

Investigation of the Effect of Motivation and Job Satisfaction on the Effectiveness of In-Service Training: A Case Study in the Iranian Oil Ministry

Mahmoud Abolghasemi¹, Koroush Fathi², Mohammad Ghahramani³, Hamid Rezaee^{4*}

¹ Associate Professor, Educational Management, Shahid Beheshti University, Tehran, Iran

² Full Professor, Curriculum Planning, Shahid Beheshti University, Tehran, Iran

³ Associate Professor, Educational Management, Shahid Beheshti University, Tehran, Iran

⁴ PhD student, Educational Management, Shahid Beheshti University, Tehran, Iran

mput.rezaee@yahoo.com

Abstract: In today's changing world, human resources and their capabilities are what lead to the competitiveness and superiority of the organizations. So, it should be focused more than other parameters. Many factors play a role in enhancing and creating capability in this organizational asset, among which the most important one is the training. The objective of this paper is to examine the organizational and behavioral factors of the motivation and job satisfaction of manpower on the effectiveness of training courses in the Iranian Oil Ministry according to Kirkpatrick's training effectiveness evaluation model. Eight hypotheses were introduced and all of them were proved to be true. Questionnaires were developed for data collection and the data were analyzed by linear regression test. Significant and effective relationship was found between job satisfaction, staff motivation with skills, knowledge and attitude training courses. More detailed results indicate stronger dependency of motivations variables and job satisfaction to attitude courses effectiveness than to other training courses.

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1. Introduction

Educational management is sensitive and paramount as compared to other types of management. Therefore, it has a strategic role among different types of management. In-service training is a main function of training managers in organizations to address the failures and problems and to enhance the skills and knowledge that will increase the effectiveness and efficiency of the individuals and the organization. It has more a practical facet. Managers, today, need to look at in-service training as a priority to keep up with the goals and organizational changes. Based on the model proposed by Tao To (2006), the efficacy of in-service training courses can be affected by several factors, including "religious, social and administrative knowledge", "professional satisfaction", "motivation" and "personal attitude".

Achieving organizational goals depends on the ability of employees to perform the assigned functions and to adapt to the changing environment. Implementation of staff training helps people to effectively work and to increase their effectiveness and productivity in accordance with organizational and environmental changes. So, training is the ongoing and planned efforts by the management to improve employee competency levels and organizational performance (Selmer, 2010). Education has always acted as a means to improve

the performance and to solve the management problems. And its absence is a fundamental problem in all organizations. In-service training is undoubtedly one of the most important and effective strategies for improving organization affairs aimed at equipping human resource and its more effective utilization. Notably, training is a major task in the organization and a continuous process and it is not temporary. Employees at all levels of the organization, whether simple or complex manager or subordinate positions require education and learning and acquiring new knowledge and skills and should always do better work of all types, methods and acquire new information. Moreover, when employees change their jobs, they need information and skills to perform their job duties successfully (Wootton, 2010). In fact, it is possible to assess the impact of training and motivation and job satisfaction by asking the following question:

What is the relationship between the effectiveness of in-service training of staff in the Oil Ministry and motivation and job satisfaction in this organization?

To answer the question, then, the literature on motivation, job satisfaction and effectiveness of in-service training is firstly examined.

2. Background of research

2.1 Job Satisfaction

All people are posed to problems in their everyday life, which may be desirable or undesirable. Wrestling with these problems may provoke the feeling of satisfaction or dissatisfaction in them. Workspace also arouses various feelings, one the most important one being the feeling of satisfaction or dissatisfaction. So, people should be studied psychologically, physically and from workspace side to find out who and under what conditions is satisfied with his job. Job satisfaction is a sort of field, tendency, interest, affection, talent, readiness to respond desirably or undesirably, and in total an attitude towards workspace. Sometimes, concepts like feelings, attitudes and morale are confused. In other words, job satisfaction is the expression of an individual's feelings about his job and morale is the sum of a group of people's attitude towards their job.

Wood and Bold (1978) state that job satisfaction has various dimensions. No matter what it is, satisfaction or dissatisfaction is associated with feeling and this is people who see the issue in this way or that way and express satisfaction or dissatisfaction based on their previous mental experiences and present success.

Field and Croquet (1977), who stated the relationship between job satisfaction and work performance, believed for a long time that satisfaction results in job performance. But today, it cannot be said that only satisfaction does not play role in job performance, rather it can be added that absenteeism and remissness are associated with job satisfaction too. The more satisfied the person is with his job, the less absenteeism he shows. On the other hand, it can be said that satisfaction is the motivation of the job performance on the one hand and its result on the other hand. Satisfaction is the sum of all favorites which are directly related to work, environment and person. The studies compelled the organizational industrial psychologists that people's attitude is significantly associated with their job behavior and with their job satisfaction. Therefore, organization managers are interested in studies on motivation and job satisfaction since they understand that job satisfaction is directly associated with (i) lower production costs, (ii) higher productivity, (iii) lower absenteeism, (iv) higher efficiency, and (v) lower mistakes (Lund, 2003).

With respect to job satisfaction, it is said that people with certain personalities are satisfied with the job and are highly motivated to do their duties despite of the job type they have (viewer, 1978).

Social learning theory (Boundra, 1986) says that a person is satisfied with his job when his

coworkers are satisfied with their jobs too. When all the employees in a department are constantly complaining, a single employee can be hardly satisfied with his job in that department (Groot et al., 1999).

According to equity theory (Adams, 1960), it can be predicted that despite a person's internal and instinct interest to job, if the punishment and reward system is not based on a fair system, the people will be unsatisfied with their jobs, especially if their only reason is not the income.

As the theory of job characteristics (Hagmn and Oldham, 1976) and the theory of hierarchy of needs (Maslow, 1970) says, the lack of opportunities for growth, challenge and diversity, autonomy and development results in lower interest and satisfaction in most people with their jobs.

Two-factor theory (Herzberg, 1959), that introduced motivation and hygiene, suggests two methods – (i) job enrichment and (ii) job development – for improving job satisfaction (Oshagbemi, 1997). The theory of two-dimensional satisfaction of Leuvler (1972) says that:

1. motivation perceived from individual effort and his performance leads to job satisfaction intermediated by the individual's ability; and
2. when a person believes that his performance results in desired outcomes, then his job satisfaction enhances his motivation.

Communications and human behavior creates harmony by themselves and this harmony generates emotions and feelings. Personalities attract each other under equal conditions resulting in coordination and conversely, heterogeneous environment causes abhorrence among people.

Factors creating professional satisfaction include (Spithoven, 2003):

- (1) Adaptation with environment, a person's adaptation to job type, a person's relationship with his coworkers, supervising type, organization environment, social environment of the job and social status.
- (2) Personal characteristics and situational variables mentioned by Leunberg and Conrad (1994) including personality and age.
- (3) Sex and situational factors.

2.2 Motivation

Motivation is the sum of the forces that make an individual behave in a certain way (Griffin, 1997). Motivation is the degree of an organism's readiness to chase a number of pre-designed goals. Motivation has three key components (Saatchi, 2001):

1. The synergy: a force that exists in a being and makes it engage in an activity,

2. Guiding: in which a person's behavior is guided in a specific direction, and

3. Endurance: this is the reason why an individual is expected to work in an organization, in which he has been recruited, for a long time.

According to these three characteristics, it can be said that "motivation to work" means the situations, circumstances and conditions under which an individual is encouraged and guided to exhibit behaviors associated with his job conditions (Saatchi, 2001b, p. 192). There are numerous theories on motivation which can be categorized into content-based, process-based and contemporary theories.

Content-based Theories: these theories attempt to precisely identify the parameters that motivate people to do a job. These theories list the requirements and motives that result in motivation and usually express how these parameters are satisfied in an organization. This group of theories include the theory of "Maslow's Hierarchy", "dual theory", "McKoland's theory of achievement", "Alderfer's 3-dimensional theory", "Herzberg's two-factor theory" and "two-factor theory of job satisfaction" (Johnson & Lauren Keller, 2006).

Process-based Theories of Motivation: these theories mostly emphasize motivating current and process. Process-based theories of motivation attempt to find out how motivation occurs, rather than trying to identify and list the motivational stimuli.

These theories focus on how an individual selects a specific behavior for satisfying his needs and how they evaluate their satisfaction when they achieve their goals.

In total, process-based theories seek to explain and describe the overall process of an individual's motivation. They include "potential theory", "expectancy theory", and "equality theory" (Johnson & Lauren Keller, 2006).

Contemporary theories: cognitive dissonance theory, communication, self-perception, and target documents and others that have been proposed in recent years are categorized in this group of theories.

2.3 Evaluation of the effectiveness of in-service training courses:

There are various ways to evaluate the effectiveness of educational programs and effectiveness. The factors involved in effectiveness evaluation include the achievement of educational goals, the realization of career objectives of students training including determining compliance of trainee's behavior with their supervisors and managers' expectations, determining the extent of correct job doing, determining the extent of skills generated by the trainings for realizing the pre-

determined objectives, determining the value added, determining the extent of the improvement of business status indices (Soltani, 2001 and 2003; Irons & Alexander, 2004).

In fact, the evaluation of the effectiveness of a course shows to what extent the training has been practically translated to the skills required by the organization (Irons & Alexander, 2004).

In the following, Kirkpatrick model is theoretically and operationally explained given the importance of evaluating the effectiveness of training and the popularity of this effectiveness evaluation model in Iran in recent years:

2-3-1- Training Effectiveness Evaluation Model of Kirkpatrick

The model proposed four levels for evaluating a training course (Kirkpatrick, 2009):

The first level, reaction: it means the extent of trainees' reaction and response to all factors that affect the execution of a training course. Reaction measures participants' feelings about the training course. These surveys sought to obtain participants' views about training, curriculum, assignments, instructional materials, equipment, devices and content of classes or training courses.

The second level, learning: learning is to assess the acquisition of skills, techniques and facts that the participants are exposed to them to learn them and it can be found out by previous trainings, in-service trainings and post-training surveys.

The third level, behavior: The behavior means how and the extent of the changes in participants' behavior as a result of the training. It can be found out by continued evaluation in real workspace. This level is much more challenging than the other levels because:

First: participants should have the opportunity to change their behavior.

Second: the exact time of changes in behavior cannot be predicted.

Third: the organizational climate may affect the change in behavior.

The fourth level, results: it means the extent of the realization of goals directly related to the organization. It is extremely difficult to measure his level in which the outcomes such as cost-saving, lower duplication, higher quality of products, profit and sales will be studied.

In this case, the identification of common implementation steps in all four levels as well as the determination of the level required for the evaluation plays an important role in improving the performance of research team. Many experts of education believe that the common implementation steps in all levels of evaluation include 1) planning and evaluation, 2)

selection of the appropriate tools, 3) compliance tools, 4) evaluation, 5) analysis of the evaluation, and 6) reporting.

It should be noted that there is no rule-of-the-thumb to determine which level is appropriate for training evaluation. In complex cases, training and human resource development experts can help (Kirkpatrick, D. L., & Kirkpatrick, J. D., 2009)

3. Theoretical model:

In this study, the authors studied the influence of motivation and job satisfaction and

quality of career life on the effectiveness of training course on the basis of the third level of Kirkpatrick model due to its importance for managers in the Oil Ministry to identify the effectiveness of employees in workspace. In addition, impressed by Tao To (2006)'s model, only motivation and job satisfaction factors of the model were considered and finally, the research design became as shown in Figure 1 by which the researchers try to answer the hypotheses of the study.

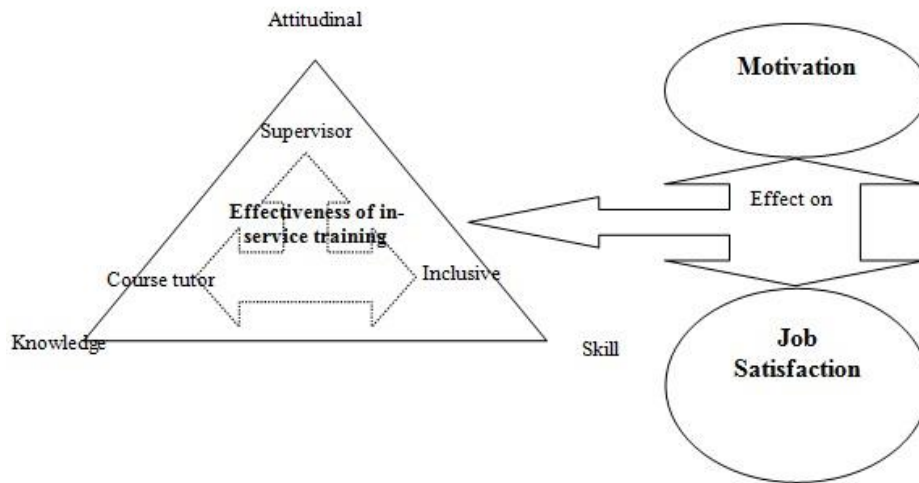


Figure 1: Theoretical Model

4. Research hypotheses:

1. Motivation significantly affects the effectiveness of in-service training courses held for staff of the Ministry of Oil.
2. Employees' job satisfaction significantly influences the effectiveness of in-service training course held for the staff of the Ministry of Oil.

5. Methodology:

This study is descriptive-survey in nature. First, library and field methods were used for examining the related literature, the related topics, and the proposed models, the Delphi method (opinion poll from experts) was used for determining the range of variables and finally, the relevant writers and theorists were interviewed by mail for adjusting and facilitating the designing of the model and methodology which resulted in the formation of the theoretical basis and the hypotheses. In order to collect the data needed to test hypotheses of the study, field method by questionnaire is used which is the basis for descriptive-survey studies. Also, the sample group was interviewed.

In this study, five questionnaires were used. They were composed of two sections for demographic and specialized questions. The first two questionnaires were related to job satisfaction and motivation which were used for all courses and samples and the other three questionnaires were related to the effectiveness of the courses in terms of the courses and respondents. They were rated on the Likert scale. The mean of three questionnaires was regarded as the effectiveness of the course.

(A) Demographic questions: in this section it was tried to gather generic and demographic information about respondents by asking eight questions.

(B) Specialized inventory questionnaires varied with the question type.

Reliability (consistency) measurement shows how consistent the results are under the same conditions. Cronbach's alpha was used to assess the reliability of the questionnaires. Cronbach's alpha coefficient of the data of 15 questionnaires analyzed by SPSS statistical software is presented in Table (1) that confirms the internal validity of the questionnaires.

Table 1: internal and external validity of the questionnaire

Types of questionnaires	Internal validity of the questionnaire	External validity of the questionnaire
Motivation	0.937	0.86
Job Satisfaction	0.901	0.85
Effectiveness of the supervision period	0.798	0.826
Effectiveness of the comprehensive	0.905	0.887
Effectiveness of the supervisor for student	0.921	0.798

5.1. Research population and sample

The population included all employees of the Oil Ministry. Sample size was determined by infinite sampling formul as follows:

$$n = \frac{z^2(1 - r^2)}{r^2 \cdot d^2}$$

where: n= sample size at 95% ($\alpha = 5\%$) level.

As a result, $\frac{z^2}{2}$ is considered to be equal to $(1.96)^2$ and r or the correlation coefficient was obtained as to be 0.6 according to data from prototype sample and d was considered as the degree of freedom to be 0.2 (Sarmad et al., 2000).

As a result, the sample size was obtained to be 171. The studied sample was selected from three major companies including Petrochemical, Refining and Distribution and National Oil Company in two regions of north and south.

6. Results

In terms of demographic characteristics, 15% of the participants were female and 85% were men, of

which 30 percent had master's degrees or higher, 40% had bachelor's degrees and others had associate degrees and diplomas. Their distribution in the regions and companies are shown in Table 2.

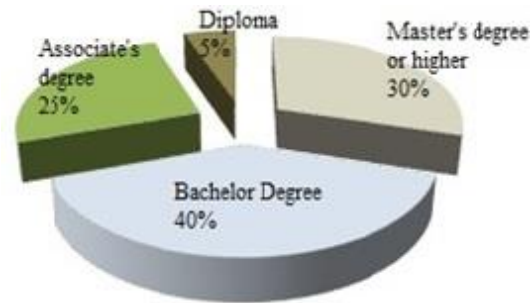


Figure 1: The demographic composition

As shown in Table 2, the respondents showed that mean job satisfaction was 3.8/5, and motivation was 3.9/5 and according to effectiveness questionnaire, the effectiveness of skill courses was 41%, that of knowledge courses was 23% and that of attitude courses was 33%.

Table 2: Descriptive Statistics Data Tables

Company	Region	Number	Mean of job satisfaction	Means of Motivation	Mean of effectiveness of knowledge	Mean of efficacy Skill Courses	Mean of effect of attitudinal
National Petrochemical Company	North and Central	12	4.1	4	21	40	30.7
	South	36	3.6	3.9	20	42	30.5
National Oil Refining and Distribution Company	North and Central	39	3.9	3.8	25	40	36
	South	42	3.7	3.7	23	41	35
National Oil Company	North and Central	13	3.6	4.1	24	40	30.8
	South	29	4.2	4.2	25	43	31
Total	-	171	23.1	23.7	138	246	194
Average	-	-	3.83	3.9	23.1	41.2	33

Multivariate linear regression by SPSS software has been used to test the hypotheses whose results are as follows:

1. The independent variables entered and removed variables in the hypotheses of this research are particularly important as there is only one variable entered.

Table 3: Independent and removed variables

Entered variable	removed variables	Procedure
Job Satisfaction	1	Input
Motivation	1	

2. Correlation: As shown in Table 4, there is a significant relationship between job satisfaction, motivation and course effectiveness. The last column in this table shows that the distribution of points around the regression axis is not high.

With respect to six minor hypotheses, it can be said that there is a significant relationship between motivation, job satisfaction and the effectiveness of knowledge-skill based and attitude-based in-service training courses.

Table 4: Correlation Coefficient

Entered variable	Correlation Coefficient	Coefficient of determination (rate of change in the dependent variable)	Adjusted coefficient of determination	Standard deviation represents the dispersion
First main hypothesis	0.8	0.77	0.71	1.21
Second main hypothesis	0.7	0.65	0.61	0.99
First sub-hypothesis	0.9	0.86	0.82	2.56
Second sub-hypothesis	0.6	0.63	0.6	2.14
Third sub-hypothesis	0.7	0.68	0.62	1.18
Fourth sub-hypothesis	0.7	0.65	0.612	1.1
Fifth sub-hypothesis	0.80	0.78	0.72	1.78
Sixth sub-hypothesis	0.6	0.56	0.51	1.89

3. Regression analysis of variance (ANOVA) shows states the variation of the effectiveness of in-service courses with motivation and job satisfaction.

Table 5: Analysis of variance table of the first main hypothesis

Source of variation	df	SS	MS	F	Sig
A	1	8.219	4.11	26.79	0.00
E	52	26.378	0.153		
Total	53	34.579			

Table 7: Summary table of ANOVA of main and sub hypotheses

hypothesis	Entered variable	F	Sig	F _{0.05,1,169}
First main hypothesis	Motivation	28	0.000	3.84
Second main hypothesis	Job Satisfaction	26	0.001	
First sub-hypothesis	Motivation / skills course	13	0.003	
Second sub-hypothesis	Motivation / knowledge course	18	0.002	
Third sub-hypothesis	Motivation / attitudinal course	19	0.0006	
Fourth sub-hypothesis	Job satisfaction / skills course	21	0.0004	
Fifth sub-hypothesis	Job satisfaction / knowledge course	29	0.000	
Sixth sub-hypothesis	Job satisfaction / attitudinal course	20	0.000	

F in above table is 3.84 and the calculated F for two main hypotheses and 6 minor hypotheses (Table 7) is greater than the above table F . Therefore, the test statistic is in the critical region. Thus, it can be said at the 95% probability level that the effect of independent variables of job satisfaction and motivation was significant and positive on the effectiveness of (knowledge-skill-attitude based) training courses.

4. The regression coefficients: Table 8 shows the dependence of the effectiveness of in-service training courses to motivation and job satisfaction. The more the standardized regression coefficient is, the more dependent the dependent variable (effectiveness) is on the one hand and the more effective the independent variable is on the other hand.

$$Y = a + b_1X + b_2Z + \dots$$

Table 8: Regression coefficients for research model (efficacy of variables)

Model variables	Non-standardized coefficients		Standardized coefficients	t statistics	$t_{0.05,170}$ Table	Sig
	Regression coefficient	SD	Standardized regression coefficient			
Motivation	8.9	0.1	8.83	2.13	1.98	0.001
Job Satisfaction	9.6	1.1	9.63	4.45		0.003
Motivation / skills course	5.5	0.86	5.65	5.26		0.01
Motivation / knowledge course	9.8	0.54	8.85	3.85		0.000
Motivation / attitudinal course	10.11	0.87	10.91	3.26		0.000
Job satisfaction / skills course	13.5	1.12	12.93	2.33		0.004
Job satisfaction / knowledge course	5.6	1.24	5.31	5.22		0.000
Job satisfaction / attitudinal course	14.24	0.89	13.978	2.97		0.003

6. Summary and Conclusion:

The present study was aimed at answering the question 'what is the relationship between the effectiveness of in-service training courses of the staff of the Oil Ministry and their motivation and job satisfaction?' whose findings can be summarized as follows:

- Overall, job satisfaction and motivation were positively and significantly related to the effectiveness of in-service attitude, skill and knowledge-based training courses in the companies of the Oil Ministry.
- Mean effectiveness of skill-based courses was higher than other courses in three companies of oil, refinery and distribution.
- In two companies of Petrochemical and Refinery and Oil Products Distribution, mean job satisfaction and motivation was higher among the staff of north and central branches than among the staff of south branches and in National Oil Company, they were higher among the staff of south than among the staff of north.
- The relationship between motivation and the effectiveness of skill-based courses and between job

satisfaction and the effectiveness of knowledge-based courses was stronger.

5. The significance of the effect of job satisfaction on the effectiveness of knowledge- and attitude-based courses was higher than that of its effect on the effectiveness of skill-based courses and that of the effect of motivation on the effectiveness of the three course types.

6. The effectiveness of attitude-based courses was more depended on motivation and job satisfaction than the effectiveness of other course types.

In total, it can be concluded that the studied companies can improve the effectiveness of training courses, especially attitude-based courses, by adhering to managerial methods for increasing job satisfaction and motivation.

Ghasemi and Imamzadeh (2004) argue that the effectiveness in-service training course can positively influence nurses' job satisfaction and motivation. In a study on nurses, Allahyari and Alhani (2006) found that in-service training courses can enhance job motivation among nurses. Sharifzadeh and Abdi (2008) found that participants' satisfaction with the effectiveness of the courses can significantly influence customers' satisfaction with

the organization. Wylie (1995) mentions education as an important factor affecting job satisfaction. In a study on the effect of the effectiveness of the course perceived by staff on their attitude, Alexandros et al. (2008) found a significant relationship between training effectiveness and job satisfaction as well as motivation. Gelfand, Arezu and Icons (2007) found that job satisfaction is an important factor affecting job motivation and that training is an important mediator. Tao To (2006) stated that job satisfaction and motivation are behavior and attitude factors that significantly and positively impact the effectiveness of the training courses. Thilageswary & Subaashni (2012) found that the relationship between behavior and organizational factors affecting the efficiency was significant and positive on improving the effectiveness of training courses. The results of the present study regarding the mutual positive relationship of in-service training course with motivation and job satisfaction is in agreement with the findings of these studies. In a study on the relationship of personality, location and job satisfaction with burnout in order to determine the effectiveness of training courses for immunizing against stress, Shiroodi et al (2006) tried to determine the role of personality, location and job satisfaction in burnout on the one hand and to determine the effectiveness of stress immunizing courses on reducing job burnout and enhancing job satisfaction on the other hand. They found that personality type, location and job satisfaction can predict job burnout among which job satisfaction was the first predictor, location was the second one and personality type was the third one. Also, the instruction method in stress immunizing training course significantly influenced the loss of job burnout and the increase in job satisfaction. The results of the second objective of this study are in agreement with one of the results of the present study: training results in higher job satisfaction.

Mahmoud Saeedi Rezvani et al. (2008) studied the effectiveness of in-service training courses in the Martyr Foundation of Islamic Revolution and stated that no significant difference was observed between trained and untrained staff except in some behavior indices including commitment and responsibility. However, it should be mentioned that commitment and responsibility are reflected in motivation and job satisfaction which is indirectly in agreement with the results of the present study.

Swamindathan and Gowri Shankar (2012) studied the perceived effectiveness of training and development and found that training not only improved staff's skill and knowledge but also helped them do their tasks better and improved their

personality and attitude as well as their self-confidence and commitment to work. Latif et al. (2012) in a study entitled "community of training satisfaction with a look at developing staff's job satisfaction" showed that training satisfaction and effectiveness was related to staff's job satisfaction and development. Their results, i.e. the relationship between training effectiveness and job capability which results in higher motivation and job satisfaction, are partially consistent with the results of the present study.

Given the fact that other factors impact the effectiveness of in-service training courses in the Ministry of Oil, it is recommended to identify them and study their influences on the effectiveness of these courses.

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