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# Investigating factors contributing to effective learning in in-service teacher training in student individual health domain: A qualitative study

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**Received:** 17.03.2019

**Accepted:** 14.09.2019

**Published online:**  
20.03.2020

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**Citation:** Eskandari Nasab H, Soltan A, Andishmand V, Soltani A. Investigating factors contributing to effective learning in in-service teacher training in student individual health domain: A qualitative study. J Qual Res Health Sci 2020; 9(1): 70-8.

## Abstract

**Introduction:** What is important in educational courses is transferring the acquired information and knowledge to the workplace. This study aimed to determine factors contributing to effective learning in teachers' in-service training programs in the student individual health domain.

**Methods:** This study was conducted in 2018 using a qualitative approach and the content analysis method. The data were collected through semi-structured interviews. The participants in this study were 23 teachers who were selected using a purposive sampling method among teachers working in Kerman. The main question asked in the interviews was factors contributing to effective learning teacher's in-service training programs in the student individual health domain. A qualitative content analysis method was used to analyze the data. The validity of the research findings was guaranteed by peer reviews and multi-stratified data sources.

**Results:** The factors underlying effective learning in student individual health domain were placed into three categories; individual factors include Self-efficiency, Motivation to learn health-related concepts, individual capacity to learn health-related concepts, and Attitude toward health-related concepts. Organizational Factors, include Learning environment and educational factors include Educational strategies for the health-related concepts.

**Conclusion:** Regardless of the attitudes, motivation, and efficiency of the participants, paying attention to their readiness to learn, providing necessary support, providing facilities and equipment, and paying attention to the needs of teachers are the most important factors that facilitate application of lessons learned in the workplace.

**Keywords:** Effective Learning, In-Service Training Courses, Student Individual Health, Qualitative Health.

## Introduction

Individual and public health is the most important aspect of life that humans have tried to achieve since the prehistory era. The UNESCO has set one of its initial educational planning to improve the development of

potential talents, and build correct health behaviors in children and teenagers. According to the WHO, learning essential skills to have a healthful life and becoming familiar with his/her own physical and mental basic requirements is each child's right. Students constitute a large



number of members of society. The population of students in Iran is nearly 13 million and their physical and mental health is essential for any active and healthful society. Thus, in health hygienic behaviors, schools can be the best institutes to teach new hygienic information to future fathers, mothers, and agents. Schools are considered as the fastest channel to publicize hygienic information, promote positive attitudes, and enhance new hygienic behaviors (1). Currently, public health is one of the concepts that has a special importance and the coverage-domain of its subjects is growing every day. According to the UNESCO, health means not only the lack of disease or disability, but also the state of complete physical, mental, and social ease (2). One of the UNESCO's goals by 2020 is to improve a healthful lifestyle for members of society. Accordingly, countries must adopt effective strategies to improve individual and social life in their health programs. Meanwhile, because of the decrease in age of developing risky behaviors, the sensitivity of adolescence, and the formation of the intellectual, mental, ideological, social, and emotive frame, this group is in priority (3). Concerning the importance of training domain, it can be suggested that training is an effective factor in improving the economic, social, cultural, and individual health policy because universities and educational institutions serve as a foundation for political and economic improvement (4). Meanwhile, in-service teacher training in student individual health is one of the most important students' essential training programs. The main purpose of in-service teacher training is to coordinate individuals' requirements and interests with the requirements and interests of the organization and enhance their operation in the workplace and facilitate effective learning by continuous learning of knowledge, skills, and desirable attitudes. Effective learning means the efficiency of learning in various aspects in a way that learners can apply this information in their real life (5). All over the world, organizations devote a noticeable part of their supplies to train their personnel to improve the procedure of carrying out tasks and enhance their efficiency and

effectiveness. When the presented training to the personnel doesn't transfer to their workplace or is unusable, it wastes time and money and as a result, distrust in training. This happens when the transfer of attitudes, skills, knowledge, and newly learned methods to the workplace is essential for achieving success in competitive conditions (6, 7). According to the recent evaluations, about %80 to %90 of investments in in-service training are lost and only %10 of yearly in-service training investment leads to effective learning and improving efficiency (8). Besides, studies on training in institutional environment indicated that only about %40 of information learned by employees in training programs immediately is transferred to the workplace and it decreases %25 after 6 months and %15 after 1 year. This implies that the personnel are not able to keep and use the knowledge over time. This results the waste of a considerable part of the time and money spent (9). The health domain is one of the concepts considered in education, which is the subject of physical education and health deputy. Therefore, training programs must be organized to improve this domain. On the other hand, factors contributing to effective learning in students' health domain must be considered and explored based on the school's conditions, culture, and situation. Thus, based on what was discussed, the main issue in this study was the lack of general information about factors underlying the effective transfer of health-related concepts in the education departments of districts 1 and 2 in Kerman. Accordingly, this study explores factors contributing to effective learning in the health domain.

## Methods

This is an applied study that employed a content analysis method. The location of the study was Kerman education department and the research sample included 23 teachers with the experience of participating in in-service training courses related to the health who were chosen based on criterion-centered purposive sampling. The data were collected via semi-structured in-depth interviews. The inclusion criterion was the

experience of participating in in-service training courses for more than 50 hours. To prevent biased responses, the participants were provided with guided responses. The interview was started by asking questions about factors underlying effective learning of in-service teacher training. All the interviews were recorded and analyzed completely. The qualitative content analysis was performed based on Graneheim and Lundman's method to analyze the collected data. In this method, the predetermined categories were not used and relevant categories were extracted from the data. First, the data analysis started with repeated review of the interview transcripts to get immersed in the data and come up with a general impression. Then, the codes were extracted and divided into related categories and the possible links between them were determined (10). For assessing the validity and stability, the reliability or credibility (a substitution for internal quantitative validity concept), transitivity (a substitution for external quantitative validity concept), adaptability (a substitution for quantitative stability concept), acceptability, and objectivity (a substitution for quantitative objectivity concept) criteria were used. To comply with ethical principles, during the interviews while completing the form and written consent, the participants were assured that the collected data would be used only for educational purposes and the participants' data would be kept confidential. Moreover, they were assured that they are allowed to leave the study at any stage they wished.

## Results

This study was conducted on 23 teachers with the experience of participating in in-service training courses. Most of the participants held an MA degree, and they were serving as teachers, coaches, practical nurses, counsellors, and deputies. The participants' characteristics are presented in Table 1.

**Table 1. Participants' characteristics**

Interview wee code	Position	Work experience (year)	Duration of the interview (minute)
1I	Practical nurse	17	75
2I	Deputy	18	65
3I	Teacher	13	61
4I	Teacher	15	45
5I	Deputy	14	47
6I	Coach	12	40
7I	Practical nurse	14	40
8I	Deputy	11	56
9I	Manager	16	55
10I	Manager	21	42
11I	Teacher	12	45
12I	Practical nurse	25	41
13I	Counselor	15	49
14I	Coach	19	40
15I	Counselor	15	58
16I	Counselor	14	65
17I	Manager	28	59
18I	Practical nurse	23	53
19I	Teacher	25	63
20I	Counselor	19	49
21I	Coach	19	50
22I	Counselor	15	51
23I	Deputy	20	50

The research findings in response to the question, "What are factors contributing to effective learning in student individual health domain concepts in in-service teacher training?" were classified into 3 categories and 3 subcategories as shown in Table2:

**Table 2. Effective factors of forming effective learning based on the teachers' interviews**

Class	Subclasses	Main codes
	<b>Self-efficiency</b>	<b>Self-efficiency</b>
Individual factors	Motivation to learn health-related concepts	Intrinsic and extrinsic motivation
	Individual capacity to learn health-related concepts.	Knowledge and literacy
	Attitude toward health-related concepts.	Teacher's attitude toward learning
Organizational Factors	Learning environment	Management and peer support.
Educational Factors	Educational strategies for the health-related concepts.	Educational facilities and equipment.  Training place and time. Need analysis Content validity Course instructor

In the following section, the results of the study are presented based on the participants' statements and views.

#### **A. Individual factors**

Individual factors were classified into four subcategories: Self-efficiency, motivation, individual capacity for transferring knowledge, and attitudes in the health domain as detailed below:

##### **Self-efficiency**

Some of the participants believed that the feeling of self-efficiency leads to effective learning in the health domain. An interviewee declared that, "By participating in the in-service courses, we can learn the content and materials in the textbook related to the health and students listen to us more carefully." (Interviewee N.15). Also, another interviewee declared that "I think participating in in-service courses increases my knowledge. Naturally, the more knowledge I have, the better I can transfer physical and mental health concepts to the students; and I feel I am a helpful and self-sufficient person." (Interviewee N.13). Another participant stated that, "In-service courses lead to the increase of the teacher's ability and skills, so, the teacher's perception of his/her ability and skill has a direct effect on knowledge transfer, and he/she can transfer functional concepts related to the public health to the students." (Interviewee N.22). Some conditions must be met so that each person can strengthen his/her own beliefs and

have a correct judgment about his/her abilities. This points to the role of self-efficiency in effective learning that is applied to this educational study. *'It is clear that the trainees with high self-confidence use the knowledge they have learned in their jobs for improving their performance and the change of predicted behavior (Interviewee N.11).'* She/he added, *"It is because perceptual efficiency of learner, like a generator, strengthens the efficiency of the training program"* (Interviewee N.12).

##### **Motivation to learn health-related concepts**

Some of the teachers believed that intrinsic motivation is an individual factor contributing to effective learning of subjects related to individual health. *"Unless the motivation and interest increase, the situation will be like this. The system must move to this direction to increase the interest. You imagine I, as a typical teacher, don't have any motivation to work because I'm always preoccupied with my overdue loans"* (Interviewee N.21). Some participants pointed to some external incentives like promotion, the increase of salary and premium, etc. as factors underlying effective learning. *"One significant and important issue is the lack of teacher's interest in these classes. For example, training course must be held for practical nurses, coaches, and primary school teachers. One of the reasons for their participation is financial and promotion aspects. In fact, they participate because of promotion and they don't have a deep interest"* (Interviewee N.20). Another

interviewee declared that, "*In fact, there isn't any eagerness for teaching and working with students*" (Interviewee N.7). In general, the interviewees with high motivation can transfer the learned materials and skills in educational environments in an effective and efficient way; and, as a result, the trainees that don't have enough motivation and believe that learning is a waste of time, transfer little or no knowledge. This sentence represents the significant role of motivation in effective learning.

#### **Individual capacity to learn health-related concepts**

This subcategory includes knowledge and literacy. Some of the participants considered knowledge as an effective factor in learning. "*A teacher who wants to transfer his/her knowledge must possess the related ability*" (Interviewee N.9). The previous sentence represents the importance of participant's knowledge and literacy in transferring the learned information. It seems that information, knowledge, and the pre-learned abilities in practical nurses of schools have a lot of effects on the effective learning process. It shows the importance of knowledge and literacy of the learner in the transfer of education.

#### **Attitude toward health-related concepts**

The teacher's attitude toward training and learning can contribute to effective learning. "*If training is the most important thing for professional progress in a school or institute, the teachers will have a positive attitude toward learning*" (Interviewee N.19). An Interviewee declared that, "*When I participate in these courses and see the co-workers, I become more eager to learn*". (Interviewee N.9). Another teacher believed that, "*Definitely, the presence in such courses will broaden the teacher's attitude and mentality and will make him/her more up-dated*". (Interviewee N.17). The following sentence represents the importance of a person's attitude toward learning: "*It must be considered that the amount of learned information transferred to the workplace after holding training courses, and the personal attitude can intrigue or prevent the usage of knowledge in organizations.*" (Interviewee N.13). These statements underline the

importance of a person's attitude toward learning. Therefore, the positive attitude of learners towards knowledge transfer and learning is important for effective learning.

#### **B. Organizational factors**

Organizational factors were one of the main categories identified in this study and included the Learning environment subcategory.

##### **Learning environment**

The environment of knowledge transfer includes management and peer support and also the opportunity for applying the learned knowledge. One of the participants said, "*If knowledge transfer staff are accepted and honored, they will be motivated to contribute to effective learning.*" (Interviewee N.17). An interviewee stated that "*If the personnel are honored and accepted, they will be motivated and even can motivate others to be more effective at school*" (Interviewee N.5). Another group believed that the opportunity to use knowledge is a factor that facilitates effective learning in the training domain related to health. For example one interviewee said "*If the teacher has the opportunity to learn and use knowledge, their learned skills will change to the action*" (Interviewee N.13). The following sentence shows the effectiveness of environmental conditions on staff's effective learning, "*Those who aren't appreciated by the organization will have a feeling of regret in their routines and will reflect it in transferring the knowledge to their job*" (Interviewee N.14).

#### **C. Educational factors**

Educational factors constituted one of the main categories identified in this study and included the subcategory of educational strategies, as detailed below.

##### **Educational strategies for the health-related concepts**

Educational strategies consisted of place and time of teaching, educational facilities and equipment, need analysis, *content validity, and the course instructor*. For example, one of the interviewees stated that, "*It is better to consider the use of first aid kits, the instructions on how to use soap, shampoo, and other hygienic subjects, and organize training workshops instead of theoretical training related to the health*". (Interviewee

N.12). Some of the participants believed that the place and time of training have effects on learning health-related issues. *"Nowadays, it is rare to assign 40 to 50 students to one class; in the in-service class that was held, there were 40 teachers attending a crowded class. There were 65 teachers in a in-service science training course and nobody paid attention to what the instructor was teaching"* (Interviewee N.7). One interviewee stated that *"Most of the educational classes don't have a video-projector, air conditioner, and a heating system and they are very small"* (Interviewee N.4). Another person declared, *"When there are 60 to 70 people stuffed in a 3×6 class with uncomfortable chairs, how is it possible to sit on a chair for 8 hours?"* (Interviewee N.8). Each training course needs some arrangements without which the learner isn't ready for new training. The place and time of training is one of these preliminary factors. The place of training can be either facilitator or disruptive for training. According to Shams et al the training place must be suitable in terms of light quality, temperature, sound, and setting, and must also be interesting for learning. This shows the importance of physical features of the place of the training course. *"Unfortunately, the personal courses are held as a crash course, they start in the morning and finish in the afternoon"* (Interviewee N.18). An interviewee declared, *"In-service classes are held in the afternoons or at the weekends; they don't have any output because we are so tired and we are not interested in participating in the course"*. (Interviewee N.6). The learners need not only a suitable location to learn, but also enough time to think about the subjects and also, mental rest. *"There are two kinds of learners, impulsive and deliberative. Impulsive learners don't need time, but deliberative learners need much more time for learning. Effective learning is a subject that doesn't happen until the learning materials and skill are internalized in the learner"* (Interviewee N.22). *"The use of computers is just mentioned in the course title, unfortunately, these facilities are not used in the class"* (Interviewee N.22). It must be taken into consideration that some of the in-service training courses need facilities.

Not only these facilities must be checked to have essential quality, but also we need the facilities at schools to transfer the concepts to the students. Some of the participants introduced the lack of need analysis before holding the course as a reason for the absence of effective learning. They also believed that in-service courses must be organized according to teachers' needs, with the health domain being the most important of all. *"Why don't we evaluate teachers' needs to find out their requirements?"* (Interviewee N.17).

An interviewee declared that *"If you take a look at the in-service headings, most of the classes are related to the very old subjects and they are not updated, but health domain is practical"* (Interviewee N.18). The content of the training must be chosen based on scientific criteria and also based on the results of studies and job and need analysis. *"The training course contents are arranged based on goals to meet educational needs that may be for building special knowledge or inducing a particular skill, and behavior in the participants. The participants in the training course must be able to adjust the content of courses with their professional needs"* (Interviewee N.17). Otherwise, they will be demotivated to learn new things. Some of the participants considered factors related to the course content like the lack of relevant references for further study, loosely-arranged content, and not providing a description of the content for learners. *"The presented irrelevant content is a barrier to effective learning. Unfortunately, sometimes the aim of course is unclear. The course must have goals to evaluate the extent to which the goals are achieved"* (Interviewee N.3). *"I personally don't know the materials the students must learn about individual health in a particular training course"* (Interviewee N.9). An interviewee declared that, *"Most of the participants don't have a special goal because the content of in-service courses is not clear."* (Interviewee N.14).

These statements show the importance of educational courses and determining the content. The goal determines the road map and it was considered in the present study. The course instructor's role was considered

important by some of the participants. They pointed to some issues such as the courses held with only the instructor as the presenter and without participants' activity, and the use of unqualified instructors with low educational degrees. It would be better that courses present practical issues such as first aids. *"I considered that most of instructors use the same method. They just speak and make the teachers tired"* (Interviewee N.9). *"The professors who were offering the course held an MA degree that was lower than our colleagues' academic degrees"* (Interviewee N.10). An Interviewee declared that, *"Most of the instructors aren't proficient, they are non-professional or they don't have the ability to transfer the subjects. It's better to use experienced doctors or nurses in this case"* (Interviewee N.13) *"The course instructor must have the relevant experience and knowledge and encourage teachers to activate their passive knowledge"* (Interviewee N.14). This sentence shows the importance of the instructor's proficiency and academic education: *"The instructor's proficiency and academic degree play an undeniable role in conveying the subject matter to the learners."* (Interviewee N.15).

## Discussion

The following sentence reflects the importance of beliefs and excitements that a learner brings with himself/herself to the learning environment, "The trainees don't come with an empty mind without any knowledge; rather, their mind is full of long-time experiences and personal habits, this matter sometimes interferes with the newly learned materials"(11,12). Thus, the positive attitude of learners toward transferring knowledge and learning is a factor affecting learning, however, it was not addressed in the present study. Park and Wentling (13) stated that attitude is an effective individual factor for the application of knowledge and the effectiveness of learning. The person's ability shows the public capacities needed for the performance of a group of tasks. Psychologists proved that the cognitive ability has a significant positive relationship with professional performance (14). Similarly, Saks

and Belcourt (15). Introduced the cognitive ability as an effective individual factor for effective learning and the present study showed that the lack of cognitive ability leads to ineffective learning.

Motivation is both an intrinsic and extrinsic desire that helps learner achieve a high level of learning. Baldwin and Ford (5) examined motivation as a factor effective in learning. Noe (16) also stated that accepting innovation shows the learner's experience in applying new knowledge, skills, and behaviors learned in training programs. Noorizan et al (17) stated that support of change and innovation leads to effective learning. This shows the importance of management role and support effective learning. In total, studies showed that management support is essential for knowledge transfer. In other words, the amount of significance attached to educational courses by organizers of such courses and the encouragement of employees could affect the transfer of knowledge (13). Yozbashi stated that the opportunity of using the learned knowledge and skills has the highest score to support the learners to convey their knowledge, and lack of such an opportunity has the highest score to prevent knowledge transfer (18). Theoretically, content in training programs is selected based on either scientific criteria or the results of the researches on job and need analysis"(11). This also emphasizes the application of need analysis that induces motivation. In the present study, holding training courses without performing need analysis was shown to be a barrier to effective learning. The learners need not only a suitable location to learn, but also enough time to think about what teachers teach them. Mattox (19) considered unsuitable schedule of educational courses as a factor that prevents effective learning. Kontoghiorghes (14), Mattox (19), and Barshan et al. (20) Introduced the inappropriateness of educational course content as a factor that prevents learning. Besides, the present study showed that when the content of educational courses was irrelevant to the teacher's need effective learning was prevented. One of the limitations of this qualitative study

was that its findings cannot be generalized. To overcome this problem, it was tried to continue the sampling up to the data saturation point.

### Conclusion

The results of the present study indicated that individual, institutional, and educational factors contribute to transferring of what has been taught and learned in the workplace. Some of the most important effective factors on transferring the acquired knowledge in individual health domains to the workplace are motivation and readiness of learner, positive attitude toward learning, and professional commitment. Organizational factors like management and peer support and feedback and enough facilities and equipment could increase learners' motivation to use their knowledge in the workplace. The most important educational factors that lead to effective learning are performing educational need analysis and holding training courses based on learner's needs, appropriate scheduling of educational courses, describing the expectations and goals of educational courses for teachers, and the use of appropriate content for the fixed time. The present study tried to present functional methods in this domain by investigating theoretical principles and participant's speech. Some of the functional methods and suggestions in individual factors domain are adapting the learner's attitude toward science and learning, justifying the learners, determining the goals and expectancies of educational courses, and making the educational courses attractive in the concepts related to student individual health. Concerning the effectiveness of institutional factors in learning, managers are suggested to take into account the active role of teachers in students' progress and update the educational equipment and facilities.

### Acknowledgments

This study was conducted based on some results of a PhD thesis entitled 'Developing a model for knowledge transfer in in-service teacher training programs', confirmed by Islamic Azad University on 96/12/20 under number, 10120505932054.

Hereby, the authors appreciate the staffs and managers for their trust and sharing their life experiences.

### Conflicts of Interest

The writers don't have any conflict of interest in writing the present study.

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