CHAPTER 5

APPROACH TO NEED BASED TRAINING MODEL
Approach to Need based Training Model in Small Construction Projects

5.1. Introduction

After comprehensive the review presented here, one is left wondering whether India is capable of increase its workforce quality and employability given the fact that 120 million people from India – the combined labour force of Britain, France, Italy and Spain – are predicted to join the global workforce by 2020. Out of roughly 509 million workers currently employed in India, only 12 percent are skilled. With half the population under 25 and national workforce that is expected to account for 25 percent of the global workforce in 2020, India has a great chance of becoming one of the world’s most prolific latent providers. However, India’s demographic dividend could rapidly turn out to be demographic nightmare unless the country promptly addresses its training system. Clearly, to continually clock a 9 percent growth rate, India must dramatically improve both the quantity and quality of its skilled worker base with a strategy to elevate its skills levels from the bottom up, rather than shriving for excellence at the top of the education ladder.

5.2. Training Methodology in Small Projects: Theoretical Foundations

Fundamental theories have been studied which not only provide some insight into proper understanding of the training methodology, but also provides strong support for the methodology proposed here. A few of such theories are discussed here.

5.2.1. Theory of Onsite Training

While the justification of the provision of training of unskilled and semi-skilled workers at production site to teach them how best perform their task to lower the labour cost per dollar worth of output or output cost per dollar worth of labour is provided by Romer’s (1994) theory of Endogenous Economic Growth, Schumpeter’s (1934) Dynamic Theory of Economic also lent an indirect support Romer’s Theory.

Schumpeter (1934) in his theory of economic development placed strong emphasis on the capability of entrepreneurs to innovate and to introduce that innovation in the production process to increase profit levels and thereby to increase
their investment levels to increase the rate of growth of individual firms and consequently the rate of economic growth of the country. However, since some innovations may also take the form of improvement in labour skill via the onsite training and hands on experience with technology in the production process, such training induced labour force will continue to lower the average cost of production per unit of output in the very short run, short run and long run.

Furthermore, since in Schumpeter’s theory, the source of technological innovation is intra-firm. Research and Development (R & D) activities undertaken by the entrepreneur of a firm, Schumpeter indirectly embraces one vital element viz. intra-firm R & D activities of Romer’s (1994) Endogenous theory of Economic growth in his theory of development.

In Romer’s theory the other vital element which continues to improve labor productivity and thereby to lower average cost of production per unit of output is the improvement in labor skill via learning by doing in the production process which includes on-site training of workers and hands-on experience which enables trained workers to discover more efficient and less time consuming way of doing things as these workers continue to produce larger and larger quantities of output.

The ‘learning-by-doing’ effect combined with up-gradation of technology can make average total cost curve (ATC) fall even in a small firm in a very short period. This curve may not have an upward sloping arm. Also there is the possibility that the knowledge about the process by which the ‘learning-by-doing’ has improved the productivity of labour in the firm which first introduced the provision of training to workers at production site and of ‘learning-by-doing’ method in production process would be passed on to other firms which are involved in the production of similar goods or completion of similar projects as the innovating firm due to favorable spill over externality of knowledge. At the same time, the knowledge about the improved method of production adopted by another firm may be leased to the first innovating firm because ‘knowledge’ which is a private good of a firm in an imperfectly competitive market does possess some public good characteristics.

In that case, the firm first adopting the learning-by-doing method will find its average production cost per unit of output falling further than the rate of reduction.
achieved before. The ‘Salter Effect’ (Salter, 1969) when applied to individual firms would suggest that the speed at which a firm’s labour force would be able to learn and acquire new technology will be governed by ‘learning-by-doing’ effects in production process.

In Romer’s model, an economy’s growth at the macro level and a firm’s growth at the small level, driven by technological progress is determined by the accumulation, conservation, upgradation and spread (application) of knowledge in the economy as well as in individual firms. The provision of training of workers at the production site and the adoption of ‘learning-by-doing’ process in the project sites at small-level enable an entrepreneur achieve this goal of knowledge management.

Hence it can be said that in both neo-classical and endogenous growth theories, technological knowledge, process of ‘learning-by-doing’ as well as knowledge accumulation and expansion play a crucial role in improving labour efficiency and productivity in all production sectors in a country.

5.2.2. Motivation Theory Applied

Employee motivation and productivity have been studied since the days of Aristotle, whose theories included delegation of authority, departmentalism and leadership selection. Many management theories of employee motivation were developed in the 1940s and '50s and led to the management and employee theories of the '60s, '70s and '80s that are the basis of employee motivation today. Morris S. Viteles wrote "Motivation and Morale in Industry" in 1953, explaining that performance is affected by motivation and motivation is affected by the fulfillment of needs (Viteles, 1953).

5.2.3. Team Building and Productivity Enhancement in Small Projects

Project is basically a team work; success and failure of the project depends significantly on strong team work among the HR involved. According to Clifford Gray (2006), there could be two types of synergies in “Team Work” — one is “Positive Synergy” and the other is “Negative Synergy”.

i. For a good Team Work, 1+1+1+1+1 = 10 which is called Positive Synergy
ii. For a bad Team Work, \(1+1+1+1 = 2\) or even -2 which is called Negative Synergy.

5.3. Need-Based Short Term Training

After gathering in-depth information and understanding of the problems, prospects and demand of the construction Small Projects based largely on primary data collected by the present researcher along with various secondary data sources such as research work, journals, reports by Govt. and non-Govt. authorities, books, etc., the present researcher designed a unique training methodology which could well provide a paradigm shift in planning and imparting training to the unorganized sector construction workers while taking into consideration the many fold constraints in the existing convention training set ups. In this method the workers are trained on their specific area of works at their work place itself in the live working project. The trained is a short term process, which consists of four steps: (i) Induction, (ii) Orientation, (iii) Application, and iv) Evaluation.

5.3.1. Induction

This is a very important phase of the Training Model. In this phase, various aspects of the project are explained by site engineer/supervisor/experts to the HR involved. These are as follows

i) Introduction about the organisation which own the projects and the construction firm that implement the project.

ii) Importance of the each of the HR involved in the project is explained as to how important their involvement in the successful accomplishment of the project in a productive manner.

iii) Job description: Majority of the workers have no ideas about the detailed description of the job delegated to them. Due to this particular reason workers indolently spent time at site doing without doing fruitful work which hampered the entire job operation and ultimately affected the time and cost of the project.

iv) Explanation of the technical aspects: The workers were rarely explained the drawing, design, layout and various action plan. As a result of which workers would
complete their piece of work with no specification and accuracy. This eventually resulted in quality decoration, enhancing cost and wastage.

5.3.2. Orientation

Orientation is the most important phase of the Training methodology. In this phase, the workers are subject to physical exposure of what were explained in the earlier phase. They are shown some sort of prototype of the real products. They are shown how a machine, for example, is operated in an efficient and safe manner. Variety of skills required for their respective jobs are demonstrated to them so that they have a chance to learn by observing the actual operation.

i. Operational knowledge and information: The workers involved at site used the products and raw materials without having any knowledge about its proper usage and utility. They wasted ample measures of raw materials and products by its improper application and usage while execution of their resulting in cost overrun. In order to prevent and minimize wastage of products used at site, it is necessary that the workers should know about the optimal utilization of products and raw materials in order to prevent wastages. Also among other knowledge are productivity enhancement techniques, latest technology, etc.

ii. Model demonstration: The workers were not shown any model demonstrations of the jobs to be executed at site. As a consequence of which workers would start their piece of job without knowing the exact operation hindering quality of the job consuming cost and wastage.

iii. Guidance for handling tools and machineries: Lack of proper knowledge about tools and machineries at site lead to accidents. Most of the tools and machineries were wasted at site due to mishandling.

iv. Time management: Majority of the projects fails due to lack of time management. The workers always delay to complete their piece of work due to which the entire project gets delayed.

v. Code of Conduct: The HR involved in the project at every level are thoroughly briefed about the standard code of conducts which include workplace behaviour, discipline, etc.

vi. Safety, health and hygiene measures: No such standard health and hygiene measures were taken.
5.3.3. Application

Here the workers are taught the various vital behavioral skills workers are counseled, motivated and taught importance of time management, team building and health and hygiene awareness. This phase involves the following steps:

i. Guidance: Guidance is an integral part of the entire method which ensure precise application of techniques and knowledge imparted to the project personnel.

ii. Employee Counseling: Since the workers are involved in a monotonous job in Small Projects, they suffer from issues of work and health. They often get involved in alcoholism.

iii. Motivation & Incentives: The workers are hardly motivated to improve their competence and performance level at site. Due to which they execute their piece of work in old customary methods which slowed down the pace and quality of work. Incentive is a very popular and effective method in the organization especially in the time bound activity. Workers get regular wages/ remuneration for the schedule-time work. Employers offer incentives to the worker for obtain additional output within the schedule. Workers also encouraged and get inspired for the incentives because the “incentives” can fulfill their additional requirement and dream apart from the regular income.

iv. Team Building: The workers are not properly organized at site. There are no well planned and controlled teams. The jobs are being executed in a haphazard and chaotic manner and output delivered was below low.

v. Supervision: The workers engaged in the works are continually remain under close observation by the experiences supervisors who provide valuable tips so that the worker are able to rectify their lack of competencies.

5.3.4. Evaluation

The workers actually to the various jobs he has delivered the entire day. The workers are experienced how each of them stands responsible for productivity and hoe each one is accountable for the quantum of task delivered by them. Through target achievement the workers are assigned their daily targets and are enquired about their daily accomplishment.
i. Productivity and accountability: The workers are not aware of the role played by them in small projects. They completed their work with no seriousness and dedication. They were hardly bothered about the job being executed by their co-workers. Various mistakes and imperfections of the workers are explained so that the quality and efficiency of work is improved at the same time creating a sense of accountability for their role and performance.

ii. Target Achievement: The workers had no predetermined targets in mind for their daily work. They were unaware of the amount of work to be delivered within said time. By assigning targets to the workers, their productivity can be enhanced significantly. The process makes sure that the targets are pushed up after every successful accomplishment.

Now let us sum up the methodology devised out of existing knowledge and experiences and the information and experiences gathered during the present research work. Following are the characteristics of the Methodology designed and subjected to field trial in live projects:

1. A short-term training – attrition rate is very high among the Small Project workers; sometimes workers stay with a project for a week, sometimes even for a day. This situation demands that any training process must not last too long.
2. A simple and user’s friendly method – Since most of the workers belong to the low level of education category; the method is a simple and easy to replicate one.
3. Use of vernacular languages – The training was imparted in languages the workers are comfortable with to make sure everyone, the supervisor, team leader, and worker understands the lessons.

Need based on-site training to be applied at working place for the short duration before starting the main course of work. The training was provided to the workers on a regular basis by the supervisor, site engineer or the technical expert. Skilled workers can be also a trainer for the semiskilled or unskilled worker through this methodology. Productivity to be calculated monthly, biweekly, weekly even daily through this methodology. The worker who work for the day he has to hand over the whole days output to the concern person and he must accountable for the job entrusted or given to him as a result monitoring and control of the work will be much easier.