

## Identifying and Prioritizing Factors Affecting the Effectiveness of Staff Training Quality Using Fuzzy AHP Technique

FarzanehSoleymani<sup>\*a</sup>, Daisy Mui Hung Kee<sup>b</sup>, Seyed Hadi Hosseini

<sup>a</sup>Master of Management, Faculty of Humanities, Neishabour Branch, Islamic Azad University, Neishabour, Iran.

<sup>b</sup>School of Management, UniversitiSains Malaysia, Penang, Malaysia

Bachelor of Management, Faculty of Humanities, Neishabour Branch, Islamic Azad University, Neishabour, Iran

**Abstract:** This paper aims to identify the factors affecting the effectiveness of staff training quality using the fuzzy AHP technique. Due to a lack of attention and proper identification of the dimensions that affect the effectiveness of staff training and operating in a complex, competitive environment, universities often fail despite the high costs they spend on staff training. Therefore, research criteria have been extracted using library studies. The effect of their change on dependent variables was measured as independent variables, which are the same factors affecting the effectiveness of staff training quality. The research questionnaire was distributed among ten experts and administrators of Islamic Azad University, Neishabour Branch. In the present study, the experts and managers of the Islamic Azad University of Neishabour and an example of a group of 10 people in charge of specialized units in departments are the statistical populations. The research factors were analyzed using the multi-criteria decision-making method and Excel and Expert Choice software fuzzy system

**Keywords:** Educator characteristics, Fuzzy AHP technique, Individual factors, Organizational factors, Staff training,

### Introduction

The need for education and promotion has been accepted in organizations and institutions, including universities, for many reasons in a changing world. The degree of confidence in the success of education is higher if the teachers' knowledge and skills are more in line with the needs of society and scientific advances and technological changes. These increasing developments create new educational needs for different occupations. Formal and university education alone is not responsive to them lonely. Therefore, other types of education, including in-service training, are needed. As a result, the development of this training has a positive effect on improving the efficiency and quality of the service system (Mirkarimi, 2015).

Organizations face a rapidly changing, uncertain, and highly competitive business environment (Shukla et al., 2018). In this situation, human resources are considered the unique resources of an organization. Resources that competitors cannot copy. Resources that can create a unique competitive advantage for firms (Young et al, 2018). According to the concept of human resources, staff are scarce and can add value to the organization. Replacing decent human resources is not easy and is not done easily, unlike many other organizational resources that can be easily replaced with new parts, technology, or equipment after depreciation and destruction (Sehat and Sajjadian, 2020). Achieving the organization's goals depends on the ability of employees to perform their tasks and adapt to the changing environment. Therefore, implementing training and improvement of human resources allows people to effectively continue their activities by organizational and environmental changes and increase their efficiency. Therefore, to improve employee competence and organizational performance, training and improvement is a continuous and planned effort by management (Imani et al., 2020).

One of the most important concerns of managers and experts of organizations is empowerment, training, and improvement of human resources (Islami et al., 2020). Changing the way people think and adapt to good principles and standards is the essential role of education. Therefore, the importance of education is undeniable in all institutions, including governmental and non-governmental organizations, commercial and industrial enterprises, and educational and training organizations. Especially, human beings live at a time when it is conceivable to change the way they use tools and do things. The importance, necessity, and properties of education have become more and more tangible according to these changes so that some experts on the importance of education said: education is self-management (Mahdavi&Fayyaz, 2014).

The concept of effectiveness and evaluation of effectiveness in the educational process: The organization's effectiveness is the degree to which the organization achieves its goals if we define goals as the desired situation of the organization in the future (Richard Daft, 2002). A famous management expert, Peter Drucker, defines effectiveness as doing the right thing. In management, there are other definitions such as improving management practices, achieving success, generating new ideas, strengthening organizational values, group thinking, and participation equivalent to effectiveness (Satlani, 2001). Past studies in the field of in-service training show that

the effectiveness and success of these courses depend on paying attention to the factors affecting their implementation process by the characteristics of the reference organization for holding these training. For example, in their study, Farhad et al. (2019) designed, developed, and implemented a learning transfer model in in-service nursing education. Supervising nurses and training officials should pay special attention to individual, educational, organizational, and extra-organizational factors that affect the transfer of learning if they want to achieve the effectiveness of training in nurses' performance and improve hospitals' overall performance. In-service training should be developed and designed according to the identified factors. Developing in-service nursing education focuses on the factors that have the most significant impact on the transfer of learning. In addition to identifying the factors affecting the effectiveness of in-service training courses for employees, Mahdavi and Fayyaz (2015) have provided a model in their study. Social factors including lesson plan, teaching implementation, teaching evaluation, and interpersonal narrative positively affect the effectiveness of in-service training courses for employees based on the findings of this study.

## Methodology

The present study is a descriptive survey type. It examines the dimensions and indicators of performance evaluation and identifying and ranking the effective indicators on the effectiveness of staff training of Islamic Azad University, Neishabour Branch. The researcher only examines and describes the relationships between variables, which have different types in descriptive research. Survey research is one of the most important descriptive researches. It describes a phenomenon or society's facts and characteristics regularly and accurately (Khaki, 1999). The present research is fuzzy and surveys in terms of applied research and mathematical modeling of AHP.

The statistical populations are all elements and individuals with one or more adjectives in common at a particular geographical scale. In the present study, the managers and experts of the Islamic Azad University of Neishabour are the statistical populations. Our sample is a group of 10 people who specialize in the units. The sampling method is counting, and we will use all the experts due to the limited size of the community.

In different stages of this research, various methods are used to analyze the data, which are:

- 1- Content analysis: To identify the factors, articles and books related to the research topic are examined.
- 2- Descriptive statistics analysis: It includes the collection, organization, and definition of information.
- 3- Fuzzy Analytic Hierarchy Process (FAHP) analysis: By searching for articles and books, components of indicators affecting staff training were evaluated. At the end of the work, by fuzzy AHP calculations, identification and ranking of effective indicators on the effectiveness of staff training of Islamic Azad University, Neishabour Branch were prioritized.

## Results and Discussion

In this study, using literature review and research background, influential factors on the effectiveness of staff training in Islamic Azad University, Neishabour Branch was first identified. Then, a questionnaire was given to the experts to rate each indicator based on a 5-point Likert scale (1 = very low importance, 2 = low importance, 3 = medium importance, 4 = high importance, 5 = very high importance). Then, the average scores of each index were calculated. If the average index score is less than 3, it will be deleted. The results are presented in Table 1.

Table 1- Factors evaluation results

| Criterion              | sub-criteria                              | Average scores | Condition   |
|------------------------|---|----------------|-------------|
| Organizational factors | The culture that governs the organization | 3.667          | Confirmed   |
|                        | Creating organizational innovation        | 4              | Confirmed   |
|                        | Adapting to environmental changes         | 3.833          | Confirmed   |
|                        | learned organization                      | 3.417          | Confirmed   |
| Educational factors    | Training content                          | 3.167          | Confirmed   |
|                        | Educational design and planning           | 3.167          | Confirmed   |
|                        | Quality of education                      | 4.083          | Confirmed   |
| Instructor Features    | Teaching implementation                   | 4.083          | Confirmed   |
|                        | Lesson Plan                               | 3.583          | Confirmed   |
|                        | Interpersonal relationships               | 3.667          | Confirmed   |
|                        | Teaching evaluation                       | 2.356          | Unconfirmed |
| Individual factors     | Years of service                          | 3.333          | Confirmed   |

|  |           |       |           |
|--|-----------|-------|-----------|
|  | Age       | 3.333 | Confirmed |
|  | education | 3.667 | Confirmed |

Based on Table 1, the instructor characteristics index in the teaching evaluation criterion has an average lower than 3. Therefore, they have not obtained the qualification points and are removed from the list. In Table 2, the final model of criteria and sub-criteria are shown.

Table 2: Factors affecting the effectiveness of staff training

| Row | Criterion              | code | sub-criterion                             | code |
|-----|------------------------|------|---|------|
| 1   | Organizational factors | C1   | The culture that governs the organization | C11  |
| 2   |                        |      | Creating organizational innovation        | C12  |
| 3   |                        |      | Adapting to environmental changes         | C13  |
| 4   |                        |      | learned organization                      | C14  |
| 5   | Educational factors    | C2   | Training content                          | C21  |
| 6   |                        |      | Educational design and planning           | C22  |
| 7   |                        |      | Quality of education                      | C23  |
| 8   | Instructor Features    | C3   | Teaching implementation                   | C31  |
| 9   |                        |      | Lesson Plan                               | C32  |
| 10  |                        |      | Interpersonal relationships               | C33  |
| 11  | Individual factors     | C4   | Years of service                          | C41  |
| 12  |                        |      | Age                                       | C42  |
| 13  |                        |      | education                                 | C43  |

### Results of fuzzy AHP method

In the previous step, research factors were identified and confirmed. In this step, first pairwise comparisons of criteria are formed and are provided to 10 respondents. All of them were less than 0.1, indicating that the pairwise comparisons' stability and reliability are acceptable. Then, by using the geometric mean method, the answers were merged and presented below in paired comparisons. The rate of incompatibility of the tables was calculated after answering the pairwise comparisons. The weights of pairwise comparisons are also calculated using the Buckley geometric mean method.

### Formation of pairwise comparisons of the main criteria

In this section, pairwise comparisons of the main criteria and then sub-criteria are formed. These pairwise comparisons are performed based on the 1 to 9 phase spectrum.

Parallel comparisons of the main criteria are specified in Table 3.

Table 3- Parallel comparisons of criteria (incompatibility rate: 0.03)

|    | C1                  | C2                   | C3                   | C4                  |
|----|---------------------|----------------------|----------------------|---------------------|
| C1 | (1,1,1)             | (0.661,0.967,1.394)  | (0.589,0.786,1.144)  | (0.661,0.913,1.272) |
| C2 | (0.717,1.034,1.513) | (1,1,1)              | (0.463,0.603,0.891)  | (0.7,1.024,1.442)   |
| C3 | (0.874,1.272,1.698) | (1,1.22,1.658,2.161) | (1,1,1)              | (0.519,0.661,0.944) |
| C4 | (0.786,1.096,1.513) | (0.693,0.976,1.428)  | (1,0.59,1.513,1.925) | (1,1,1)             |

Parallel comparisons of sub-criteria of organizational factors are specified in Table 4.

Table 4- Parallel comparisons of sub-criteria of organizational factors (incompatibility rate: 0.01)

|     | C11                 | C12                 | C13                 | C14                 |
|-----|---------------------|---------------------|---------------------|---------------------|
| C11 | (1,1,1)             | (0.645,0.935,1.316) | (0.944,1.381,1.817) | (0.918,1.303,1.704) |
| C12 | (0.76,1.07,1.55)    | (1,1,1)             | (1.15,1.715,2.289)  | (1,172,1,587,2,016) |
| C13 | (0.55,0.724,1.059)  | (0.437,0.583,0.87)  | (1,1,1)             | (0.833,1.272,1.861) |
| C14 | (0.587,0.767,1.089) | (0.496,0.63,0.853)  | (0.537,0.786,1.201) | (1,1,1)             |

Parallel comparisons of sub-criteria of educational factors are specified in Table 5.

Table 5- Parallel comparisons of sub-criteria of educational factors (incompatibility rate: 0.04)

|     | C21                | C22                 | C23                 |
|-----|--------------------|---------------------|---------------------|
| C21 | (1,1,1)            | (0.7,0.967,1.316)   | (1,316,2,069,2,811) |
| C22 | (0.76,1.034,1.428) | (1,1,1)             | (0.825,1.172,1.698) |
| C23 | (0.356,0.483,0.76) | (0.589,0.853,1.213) | (1,1,1)             |

Parallel comparisons of sub-criteria of educator characteristics factors are specified in Table 6.

Table 6- Paired comparisons of sub-criteria of educator characteristics (incompatibility rate: 0.01)

|     | C31                 | C32                | C33                 |
|-----|---------------------|--------------------|---------------------|
| C31 | (1,1,1)             | (1,024,1.36,1,823) | (0.505,0.767,1.161) |
| C32 | (0.548,0.735,0.976) | (1,1,1)            | (0.437,0.583,0.87)  |
| C33 | (0.861,1.303,1.979) | (1.15,1.715,2.289) | (1,1,1)             |

Parallel comparisons of sub-criteria of individual factors are specified in Table 7.

Table 7- Paired comparisons of sub-criteria of individual factors (incompatibility rate: 0.03)

|     | C41                 | C42                 | C43                |
|-----|---------------------|---------------------|--------------------|
| C41 | (1,1,1)             | (0.384,0.466,0.624) | (0.532,0.751,1.02) |
| C42 | (1,603,2.147,2.604) | (1,1,1)             | (0.67,0.936,1.348) |
| C43 | (0.981,1.332,1.88)  | (0.742,1.069,1.492) | (1,1,1)            |

**Calculate fuzzy and normal weights**

In this step, we first calculate the geometric mean of the fuzzy numbers in each row of Tables 8 to 12 based on Equation 3-1 and 3-2. Then, to obtain the fuzzy weight, we divide each geometric mean by the sum of the geometric means. After that, we de-fuzzy each fuzzy weight using the  $\frac{l+2m+u}{4}$  relation. To normalize any non-fuzzy weight, it is sufficient to divide that weight by the sum of the non-fuzzy weights. For example, for criterion C1 in Table 8, the calculations are as follows:

First, we calculate the geometric mean of the rows in Table 8, which is as follows.

The geometric mean of the first line  

$$= [(1,1,1) \times (0.661,0.967,1.394) \times (0.589,0.786,1.144) \times (0.661,0.913,1.272)]^{\frac{1}{4}} = (0.712,0.913,1.193)$$

These calculations are done in the same way for other rows. The results are given in the second column of Table 13 for all rows. Then, we get the sum of all these geometric averages equal to (3.123, 4.021, and 5.167). The fuzzy weight of each criterion is equal to the geometric mean of the line of that criterion divided by the sum of the geometric means. For example, for criterion F, the fuzzy weight is as follows:

$$C1 \text{ Fuzzy weight} = \frac{(0.712,0.913,1.193)}{(3.123,4.021,5.167)} = (0.138,0.227,0.382)$$

The same operation is performed for all criteria. The fuzzy weights are given in the third column of Table 4-12. We perform as follows to de-fuzzy each fuzzy weight.

$$C1 \text{ Fuzzy weight} = (0.138,0.227,0.382) \implies C1 \text{ Non - fuzzy weight} = \frac{0.138 + 2 \times 0.227 + 0.382}{4} = 0.243$$

For all criteria, this process is performed. The results are given in the fourth column of Table 13. Then we perform as follows to normalize each non-fuzzy weight.

$$C1 \text{ Non - fuzzy weight} = 0.243 \implies C1 \text{ Normal weight} = \frac{0.243}{0.243 + 0.239 + 0.285 + 0.297} = 0.22$$

Table 8- Fuzzy and non-fuzzy weights of the main criteria

| Criterion name | $((\prod_{j=1}^n \tilde{P}_{ij})^{1/n})$ Geometric mean | $(\tilde{W})$ Fuzzy weight | Non-fuzzy weight | Normal weight |
|----------------|---|----------------------------|------------------|---------------|
| C1             | (0.712,0.913,1.193)                                     | (0.138,0.227,0.382)        | 0.243            | 0.229         |
| C2             | (0.694,0.894,1.181)                                     | (0.134,0.222,0.378)        | 0.239            | 0.225         |
| C3             | (0.845,1.087,1.364)                                     | (0.164,0.27,0.437)         | 0.285            | 0.268         |
| C4             | (0.872,1.128,1.428)                                     | (0.169,0.281,0.457)        | 0.297            | 0.279         |
|                | (3,123,4,021,5,167)                                     |                            |                  |               |

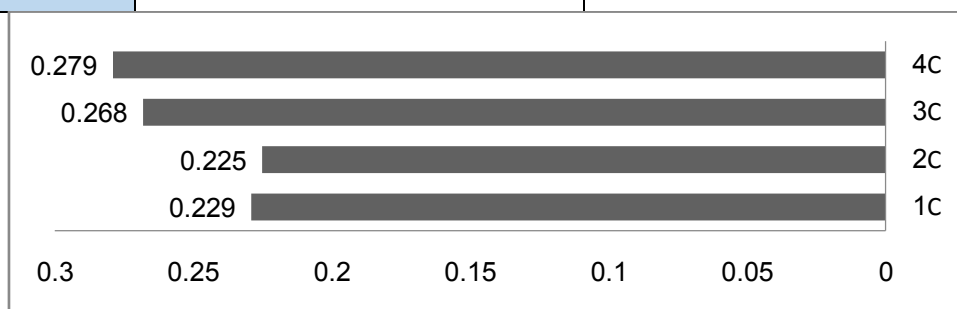


Figure 1- Weights of the main criteria

Individual factors weighing 0.279 were ranked first according to Figure 1. The factors of educator characteristics were ranked second with a weight of 0.268. The organizational factors with the weight of 0.229 have the third rank, and the educational factors with the weight of 0.225 have the fourth rank.

Calculation of fuzzy and normal weights of sub-criteria

Calculation of fuzzy and normal weights under the criteria of organizational factors

We calculate the geometric mean and fuzzy weight of each sub-criterion to calculate the fuzzy and normal weights of the sub-criteria of organizational factors.

Table 9- Fuzzy and non-fuzzy weights

| Criterion name | $((\prod_{j=1}^n \tilde{P}_{ij})^{1/n})$ Geometric mean | $(\tilde{W})$ Fuzzy weight | Non-fuzzy weight | Normal weight |
|----------------|---|----------------------------|------------------|---------------|
| C11            | (0.865,1.139,1.421)                                     | (0.165,0.279,0.448)        | 0.293            | 0.275         |
| C12            | (1,006,1.306,1.635)                                     | (0.192,0.32,0.516)         | 0.337            | 0.317         |
| C13            | (0.669,0.856,1.144)                                     | (0.128,0.21,0.361)         | 0.227            | 0.213         |
| C14            | (0.629,0.785,1.028)                                     | (0.12,0.192,0.324)         | 0.207            | 0.195         |
|                | (3,169,4,086,5,228)                                     |                            |                  |               |

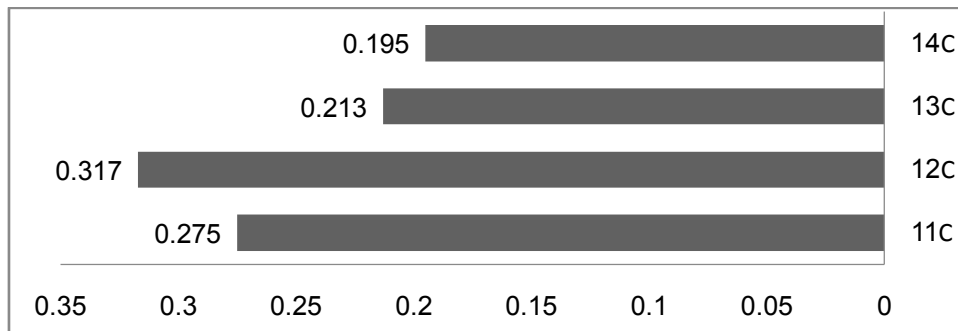


Figure 2 - Weights of sub-criteria of organizational factors

Creating organizational innovation with a weight of 0.317 has gained the first rank among the organizational sub-criteria according to Figure 2. Creating the organization's culture is ranked second with a weight of 0.275, and adapting to environmental changes with a weight of 0.213 is ranked third.

Calculation of fuzzy and normal weights sub-criteria of educational factors

To calculate the fuzzy and normal weights of the sub-criteria of educational factors, we calculate each subscale's geometric mean and fuzzy weight.

Table 10- Fuzzy and non-fuzzy weights sub-criteria of educational factors

| Criterion name | $((\prod_{j=1}^n \tilde{P}_{ij})^{1/n})$ Geometric mean | $(\tilde{W})$ Fuzzy weight | Non-fuzzy weight | Normal weight |
|----------------|---|----------------------------|------------------|---------------|
| C21            | (0.973,1.26,1.547)                                      | (0.252,0.41,0.638)         | 0.428            | 0.405         |
| C22            | (0.856,1.066,1.344)                                     | (0.221,0.347,0.555)        | 0.368            | 0.348         |
| C23            | (0.594,0.744,0.973)                                     | (0.154,0.242,0.402)        | 0.260            | 0.246         |

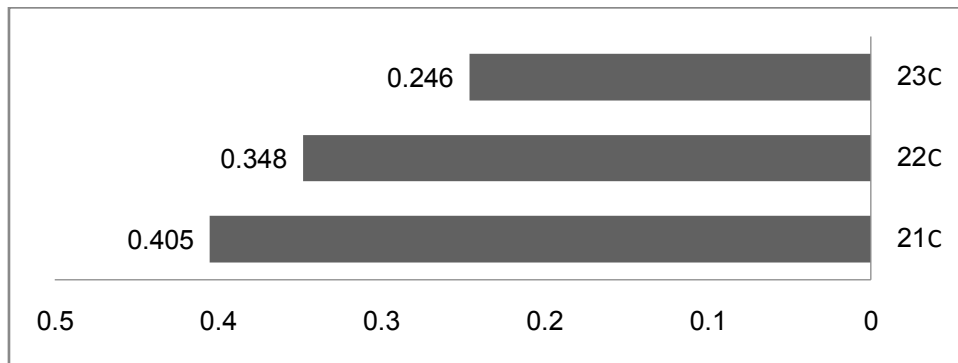
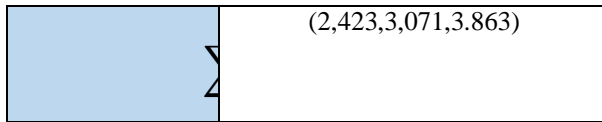


Figure 3- Weights of educational sub-criteria

According to Figure 3, the educational content has gained the first rank among the educational sub-criteria, with a weight of 0.405. Educational design and planning with a weight of 0.348 are ranked second and the quality of education is ranked third with a weight of 0.246.

Calculation of fuzzy and normal weights sub-criteria of educator characteristics

We calculate the geometric mean and the fuzzy weight of each sub-criterion to calculate the fuzzy and normal weights of the sub-criteria of the training factors.

Table 11- Fuzzy and non-fuzzy weights sub-criteria of teaching characteristics factors

| Criterion name | $((\prod_{j=1}^n \tilde{P}_{ij})^{1/n})$ Geometric mean | $(\tilde{W})$ Fuzzy weight | Non-fuzzy weight | Normal weight |
|----------------|---|----------------------------|------------------|---------------|
| C31            | (0.803,1.014,1.284)                                     | (0.207,0.33,0.53)          | 0.349            | 0.330         |
| C32            | (0.621,0.754,0.947)                                     | (0.16,0.245,0.391)         | 0.260            | 0.246         |
| C33            | (0.997,1.307,1.655)                                     | (0.257,0.425,0.684)        | 0.448            | 0.423         |
|                | (2.421,3.076,3.886)                                     |                            |                  |               |

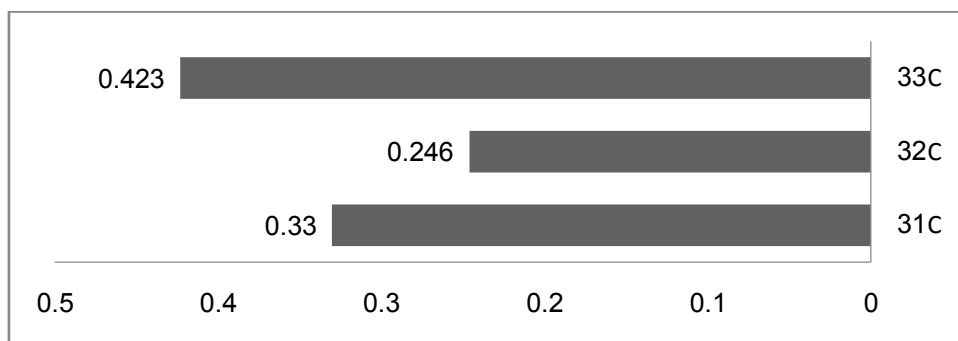


Figure 4- Weights of sub-criteria of educational characteristics factors

According to Figure 4, interpersonal relationships with a weight of 0.423 have gained the first rank among the sub-criteria of educator characteristics factors. Teaching performance is ranked second with a weight of 0.330, and lesson plan with a weight of 0.246 is ranked third.

Calculation of fuzzy and normal weights sub-criteria of individual factors

To calculate the fuzzy and normal weights of the sub-criteria of individual factors, we calculate each sub-criterion's geometric mean and fuzzy weight.

Table 12- Fuzzy and non-fuzzy weights of individual factors

| Criterion name | $((\prod_{j=1}^n \tilde{P}_{ij})^{1/n})$ Geometric mean | $(\tilde{W})$ Fuzzy weight | Non-fuzzy weight | Normal weight |
|----------------|---|----------------------------|------------------|---------------|
| C41            | (1,024,1,262,1.52)                                      | (0.27,0.408,0.605)         | 0.423            | 0.405         |
| C42            | (0.899,1.125,1.41)                                      | (0.237,0.364,0.561)        | 0.382            | 0.366         |
| C43            | (0.589,0.704,0.86)                                      | (0.155,0.228,0.342)        | 0.238            | 0.229         |
|                | (2,513,3,091,3.79)                                      |                            |                  |               |



Figure 5 - Weights of sub-criteria of individual factors

According to Figure 5, service history with a weight of 0.405 has gained the first rank among the sub-criteria of individual factors. Age with a weight of 0.366 is ranked second and education is ranked third with a weight of 0.229.

Final weights of sub-criteria

By multiplying the weight of the main criteria by the sub-criteria's relative weight, the sub-criteria's final weights are obtained. It is shown in Table 13. Therefore, among all indicators, individual factors have gained the first rank. Among the sub-criteria, interpersonal relationships ranked first.

Table 13- Final weight of sub-criteria

| Row | Criterion              | Criterion weight | Sub- criteria                             | Relative weight sub-criteria | Final weight sub-criteria | Rank |
|-----|------------------------|------------------|---|------------------------------|---------------------------|------|
| 1   | Organizational factors | 0.229            | The culture that governs the organization | 0.275                        | 0.0630                    | 10   |
| 2   |                        |                  | Creating organizational innovation        | 0.317                        | 0.0726                    | 7    |
| 3   |                        |                  | Adapting to environmental changes         | 0.213                        | 0.0488                    | 12   |
| 4   |                        |                  | learned organization                      | 0.195                        | 0.0447                    | 13   |
| 5   | Educational factors    | 0.225            | Training content                          | 0.405                        | 0.0911                    | 4    |



|    |                     |       |                                 |       |        |    |
|----|---------------------|-------|---------------------------------|-------|--------|----|
| 6  |                     |       | Educational design and planning | 0.348 | 0.0783 | 6  |
| 7  |                     |       | Quality of education            | 0.246 | 0.0554 | 11 |
| 8  | Instructor Features | 0.268 | Teaching implementation         | 0.330 | 0.0884 | 5  |
| 9  |                     |       | Lesson Plan                     | 0.246 | 0.0659 | 8  |
| 10 |                     |       | Interpersonal relationships     | 0.423 | 0.1134 | 1  |
| 11 | Individual factors  | 0.279 | Years of service                | 0.405 | 0.1130 | 2  |
| 12 |                     |       | Age                             | 0.229 | 0.0639 | 9  |
| 13 |                     |       | education                       | 0.366 | 0.1021 | 3  |

### Discussion and conclusion

One of the most important and effective factors in the success of organizations in achieving their goals is staff training for the rapid reconstruction and modernization of their knowledge and information and skills. On the other hand, all human activities are purposeful and are conducted to achieve goals. The amount of achieving these goals is defined as effectiveness. There are probably the activities that are performed with the highest level of efficiency but it is observed that some of the goals have not been achieved when it comes to measuring the achievement of goals. Such activities are highly efficient but the lack of achievement of the set goals destroys their effectiveness. In other words, they cause costs without achieving any results. Therefore, it is very necessary to achieve goals in any social action. Social actors should seek to increase the possibility of achieving these goals. Identifying the factors that affect the achievement of goals is one of the ways to increase the effectiveness of any activity. Staff training has also been a human-centered activity that aims to increase the knowledge of participants.

It is suggested to avoid limited and inappropriate training needs assessment, which is determined more in a reactive way, rather than transnationally and actively according to the prioritization of the factors affecting the effectiveness of staff training. It is also suggested to conduct a thorough needs assessment at the company level, and such comprehensive needs assessment includes analysis of the organization and analysis of tasks, knowledge, skills, and attitudes as well as analysis of the individual. Needs assessment information is obtained from various internal sources such as top managers, direct supervisors, staff, job descriptions, and external sources such as other similar organizations and legal policies. It is emphasized that employees' opinions should be used in needs assessment, and their real needs should be considered. As observed, internal usefulness and interpersonal relationships to participate in training courses and the effectiveness of these courses have been the priority. Employees will have the necessary motivation to participate in training courses if they find out that passing the training course will increase their knowledge and skills, can transfer them to the workplace, and meet their inner needs.

Educational design and planning must be done scientifically and with great accuracy after the needs assessment. The content of training courses is one of the items that should be considered in educational design. It should be up-to-date and motivating and meet the professional and personal needs of employees. It is suggested that the participants be informed about the content of the training courses before the courses are held. Because knowing what knowledge and skills a person will learn after passing the training course can be a good motivation for him to participate in the course. Planning the place and time of training courses should also be considered according to the type of training course and the opinion and discretion of the participants and supervisors so that employees can participate in the courses according to the different conditions. The next stage is the implementation of training courses. It is one of the most important stages. If a well-designed training program is not implemented properly and regularly, it will not have any benefit and this will decrease employees' motivation to participate in training courses. Therefore, it is suggested that training courses should be implemented in a very regular and organized manner. To implement training courses perfectly, the following tips can be considered: Use of suitable space for holding training courses, use of appropriate educational and laboratory equipment, use of capable professors in terms of science and work experience in the industry, provision of appropriate stationery and catering services, and discipline in holding training course. It is suggested to have up-to-date courses and invite professors with up-to-date knowledge to transfer the content because staff wants their science to be updated by passing the courses.

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