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INVESTIGATION OF FACTORS AFFECTING THE EFFECTIVENESS OF THE IN-SERVICE TRAINING CLASSES OF AHVAZ SUGARCANE RESEARCH INSTITUTE AND ACCESSORIES INDUSTRY

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ABSTRACT

The aim of this study was to investigate the factors influencing the effectiveness of in-service training class of Ahvaz Sugarcane Research Institute and accessories industry. This study is applied in its goal non-experimental in data collection, and analytical-correlational in terms of methodology. The population of the study included all experts of Ahvaz sugarcane institute and accessories industry in 2014 took part in in-service training courses. Their number was 1001 that 200 of them were randomly selected as sample of study using Cochran formula. Data were collected by questionnaire. The results showed that 13 percent of the experts evaluated the effectiveness of courses as low, while 44% of them evaluated the effectiveness of courses as high. Investigation of actors affecting the effectiveness of in-service training courses at Ahvaz Sugarcane Research Institute showed that the variable of efficiency of goals, principles and approaches (22.4 percent), variable of teacher efficiency (8%) and variable of organization and structure efficiency (approximately 2.8%) explain of variance related in effectiveness of in-service training courses.

Keywords: Effectiveness, in-service training, sugarcane research center, efficiency

INTRODUCTION

Training of human resources in organizations is one of the most fundamental ways in organizational development and in fact one

of the most effective ways to adapt to changing environment and development of organization (Quesada-Pallares, 2012). The

requirements of the social environment force the organizations gradually toward open systems in order to survive their life and increased productivity (Wei-Tao, 2006). One of the basic elements for the realization of such conditions is emphasis on providing the basics of creating a learning organization, building an information-based organization and change-based organization, where the combination of three elements enables the realization of such organizations (Mirzaee Ahranjani and Kusi khani, 2011). Training course with an emphasis on in-service training can be effective in organizational empowerment, if converged with the general conditions of organization and environmental changes that affect the organization and if in line with organizational strategic goals (Mousavi, 1389). In order to make the specialized forces of Sugarcane Research Institute and accessory industry adaptable with conditions of organization, functions, structure and activity condition of organization, and its needs, specialized in-service training courses are presented at the national, provincial, city levels in the form of presence training courses, semi-presence, distance courses, and formal training courses. The implementing of training courses is continuous activity and one of the requirements of any education system is an

emphasis on its planning, evaluating, and adaptation with changes. Therefore, measuring of the effectiveness of training programs is considered as one of the most important and constructive dimensions in the in-service training programs in line with making the organizational system effective (Mahdavi Khah, 2011). Investigation of the effectiveness of specialized training of staff is conducted in the form of examination of training organs status such as purposes and principles of the approach, structure and organization, learners, educators, content, manners of presentation and teaching methods, educational technology and learning environment (Shoja, 2011). The main purpose of assessing the effectiveness of in-service training is to recognize the degree of effect of provided trainings to adapt a person with a job features and coordinate with organizational needs in the developmental, institutional, and individual dimensions (Qarly, 2013)

Given the importance of training in in-service training classes of Research and Training Institute of Sugarcane and accessory industry and effort and willingness to invest in the past and future plans, the providing of such trainings is logical when they are effective and both positive and negative factors to promote it are paid attention.

Therefore, in this study, we examined the factors affecting the effectiveness of in-service training course at the Institute of Sugarcane Research and Training in order to provide an appropriate and comprehensive.

Results of Eidi et al (2008) indicated that in-service training is a tool for rapid development and progress of staff and fertilizing the feelings such as self-guidance, success and self-fulfillment (2009), and its clear objective is improvement of affairs inside and outside of workplace. Hatami (2009) emphasizes that in-service trainings lead into increased job knowledge, changes in behavior and job attitude, increase the accuracy of work, and increase in quality of the activities. Karroubi and Matani (2009) argue that in-service training is effective in improving the performance, strengthening of job skills, job satisfaction and readiness to perform the duties by staff.

Ahanchian and Zohurparvande (2010) showed that among the key elements of one training course, training method and conditions of implementation are more important than assessment, learning content, are coaching and evaluation. Afzalkhani and Nejabat (2012) showed that the process of training, quality of teachers, quality of facilities, quality of learners of training courses, participation in plans and setting of

goals, and executive management play role in improving the quality of in-service training courses.

Supovitz and Turher (2000) showed that in-service trainings are effective in improving the skills and tasks and improving the teaching-learning culture. Falk (2001) also emphasizes on the impact of in-service training on improving learning and improving the quality of learning. Mirzamohammadi and Ghazizade (2008) have considered the four components of achievement, acquisition of occupational skills, cultural characteristics and economic factors that lead to willingness to participate in in-service training courses.

Wan Hamida (2012) categorized the individuals factors related to learners that assist delivery of effectiveness of training into four factors: ability, motivation, self-efficacy and attitudes, and commitment. In a study titled "Evaluation of the delivery of education in the public administration of Catalonia", Quesada-Pallares (2012) found that motivational factors (sense of responsibility and individual effort), self-efficacy, attitude to work, the social context of education (subjective norms, peer support), attitudinal factors (attitude towards the delivery of education) and work

environment factors) are effective in delivery of staff training.

Organizational effectiveness includes individual factors (individual abilities and motivation to work) organizational factors (leadership and values, group relations and goals of the systems and structures) and environmental factors (economic environment, physical environment and technology environment) (Shoja, 2011). Khanifar et al (1390) thinks that effectiveness of training in an organization is influenced by effectiveness of four major stages of training of human resources. They

include training policy (systematic attitude, strategic orientations), curriculum (educational organization, needs assessment, instructional design, and developmental programs), executive management (the system of educational management, executive education, training, transfer of learning) and performance management training (systematic, methodology and levels of evaluation).

Based on studies conducted, factors affecting the effectiveness of in-service training classes in the Sugarcane Research Institute can be shown in following graph:

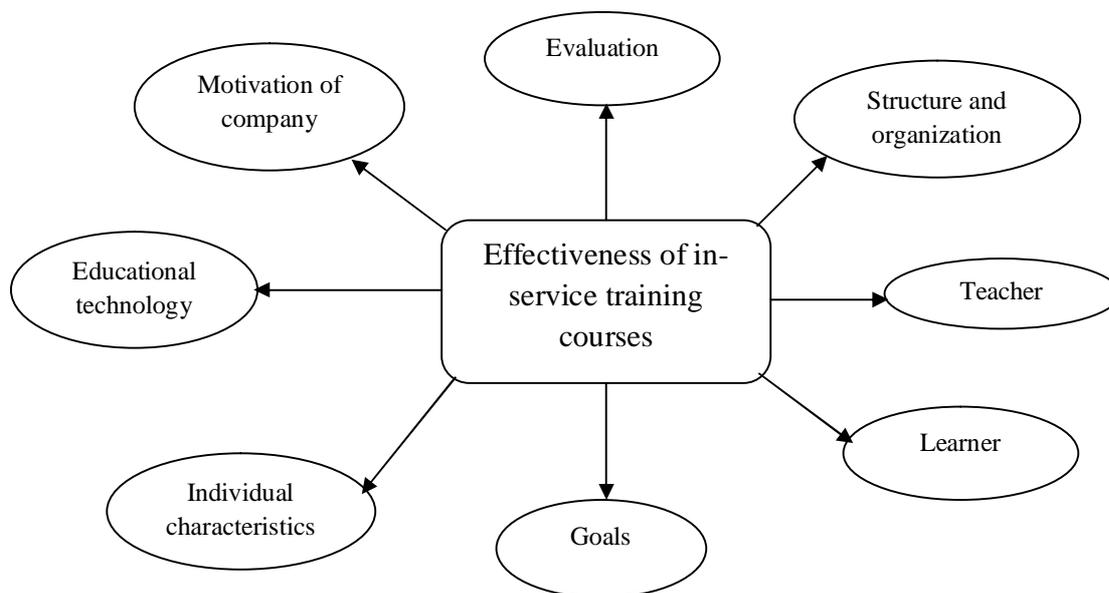


Figure (1): Theoretical framework of study

MATERIALS AND METHODOLOGY

This study is applied in terms of objective of study, it is non-experimental in terms of data

collection, and it is analytical-correlational since it investigates the relationship between variables of study. This study is a

quantitative in terms of process, it is deductive study regarding the logic of study, and it is longitudinal- retrospective in terms of time of research. The study population of study included all experts of Ahvaz Sugarcane Research and Development Institute in 2014, that they number was 1001. To determine the sample size of study, Cochran formula was used. By determining the sample size of study and availability of list of participants in training courses of Sugarcane Research Institute of Ahvaz and accessory industries, and using random numbers, samples of study were selected. In this study, data were collected by library and field methods in two parts. The main tool for data collection in this study was a questionnaire. Validity of tools of study was confirmed by a panel of experts, and reliability of tools of study were obtained and confirmed by Cronbach's alpha coefficient

for different sectors. The questionnaire of study was reliable with a total alpha of 0.819. In this study, the dependent variable was effectiveness of in-service training courses, while independent variables included the the main reason and motivation to participate in courses, efficiency component, goals, principles and approaches, and organizational structures, teacher, learner, content, method, educational technology, evaluation and assessment, time and location for holding the courses.

RESULTS

The effectiveness of in-service training courses: Evaluation of the effectiveness of in-service training courses in the Sugarcane Research and Development Institute and accessory industries shows that 44% of people believe that these courses had great impact. Results are shown in Table 1.

Table 1: The level of effectiveness

effectiveness	frequency	percentage	cumulative percentage
low	26	13	13
moderate	86	43	56
high	88	44	100
total	200	100	

Investigation of relationship between predictor variables and the effectiveness of in-service training courses: The results showed that the main reason and motivation to participate in courses have significant positive correlation with effectiveness of

courses at the reliability level of 0.01. As the motivation of individuals to participate in courses is increased, the training effectiveness will increase as 99%. There is a positive and significant between efficiency of goals, principles and approaches and

effectiveness of courses at a reliability level of 0.01. As the efficiency of goals, principles and approaches is increased, the effectiveness will also increase. There is a significant positive relationship between efficiency of structure and organization and effectiveness of courses at the reliability level 0.01. As efficiency of structure and organization increases, the effectiveness of in-service training courses is also increasing. There is also a significant positive relationship between efficiency of teacher and effectiveness of training courses at a reliability level of 0.01. There is also a significant positive relationship between efficiency of learner and effectiveness of training courses at a reliability level of 0.01. There is also a significant positive relationship between efficiency of content and methodology and effectiveness of training courses at a reliability level of 0.01. There is also a significant positive relationship between efficiency of educational technology and effectiveness of training courses at a reliability level of 0.01. There is also a significant positive relationship between efficiency of evaluation and assessment and effectiveness of training courses at a reliability level of 0.01. There is also a significant positive relationship between efficiency of time and location of

holding the courses and effectiveness of in-service training courses at a reliability level of 0.01.

It means that as efficiency of time and location of holding the courses increases, the effectiveness of in-service training courses increases. However, variables such as age, work experience, work experience at current post, the number of in-service training courses, and the annual average number of in-service training courses showed no significant relationship with the effectiveness of in-service training courses. Results are shown in Table 2.

Investigation of the factors affecting the effectiveness of in-service training courses:

in investigation of factors affecting the effectiveness of in-service training courses in the Training and Research Institute of Sugarcane and accessory industries, stepwise regression analysis was used. The results in Table 3 show that the in the first step efficiency of goals, principles and approaches variable was included in the analysis. The multiple correlation coefficient (R) for this variable was obtained 0.473 and coefficient of determination (R²) was obtained 0.224. It can be said that efficiency of goals, principles and approaches can predict approximately 0.224% of variance

related to effectiveness of in-service training courses.

In the second step, teacher efficiency variable was analyzed. The multiple correlation coefficient (R) for this variable was 0.292 and the coefficient of determination (R²) was obtained 0.304 for this variable. In other words, it can be said that teacher efficiency can predict approximately 8% of variance related to effectiveness of in-service training courses.

In the second step, structure and organization efficiency variable was analyzed. The multiple correlation coefficient (R) for this variable was 0.315 and the coefficient of determination (R²) was obtained 0.332 for this variable. In other words, it can be said

that structure and organization efficiency can predict approximately 2.8% of variance related to effectiveness of in-service training courses.

Based on results shown in Table 4 and based on the standardized regression coefficients, it can be said that teacher efficiency variable with a beta of 0.296 is the most important variable affecting the effectiveness of in-service training courses. It is followed by efficiency of goals, principles and approaches with a beta of 0.221, and the efficiency of structure and organization with the beta of 0.208. In sum, three variables explain approximately 0.3323 % of effectiveness of in-service training courses.

Table 2: Investigation of the relationship between predictor variables and the effectiveness of in-service training courses

Predictor variable	Criterion variable	r	Result
age	The effectiveness of in-service training courses	-0.066	rejected
work experience		-0.0044	rejected
work experience at current post		-0.007	rejected
the number of in-service training courses		-0.010	rejected
the annual average number of in-service training courses		0.077	rejected
The main reason and motivation to participate in courses		**0.332	confirmed
Efficiency of goals, principles and approaches		**0.235	confirmed
Organizational efficiency		**0.457	confirmed
Teacher efficiency		**0.322	confirmed
Learner efficiency		**0.500	confirmed
Content and method efficiency		**0.469	confirmed
The effectiveness of educational technology		**0.386	confirmed
The efficiency of evaluation and measurement		**0.300	confirmed
Efficiency of time and location of holding courses		**0.386	confirmed

**Significant at a reliability level of 0.01

Table 3: Investigation of actors influencing the effectiveness of in-service training courses with coefficients

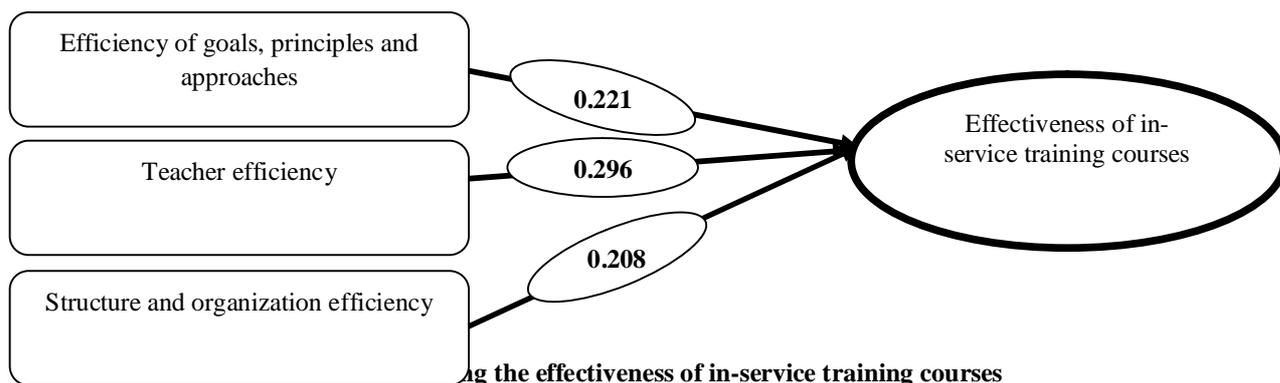
step	variable	R	R ²	R ² _{Adj}
1	Efficiency of goals, principles and approaches	0.473	0.224	0.217
2	Teacher efficiency	0.292	0.304	0.551
3	Structure and organization efficiency	0.315	0.332	0.577

Table 4: The degree of effect of variables affecting the effectiveness of in-service training courses

Dependent variables	B	Beta	t	Sig
Constant coefficient	9.33		2.011	0.047
Teacher efficiency	0.695	0.296	3.459	0.001
Efficiency of goals, principles and approaches	0.640	0.221	2.243	0.0217
Structure and organization efficiency	0.940	0.228	2.219	0.028

According to the regression coefficients and obtained constant coefficient from the stepwise multiple regression analysis, regression equation of study was obtained as follows:

$$Y = 9.33 + 0.221x_1 + 0.296x_2 + 0.208x_3$$



CONCLUSION

RECOMMENDATION

The results showed that 44% of people have considered the effectiveness of the training period as highly effective. In addition, 43% of them evaluated the effectiveness of training courses at the intermediate level and only 13 % of them evaluated the effectiveness of training courses as less effective. The results of several studies, including results of studies conducted by Eidi et al (2008), Reza Zadeh et al. (2011), Khanifar et al (2011), Supovitz and Turher (2000), Faker (2001), Kazamaky and Mlayder (2009), Wi Tao Tai (2006) confirms the effectiveness of the training courses. Identifying factors affecting the effectiveness

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of in-service training courses indicated that teacher efficiency variable is the most important variable affecting the effectiveness of in-service training courses, followed by efficiency of goals, principles and approaches and efficiency of goals, principles and approaches. Although the efficiency of teacher is function of high experiences, optimal use of encouraging and punishing tools, enough familiarity with the conditions of areas and courses, it is needed power applied providing of materials. However, it can be said that as teacher efficiency increases, the effectiveness of training courses will also improve. The second variable affecting the effectiveness of the training courses is the efficiency of goals,

principles and approaches. As the company is able to provide a more accurate assessment and consider prospective strategies and strategic implementation of training courses and training planning are consistent with training conditions and standards, learners will have positive attitude towards training courses. This positive attitude has significant role in improving the quality and increasing the effectiveness of training courses. The third variable affecting the effectiveness of the training courses is structure and organization efficiency. Structure and organization efficiency provides the way for the requirements consistent with provincial and local conditions, and it paves the way for participatory and interactional planning increases positive attitude to structure and organizational efficiency. Such positive attitude will increase the effectiveness of training courses.

According to the discussion and investigations, the following recommendations are offered:

-The most important variable affecting the effectiveness of the training courses is the teacher efficiency. In this regard, it should be attempted that skilled teachers such as sugarcane development teachers to be used.

-Due to the significant positive relationship between efficiency of goals, principles and

approaches and the effectiveness of the training courses, it can be said that assessment of staff training is necessary before the implementation of courses.

- To determine the training goals and strategies, in line with organizational efficiency, training goals should be explained and developed properly and they should be provided in the beginning of courses for learners so that goals and approaches to be clearly specified for learners and sense of participation and interaction to be increased in them. This leads that we take step to improve the efficiency of organization and structure because interactional and participatory process has been done in line with good organized courses.

- With regard to significant relationship between efficiency of structure and organization and effectiveness of training courses before the designing of curriculum materials, surveys must be conducted of staff to increase their sense of participation and interest to take part in the courses. In this way, by implementing interactive and participatory process in holding highly organized courses, efficiency of structure and organization improve.

- Considering the significance impact of content and method efficiency, it can be recommended that when content of some

courses requires direct presence of staff in classes, we can avoid of duplicate materials by adding new and interesting materials related to staff problems in the field of their work activities.

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