

Faculty Development – A Systems Methodology

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Abstract

The role of teacher is central in improving the quality of technical education. Teacher plays a double role and is both a subject and object of change. Three variants of faculty development-job-embedded development, professional development and career development need to be well researched and planned systematically to ensure growth and development of faculty in the profession. The paper reviews the literature on teacher development and forwards the philosophy, policy implications and systems methodology for planning, implementing and continuous renewal of faculty development system, so that it improves the problem situation on an on-going basis.

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Improvement of Rheology of Self Compacting Concrete using Nonbiodegradable Waste

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Abstract

Self-compacting concrete (SCC) is most revolutionary development in concrete technology in recent times. SCC demands large amount of powder content and fines for its cohesiveness and ability to flow without bleeding and segregation. Nonbiodegradable wastes can be used as filler material. The safe disposal of these waste materials is costly and causes serious environmental pollution. Use of Nonbiodegradable wastes as filler material will solve problem of disposal of these material rendering the environment cleaner. Use of these wastes not only improves rheological properties and durability of SCC but also replaces cement partially, avoiding the environmental and ecological damages caused by quarrying and exploitation of raw materials like limestone for making cement. This paper shall high light the improvement of rheology of Self compacting concrete using nonbiodegradable waste i.e. blend of flyash and rice husk ash without affecting strength and durability of concrete.

Keywords: Self compacting concrete, Rheology, Nonbiodegradable wastes.

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Enterprise Resource Planning: Implementation, Assessment and Development

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Abstract

Enterprise Resource Planning (ERP) systems are expected to provide seamless integration of processes across functional areas with improved workflow. ERP systems are highly complex information systems. The implementation of these systems is a difficult and high cost proposition that places tremendous demands on corporate time and resources. ERP implementation was earlier limited to large organizations. From 1995 Small and Medium scale industries are also implementing ERP in their firms. Indian firms have no alternative to adopt these systems to stay in a competitive market. Though ERP has many advantages, there are failure stories also quite a large. The Indian firms and especially Small and Medium Enterprises (SME) are unable to decide upon implementation of these systems in their organizations. In the present study, the elaborative literature review of ERP was carried out. The research found till now is limited to the few areas of the ERP systems which had been categorized broadly into seven different areas of ERP. The details presented in this paper would reveal the need of research in Indian industries. This paper also recognizes the need to study and analyze the performance of ERP. The findings will definitely aid the policy makers to take the decision for the small and medium sized similar Indian industries looking for implementing ERP systems. In this paper few Key Performance Indicators (KPI) for evaluation of ERP systems in small and medium scale Indian manufacturing Industries are discussed. The proposed research methodology is also stated.

Keywords: Enterprise Resource Planning, Performance Evaluation, Key Performance Indicator.

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Holistic Management of Process thru 4-Dm Methodology

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Abstract

Full customer's satisfaction and continuous improvement are two fore-running objectives on the agenda of any progressive organization. Herein, monitoring requisites and in return mapping actions/ processes for achieving targeted objectives should be an on-going task for all managers. There is thus a case for identifying, determining and controlling various steps, especially the critical ones which influence either Quality or operations. Desired breakthrough is promised through implementing Process Management approach, recommended as a handy paradigm to map and monitor the organizations, so as to influence both the individual components of processes and their interactions as control levers. Process Management approach, because of its elaborate detailing, therefore is increasingly been preferred by Quality Managers and Six Sigma Black Belts alike. It is followed by maintaining the outputs in a trendy fashion called Dashboard.

Through this paper the authors propose a schema of controlling results from processes, provided they judiciously Define, Design, Develop, and Deploy the rudiments. These 4Ds may thus be construed as necessary preludes to process Management, followed by a concluding step as M (Manage). Regressive application of these 4D+M components allow detailed identification of critical to control situations, leading to efficiency in business processes measured through the suitable metrics designed and deployed in Develop phase. Evidently several advantages accrue fast and deeper traceability in case of any non conforming situation, leading to overall efficiency. Advantages of the on-line approach which influence control processes through various levels have been recounted to consummate the 4DM based product realization.

Key words: Quality Management System (QMS) Standard, 4DM process methodology (Define, Design, Develop, Deploy), critical to control (CTC) steps, Critical to Quality (CTQ), V Approach, FMEA (Failure Mode Effect Analysis).

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Modeling and Simulation of Optimal Power Tracking of Multiple-Modules of Paralleled Solar Cell Systems

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Distributed and renewable energy generation (DG) offers great potential in meeting future global energy requirements. Distributed generation consists of small to medium size generators cited close to the customer and spread across a power system. The production of power from renewable energies will lead to a significant reduction in the rate of increment of environmental pollution in comparison to the production by fossil fuels, thus gaining renewed attention due to advances in technology, environmental concerns and a growing energy demand. Photovoltaic systems in particular have great potential when compared to other renewable energies. The paper presents a systematic analysis, modeling and evaluation of the scheme for key subsystems components of a multiple-source renewable energy generation system and the methodology to develop an optimal tracking and control strategy. It is always desirable to achieve maximum power output at a minimum cost under various operating conditions.

Keywords: MPPT, dc-dc converter, SPVS, MRDEG.

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