Evaluating the comparative effectiveness of staff in-service trainings on improving the service quality (before and after the in-service trainings)

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ABSTRACT

The present study has been conducted with the aim of examining the effectiveness of staff in-service trainings on improving the service quality in Islamic Azad University, Aliabad Katoul Branch. The statistical sample of this study has comprised 66 unit personnel who have been selected by simple random sampling. The method of study is applied based on the aim and survey based on the descriptive method. Data collection tools of questionnaire have been based on the closed answer with the Likert range. After data collection the distance estimation method of success ratio (p) has been used for employees in order to analyze data and the nonparametric chi-square for the managers. The statistical model of difference between two correlated ratios has been used in order to evaluate the effect of performance before and after the training course. The results indicated that the personnel have considered the In-service training positive and effective on improving and promoting the service quality at university.

Introduction

The manpower training is the most prominent appearance of investment in the institutions and organizations for their employees. Through this training, people in organizations acquire the needed abilities, develop their capabilities, and learn the skills needed for organizations. Implementing such a program requires a financial investment and allocation of necessary funds and the question about which managers are sometimes concerned is whether implementing the training programs is effective or not? And if it is necessary to implement these programs and there are experiences which indicate that they are effective, how they can be implemented in a specific organization, achieve the intended goals, ensure the accuracy of performances more than before, and thus increase the confidence in the effectiveness of trainings? In fact, one of the scientific strategies for achieving this goal is responding to the considered above questions, achieving and planning all stages of in-service training including assessment, designing and implementation, measuring and assessing its effectiveness. Planning leads various activities toward a specific purpose and focuses the resources in line with achieving the determined target. Therefore, the additional and unnecessary activities will be eliminated, additional costs be reduced, and the economic efficiency and efficient use of time be done.

The more the personnel knowledge and skills in the organization are coordinate with the community needs, developments and technology changes, the more the individual is successful in the organization.

Improving the human resources is one of the important managers' responsibilities and includes the activities which are carried out in order to promote the employees' awareness, increase the knowledge, create the employees' skills, and provide the better services. In-service training in one of the method for human resources improvement and includes all job trainings which are given to them in order to improve the quality of their performance (Girrs, 1998)

In-service training is the only factor for saving a system from the personnel routine job. By in-service training, the staff occupational knowledge will be acquirable and the future of system will be guaranteed to be in success and achieving the noble goals of university.

Therefore, the main goals of this study is to understand and evaluate whether the University staff in-service trainings can promote and improve the service quality at university, and identifying the scientific and applied strategies for enhancing the effectiveness of staff in-service trainings. The conceptual framework is as follows.

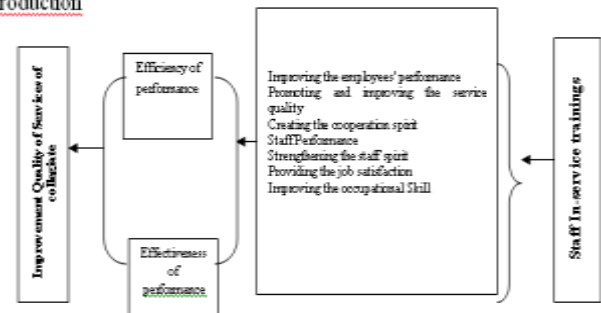### Research Conceptual Framework and Model

Figure1: Conceptual model of research

Review of theoretical principles and literature and theoretical principles In-Service training

John F. May defines the in-service training as follows: The in-service training is the systematic and continuous improvement of employees' knowledge, skills and behaviors which help them for achieving their own and their organization welfare. Pear and Gutter have considered the in-service training

as the systematic effort which its main purpose is to coordinate and align the individuals' desires, interests and future needs, with the needs and goals of organization in terms of what is expected from people. Goldstien defines the in-service training as a systematic process of acquiring the skills, rules, concepts or attitudes which lead to improved performance in the workplace. In-Service training differs from the on-the-job training. In-Service training has a broader concept than the on-the-job training and refers to all trainings which people pass during the service in the organization, and even in the wider consideration for their retirement period, while the on-the-job training refers to those trainings under which the individual can be familiar with the methods, and implementing techniques during a specific job. In other words, the job in-service training is one of the in-service training methods which have the practical and scientific nature (Peters, 1997, p. 16).

Necessity for staff training

In general, factors which have made the training essential are as follows:

1 - Increasing technological advances and changes; 2 - Increasing the organizational complexities; 3 - Personal requirements; 4 - Globalization of competition and job; 5- job changing, relocation and modification; 6 - Staff promotion; 7 - Growing momentum in all fields

Along with more complex jobs, the importance of staff training has also been increased. When jobs were simple they could be easily learned, and the technical changes had no effect on them, therefore the employees have little need to increase or change their skills, but accelerated changes which recently have been occurred in the sophisticated and developed communities have increased the pressure on the organizations.

Type of needed jobs and skills to do these businesses in the current situation indicates the need for training. Therefore, the organization managers should take the resources for training into account in order to always have the efficient and informed human resources.

The list below contains the benefits which the job training can have for the organization and staff:

1- It leads to profitability.

2 – It strengthens the honesty and trust among the employees and managers.

3 – It allows the organizational progress within the organization.

4 - It reduces the costs.

5 – It leads to the better decision-making.

6 - It improves the occupational skills.

7 – It improves the relationships between the subordinate and individual.

8 – It helps to increase the productivity and work quality.

9 – It reduce s the conflicts.

10 - It leads to the progress, growth and responsibility in the individuals. (Tousi, p. 246)

Staff Training Process

According to Table 1, which its details is specified in the educational process, the staff training process is discussed and evaluated:

Job trainings consist of new perceptions of vital factors in an individual's professional career. Therefore, the job trainings enable people to benefit from the basic insight and skills which are necessary for understanding the techniques and sciences of their own profession and their effectiveness in their social life. The organizational professions content planners should understand the job requirements properly through the job analysis, and based on it prepare people for the job training by the regular programs.
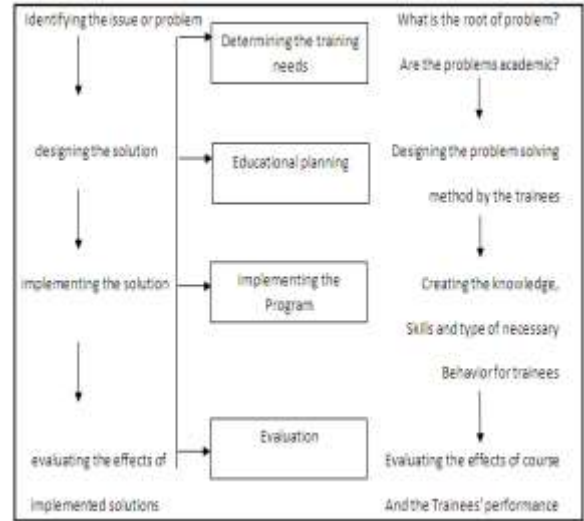

Figure 2. The process of staff training (Abtahi, 1373, p. 118)

Various stages of training planning

Various stages of training planning are presented in Figure 3, so we describe them briefly:
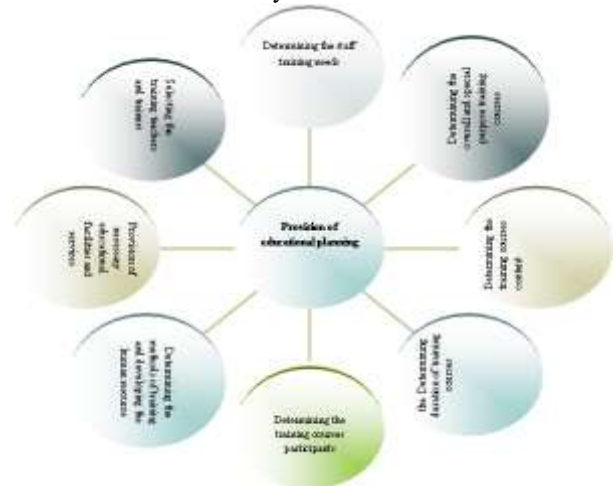

Figure 3 - Various stages of training planning (Abtahi, 1373, p. 123)

Determining the overall and special training purposes

The first essential step in the planning and especially in the training planning is determining the overall and special training purposes.

Determining the overall training purposes in the educational process is done after the purposes analysis and the organizational responsibilities and before determining the special purposes of training programs and their implementation. The special training purposes are determined in the framework of overall purposes of organization and according to the educational needs.

Determining the content

Determining the content of training programs should always be about the overall and special goals of programs; because if it is not regarded, not only the program is not implemented, but also the education, as a mean for eliminating the deficiencies and ultimately for achieving the organizational goals, will lose its safe and proper way. Another factor which should be considered in determining the content of training programs is the survey of program participants and it should be carried out.

Determining the duration of program

Managers, experts and officials in the training programs should consider the necessary and enough time in order to achieve the training goals, so that if the duration of a training course is considered shorter than the reasonable time, our educational goals will not be accomplished, and if the duration

exceeds the reasonable time, participants will became tired during the program.

Determining the participants characteristics

Even if the educational unit and the officials are optimistic, they should accept this fact that they cannot educate all individuals, who need to train, in a certain time due to limited financial and human resources. Therefore, the most logical way is following the priority, and first educating those who need more than others. If the number of people, who need to be educated, is the same in terms of priority and educating all individuals in a range of time is impossible, the needed individuals should be selected and invited to attend the course by the help of direct supervisor. This can be done by sending the specific forms.

The managers, experts or training officials' task requires that a group should be invited as the participants in the training program. They are selected by particular points and indicators and in general the maximum efficiency is obtained from the course.

Determining the training methods

The program success largely depends on the method(s) which are selected for providing the determined content; on the other hand, the administrators, educational planners and experts cannot select and apply the method(s), which they have identified their effectiveness, without comprehensive evaluation of training planning.

Skills training

As Pereda and Berrocal (1999, 2001) and García (2003) show, skills training is based on the use of active, participative methodologies. The most important skills training techniques include 'real-life work experience'or, in their absence, 'simulations' (e.g. role-playing, business games and outdoor training), which promote experiential learning and modelling (ob-serving more experienced work colleagues, or watching videos), which in turn foster learning by observation and social learning. The context of on-site work is ideal for developing skills as it provides a real work setting in which the skills required by a given job must be put into practice.

Skills training is based on practice and 'action', and on-site work expe-rience therefore offers a unique opportunity to develop skills as students are enabled to 'experiment', 'try out', 'apply', 'test', 'acquire' and/or 'extin-guish' skills (behaviours) in a real work setting.(E.R.Talavera and J.C.Pérez-González,2007,pp.83-109).

Workplace training

On-site training played no systematic part in vocational training [For-mación Profesional] (FP II) in Spain until the 1980s. This was when an em-phasis began to be placed on vocational training, and an atmosphere of closer and more active collaboration between entrepreneurs and educa-tional institutions first emerged (Martínez, 2002, p. 46). In substantive terms,the establishment of on-site training (Formación en Centros de Trabajo,FCT) arose out of Article 34.2 of the Organic Act 1/1990 of 3 October on the General Organisation of the Education System (Ley Orgánica 1/1990de 3 de octubre, de Ordenación General del Sistema Educativo , LOGSE),which sought to promote learning in the workplace and in the classroom. Today, this system of alternating classroom and workplace training has fortunately become widespread in vocational training in Spain. It may be partly because of this that vocational training qualifications, which were once much less highly regarded, have gained greater social acceptance in Spain in the last few decades. .(E.R.Talavera and J.C.Pérez-González,2007,pp.83-109).

Moreover, according to figures from the Ministry of Education and the Eurydice report for 2005, the last few years have seen an increase in the number of Spanish students studying vocational training, although many fewer than those opting for the Bachilleratoand going to university (approx-imately 38 % as compared with 62 %). However, la formación professional tiene un mayor potencial de inserción laboral que la universitaria (vocation-al training has greater potential than a university education for enabling peo-ple to enter the labour market) (Informe Infoempleo, 2005, p. 24).

Like Sobrado and Romero (2002), we believe that practical work and on-site training are both key elements of vocational integration guidance and an excellent opportunity for developing personal and key competen-cies. When students and recent graduates of vocational training and high-er education take part in on-site training, they have a chance to learn from experience, although it has to be remembered that experience in itself in-volves no learning nor is it educational. For the experience of on-site train-ing to become a genuine learning process, it must boast at least three char-acteristics (Álvarez Rojo et al., 2000):

a) integrating well planned and coherent experiences with skills to be de-veloped;

b) promoting reflection over experience;

c) facilitating the integration of experience through self-assessment, the analysis of consequences, and the promotion of transference to other situations.

Initial Specialised Vocational Training (Formación Profesional Inicial Específica) in Spain aims to fulfil these three requirements by promoting on-site training through FCT modules. Spanish legislation on the subject currently differentiates between four separate blocks of training, or 'Pro-fessional Modules' (Modelos Profesionales) (MECD, 2003b, p. 5):

a) professional modules linked to a unit of skill, and consisting of specif-ic, professional skills training designed to enable students to acquire

the professional behaviours set out in the unit of skill;

b) a basic, or transversal, module consisting of knowledge of a particu-lar technical field, and on which a number of course's specific modules are based;

c) a Training and Vocational Integration Module (Módulo de Formación y Orientación Laboral, FOL), a training package aimed at providing stu-dents with more comprehensive preparation for entering the labour mar-ket and developing appropriately in the world of work;

d) an On-site Training Module (Módulo de Formación en Centros de Tra-bajo , FCT), which seeks to consolidate and complement students' pro-fessional skills acquired in the educational establishment through the performance of productive activities at the workplace.

Training in the workplace (FCT) corresponds to the on-site training mod-ule in Initial/Regulated Specialist Vocational Training (Formación Profe-sional Inicial/Reglada Específica); it lasts between 10 and 20 weeks, ap-proximately 25% of the total workload for each qualification. La característica más relevante de esta formación es que se desarrolla en un ámbito productivo real (la empresa), donde los alumnos podrán desempeñar las actividadesy funciones propias de los distintos puestos de trabajo de una profesión, conocer la organización de los procesos productivos o de ser-vicios y de las relaciones laborales, siempre orientados y asesorados por los Tutores del Centro Educativo y del Centro de Trabajo [The key fea-ture of this training is that it takes place in a genuine productive setting (theenterprise) where students may perform the real activities and functions of the jobs in a profession, and learn about the

organisation of the productive processes or services and of employment relations, with constant guid-ance and advice from tutors in the educational establishment and the work-place] (MECD, 2003b, p. 6; MEC, 1994).

The aim of workplace training is to promote the vocational training of students in three areas (MECD, 2004): theoretical-cognitive (knowledge), practical (technical skill) and attitudinal (social attitudes and skills). Under this system, the development of socio-emotional skills only appears to be represented by the third area, where some attitudes are inter-mingled with certain socio-emotional skills. .(E.R.Talavera and J.C.Pérez-González,2007,pp.83-109).

Customer's perception of quality:

Quality of a particular service is whatever the customer perceives it to be. Service quality as perceived by the customer may differ from the quality of the service actually delivered. Services are subjectively experienced processes where production and consumption activities take place simultaneously. Interactions, including a series of moments of truth between the customer and the service provider occur. Such buyer-seller interactions or service encounters have a critical impact on the perceived service. The Nordic Model, originated by Christian Gronroos and developed by others, adopts a disconfirmation of expectations approach. This claims that customers have certain expectations of service performance with which they compare their actual experience. If the expectations are met, this is confirmation; if they are over performed, this is positive disconfirmation; if they are underperformed this is negative disconfirmation. According to Gronroos (1984), the quality of service as perceived by customers has two dimensions; a technical or outcome dimension and a functional or process-related dimension.

What customers receive in their interaction with a firm is clearly important to them and their quality evaluation. This is one quality dimension, the Technical Quality of the outcome of the service production process. However, as there are numerous interactions between the service provider and customers, including various series of moments of truth, the technical quality dimension will not count for the total quality which the customer perceives he has received. The customer will also be influenced by the way in which technical quality- the outcome of the process is transferred to him and this will have an impact on the process experience. Examples include the accessibility of ATM, a website, appearance and behavior of waiting staff, how service employees perform their task, what they say and how they do it. Interestingly, other customers simultaneously consuming the same or similar services may influence the way in which customers will perceive a service. Thus, the consumer is also influenced by how he receives the service and how he experiences the simultaneous production and consumption process. This is the second quality dimension, the Functional Quality of the process, closely related to how the moments of truth of the service encounters themselves and are taken care of and how the service provider functions. Illustrated in figure 1, there are the two basic quality dimensions, namely, What the customer receives and How the customer receives it; the technical result or outcome of the process (technical quality) and the functional dimension of the process (functional quality. An organization's image is an important variable that positively or negatively influences marketing activities. Image is considered to have the ability to influence customers' perception of the goods and services offered (Zeithaml and Bitner, 1996).Thus, image will have an impact on customers' buying behaviour. Image is considered to influence customers' minds through the combined effects of advertising, public relations, physical

image, word-of-mouth, and their actual experiences with the goods and services (Normann, 1991). Similarly, Grönroos (1983), using numerous researches on service organizations, found that service quality was the single most important determinant of image. Thus, a customer's experience with the products and services is considered to be the most important factor that influences his mind in regard to image. For instance, if the service provider shares a positive or favorable image in the minds of the customers, minor mistakes will probably be overlooked or forgiven. However, if the image is negative, the impact of any mistake will often be considerably greater than it otherwise would be. This entire combination shall lead to total quality.
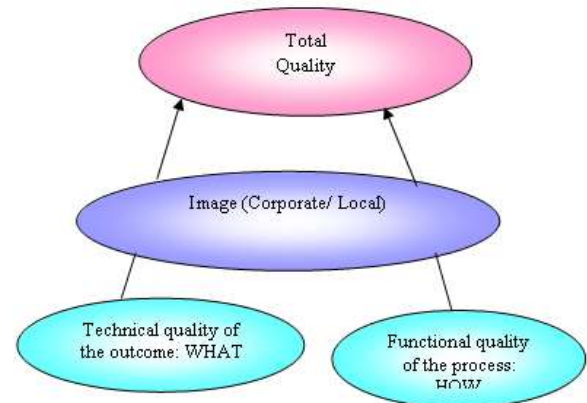

Figure 4: Two service quality dimensions (Gronroos, 2001)

Research Background

Kasmaki and Mellander (1999) has indicated in a research on Sweden corporations about the in-service training that these periods could reduce the production costs and working hazards markedly, however these results are obtained from the industrial companies and institutions.

Mulholland (2001) has indicated that 90 percent of in-service trainings in the United States are effective, but since they are not transferred appropriately to the personnel, 90 million dollars are wasted in the United States each year. The main cited reasons for lack of effectiveness of these training include:

The inappropriateness of In-service training courses with the staff occupational areas, and lack of transferring to the personnel to staff and so creating the staff anxiety and pressure due to the fast transferring of skills to the employees.

Jarvis believes that in most countries, the professional formulation and implementation of continuing education are taken into account and constantly growing. And developing the staff talent and abilities now is considered as an integral part of their job.

Emamjomeh and Saeedi Rezvani also have expressed that the main essence of in-service training is to increase the staff efficiency and creating the appropriateness with the workplace through the "problem-solving" and as a result, increasing the services provided by the staff.

Anna Craft (1997) has expressed that the In-service trainings increase the employees' valuable feeling and job satisfaction.

Wei-toi-tai (2006) expresses: the main goal of any training institutional program is that it can replace a new set of knowledge, skills, and attitudes. Due to the importance of organizations in meeting the community needs, experts have greatly emphasized on continuing the in-service trainings. For example, Jennifer Good says that: The opportunities for professional development should be are available for teachers (staff) throughout the occupational life.

One of the important effects of organizational trainings is the identification of organizational functions. The in-service training needs to explain the organizational functions for the staff in that organization. As David Donaell expresses: The quality of training the staff determines the full or partial recognition of tasks which an organization should perform.

Tang Chan Huang (2001) writes: "If the need assessment is not performed, the organization will not be ensured that the appropriate training is provided for the staff". Huang has indicated in his research report that there is a direct relationship between the needs assessment and the efficacy of training at the significant level.

Gllessman and Pogh (1989) began a study through educating subjects in the various educational places with this aim that the portion of training could be determined for achieving the teaching skills. Educating the teaching methods was done by the film and it was concluded that the training, as a requirement for changing the skills, need to be understood. Also, it was proposed that the practice continuation is effective in acquiring the desirable skills.

Ballot and Taymaz (2001) has indicated in a research carried out in France from 1986 to 1992 that the productivity in the industry field has increased due to the increased trained staff. In other words, by increasing the trained staff to one percent, the productivity will be increased two percent. Other studies are also monitoring these results. And from the perspective that the in-service trainings have a significant positive effect on the productivity and staff wage growth, perhaps for this reason the developing and developed countries use the in-service trainings as a tool for increasing the employees' wages / (Margvis, 1999) . Tyler (1930) has written in his famous evaluation model: The educational evaluation is to determine to what extent the aims of training program have been implemented.

Dunkin (1998) has concluded in his research about the in-service trainings that the short-term in-service training courses will enhance the teachers' skills and professional attitudes. In addition, it will enhance the teachers' awareness of creating the new and better teaching method, so they will do their tasks better.

Sabar (2000) has concluded that the school personnel especially the teachers are faced with the problems in assessment and evaluation activities of students' educational progress and the classroom management; and the in-service training system will help them to identify the main path, determine their limitations and sources, and select the solutions for these problems.

Aithon (2000) has concluded that the staff attitude towards using the modern teaching methods can be changed by holding the in-service training courses.

Valcke (2007) has concluded that the Information and Communication Technology (ICT) policy of schools is well developed, and there is a partial coordination among the policies, needs, and in-service training about the awareness of actual ways for managing the classroom and new teaching methods.

Carol (2007) in his research suggested the areas for improving the teachers' educational quality in the in-service training courses especially in the new ways of teaching and evaluation.

Rahmani Morid (1384) concluded that the teachers' greatest need is for the methods of strengthening the educational motivation and new strategies of teaching and the least need is for the evaluation methods.

Kazemi Asfeh (1386) has concluded that the familiarizing the teachers with the management and leadership techniques in the class is the first priority, and the need for familiarizing them with the creating educational motivation techniques and the modern teaching methods and also familiarizing with the creativity techniques creation are the next priorities.

Research Methodology

The presented research is applied in terms of aim of study, and descriptive based on the implementing method, but the dominant method in this study is survey. The researcher's aim of conducting this study is the visual, regular, and actual description of features of a position or subject. In these kinds of research, the researcher tries to identify what there is and introduce the barriers to achieving the planned targets. Moreover, the survey method is used for being aware of trained staff attitudes and their managers about the assessment of in-service training effectiveness.

In the first step, researcher has examined the records and documents at the Islamic Azad University and gathered the necessary information about the performance of training unit in terms of training activities (in the time period considered in this study) and evaluated them in connection with the organizational goals. In the second step, the researcher analyzed the employees and managers' view bout the data obtaining activities, all data, and collected by available information which are obtained through the questionnaires.

Data collection tools

Due to the different stages of research, data collection methods are also different. As mentioned in the research methodology, part of this study evaluates the quality of implementing the educational activities in line with the organizational goals. Therefore, the data collection techniques include:

1- Referring to the information and statistics available at the Islamic Azad University of Aliabad Katoul Branch archive which is separated annually.

2- Identifying the qualitative and quantitative defined objectives for each year through the directions, regulations, and circulars.

3- Using the closed questions questionnaire for evaluating the target community opinions towards the organizational behavior and quality of implementing the training activities.

4- Utilizing the interviews in order to increase the accuracy in the archival investigations and questioning as well as complementing the research process especially in preparing and compiling the questionnaire.

Statistical population, sample size, sampling and data analysis method

The statistical population of this study consists of all formal, contractual, and experimental employees at Islamic Azad University of Aliabad Katoul Branch during the years 1384-1388, those who took part in the in-service training courses of university unit, and they were evaluated by the senior, intermediate, and executive managers. The formal, contractual, and experimental employees, who have passed at least 100 hours of training course in the mentioned years, have been considered as the experimental group. The descriptive statistical methods (frequency table, percentage frequency) have been used for analyzing the study data. In order to analyze data, the paired T-comparison test and the statistical model of test for differences between two correlated ratios, have been used.

Determination of validity and reliability of research tools

The content validity has been used in the present study in order to determine the validity of questionnaire. The content validity refers to this subject that to what extend the sample questions used in a test sample can represent the total community and the considered content or subject can be obtained (Seif, 1382, p. 419). Thus, the researcher has defined

the key words in order to understand the questions more and applied them in the questionnaire; at the same time, the necessary descriptions about the questions have been available for the in-service trained ones.

The reliability of test means the stability of measuring at different times. Reliability of a measuring tool mainly refers to the accuracy of obtained results. About the reliability, more than 10% of samples were provided for the employees and managers in order to check the validity, and after collecting, their validities were calculated by Spss software for Cronbach's alpha; in addition, the values obtained for employees with 81%, which represented of the high validity of questionnaires, were obtained and the reliability coefficient was acceptable.

Research Findings

First Hypothesis Test:

First hypothesis: Staff In-service trainings have been effective on improving the staff performance in the Islamic Azad University.

Data table of first hypothesis in the form of frequency before the participation and attendance in the poor training data

	Good	Weak	
A + B=33	22B	11A	Good
C + D	26D	6C	After the participation and attendance of poor performance

Data table in the form of ratio before the participation and attendance at the training courses

	Good	Weak	
P1= 0.51	0.34 b	0.17 a	Good performance
q1= 0.49	0.40 d	0.09 c	After the participation and attendance of weak performance
1	P2= 0.74	q2 = 0.26	

The contravention of Hypothesis was claimed: The staff In-service trainings have not had a positive effect on improving the performance.

H0= P2 ≤ P1
H1= P2 ≥ P1

Claimed Hypothesis: Staff in-service trainings have had the positive effects on performance improvement; H1= P2 ≤ P1

Testcriterion:

$$Z = \frac{P_2 - P_1}{\sqrt[2]{\frac{a+d}{n}}} = \frac{0.74 + 0.51}{\sqrt{\frac{0.17 + 0.40}{65}}} = \frac{0.23}{0.0936} = 2.46 \Rightarrow Z = 2.46$$

Error rate: α=1-c=1-0.095=0/05 zα=z Value: α=1-c=1-0.095=0/05 zα=z0.05=1.65	Value: α=1-c=1-0.095=0/05 zα=z0.05=1.65

Because the test criterion of test statistic is greater than the critical value of table, the difference between two ratios of employees' performance before and after the in-service training is probably significant at the 95% level in terms of statistics. In other words, with reliability 95 percent, it can be expressed that the staff participation and attendance at in-service training courses has a positive effect on improving the performance of their organization.

Second Hypothesis Test:

Second Hypothesis: Staff In-service trainings have been effective on improving the service quality in the Islamic Azad University.

Data table of second hypothesis in the form of frequency before the participation and attendance in the in-service training data

	Good	Weak	
A + B=33	24B	8A	Good
C + D=32	30D	2C	After the participation and attendance of weak performance
n = 64	B + D=54	A + C=10	

Data table of second hypothesis in the form of ratio (%) before the participation and attendance at the in-service training courses

	Good	Weak	
P1= 0.50	0.37b	0.13a	Good performance
q1 =0.50	0.47d	0.03c	After the participation and attendance of weak performance
	P2 =0.84	q2 = 0.16	

The contravention of Hypothesis was claimed: The staff In-service trainings have not had an effect on improving the service quality of university.

H0= P2 ≤ P1
H1= P2 ≥ P1

Claimed Hypothesis: Staff in-service trainings have had the positive effects on improving the service quality of university; H1= P2 ≥ P1

Test criterion:

$$Z = \frac{P_2 - P_1}{\sqrt[2]{\frac{a+d}{n}}} = \frac{0.84 + 0.50}{\sqrt{\frac{0.13 + 0.47}{65}}} = \frac{0.34}{0.031} = 10.97 \Rightarrow Z = 10.97$$

Error rate: α=1-c=1-0.095=0/05 zα=z Value: α=1-c=1-0.095=0/05 zα=z0.05=1.65	Value: α=1-c=1-0.095=0/05 zα=z0.05=1.65

Because the test criterion of test statistic is greater than the critical value of table, the difference between two ratios of performance related to the service quality before and after the participation and attendance in the in-service training courses is significant in terms of statistics. In other words, with reliability 95 percent, it can be expressed that the staff in-service training has a positive effect on improving the service quality at university.

Third Hypothesis Test

Third hypothesis: Staff In-service trainings have been effective on creating the cooperation and collaboration spirit among the staff.

Data table in the form of frequency before the participation and attendance in the in-service training data

	Good	Weak	
A + B=33	24B	9A	Good
C + D=32	28D	4C	After the participation and attendance of poor performance

Data table in the form of ratio (%) before the participation and attendance at the in-service training courses

	Good	Weak	
P1= 0.59	0.37 b	0.14 a	Good performance
q1 =0.41	0.43 d	0.06 c	After the participation and attendance of weak performance
P=1	P2 = 0.80	q2 = 0.20	

The contravention of Hypothesis was claimed: The staff In-service trainings have not had a positive effect on creating the cooperation and collaboration spirit among the staff.

H0= P2 ≤ P1

H1= P2 ≥ P1

Claimed Hypothesis: Staff in-service trainings have had the positive effects on creating the cooperation and collaboration spirit among the staff; H1= P2 ≥ P1

Test criterion:

$$Z = \frac{P_2 - P_1}{\sqrt[2]{\frac{a+d}{n}}} = \frac{0.80 + 0.59}{\sqrt{\frac{0.14 + 0.43}{65}}} = \frac{0.21}{0.0304} = 6.91 \Rightarrow Z = 6.91$$

Error rate:	Value:
α=1-c=1-0.095=0/05	α=1-c=1-0.095=0/05
zα=z	zα=z0.05=1.65
Value:	
α=1-c=1-0.095=0/05	
zα=z0.05=1.65	

Because the test criterion of test statistic is greater than the critical value of table, the difference between two ratios of cooperation and collaboration spirit among staff before and after the in-service training courses is probably significant at the 95% level. In other words, with reliability 95 percent, it can be expressed that the staff participation and attendance at in-service training courses has a positive effect on creating the cooperation and collaboration spirit among staff.

Fourth Hypothesis Test

Fourth Hypothesis: Staff In-service trainings have been effective on staff efficiency.

Data table in the form of frequency before the participation and attendance in the in-service training data .

	Good	Weak	
A+ B=32	24B	8A	Good
C + D=33	28D	5C	After the participation and attendance of poor performance

Data table in the form of ratio (%) before the participation and attendance at the training courses

	Good	Weak	
P1= 0.49	0.37 b	0.12 a	Good performance
q1= 0.49	0.43 d	0.08 c	After the participation and attendance of weak performance
1	P2 = 0.80	q2 = 0.20	

The contravention of Hypothesis was claimed: The staff In-service trainings have not had a positive effect on staff efficiency.

H0= P2 ≤ P1

H1= P2 ≥ P1

Claimed Hypothesis: Staff in-service trainings have had the positive effects on the staff efficiency; H1= P2 ≥ P1

Test criterion:

$$Z = \frac{P_2 - P_1}{\sqrt[2]{\frac{a+d}{n}}} = \frac{0.80 + 0.49}{\sqrt{\frac{0.13 + 0.47}{65}}} = \frac{0.31}{\sqrt[2]{0.008461}} = \frac{31}{0.092} = 3.37 \Rightarrow Z = 3.37$$

Error rate:	Value:
α=1-c=1-0.095=0/05	α=1-c=1-0.095=0/05
zα=z	zα=z0.05=1.65
Value:	
α=1-c=1-0.095=0/05	
zα=z0.05=1.65	

Because the test criterion of test statistic is greater than the critical value of table, the difference between two ratios of staff efficiency before and after the employees' participation and

attendance at the in-service training courses is statistically significant. In other words, with reliability 95 percent, it can be expressed that the staff in-service training staff has a positive effect on improving and increasing the staff efficiency.

Fifth Hypothesis Test

Fifth Hypothesis: Staff In-service trainings have been effective on strengthening the staff spirit.

Data table in the form of frequency before the participation and attendance in the in-service training data

	Good	Weak	
A + B=33	22B	10A	Good
C + D=32	10D	6C	After the participation and attendance of poor performance
n =65	B+D=49	A+C=16	

Data table in the form of ratio (%) before the participation and attendance at the in-service training courses

	Good	Weak	
P1= 0.51	0.35 b	0.15 a	Good performance
q1 =0.49	0.40 d	0.10 c	After the participation and attendance of weak performance
1	P2 = 0.75	q2 = 0.25	

The contravention of Hypothesis was claimed: The staff In-service trainings have not had any effects on strengthening the staff spirit.

H0= P2 ≤ P1

H1= P2 ≥ P1

Claimed Hypothesis: Staff in-service trainings have had the positive effects on strengthening the staff spirit; H1= P2 ≥ P1

Test criterion:

$$Z = \frac{P_2 - P_1}{\sqrt[2]{\frac{a+d}{n}}} = \frac{0.75 + 0.50}{\sqrt{\frac{0.15 + 0.40}{65}}} = \frac{31}{0.092} = 2.72 \Rightarrow Z = 2.72$$

Error rate:	Value:
α=1-c=1-0.095=0/05	α=1-c=1-0.095=0/05
zα=z	zα=z0.05=1.65
Value:	
α=1-c=1-0.095=0/05	
zα=z0.05=1.65	

Because the test criterion of test statistic is greater than the critical value of table, the difference between two ratios of employees' spirit before and after the participation and attendance at the in-service training courses is significant at the reliability 95%. In other words, it can be expressed that the staff in-service training has a positive effect on strengthening and improving the staff spirit.

Sixth Hypothesis Test

Sixth Hypothesis: Staff In-service trainings have been effective on creating the staff job satisfaction.

Data table in the form of frequency before the participation and attendance in the in-service training data

	Good	Weak	
A + B=32	21B	11A	Good
C + D=33	27D	6C	After the participation and attendance of poor performance
n =65	B+D=48	A+C=17	

Data table in the form of ratio (%) before the participation and attendance at in-service training courses

	Good	Weak	
P1= 0.49	0.32 b	0.17 a	Good performance
q1 =0.51	0.42 d	0.09 c	After the participation and attendance of weak performance
1	P2 = 0.74	q2 = 0.26	

The contravention of Hypothesis was claimed: The staff In-service trainings have not had any effects on creating the staff satisfaction.

H0= $P2 \leq P1$
H1= $P2 \geq P1$

Claimed Hypothesis: Staff in-service trainings have had the effects on creating the staff satisfaction; H1= $P2 \geq P1$

Test criterion:

$$Z = \frac{P_2 - P_1}{\sqrt[2]{\frac{a+d}{n}}} = \frac{0.74 + 0.49}{\sqrt{\frac{0.17 + 0.42}{65}}} = \frac{0.25}{0.00953} = 2.62 \Rightarrow Z = 2.62$$

Error rate: α=1-c=1-0.095=0/05 zα=z Value: α=1-c=1-0.095=0/05 zα=z0.05=1.65	Value: α=1-c=1-0.095=0/05 zα=z0.05=1.65

Because the test criterion of test statistic is greater than the critical value of table, the difference between two ratios of creating the staff job satisfaction before and after the participation and attendance at in-service training courses is statistically significant. In other words, with reliability 95 percent, it can be expressed that the staff in-service training has a positive effect on creating the staff job satisfaction.

Seventh Hypothesis Test

Seventh Hypothesis: Staff In-service trainings have been effective on improving the staff occupational skill.

Data table in the form of frequency before the participation and attendance in the in-service training data

	Good	Weak	
A + B=31	22B	9A	Good
C + D=31	24D	6C	After the participation and attendance of poor performance
n =62	B+D=46	A+C=16	

Data table in the form of ratio (%) before the participation and attendance at the training courses

	Good	Weak	
P1= 0.50	0.35 b	0.15 a	Good performance
q1 =0.50	0.39 d	0.11 c	After the participation and attendance of weak performance
1	P2 = 0.76	q2 = 0.26	

The contravention of Hypothesis was claimed: The staff In-service trainings have not had any effects on improving the staff occupational skill.

H0= $P2 \leq P1$
H1= $P2 \geq P1$

Claimed Hypothesis: Staff in-service trainings have had the effect on improving the staff occupational skill; H1= $P2 \geq P1$

Test criterion:

$$Z = \frac{P_2 - P_1}{\sqrt[2]{\frac{a+d}{n}}} = \frac{0.76 + 0.50}{\sqrt{\frac{0.15 + 0.39}{65}}} = \frac{0.26}{0.0093} = 2.62 \Rightarrow Z = 2.79$$

Error rate: α=1-c=1-0.095=0/05 zα=z Value: α=1-c=1-0.095=0/05 zα=z0.05=1.65	Value: α=1-c=1-0.095=0/05 zα=z0.05=1.65

Because the test criterion of test statistic is greater than the critical value of table, the difference between two ratios of improving the staff occupational skill before and after the participation and attendance at in-service training courses is statistically significant. In other words, with reliability 95 percent, it can be expressed that the staff in-service training has a positive effect on improving the staff occupational skill.

Discussion and Conclusion

The results of theoretical (library) studies of research in line with the conducted studies about the subject of research including the concept of assessing the staff in-service training, effectiveness of education, and role of training in developing the staff skill and… are the points which can improve the effectiveness and quality of providing the services for the customers at Islamic Azad University if necessary. Therefore, the staff in-service training is one of the most basic ways in order to avoid wasting the resources of organization. In this field, the staff continuous in-service training should be done with the specialized and non-specialized courses, and this should be included at employees' different levels. Therefore, achieving the technical and scientific skill and information needed for improving the effectiveness of organization on one hand, and the field for staff occupational improvement on the other hand are the main objectives of staff in-service training at university. It should be noted that the staff in-service training can not only cause the effectiveness in the organization, but it also depends on the compliance with the criteria which can enhance the satisfaction and effectiveness of organization by the fair wages and salary system, using the system of reward and punishment appropriately, and the workplace conditions.

Data analysis results have indicated that the employees' needs for in-service training have been positive in two groups of employees and managers, and this is consistent with the results obtained by Aithon (2000). He concluded in his research that the staff in-service training has had a positive effect in New Zealand.

Moreover, the results suggest that the staff in-service training has enhanced and improved the quality of effectiveness at university, and this is consistent with the results obtained by Aithon (2000). Aithon concluded that the staff in-service training in New Zealand has had a positive effect on efficiency and quality of services provided by teachers.

The results of research have indicated that the staff in-service training has had a positive effect on improving the staff occupational skills, and this is consistent with the results obtained by Dunkin (1998). In this regard, he concluded that the staff short-term in-service training courses have increased the teachers' professional skill and attitude. In addition, managers believe that passing the staff training courses can enhance the cooperation and coordination spirit among the staff. They also believe that passing the staff training courses will increase the employees' efficiency, enhance the staff morale, and meet the staff job satisfaction; and these results are consistent with the findings of most of the internal and external studies which are conducted about the subject of research.

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