Table of Content

		Page
Table	of Content	i
Prefac	ce	iii
		1 2 3 4
Chapt	ter 1. Introduction, Background & Objectives	5
1.2 S 1.3 S 1.4 I 1.5 S 1.6 G	Introduction Skill-set of the Future Social Competencies Identification Redesigning the Engineering Curriculum The ETSEQ Approach General Purpose References for Chapter 1	5 7 9 11 12 14 16
Chapt	ter 2. Vertical and Horizontal Integration of Education	20
2.2 1 2.3 2.4 2.4.1 2.4.2 2.5 2.6 2.6.1 2.6.2 2.7 (6.2)	Background Preliminary Steps Towards a Competency Based Model The Academic Organization Selected The Change Management Technology Building the Vision Building Competencies and Identifying Transformations The Fundamental Intervention Teamwork and Cooperation Transformational Changes and Learning Transformations and Competencies Transformation through Structured Education Creating Support for Change References for Chapter 2	20 21 22 23 25 26 28 29 31 32 34
Chapt	ter 3. Experiments, Evaluations and Measures	37
3.2 3.2.1 3.2.2 3.2.3 3.2.4	Design of the Experiment Evaluation of Surveys Baseline Assessment in 2000/01 Survey 2 in 2000/01. Team Members after the Intervention Surveys 3 & 4 in 2000/01. Team Members 3 & 9 Months after the Intervention Surveys 5 in 2000/01- Team Leader and Knowledge Manager 3 and 9 Months after the Intervention	37 40 40 44 47
	Correlation between Education and Performance	63 69

3.3.1 3.3.2	·	69 70
	Comparison of Individual Marks	70
	Expansion of Target Population	71
3.4	Concluding Remarks	72
3.5	References for Chapter 3	74
Cha	pter 4. The Competency-Based Educational Model	76
4.1	Background	76
4.2		77
	Hypothesis	77
	Framework Competencies and Rationale	79 80
4.2.3	The Key Competency Model Components	82
4.3.1		82
	Specific Courses and Interventions	85
	Assessment Process	88
4.4	Deployment and Preliminary Evaluation of the Model	90
4.5		93
4.6	References for Chapter 4	95
Cha	pter 5. Concluding Remarks and Recommendations	98
5.1	Conclusions	98
	Recommendations for Future Research	99
	Articulate Vision	99
	Establish Change Readiness Develop Change Leadership	99 101
	Build and Develop a Project Team to Manage New Model	101
5.2.5		102
5.2.6	Design and Execute Communication Strategies	103
5.2.7	Design Jobs	103
	Develop Performance Measures	103
	Develop Competencies	105
	0 Align Culture, Structure and Rewards	108
	1 Develop Human Resource Policies 2 Implement Change/Measure Results/Reward Teams and Individua	109
5.2.1	Maintain and Improve	109
5.3	References for Chapter 5	110
Арр	endices	112
A	Coaching Related Competencies	112
В	Survey Forms	119
С	Improved Survey Forms	155
	Int. Journal of Engineering Education: Reviewer's Comments	168
F	Details of some Interventions and Additional Short Courses	171