

Effects of Training Methods on Human Resource Productivity in Mellat Bank

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Abstract

Today, a workforce of tens of millions is working in Islamic Republic of Iran in different sectors of public, industry and trade to fulfill their duties and responsibilities. Obviously, it cannot be claimed that all these people innately hold the knowledge, skills and type of behaviors required to do their occupational responsibilities. Thus, they need training to improve the quality and quantity of their jobs. Today, human resource training is highly effective on productivity improvement. Therefore, this research intends to study the effects of different human resource training methods on the improvement of productivity in Bank Mellat, across Tehran province. It is a descriptive and correlational research and the data were collected through a researcher-made survey from 184 employees of Bank Mellat. Data were analyzed by confirmatory factor analysis and structural equation modeling using Lisrel software. Results show that all the dimensions of training affect the productivity of employees.

Key Words: *Training, Information Provision, Simulation, On Job Training, Productivity.*

Introduction

In the era which is entitled as the explosion of knowledge and information, and development of knowledge and technology is growing exponentially, the training of human resource cannot be neglected. A deeper insight into the mission of training reveals that human being has various dimensions abound with valuable talents, which will be realized and flourished when all the mental and physical aspects are considered. Clearly, education and training aims to attach meaningful values to learning; and beyond learning, education should renovate the character and competences of human resource until training turns to the culture of human development.

Some authors believe that human knowledge grows twice every five years and this increase changes everything. Therefore, how can organizations avoid their human resources confronting these changes and evolutions? Obviously, the survival and future of the organization will be endangered in case of neglect and inattention to employment training. That is why employees often attend the training classes at least once a year in the developed countries. The existence of the organization depends to a great extent on the various skills and knowledge of the staff (Dulan and et al 1992).

On the other hand, productivity is a comprehensive concept which its growth has been continuously considered by the experts, as a necessity to improve the level of humans' life and to build a more wealthy society, as it is the national goal for all countries of the world. It can be said that the main aim of management science is to achieve more productivity, and this have always been reflected by managers in the management and re-engineering of organizations.

Regarding the indispensability of productivity and extensive evolutions happened in science and technology; experts in human resource management have begun to align human activities with these advancements through different training techniques, in order to achieve productivity improvements. Considering the importance of above discussed topics in modern societies, we aim to examine the effects of various training methods on the improvement of productivity among the staff of Mellat Bank.

Material and Methods

Productivity is a long standing concept from renaissance era (Mc Kee, 2003), so that this concept was found deeply in the context of mass production (Sahay, 2004). The first formal and serious use of term "productivity" was in an article by someone called Queizni in 1776. According to Larousse encyclopedia, after more than a century (in 1883), a man called Liter defined productivity as power and ability to produce; which in fact it expresses the passion for production here. Since the beginning of twenty century this term has achieved a more precise meaning as a relationship between the output and the means and elements used for the production of that output. Someone named Early in 1900 defined productivity as the relation between the output and the devices used for the production of the output. In 1950, Organization of Economic Cooperation and Development (OECD) provided a more comprehensive definition of productivity: productivity is the result of output divided by one of the factors of production. Therefore, there could be the productivity of capital, investment and raw material; depending on the production factor which is studied. The other definition of productivity which is applied more in management today is that "productivity means collaboration in top-down and bottom-up management and correct patterning in design, management, production and distribution". In fact, the first scientific efforts to productivity started from 18th century. In 1776, Adam Smith in his book "An Inquiry into the Nature and Causes of the Wealth of Nations" posed the matter of "division of labor" as the key to improving effectiveness. And the first statistical research in productivity is attributed to Right. The results of Right's research which were basically focused on assessment of productivity in relation to manual work and machine work were published in the annual report of US ministry of interior in 1898 (Abtahi & Kazemi, 2001).

From a non-technical view, what comes to mind about the concept of productivity is that in the course of getting a useful product, we achieve a desirable result; whether in what we gain or whether in what we give. According to John Forestieri, the term productivity is first used in 1525 by a scientist named Agricola. In the dictionaries of Itere (1882) and Larousse (1946) this term is defined as the concept of production power (Abtahi & Kazemi, 2001).

Till the mid twenty century, only the economic experts and scientists were familiar with this term. But, gradually the importance of productivity grew in economic activities and production firms; so that today, the economic activities are assessed based on this measure.

According to Bohm Bawerk, when two producers are in the same conditions in terms of production devices and the goods they produce, but in a specified period, one can produce more goods than its rival; it has managed to benefit from greater productivity (Redman, 2006).

Indeed, the researches on productivity so far are all in alignment with introducing guidelines for the optimized use of available resources to human being. Productivity management had mainly acted in an informal state in the past, but now its formal presence is being required in all aspects (Straner, 1995). The importance of this matter is so high today that productivity acts as an exemplar in the beliefs and work

culture of governors, and they promote and encourage productivity culture among their people and society. Industry which was first dependent on the productivity of manual labor now is being increasingly dependent on the productivity of knowledge workers. By moving from manual production to machine and knowledge-based production, the share of knowledge workers has substantially increased. Knowledge workers are rapidly growing to the greatest groups in the workforce of developed countries (Drucker 1999, Helton 1988). In 1920, the number of manual workers was twice as knowledge workers, but by 1980 this proportion was reversed. It seems that 1956 has been the midpoint in this transition, the year in which the number of upper level employees superseded the low level workers. Nickols (2002), states that the course of transition from manual labor to knowledge workers has been constant and continues. Some believe that the emergence of knowledge workers was the consequence of a greater transfer from industrial societies to the post-industrial societies (Drucker, 1987). Due to the influence of knowledge workers on economic performance, they are being considered as an essential area of opportunity; and accordingly this matter is entering the strategic plans of organizations for productivity improvement. In the global economy, organizations often cannot cover the increases in raw material, workforce and other capitals by only increasing the price.

Human resource is the most important factor in the improvement and growth of productivity, and training is one of the procedures to achieve and develop new skills for these resources. As Heraclitus believed "There is nothing permanent except change". The past experience also reminds us that change in the course of professions and how they are being done is inevitable. In the path of these evolutions and changes, training of human resource is the only bridge which can guide us from the world of today to the changing evolutionary world of tomorrow (Morgan, 1994). Therefore, as the societies developed from traditional to industrial, and from industrial to post-industrial, science and technology is also in the course of evolution and development, and along these changes the importance and features of training becomes increasingly evident, so that today it is being said that training is in fact the management itself. In addition, training in the work place can be regarded as a critical source of development for human capital (Kurosawa, 2005).

Staff training has an extensive vast meaning which is not confined only to the concepts of apprenticeship, internship or applied practices in a specific field. But its boundary is wide which ranges from learning a simple profession to a thorough mastery of very complex science and skills, or competency in supervision and management of public, industrial and trade organizations and also to how behave properly when facing human, economic, social and cultural issues (Redman, 2006).

In terms of importance and essentiality of staff training, experts have various opinions; as Geln Staln among the specialists of administrative science believes that training is the tools for management, and basically training and management are essential intertwined components of each other. The manager is as responsible to the training as he is to the planning and budgeting. By concentrating at and cooperating in the training fields, the management can and should support the training and emphasize its importance (Dessler, 2005).

Today, training is considered as one of the methods to develop human resource in the organizations. Each organization needs trained and experienced people to accomplish its mission. Thus, the significant changes in the training during the recent years have led to the increasing focus on human resource development; and now training is viewed as the responsibility of managers (Rae, 1995). Indeed, training and development of human resource does not happen in vacuum, but it is one of the key activities of the organization which supports and bolsters other activities.

Many of management and economics scientists believe that among the various types of investments aimed to improve the productivity economic and social developments, human resource empowerment is the most effective factor and the most important and profitable aspect of development. Training and boosting the human resource in the new era is one of the inevitable duties of organizations and institutes. It is mainly executed in the form of short and long term training programs (Redman, 2006).

Generally, based on the conceptual model of this research training methods can be categorized into three groups:

First Group: Methods with aim of Information Provision

Main aims in these techniques are to teach the concepts, facts, skills and knowledge about the work, without requiring the worker to practically exercise and experience what he is learning. The most common methods of this group are lectures and seminars (Noe, 2006).

Second Group: Simulation Methods

In these training methods, trainee is positioned in an artificial simulated situation and he learns and gets familiar with the job to get ready to encounter the real world. Case studies, role playing, and management games are among the techniques of this group (Saadat, 1998)

Third Group: Methods of On-the-Job Training

On-the-job training means that the staff is being trained on and along doing his job. Each employee from the beginning of his work in the organization is being trained along his promotions and job rotations. The big advantage of on-the-job training is that the apprentice learns about the job he has been assigned responsible for; and he gets familiar with the tools and devices he needs to use, and this training happens in the real work environment (S. Javadein, 2002). Overall, on-the-job training is appropriate and useful for teaching simple jobs, as the very technical and professional jobs need long educations and gaining expertise. Most common on-the-job training techniques are job rotation (Redman, 2006), workshop training, coaching and apprenticeship (Noe, 2006).

Considering the above discussion, the research conceptual model is as follows:

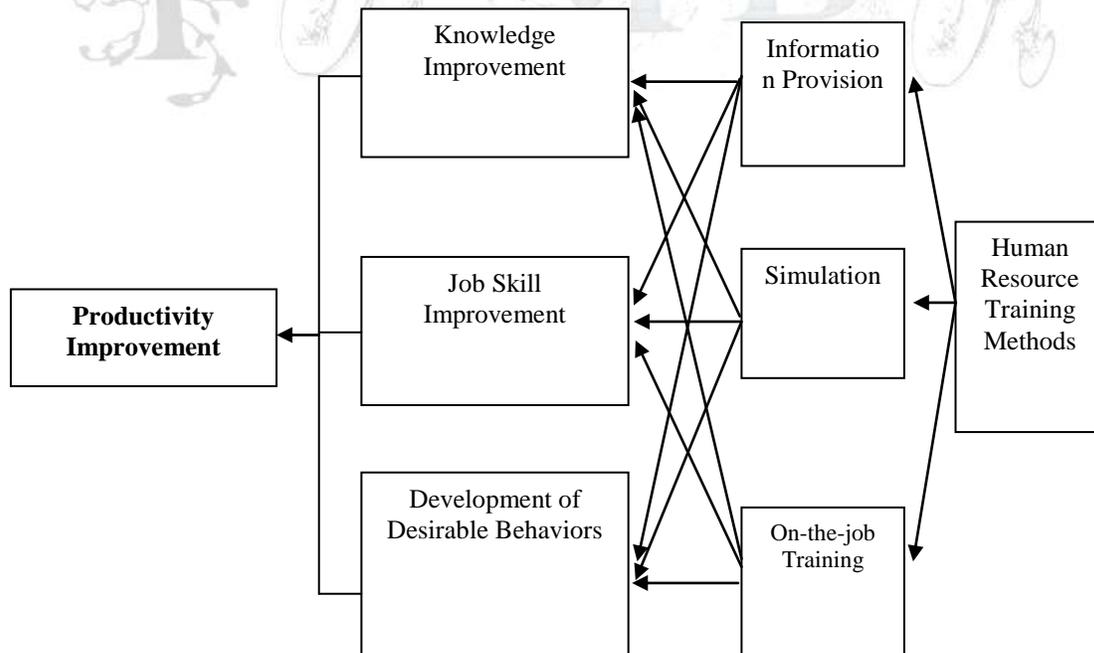


Figure 1: Research Conceptual Model

Research Methodology

This is a descriptive analytic research; in addition, since the relationships between dimensions and components of conceptual model are being investigated, it is also a correlational research. Research population comprises all the employees of Bank Mellat in Tehran province. By using cluster sampling, and simple random sampling for each cluster and with significance level of 0.05, 184 employees were selected as the research sample. For data collection, a researcher-made survey was distributed among 187 employees. The return rate of questionnaires was above 95 percent. The questionnaire contained 46 questions. Delphi method was used to measure the content validity, and construct validity was tested using confirmatory factor analysis by the help of Lisrel software. To examine the reliability of questions, internal consistency measure was used by Cronbach's alpha coefficient. The coefficient was 0.95 for all the questions, which indicates the high reliability of measuring tool. To analyze the data, confirmatory factor analysis was used for construct validity, and structural equation modeling and path analysis was used to test the hypotheses. The structural equation modeling, in one side examines how the conceptual model fits with the data and measures, and from other side tests the meaningfulness and effects of training on improvement of knowledge, improvement of professional skills, and developing desirable behaviors, and effects of these three variables on productivity of human resource. The indices which were used to examine the fitness of conceptual model comprised: Root Mean Square Error of Approximation (RMSEA), absolute fit indices (GFI, AGFI, PGFI) and comparative fit indices (NFI, NNFI, CFI). It should be mentioned that a model is of good fitness in which indices of NNFI, NFI, AGFI and GFI are above 0.90. Moreover, a RMSEA value below 0.05 is good, and between 0.05 and 0.08 is acceptable (Kalantari, 1999).

Results and Discussion

In this section; firstly, the results of confirmatory factor analysis are presented; and then structural equation modeling and the goodness of fit for conceptual model will be offered.

Confirmatory Factor Analysis Results

One of the scientific reliable methods to examine the internal structure of a set of measures and testing the construct validity is confirmatory factor analysis, which examines the factor loading and relations between a set of indices and factors. Factor loading shows the correlation between the index and its relating factor, and is interpreted similar to any other correlation.

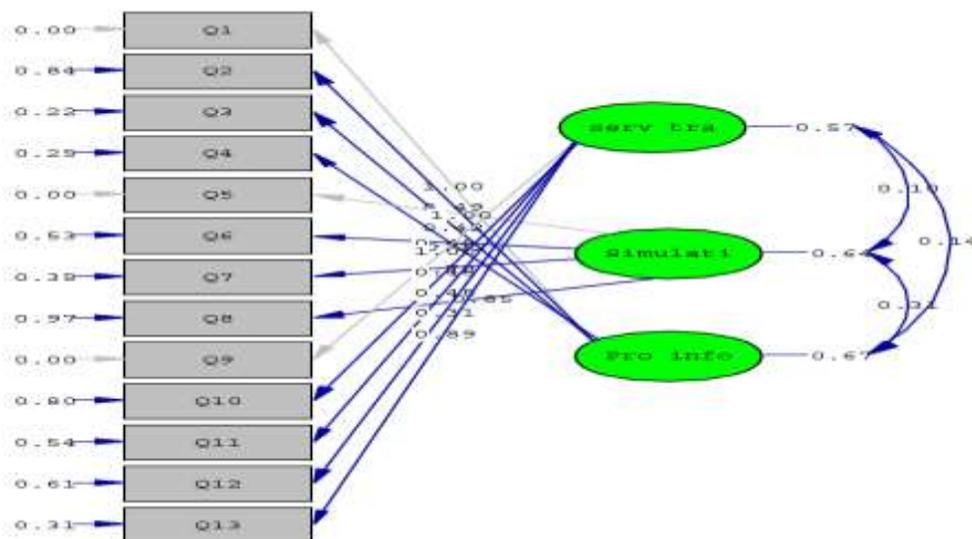


Figure 2: Results of confirmatory factor analysis on training dimensions

Therefore, the greater an index is in a factor, a greater weight should be assigned to that index in the factor interpretation (Kalantari, 1999). In this section, the training dimensions are being tested based on the results of factor analysis, which are illustrated in figure 2.

Confirmation or rejection of factor loadings' meaningfulness is done regarding the T-Values. The relationship is confirmed (at significance level of 0.05), if T-value is greater than 1.96 or smaller than -1.96, in which the relationships are respectively meaningful positively or negatively. In addition, the indices which their factor loading is smaller than 0.3 and or their T-value is smaller than absolute value of 1.96, are weak indices and will be deleted from the model.

The above figure 2 shows the results for the confirmatory factor analysis of indices relating to external latent variables which comprise information provision, simulation and on-the-job training.

As the figure 2 shows, results indicate that all dimensions of training have acceptable factor loading.

In the following, the results of confirmatory factor analysis of external latent variables which are knowledge improvement, skill improvement and development of desirable behaviors, will be examined. The figure below shows the standardized factor loading of each variable.

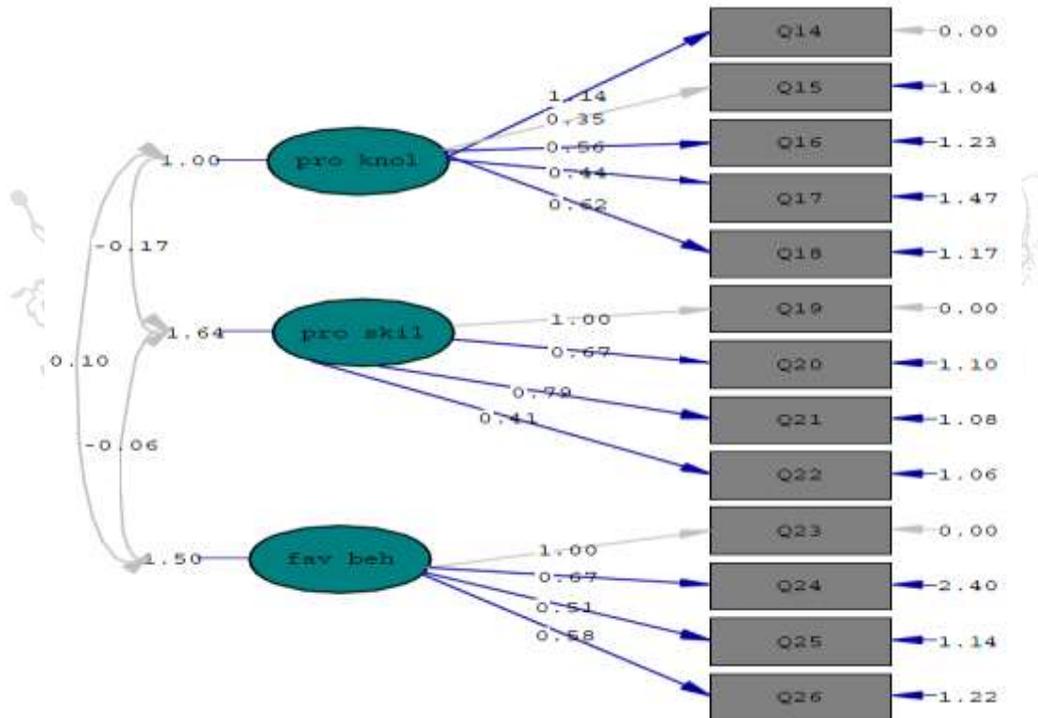


Figure 3: Results of confirmatory factor analysis on productivity dimensions

As the figure 3 shows, all dimensions of productivity have acceptable factor loading.

Results of Path Analysis Diagram

Data analysis shows that two dimensions of training i.e. information provision and simulation have meaningful effect on dimensions of human resource productivity. Effect of on-the-job training on the improvement of skills is greater, but on the other hand, the effect of on-the-job training on development of desirable behaviors is rejected. Figure 4 shows the effects of external latent variables of the research on

knowledge improvement, skill improvement and development of desirable behaviors (dimensions of human resource productivity).

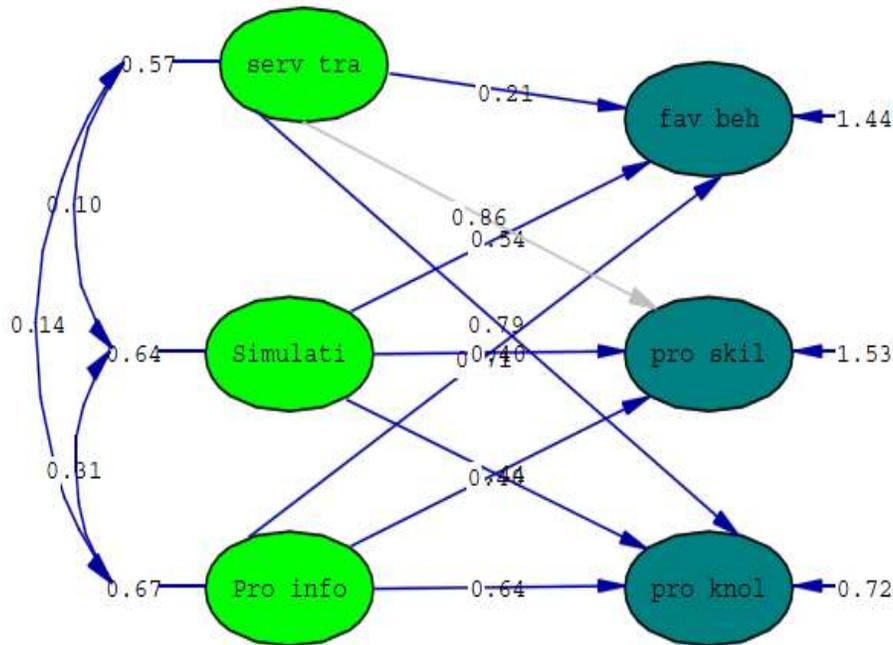


Figure 4: Relation patterns among the variables of the research

In the following, the research hypotheses are tested by path analysis diagram using Lisrel software.

Table 1: Path Analysis Results

Hypotheses	Path coefficient	T-Value	Meaningful relationship	Test result
Main H: Staff Training has meaningful effect on the their productivity	0.53	3.33	P<0/01	positive
H1: Information Provision has meaningful effect on staff productivity	0.33	4.44	P<0/01	Positive
H2: Simulation has meaningful effect on staff productivity	0.31	4.39	P<0/01	Positive
H3: On-the-job training has meaningful effect on staff productivity	0.57	6.89	P<0/01	positive

Table 1 show that the main hypothesis of the research i.e. the meaningful effect of staff training on staff productivity is confirmed. For the second hypothesis; although, the effect is positive, it is weak. Thus, simulation training techniques among the staff of Bank Mellat have lower effects on productivity than other techniques. Information provision has also the same situation. However, regarding the third hypothesis, the effect is relatively strong and it can be claimed that the best training technique to improve the productivity of staff is through on-the-job training.

Model fitness Evaluation

Table 2: Conceptual Model Goodness of Fit

Conceptual model goodness of fit indices	Index Value	Acceptable Values
Root Mean Square Error of Approximation	0.08	RMSEA <0/1
Goodness of Fit Index	0.93	GFI > 0/90
Adjusted Goodness of Fit Index	0.91	AGFI > 0/90
Normed Fit Index	0.92	NFI > 0/90
Non-Normed Fit Index	0.91	NNFI > 0/90

There are wide ranges of fitness indices and criterion which can be used to evaluate the fitness of whole model. It should be noted that a researcher must use different criterion to judge the fitness of a model, since there is no single measure to definitely test the model and assess it. Therefore, as the table 2 indicates, various indices are being used for the assessment of model fitness in this research.

As the table shows, the values for all the indices indicate the acceptable and confirmed fitness of the research model. Thus, according to the appropriate fitness of the research conceptual model, the match between the conceptual model and the collected data is confirmed.

Conclusions

Human knowledge grows twice every five years and this growth has put everything in a state of change and evolution. Therefore, how can organizations disregard the familiarization of their human resource with these evolutions? Self-evidently, in case of neglecting to train the staff, the survival of the organization will be endangered. That is why the human workforce attends the training classes at least once in a year in the developed countries. The organization life is to a great extent dependent on the different skills and knowledge of its workers.

Regarding the relationships between the types of training methods and improvement of productivity, results of data analysis in this research well match with other researches discussed in the literature. Thus, the suggestions of this research are presented in two sections.

Suggestions Based on the Research Results

Considering the results, the following suggestions are provided in order to improve training methods and their effectiveness on productivity of human resource in Bank Mellat.

Simulation Training

- Running simulation training courses by human resource office of Bank Mellat.
- Running simulation training courses for the preparation of the staff to encounter and enter the real world.
- Running simulation training courses to develop the skills of problem solving among the staff and managers.
- Running simulation training courses to develop the skills and capabilities of decision making among the apprentices.

Information Provision Training

- Running training courses in the format of lecture in order to provide large amount of information in a short period of time.
- Running training courses in the format of lecture due its high acceptability and being economical.

- Running training courses in the format of seminar for the active participation of staff.
- Running training courses in the format of seminar in order to have a training proportional with the learning capacity of apprentices.
- Running training courses in the format of seminar in order to have discussion, feedback and self-assessment of the trainees.

On-the-Job Training

- Development of trust and belief to the efficiency and proficiency of on-the-job training among the managers of the organizations. In order to achieve this goal, organizations' managers should be put under the cover of training services and they should support crediting and running the training courses.
- Systematic addressing of on-the-job training programs, since it is a systematic procedure and should be met systematically. Needs assessment, developing objectives, implementation and evaluation should be done systematically and stage by stage; and the final results will be presented to the implementation, planning and other relating units.
- Holding constant on-the-job training courses and providing special and continues programs for the personnel. Non-continuous provisional on-the-job training will not be productive.
- Establishing a research and study unit in the staff training center, in order to study the problems and issues of training.
- Establishing information units in the training centers equipped with online systems and computer connections to other domestic and foreign centers, in order to collect and organize the useful data.
- Coordination between on-the-job trainings and the needs, desires and characteristics of adults as the main participants of the program. Not very long classes, practicality of courses and using proper teaching techniques for the adults are among the other considerations.
- Justification of on-the-job training courses, familiarization of the staff with the educational goals and provision of welfare and living facilities for the trainees.

Therefore, the training of workforce should be vital consideration for every organization. Moreover, training courses should not be confined to the provision of a set of abstract materials, but they should be accompanied with practical trainings and experience, so that the employee has the opportunity to experience the theories he has learned and clearly finds the reasons. Overall, an atmosphere should be provided in which the trainee actively participates in the training and learning.

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