEFSTROOM

2003

The financial assistance of the National Research Foundation towards this research is hereby acknowledged. Opinions expressed in this thesis and conclusions arrived at are those of the author and are not necessarily to be attributed to the National Research Foundation.

VOTE OF THANKS

I hereby wish to extend my gratitude and appreciation to the following persons and organisations:

- Prof. P.C. van der Westhuizen, my promoter, for his inspiration, professional guidance and support.
- Prof. H.S. Steyn from the Statistical Consultation Services of the Potchefstroomse Universiteit vir CHO for support with the analysis of the empirical data.
- Prof. L. Greyvenstein for language editing of the thesis.
- Dr. A.M. Karodia, the Superintendent-General and the North West Department of Education for affording me the opportunity, resources and access to schools.
- The principals, educators, learners and parents who served as study population for their enthusiastic participation.
- Mrs. E. Badenhorst for administrative assistance.
- The National Research Foundation for the awarding of a study bursary.
- My wife, Ena, and children, Lizani, Sunadia and Marleanda for their sacrifices, understanding and support.

Soli Deo Gloria

ABSTRACT

A management strategy for the improvement of the effectiveness of secondary schools through total quality management

The new paradigm in managing organisations, known as *Total Quality Management (TQM)*, was investigated in this thesis. TQM as a management concept represents a fundamental change in the management approach of organisations (i.c. schools). TQM comprises a comprehensive change to the theory and practice of management, and focuses in particular on leadership and people. It is claimed in literature that the bulk of problems in organisations is leadership or management-related, subsequently the implementation of TQM poses a major challenge to the managers of those organisations.

It has become clear from literature that TQM comprises a radical departure from the traditional educational paradigm of bureaucracy, autocracy and mediocrity, towards a system that liberates the educator from bureaucratic red tape, and which provides for a model of empowerment and participation. This research was particularly aimed at the application of quality principles in secondary schools.

The aims of the research were to

- determine the nature and characteristics of TQM in schools through a review of the literature;
- identify methods from the literature for the implementation of TQM in schools;
- identify and analyse from the literature schools as case studies;
- determine to what extent effective schools make use of TQM, and to what extent elements of TQM were to be identified in these schools;
- determine whether the strategies employed in schools are based on TQM assumptions and could characterise them as effective in terms of TQM;
- develop a management strategy for the improvement of the effectiveness of secondary schools through the implementation of TQM.

A literature study was undertaken to analyse TQM and to determine methods for implementing TQM in schools. The empirical research consists of two phases: a quantitative phase comprising the use of a questionnaire to determine to what extent principals make use of TQM, and a qualitative phase in which principals, educators, learners and parents participated in interviews to determine what strategies schools use are based on TQM. Information from both the literature review and the empirical study was used to develop a management strategy as a guide for principals to improve the effectiveness of schools through TQM.

The conclusion chapter contains a summary of the research, findings and recommendations in respect of the research aims.

The following descriptors were used: *total quality management; total quality education; total quality leadership; total quality schools; school effectiveness; school culture; programme implementation; quality control; education improvement; transformation; school based management.*

OPSOMMING

'n Bestuurstrategie om die doeltreffendheid van van sekondêre skole te verbeter deur totale gehaltebestuur

Die nuwe paradigma in die bestuur van organisasies, bekend as Totale Gehaltebestuur, is in hierdie proefskrif ondersoek. Die konsep van gehaltebestuur verteenwoordig 'n fundamentele verandering in die wyse waarop organisasies (i.c. skole) bestuur word. Gehaltebestuur behels 'n omvattende verandering in die teorie en praktyk van bestuur, en fokus veral op leierskap en mense. In die literatuur word gekonstateer dat die meeste probleme in 'n organisasie leierskap- en bestuursverwant is, daarom stel die implementering van gehaltebestuur besondere uitdagings aan die bestuurders van enige organisasie.

Dit is uit die literatuur duidelik dat gehaltebestuur neerkom op 'n radikale wegbeweeg van die tradisionele onderwyskundige paradigma van burokrasie, outokrasie en middelmatigheid, na 'n stelsel waarin die opvoeder bevry word van burokratiese rompslomp, en 'n model vir bemagtiging en deelneming daargestel word. Die navorsing is spesifiek gerig op die toepassing van gehaltebeginsels in sekondêre skole.

Die doelwitte van die navorsing was om

- uit 'n oorsig van die literatuur die aard en kenmerke van gehaltebestuur in skole te bepaal;
- uit die literatuur metodes te ondersoek vir die implementering van gehaltebestuur in skole;
- skole as gevallestudies uit die literatuur te identifiseer en te analiseer;
- te bepaal in watter mate doeltreffende skole gebruik maak van gehaltebestuur, en in watter mate elemente van gehaltebestuur in daardie skole geïdentifiseer kan word;

- te bepaal of die strategieë wat in skole aangewend word op gehaltebestuur gebaseer is, en of die skole as doeltreffend beskou kan word in terme van gehaltebestuur;
- 'n bestuurstrategie te ontwikkel om die doeltreffendheid van sekondêre skole te verbeter deur die aanwending van gehaltebestuur.

'n Literatuurstudie is onderneem om gehaltebestuur te analiseer en metodes te ondersoek vir die implementering van gehaltebestuur in sekondêre skole. Die empiriese ondersoek bestaan uit twee fases: 'n kwantitatiewe fase bestaande uit 'n vraelys wat bepaal het in watter mate skoolhoofde van gehaltebestuur gebruik maak, en 'n kwalitatiewe fase waarin hoofde, opvoeders, leerders en ouers deelgeneem het aan onderhoude om te bepaal watter bestuurstrategieë van skole gebaseer is op gehaltebestuur. Inligting uit beide die literatuuroorsig en die empiriese ondersoek is gebruik om 'n bestuurstrategie te ontwikkel om die doeltreffendheid van skole te verbeter deur gehaltebestuur.

Die slothoofstuk bevat 'n opsomming van die navorsing, die bevindinge en aanbevelings gebaseer op die navorsingsdoelwitte.

Die volgende trefwoorde is gebruik: totale gehaltebestuur; algehele gehalte-onderwys; algehele gehalte-leierskap; algehele gehalte-skole; skool-doeltreffendheid; skoolkultuur; program-implementering; gehaltekontrole; onderwysverbetering; transformasie; skoolgebaseerde bestuur.

INDEX

ABSTRACT		i
OPSOMMING		iii
LIST OF TABLES		xv
LIST OF FIGURES		xvi
1.	ORIENTATION	
1.1	INTRODUCTION	1
1.2	PROBLEM STATEMENT	1
1.3	AIMS OF THE RESEARCH	4
1.4	THEORETICAL ASSUMPTION	5
1.5	RESEARCH METHOD	5
1.5.1	Literature study	5
1.5.2	Quantitative phase	5
1.5.2.1	Questionnaire	5
1.5.2.2	Study population	6
1.5.2.3	Statistical analysis	6
1.5.3	Qualitative phase	6
1.5.3.1	Interviews	6
1.5.3.2	Study population	6
1.5.3.3	Decoding of data	6
1.5.4	Development of a management strategy	6
1.6	CHAPTER DIVISION	7
1.7	SUMMARY	7
2.	THE CHARACTERISTICS OF TOTAL QUALITY MANAGEMENT IN SCHOOLS	
2.1	INTRODUCTION	8
2.2	TQM CONCEPTUALISED AND DEFINED	8
2.2.1	Concept analysis	8
2.2.2	Definition of TQM	15

2.2.2.1	A 'total' approach	15
2.2.2.2	A customer-driven focus	17
2.2.2.3	Important role and empowerment of people	19
2.2.2.4	Continuous improvement	20
2.2.2.5	Systems and processes	21
2.2.2.6	Descriptive summary	21
2.2.3	School effectiveness	23
2.3	THE TQM PHILOSOPHY	29
2.3.1	Scientific management	29
2.3.2	Quality management	30
2.3.2.1	W. Edwards Deming and the rise of the quality movement	31
2.3.2.2	Joseph M. Juran	33
2.3.2.3	Armand Feigenbaum	35
2.3.2.4	Philip Crosby	35
2.3.2.5	Recent developments in the quality movement	37
2.4	THEORETICAL FOUNDATIONS OF TQM	39
2.4.1	The Systems theory	39
2.4.2	Variation (Statistical theory)	40
2.4.3	Theory of knowledge	41
2.4.4	Theory of psychology	41
2.5	TQM AS A MANAGEMENT APPROACH	42
2.6	THE RELEVANCE OF TQM TO EDUCATION	46
2.7	DEMING'S FOURTEEN POINTS APPLIED TO SCHOOLS	56
2.7.1	Create a constancy of purpose	56
2.7.2	Adopt the new philosophy	60
2.7.3	Cease dependence on inspection to achieve quality	61
2.7.4	End the practice of awarding business based on price alone	63
2.7.5	Improve constantly and forever the system of production and service	64
2.7.6	Institute training	66
2.7.7	Institute leadership	67
2.7.8	Drive out fear	70
2.7.9	Break down barriers	70

2.7.10	Eliminate slogans, exhortations and targets for the workforce	72
2.7.11	Eliminate numerical quotas	73
2.7.12	Remove barriers to pride of workmanship	74
2.7.13	Institute a vigorous programme of education and self-improvement	75
2.7.14	Take action to accomplish the transformation	76
2.8	CHARACTERISTICS OF SCHOOLS WITH TQM	77
2.8.1	Focus on customers and suppliers	77
2.8.2	Continuous improvement	81
2.8.3	Systems and processes	85
2.8.4	Leadership	88
2.9	A CRITICAL PERSPECTIVE ON TQM IN SCHOOLS	91
2.10	CONCLUSION	96
3.	METHODS TO IMPLEMENT TOTAL QUALITY MANAGEMENT IN SCHOOLS	
3.1	INTRODUCTION	98
3.2	MODELS FOR THE MANAGEMENT OF QUALITY	98
3.2.1	The quality-marketing model	98
3.2.2	The quality-learning model	99
3.2.3	The quality performance system model	99
3.2.4	The quality change process model	101
3.2.5	The quality leadership model	102
3.2.6	The TQM plus model	103
3.2.7	Conclusion	105
3.3	THEORETICAL STRATEGIES FOR THE IMPLEMENTATION OF TQM IN SCHOOLS	106
3.3.1	The importance of a strategic focus	106
3.3.2	Economic efficiency as basis for a management strategy	109
3.3.2.1	Five Forces Model of Competition	109
3.3.2.2	Drivers of Cost Model	111
3.3.3	The phases of a theoretical implementation strategy for TQM in schools	114
3.3.3.1	Phase 1: Top management commitment	116

3.3.3.2	Phase 2: Prepare for implementation	119
3.3.3.3	Phase 3: Launch the process	121
3.3.3.4	Phase 4: Integrate and expand	123
3.3.3.5	Phase 5: Evaluate	125
3.3.4	Effective work teams as a strategy	125
3.3.4.1	Project teams	126
3.3.4.2	Quality circles	127
3.3.4.3	Quality improvement teams	127
3.3.4.4	Empowerment of quality improvement teams for school management	129
3.3.4.5	Organisational restructuring and quality improvement teams	130
3.3.5	Synthesis	131
3.4	QUALITY ASSURANCE SYSTEMS FOR THE IMPLEMENTATION OF TQM IN SCHOOLS	134
3.4.1	Quality assurance systems and processes	134
3.4.2	The international organisation for quality assurance in schools (ISO 9000)	136
3.4.2.1	ISO 9000 in relation to TQM	136
3.4.2.2	The principles of ISO 9000	138
3.4.2.3	Application of ISO 9000 to education	139
3.4.3	The European Quality Award Framework (EQF)	142
3.4.4	Quality assurance in USA schools (Malcolm Baldrige Program)	144
3.4.4.1	Quality assurance in context	144
3.4.4.2	Purposes and goals	145
3.4.4.3	Core values and concepts	146
3.4.4.4	Key characteristics	149
3.4.4.5	Integration of key education concepts	149
3.4.4.6	Framework of the education criteria for performance excellence	150
3.4.4.7	The Baldrige in Education Initiative (BiE IN)	152
3.4.5	Implementation of quality assurance in South African schools (whole-school evaluation)	152
3.4.5.1	National policy on whole-school evaluation	152
3.4.5.2	Aims of whole-school evaluation	154

3.4.5.3	Whole-school evaluation and quality assurance	155
3.4.5.4	Principles of whole-school evaluation	155
3.4.5.5	Areas for evaluation in schools	156
3.4.5.6	Use of indicators	157
3.4.5.7	Strategies to improve schools	157
3.4.6	Conclusion	158
3.5	SUMMARY	161
4.	CASE STUDIES OF TQM SCHOOLS: A LITERATURE REVIEW	
4.1	INTRODUCTION	164
4.2	CONTEXT FOR THE APPLICATION OF TQM IN SCHOOLS	166
4.3	GEORGE WESTINGHOUSE VOCATIONAL AND TECHNICAL SCHOOL, NEW YORK, USA	166
4.4	MT. EDGE CUMBE HIGH SCHOOL, SITKE, ALASKA	171
4.5	NEWTON SUCCESS-ORIENTATED SCHOOL MODEL CONNECTICUT, USA	176
4.6	ST. ANDREW'S PREPARATORY SCHOOL, GRAHAMSTOWN, RSA	180
4.7	ST. JOSEPH'S SECONDARY SCHOOL	184
4.8	DELL PRIMARY SCHOOL, WALES, UK	194
4.9	SUMMARY	197
5.	RESEARCH DESIGN	
5.1	INTRODUCTION	202
5.2	QUANTITATIVE RESEARCH	202
5.2.1	The questionnaire as research instrument	202
5.2.2	Construction of the questionnaire	203
5.2.3	Pilot study	207
5.2.4	Finalisation of the questionnaire	208
5.2.5	Study population and sample	208
5.2.6	Response rate	208
5.2.7	Statistical analysis	209
5.2.8	Administrative procedures	209

5.2.9	Data analysis	209
5.3	QUALITATIVE RESEARCH	210
5.3.1	The aims of the study	210
5.3.2	Focus group interviews	211
5.3.2.1	Purpose of the interviews	211
5.3.2.2	Selection of a sample	211
5.3.2.3	Interview format	212
5.3.2.4	Development of interview items	212
5.3.2.5	Pre-testing of the interview	214
5.3.2.6	Conducting interviews	214
5.3.2.7	Recording of interview data	215
5.3.2.8	Data analysis	216
5.4	CONCLUSION	216
6.	ANALYSING AND INTERPRETING OF DATA	
6.1	INTRODUCTION	217
6.2	METHODOLOGY IN REPORTING DATA	217
6.3	BIOGRAPHICAL DATA	218
6.4	LEADERSHIP	220
6.4.1	Quantitative data	220
6.4.1.1	School leadership	221
6.4.1.2	Public responsibility and citizenship	221
6.4.2	Qualitative data	221
6.4.2.1	School leadership	223
6.4.2.1.1	Commitment of senior school leaders	223
6.4.2.1.2	Visible involvement of senior school leaders	224
6.4.2.1.3	Quality values and vision	225
6.4.2.1.4	Empowerment of people	227
6.4.2.1.5	Review role of leadership	229
6.4.2.2	Public responsibility and citizenship	230
6.4.2.2.1	Influence of the school on society	230
6.4.2.2.2	Anticipate matters of public concern	230
6.4.2.2.3	Involvement in citizenship practices	230

6.4.3	Conclusion	231
6.5	STRATEGIC PLANNING	232
6.5.1	Quantitative data	232
6.5.1.1	Strategy development	234
6.5.1.2	Strategy deployment	234
6.5.2	Qualitative data	235
6.5.2.1	Strategy development	238
6.5.2.1.1	Identification of key participants	238
6.5.2.1.2	Setting high academic standards	238
6.5.2.1.3	Learning-centred education	240
6.5.2.1.4	Future orientation	241
6.5.2.1.5	Constancy of purpose	243
6.5.2.1.6	Continuous improvement	243
6.5.2.1.7	Information management	244
6.5.2.2	Strategy deployment	245
6.5.2.2.1	Communication and people management	245
6.5.2.2.2	Key performance indicators	246
6.5.2.2.3	Benchmarking	246
6.5.2.2.4	Quality improvement teams	246
6.5.3	Conclusion	249
6.6	LEARNER, STAKEHOLDER, AND MARKET FOCUS	250
6.6.1	Quantitative data	250
6.6.1.1	Knowledge of learner, stakeholder and market needs and expectations	252
6.6.1.2	Learner and stakeholder relationships and satisfaction	253
6.6.2	Qualitative data	253
6.6.2.1	Knowledge of learner, stakeholder and market needs and expectations	257
6.6.2.1.1	Focus on active learning skills	257
6.6.2.1.2	Information on customer needs and satisfaction	258
6.6.2.1.3	Complaint mechanisms	260
6.6.2.1.4	Curricular response to customer demands	261
6.6.2.1.5	Benchmarking	261

6.6.2.2	Learner and stakeholder relationships and satisfaction	261
6.6.2.2.1	Building relationships with customers	261
6.6.2.2.2	Learner engagement as participants in quality improvement	263
6.6.2.2.3	Stakeholder collaboration	263
6.6.3	Conclusion	264
6.7	INFORMATION AND ANALYSIS	265
6.7.1	Quantitative data	265
6.7.2	Qualitative data	266
6.7.3	Conclusion	269
6.8	SYSTEMS AND STAFF FOCUS	270
6.8.1	Quantitative data	270
6.8.1.1	Work systems	271
6.8.1.2	Education, training and development of staff	273
6.8.1.3	Staff well-being and satisfaction	273
6.8.2	Qualitative data	274
6.8.2.1	Work systems	278
6.8.2.1.1	Work systems for high performance	278
6.8.2.1.2	Recruitment of skilled staff	279
6.8.2.1.3	Quality improvement teams	279
6.8.2.2	Education, training and development of staff	279
6.8.2.2.1	Opportunities for personal learning	279
6.8.2.2.2	Involvement in design of training	280
6.8.2.2.3	Individualised professional plans	280
6.8.2.2.4	Evaluation of training	280
6.8.2.2.5	Accomplishment of overall objectives	281
6.8.2.3	Staff well-being and satisfaction	282
6.8.2.3.1	A safe and healthy work environment for staff	282
6.8.2.3.2	Recognition and reward of staff	282
6.8.2.3.3	Evaluation of staff satisfaction and motivation	284
6.8.2.3.4	Career progression of staff	284
6.8.3	Conclusion	285
6.9	PROCESS MANAGEMENT	286
6.9.1	Quantitative data	286

6.9.1.1	Education design and instructional approaches	287
6.9.1.2	Learner services and support processes	288
6.9.2	Qualitative data	288
6.9.2.1	Education design and instructional approaches	289
6.9.2.1.1	Curriculum provision for individual needs of learners	289
6.9.2.1.2	Focus on active learning	289
6.9.2.1.3	Continuous evaluation of the learning process	290
6.9.2.1.4	Improvement of teaching methods	290
6.9.2.1.5	Self-assessment by learners	291
6.9.2.1.6	Networking with educational institutions	292
6.9.2.2	Learner services and support processes	292
6.9.2.2.1	Academic success of learners	292
6.9.2.2.2	New technology	293
6.9.2.2.3	Self-assessment of educational programmes	293
6.9.2.2.4	Customer feedback	294
6.9.3	Conclusion	294
6.10	SUMMARY	294
7.	A MANAGEMENT STRATEGY FOR THE IMPROVEMENT OF THE EFFECTIVENESS OF SECONDARY SCHOOLS THROUGH TQM	
7.1	INTRODUCTION	296
7.2	CONTEXT	296
7.3	TERMINOLOGY	299
7.4	A MANAGEMENT STRATEGY FOR IMPLEMENTING TQM IN SCHOOLS	300
7.4.1	Phase 1: Commitment of senior management	302
7.4.2	Phase 2: Prepare for implementation	305
7.4.3	Phase 3: Launch the process	310
7.4.4	Phase 4: Integrate and expand	314
7.4.5	Phase 5: Evaluation	320
7.5	CONCLUSION	325

8.	SUMMARY, FINDINGS AND RECOMMENDATIONS	
8.1	INTRODUCTION	326
8.2	SUMMARY	326
8.3	FINDINGS	328
8.3.1	Findings in respect of research aim 1	328
8.3.2	Findings in respect of research aim 2	330
8.3.3	Findings in respect of research aim 3	331
8.3.4	Findings in respect of research aim 4	331
8.3.5	Findings in respect of research aim 5	333
8.4	RECOMMENDATIONS	333
8.4.1	Recommendation 1	333
8.4.2	Recommendation 2	334
8.4.3	Recommendation 3	334
8.4.4	Recommendation 4	335
8.4.5	Recommendation 5	335
8.5	CLOSING REMARKS	336
	BIBLIOGRAPHY	337
	ADDENDUM A	
	ADDENDUM B	
	ADDENDUM C	
	ADDENDUM D	

LIST OF TABLES

Table 2.1:	The absolutes of quality management	36
Table 2.2:	Differences between traditional management and quality management	44
Table 3.1:	Components of the Quality Performance System Model	100
Table 3.2:	The educational quality model	114
Table 3.3:	A TQM implementation strategy for schools	116
Table 3.4:	Aspects of various quality systems	159
Table 5.1:	Sample population	209
Table 6.1:	Biographical data	219
Table 6.2:	Leadership – quantitative data	220
Table 6.3:	Leadership – qualitative data	222
Table 6.4:	Strategic planning – quantitative data	233
Table 6.5:	Strategic planning – qualitative data	235
Table 6.6:	Learner, stakeholder and market focus – quantitative data	251
Table 6.7:	Learner, stakeholder and market focus – qualitative data	254
Table 6.8:	Information and analysis - quantitative data	265
Table 6.9:	Information and analysis - qualitative data	267
Table 6.10:	Systems and staff focus - quantitative data	271
Table 6.11:	Systems and staff focus - qualitative data	274
Table 6.12:	Process management - quantitative data	287
Table 6.13:	Process management - qualitative data	289
Table 7.1:	Commitment of senior management	303
Table 7.2:	Preparation for implementation	306
Table 7.3:	Launching the implementation process	311
Table 7.4:	Integration and expansion	317
Table 7.5:	Evaluation	323

LIST OF FIGURES

Figure 2.1:	TQM in education	49
Figure 2.2:	Precepts of TQM	50
Figure 2.3:	The inverted pyramid of TQM	53
Figure 2.4:	The PDSA Cycle	84
Figure 3.1:	The Education Quality System	100
Figure 3.2:	Quality Change Process Model	101
Figure 3.3:	The TQM Model for School Leadership	103
Figure 3.4:	The TQM Plus Cycle	104
Figure 3.5:	Conceptual TQM model for education	115
Figure 3.6:	The self-managing/empowered organisational structure	131
Figure 3.7:	The European Quality Award Framework	143
Figure 3.8:	Baldrige Education Criteria for Performance Excellence Framework: A Systems Perspective	150
Figure 4.1:	The Newton Success Orientated School Model	179
Figure 4.2:	The traditional school structure	187
Figure 4.3:	The new school structure	188
Figure 4.4:	The role of functional teams in the new structure	189
Figure 7.1:	A management strategy for implementing TQM in schools	301
Figure 7.2:	Activity and strategies to commit senior school leaders	302
Figure 7.3:	Preparative activities	305
Figure 7.4:	Activities to launch the process	310
Figure 7.5:	Activities for integration and expansion	316
Figure 7.6:	Activities for evaluation	322