

# Learning theories application in nursing education

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## ABSTRACT

Learning theories are the main guide for educational systems planning in the classroom and clinical training included in nursing. The teachers by knowing the general principles of these theories can use their knowledge more effectively according to various learning situations. In this study, Eric, Medline, and Cochrane databases were used for articles in English and for the Persian literature, Magiran, Iran doc, Iran medex, and Sid databases were used with the help of keywords including social cognitive learning, learning theory, behavioral theory, cognitive theory, constructive theory, and nursing education. The search period was considered from 1990 to 2012. Some related books were also studied about each method, its original vision, the founders, practical application of the training theory, especially training of nursing and its strengths and weaknesses. Behaviorists believe that learning is a change in an observable behavior and it happens when the communication occurs between the two events, a stimulus and a response. Among the applications of this approach is the influence on the learner's emotional reactions. Among the theories of this approach, Thorndike and Skinner works are subject to review and critique. Cognitive psychologists unlike the behaviorists believe that learning is an internal process objective and they focus on thinking, understanding, organizing, and consciousness. Fundamentalists believe that learners should be equipped with the skills of inquiry and problem solving in order to learn by the discovery and process of information. Among this group, we will pay attention to analyze Wertheimer, Brunner, Ausubel theories, Ganyeh information processing model, in addition to its applications in nursing education. Humanists in learning pay attention to the feelings and experiences. Carl Rogers support the retention of learning-centered approach and he is believed to a semantic continuum. At the other end of the continuum, experiential learning is located with the meaning and meaningful. It applies the minds and feelings of the person. From this group, the main focus will be on the works of Rogers and Novels. Finally, it could be concluded that the usage of any of these theories in its place would be desired and useful.

**Key words:** Application, learning, nursing, teaching

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## INTRODUCTION

Theory, in broad sense of the word, is construction and interpretation of the field or aspect of cognition. In other words, theory is a set of related propositions, which should be able to describe, explain, predict, or control the phenomena. Learning theories have tried to provide explanations about learning and their application.<sup>[1]</sup> Over the past century, educational psychologists and researchers have posited many theories to explain how individuals acquire, organize and deploy skills and knowledge.<sup>[2]</sup> Educational psychology, instead of providing a certain theory, offers a variety of

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theories and perspectives about the way of occurring the learning and what people are sparked for learning process and change.<sup>[1]</sup> Understanding of learning theories, which form the core of the educational psychology, is important in education to help us in providing an environment for learning, increasing the efficiency of the education system and harmonization in education.<sup>[3]</sup> During the last century, development and testing of the learning theories have helped us very much to understand how to identify individuals and changes in the methods of thinking, feelings, and behavior.<sup>[4]</sup> Attention to learning and its nature are necessary for someone who is dealing with teaching and training issues, and here, learning theories are discussed. Theories of learning are the framework of the structure and principles that pay attention to the description and explanation of the people's learning.<sup>[5]</sup>

The educational psychology researchers have examined learning from various viewpoints and their findings in explaining the learning process have led to different theories, which can be used as a guide for heading the teaching-learning processes, some thoughts, and common myths in learning.<sup>[3]</sup> Learning theories have great usability and not just in education, but also in psychology counseling, which provide the needed infrastructure. It is recommended to use learning theories, single or separated or a combination in the health professions including the nursing.<sup>[6]</sup>

Health professions also need to show the regular use of theories and clear reasoning in educational activities, interactions with patients and clients, management, employee training, continuing education and health promotion programs, especially in the current health care structure. In most countries, including Iran, nurses are responsible for the design, implementation, and procedures for promoting health training. The nurses can use this approach in the field of self-care education to the patients.<sup>[7,8]</sup> Apart from the profession of the person, knowledge about the learning process, it is largely associated with the everyday life of the people too. Learning theories can be used individually, group-wise or at a community level, not only for understanding and learning new things, but also for problem solving, changing the health habits, constructive communication, control emotions and affecting behavior development.<sup>[9]</sup>

Theories together can provide a valuable treasure of complementary strategies and differing viewpoints. As it was discussed previously, patterns can be used for applying the theories. Therefore, a series of strategies and methods should be applied.<sup>[10]</sup>

Teaching patterns have had a context for the main philosophical and psychological orientation into teaching and learning. They all have a solid theoretical foundation and describe the learning environment.<sup>[11]</sup>

The models are tools for student learning and they are suitable for application development, especially for the students, who their record of learning should be considered. In fact, each

model is composed of all elements of teaching including the overall goal, partial goals, behavior, content, media, methods, knowledge evaluation, and the previous knowledge of the students.<sup>[9]</sup> Therefore, the application of teaching models has deterrent effects and disruptive influence of environmental factors on learning and causes justice and equality in learning. By its using, it is possible to prevent the effective barriers due to inequalities resulting from social and economic status and the habit of the students to assist in learning.<sup>[12]</sup>

Therefore, to qualify for the insight about learning and understanding of its applications, it is necessary to study the learning theories and their evolution. In this article, with the goal of reviewing the existing knowledge, the learning theories and their use in nursing education have been given an overview of the available resources in this area.

## MATERIALS AND METHODS

This study was conducted in the second half of 2012 and to search for related topics and articles in English, Medline, Eric and Cochrane databases were used and Magiran and Irandoc, Iranmedex and Sid databases were used for Persian literature with the assistance of key words including social cognitive learning, learning theory, behavioral theories, cognitive theories, constructive theories, nursing education, related words and their combination.

Searching period was between 1990 and 2012 and the followings were also considered, a number of related books about the methods, the original vision, the founders of theories, and their practical applications, especially in education and nursing training for evaluation of strengths and weaknesses. In the article, it is emphasized on the application of the theory, especially in nursing education and the basic facts of each theory.

Meanwhile, it is focused on new perspectives about the learning theories too. In preliminary searching, out of all of the obtained articles due to the title and abstract analysis, about 30 papers were excluded including intervention papers, reviewed articles, and short essays for full text and structured reviews.

## RESULTS

Learning theories can be classified into three general groups: Behaviorism, cognitive, and constructivism.<sup>[3]</sup> Here, each of them is being discussed, respectively.

### Behaviorism

Behaviorism has been the dominant approach in psychology researches. At the beginning of the 20<sup>th</sup> century, traditional behaviorists believed that learning is a change in observable behavior and it happens when the communication occurs between the two events, a stimulus and a response.<sup>[13]</sup>

In other words, they believe that the learners with behavioral reinforcement, which results are positive should be

conditional for good performance.<sup>[11]</sup> Even Bernard knows the classical conditioning as the main reason for the acquisition of the emotional attitude. They insist upon the importance of practice and repetition in learning. They believe that the final behavior would make it to repeat again. Accordingly, positive or negative reinforcement can be used to encourage the repetition of the behavior.<sup>[14]</sup>

Among the applications of this approach is the influence on the learner's emotional reactions. Emotional response to an experience may be positive or negative. Bad experiences can lead to fear or anxiety. The fear and anxiety in the future similar situations, even after generalization, provoke in other situations as well such unpleasant feelings.<sup>[15]</sup>

The theory of transponders conditioning or Pavlov classical conditioning is one of those behavioral theories. What is known today as the transponders conditioning theory, classic or Pavlov has emerged from the researches of The Russian scientist Ivan Petrovich Pavlov and was performed at the beginning of the 20<sup>th</sup> century. Pavlov conducted his initial research works with the reflections and impact on their learning experience. As the definition, reflection is said to be a simple relationship between a muscular or glandular response driving through the influence of the sensory organs to generate a response such as salivary secretion due to the placement of the food in the mouth or constricted and dilated pupil of the eye regarding the effects of high and low light<sup>[16]</sup>

In the conditioning responders' theory, conditioned response (CR) is related to the unconditioned stimulus (UCS). For this reason, Pavlov called the unconditioned stimulus as the reinforcement and coupled it with the conditioned stimulus (CS) called as reinforcement. Association of CS and UCS for many times will result conditioning organism. Therefore, learning will be to answer in the presence of conditioned stimuli. Upon CS repetition alone without the association of UCS, for several times will lead to the puniness of conditioned responses.<sup>[11]</sup>

The ill conditioning, turning off the transponders behavior, self-return, generalization, and discrimination of stimulus will also be considered as the subset of the other components. Classical conditioning can remove the reactions of fear-anxiety in such a way that they put a person gradually against small and light stages.<sup>[3,4]</sup>

The desired position and within each stage without consequences of fear and anxiety, fear from the desired position gradually disappears. Thus, it is possible to use this method for procedures of student training. One of the other proposed theories in this subset is the Thorndike theory, which is described as the selectivity or choosing a response among a set of organism available responses and transplant that respond to the driving position. Therefore, Thorndike learning method was named learning through trial and error.<sup>[5]</sup> In summary, Thorndike stated that in a learning or problem-solving situation, the learner answers repeatedly up

to an appropriate position for one of the responses (or to solve the problem). Thorndike quoted that it was brought him to a satisfying situation. This response is learned and in similar situations of learning is repeated by the learner again.<sup>[6]</sup>

In nursing education, it is possible to provide access to skills by performing the procedures through using the mannequins. Thus, by using the harmless trial and error method, the students will gain to the desired skills. Satisfying results will lead to its strengthening. Unpleasant results cause the students to find alternative answers through trial and error and eventually reach to the correct answer for each question. These results may be the observation of satisfied clients, the classmates, or the teacher applauded<sup>[17]</sup>

One of the other main concepts of the Thorndike theory that have left an important educational effect is elements of the concept like learning transfer. Throughout the history of education, this question always has been always considered that what makes transferring our learning from one position to another. Before Thorndike investigations in this case, the psychology mentality (carnal forces) was to explain the phenomenon of learning transfer.<sup>[4]</sup>

According to this psychology, it was stated that the human mind is composed of various forces such as argument, attention, judgment, memory, and similar items. It was believed that these forces could be strengthened by practicing.<sup>[18]</sup>

This theory is applied in the nursing. Students in a clinical setting encounter a number of different points, which need different combined forces. Therefore, it is comprehensive without being overwhelming to collateralize all the forces together. Skinner conditioning theory more than to be a scientific theory of learning is a set of principles and techniques, which noted to its use in different fields for administration of the humans. Skinner looked at the final result of the behavior, except that he knew the behavior as a voluntary action, which is formed by its outcome.<sup>[3]</sup>

Therefore, by reinforcing the desired behavior, it is possible to increase the chance of recurrent onset and finally to reach the learning goals (agent conditioning). Skinner's conditioning theory can be used in treatment centers and for behavior therapy in educational environments, social organizations and law enforcement agencies, entitled as "changing methods of behavior modification". Behavior therapy techniques are used for the treatment of psychological problems, methods for improvement, behavior modification conflicts, disorders and criminal behavior, and mental retardation. Change and modification of behavior techniques are used for training and change of students' academic and social behavior in educational environments.<sup>[19]</sup>

This method can be used especially in teaching clinical skills. At first, the initial behaviors of each procedure are encouraged in order to implement the procedures fully. Then, they will be encouraged to fully understand and implement

the correct procedures and gradually increase the distance of encouragements. Encouraging at this stage is desirable to establish and maintain behavioral conduct. Teachers can teach each procedure by giving information or clues to the student before starting the procedures. For example, they can remind them for having appropriate or expected behaviors for accessing to the desired behavior in less time. Computer programs that are designed to learn specific methods of patient care also use the same methods.<sup>[5,9]</sup>

The agent conditioning, despite its usage, has also had the problem that is too reliant to the learners. First, they should perform the behavior in order to reinforce it and the whole process is time consuming and slow. It stated that the favorable results of others' behaviors could simulate the behavior of the students. Conversely, the undesirable results make the observers to refrain from that behavior.<sup>[1]</sup>

In the clinical setting, these results may be desirable and pleasing such as client satisfaction and admiration of the classmates. In this method, each bad or good behavior is based on the student's understanding from desirable or undesirable consequences of behavior and the boundary is not well separated from each other.<sup>[1,3]</sup>

The main problem of behaviorists' training methods is depending on the student's motivation. In these methods, enough attention is not paid to strengthen their intrinsic motivation. Their learning is more in the form of a response to stimuli with having excessive physical aspect and less attention to the process of thinking and critical thinking in students.<sup>[9]</sup>

However, the application of behavioral theory in clinical training is especially important to nursing. Due to the Thorndike opinion, the main principles of educational providing include the clarity of objectives in education, organizing the contents from simple to complex, emphasis on the evaluation process, providing correct answers to questions, preparing the students for learning in an orderly environment, creating a disciplined environment for training, repeating the correct answer and rewarding the learners after their correct answer to the questions.<sup>[20]</sup>

According to Thorndike compensation law, regarding an optimal outcome behavior, there will be a strong link between stimulus and response. According to this law, if a behavior is done in the presence of a stimulus and achieves to the desired result, it will be a learned behavior and once the stimulus appears again, it will respond to it.<sup>[21]</sup> Thorndike compensation law is widely used in nursing education. Nursing staff in hospitals without prior planning are involved in many cases in the education of nursing students.<sup>[9]</sup>

In this theory, the role of an instructor or a manager is providing stimuli, manipulating the learning environment, providing reinforcement and transferring information and the students are passive recipients of information and knowledge

and execute the commands. In this theory, the environment is stimulating and enhancing. Consequently, its role is vital and the role of environment in learning is more than the role of heredity.<sup>[10]</sup>

Evaluation method is criterion reference and compressed, training method is included personal training, planned training, computer-based training, and the goal of training is education and behavior change in the desired direction. Since behaviorists have based their work on the study of the observable behavior, therefore, determination of educational objectives and transforming them into accurate and behavioral goals is a fundamental duty of a teacher.<sup>[13]</sup>

These behavioral objectives are very important in clinical training in nursing, in particular, in the mental-motive area because it can be used as a guide for teaching and evaluation of students' clinical performance. The foundation of education is based on the behaviorism competence.<sup>[22]</sup> Learning at the proficiency level or mastery learning is explained by behaviorisms, which both of these are from the expected learning outcomes of the nursing.<sup>[21]</sup>

### Cognitive theories

Cognitive psychologists, unlike behaviorists, believe that learning is a targeted internal process and focus on thinking, understanding, organizing, and consciousness. They say that this type of learning cannot be observed directly and it is associated with the change in capacity and capability of the person to respond. Essentially, it does not immediately change the behavior. Fundamentalists believe that the students must be equipped to questioning skills and problem solving, so by exploration and information processing, they will be able to learn actively, solving and searching for new information, and reviewing their previous experiences for better understanding. Gestalt theory is known as the leader of learning cognitive theories.<sup>[5]</sup>

Behaviorism psychologists believe that for the study of learning complex phenomena, they should be analyzed into simple components and through studying these basic components, it would be possible to realize the detection of a complex phenomena. The psychologists of Gestalt theory are opposed to reducing convergence method, alternatively, analyzing the psychological phenomena.<sup>[4]</sup>

Due to their belief, the human thought are composed of significant overall perceptions and not a series of mental images, which are related together by association. Therefore, due to this fact that the perception phenomena have the overall aspect, learning should be studied due to this holistic.<sup>[16]</sup>

Cognitive perspectives were inspired by the works of Gestalt psychologists in Germany, who insisted on the person's ability to organize and transforming what is taught into a general pattern (or Gestalt). They believed that the whole is greater than the sum of its parts and breaking the behavior into its



components, generally destroy the whole concept of behavior. Wertheimer said that perception of the individual by using the principle of Pragnanz plan is structured or organized into simplest possible form in order to be able to understand its meaning. It is composed of four laws of understanding: Similarity, vicinity, relevance, and continuity. Kafka believed that these laws of understanding could be used as well as learning rules. Thus, it created the Gestalt theory of learning with insight.<sup>[18]</sup>

As well as cognitive psychologists, the behaviorists believe that the study of learning should be observable and learning theories and empirical findings should be the result of experimental researches. Their main difference with the behaviorists is in this key aspect that they believe that by the observation of behavioral responses, it would be possible to realize the nature of internal cognitive processes, which cause those answers.<sup>[9]</sup> Although knowledge and information for them have a real and objective nature the same as the behaviorism, but they believe that necessarily learning is not the result of behavior change. One of the issues highlighted by Wertheimer and other Gestalt psychologists was that memorizing like parrots is an ineffective method of learning and useless in real life. Instead, they argued that most of our learning in real life is done through understanding and the discovery of underlying issues principles.<sup>[16]</sup>

Learning combined with understanding instead of mechanical repetition of excitation-response relationship needs to be consistent with previous experiences or existing knowledge in order to create new awareness. Nursing educators can use these principles in the training sessions to be seen as a whole not as a collection of discrete facts. For example, if a session is connected about the structure and function of the respiratory tract disorders such as bronchitis and the activities of daily life, the students can understand the anatomy and physiology, the disease state (bronchitis), and its effect on the patient as a whole and not as the unrelated three units. In the meantime, it is possible to use the methods for solving the problem<sup>[11]</sup>. For example, rather than to teach the students for caring of a person with bronchitis, the created disturbance within body's physiology by the disease can be described and ask the nurse to analyze the problems that may occur to the patient. By relating these factors into physiology and to the patients who previously had to take care of them, appropriate nursing care could be identified.<sup>[12]</sup>

Bruner in learning theory through refers to a cognitive system named representation system with the concept of knowledge and experience and organizes them. This system has three modes of practical, visual and abstract.<sup>[9,16]</sup>

He believes that: Training should be designed and implemented to be compatible with learners' thinking and has forced them to think. It is better for the teacher to offer the training with all three intellectual systems of enactive, iconic and symbolic image.<sup>[23]</sup>

For example, when a student earns the motion skills of blood pressure measurements without knowing its importance, he/she is located in the inactive stage. Then the student will begin taking the blood pressure concept by thinking about the image of a pump (the heart) with a number of narrow and wide tubes (blood vessels) and the blood flow inside. This is the iconic stage.<sup>[12,18]</sup>

The student who gradually reaches into symbolic stage can define blood pressure, and explain the importance of cardiac output and the environmental resistance. Therefore, the teacher can use this illustration or an example from daily things help the learners in learning. In addition, there is also a coding system, which the given facts were grouped by it and are related to each other. This system allows the learner to go beyond the given information and by inference from the previously learned principles, which were stored in the system, to create new ideas.<sup>[20]</sup>

For example, if it is said to a student who understood hypertension and its control about the hypovolemic shock, which is caused by hypothyroidism and reduction of circulating blood volume, he/she could come to the result that it will lead to problems such as reduced cardiac output, hypotension, and increased heart rate. Of course, working with large groups and with different abilities is difficult and time-consuming with this approach. Mean while, it is not possible to let the students be alone in the way of exploration and make sure that is the correct way.<sup>[7]</sup>

Theological significance learning theory of David Ausubel (1963, 1968) is one of the well-known theories of cognition. The relation of this theory with school learning is more than the other theories of learning, because this theory has been developed in principle to explain verbal learning problems in materials. Several of its principals can be used directly to improve the learning-teaching process in the classroom, for example, controlling the contributing factors in learning and retention of meaningful material. Learning is the relationship between new content and the learner's cognitive structure. Thus, the learner's cognitive structure during the learning time has the most important influence on learning and retention of new material and one of educational strategies for doing this is using the pre-organizers in training.<sup>[24]</sup>

It was stated in the theory of Ausubel that materials should be submitted organized, tidy, and consistent with prior knowledge of students in order to let them to learn more efficiently. This is the base of reception or assimilation theory. He said that learning is an inductive process, which starts from a primary understanding of general concepts and continue to understand the specific details. Suggested teaching method of Ausubel is expository (demo), which makes learning meaningful.<sup>[11]</sup>

It has a close relationship with the students' previous knowledge and requires into lot of interactions between

teachers and learners based on the using of the advance organizers and subsequently, the content of education is inferior that is appended into current learner's cognitive structure. Pre-organizer is already a general concept, which is stated in the introduction before the new material to provide an anchor-like structure for absorbing new material. It may be offered as a diagram, a flowchart, a general word, or a phrase.<sup>[9]</sup>

Ausubel perspective is helpful especially in teaching the relationship between concepts or the introduction of unfamiliar or difficult material. It is also effective in adult education with more knowledge and the ability to manipulate ideas in nursing education. Explaining the anatomy and physiology of each organ, the expression of the disease, the created problems in the performance of organ physiology are among the usages of pre-organizers in models of information processing. Ganieh described the memory process.<sup>[16]</sup>

In this process, the stimulus affects from the environment to the receptors and then through a sensory register, which is coding the information entering into the nervous system. The information remains there for a fraction of a second and then it will be lost or is transferred into short-term memory.<sup>[13]</sup> The information will code conceptually and remain for a few seconds. Short-term memory has a limited capacity for about seven items. Rehearsing and repetition of the information can hold it more, even encoded in long-term memory and is prepared to stay there for being remembered in the future. This information upon entry into long-term memory is classified and its general concept will be stored (not the exact details). The linked information to an appropriate cognitive or conceptual structure will be recalled better.<sup>[25]</sup>

Teachers can use a variety of ways in order to maximize learning and retention. For example, by changing the regular stimulus and the use of color, movement, and changes in teaching methods, it would be possible to help the learners focus. Innovation and humor are also useful, but we should be cautious in its use, because it may distract other learners. It is also possible to identify contents with particular importance by gestures.<sup>[3]</sup> Teachers should pay attention to signs of fatigue, limitation of attention span, and the amount of new presented information in order to prevent the students not to suffer from information overload. Teachers can assist the learners in recalling previous knowledge about the taught subject by contributing into significant new information with communication with current knowledge.<sup>[26]</sup>

Data replication can also help their encoding process. Respecting the appropriate distance between repetition and exercise is important too.<sup>[4]</sup>

### Piaget cognitive development

Teaching method based on Piaget's theory is focused on exploratory learning. In this method, the learners will discover the concepts and principles personally and not by the explanation and description of the teacher.<sup>[3]</sup> Piaget proposed

learning method emphasizes on activity and experience and the teachers are discouraged from persuading the learners into maintaining a parrot-like material and accumulation of the mind with unfamiliar and abstract topics.<sup>[9]</sup> For example, in nursing education, before teaching the glands topic, the students will be asked to explain what ever comes into their mind regarding the relation between the different components of endocrine system or with the presence at the bedside of a patient who suffered from a seizure caused by hypocalcaemia. The students are asked to express the relationship chain that causes this problem.

### Lev Vygotsky cognition/social development

Another theory of growth or cognitive development is the Russian scientist Lev Semyonovich Vygotsky's theory or Lev Vygotsky's theory of cognitive development. It is important in the interaction between the learner and social environment.<sup>[16]</sup> Lev Vygotsky believed that schools should consider language as a core subject and the teachers should have seriousness into language education. Language materials should be taught in a cultural-social context not far from the social and cultural issues at all of educational levels.<sup>[27]</sup>

### Cognitive - social learning

Observational learning theory can help the teacher in training the skills and various topics. Its applications are included, teaching new behaviors and skills, encouraging and persuading previously learned behaviors, drawing the attention of learners, creating strong and emotional responses, or weakening the effect of deterrents.<sup>[23]</sup> For example, if the learners violated the school rules and were not be punished for it, maybe other students do the same behavior, because this could be a model for others. Therefore, it should be treated vigorously with the person who broke the law.<sup>[28]</sup> Social learning theory is a useful tool for nursing education and has wide applications.

One of the important aspects of nursing, which should be earned by a new student, is the professional role and it would be possible by allowing the students to observe professional nursing practices. The students not only observe the performance of the nurses, but also they would see the interactions between nurses, patient and other caring team members as well.<sup>[11]</sup> Therefore, their attitudes are formed regarding the practice and simultaneous skills and techniques. In the first conducted studies in 1972 by Kramer, he took the students to the clinical environments and forced them to work in that environment. However, he did not lead them directly.<sup>[9]</sup> Therefore, students had the opportunity to observe his interactions with the patients. They learned how to care the patients. Therefore, the nurses were acted as a model for him. Nursing educators should also have a similar role to play as a professional model and with their enthusiasm and interest in the nursing profession should transfer this attitude to the students and prepare them to perform their professional skills.<sup>[29]</sup>

A good role model should be acted as a clinically skilled person to play the desired role well. Students' working in

groups can strengthen the weak persons through working with others.<sup>[6,9]</sup>

The central aspect of this theory is the focus on the internal aspects rather than external aspects. Regarding the focus of this theory on the social aspects of learning, it is very suitable for teaching and using this theory can be helpful in a group environment.<sup>[30]</sup>

It is worth mentioning that the mentioned theory is based on learning through observation, example, or pattern and it plays an important role in learning. The applications of this theory are including learning new behaviors and skills, encouraging previously learned behaviors, and drawing learners' attention in nursing education. The role of the instructor as a model is very important for the learners, not only for performing the procedures, but also for teaching the way of communication with patients and medical team partners and compliance with ethical principles, as well.<sup>[23]</sup>

### Constructivist theory of learning

The underlying philosophy of constructive theory is different with the underlying philosophy of some other theories, especially theories of behaviorism and information processing. These theories are considered the reality of the universe independent of the mind and outside the learner and learning. They know the transfer of the independent reality out of the learner's mind. In the theory of constructiveness, the objective reality of the outside world transferred from the learner has not been granted and it is not assumed that the learner keeps a version of this world in mind by learning.<sup>[5]</sup> Educational approach based on constructive theory or building the tendency of learning must be emphasized on the activity of the learner during the construction of knowledge and it is commonly apprentice-based. Therefore, it can be pointed that the best training method arising from this theory is a training method based on exploratory learning.<sup>[16]</sup>

Therefore, it can be said that in nursing education, this theory can be used as well and it is very useful in giving the learners actively to participate in discussions and placing the students with different perspectives against a subject and survey them. Creating a group discussion and selection of one person as a coordinator in theory sessions and at the patient's bedside can help to shape and strengthen the cooperation.

### Humanists

In learning, they respect the feelings and experiences. According to Maslow's theory, the human in order to achieve self-actualization should be somewhat satisfied with the lower level of requirements (safety and convenience). Therefore, the ultimate goal of education is reaching to the final limit of the individual growth potential.<sup>[9]</sup> Carl Rogers supports the learner-centered perspective and believes into a semantic continuum, which some substances are located on one side of it without having a personal meaning for the learner. Their learning only engages the mind and is not related to the person feeling and is not devised. At the other end,

experiential learning continuum is located, conceptual and meaningful, which uses the mind and feelings.<sup>[3]</sup> Humanist perspective knows the human with freedom of choice and not under the influence of unconscious forces or external reinforcement. They have assumed similar to idealists that the people are free to choose their targets and they try to get around the individual limitations in order to develop their mental capabilities.<sup>[6]</sup> They do not fit the scientific method for human study. They disagree that objective external observer is not able to understand human behavior. They believe that only a person can explain his own behavior and he is an aware individual and not a researcher or therapist. The humanists in both research and treatment have regard into the phenomenological method.<sup>[17]</sup> In summary, humanism is a perspective in psychology (and the psychology of learning) that insists upon totality of human existence as a free person who tries to maximize its capabilities. In humanism perspective, the teacher gives the priority to the students to learn by their curiosity. The teacher gives them the responsibility and freedom to learn as they wish and willing to learn. However, there is often a clear structure as minimum required limits, which there are tips for getting started. It is possible to achieve by the needs of the curriculum, but the process of learning will be remained open.<sup>[31]</sup>

### The main problems of this approach

It needs a teacher who has had self-discovery and should be emotionally ready to be honest with the students, share his/her expectations and feeling with them comfortably and value their feelings and desires (the role of a teacher from a teacher and an evaluator changes into a facilitator of learning and should also be a part of the community of learners). It may be difficult for the teachers who are used to the traditional method of teaching for several years. Furthermore, for students, it is difficult at first comparing to the traditional methods of teaching and it may cause annoyance and dissatisfaction for them.<sup>[30]</sup> Among the humanist theorists, Knowles has presented the theory of Andragogy. This theory is based on this principle that adults have a wide range of experiences, which provides the basis for new learning. Therefore, the usual approach in teaching the children is not suitable for adult education.<sup>[32]</sup> Barnard stated four principles in adult education:

- Adults have a treasurer of experiences that should be used in teaching
- Adults need to perform, what are learning
- Adult learning is a kind of "self-investments" and new learning impacts on self-concept
- Adults have often authority and training should be based on this fact.

In the methods based on humanism, the student-teacher relationship should be based on mutual respect. Lindman with this sentence emphasize on this point: "People who do not have any other option other than humility, could be a good teacher for adults". According to Knowles: "Adult students must participate in setting the training program, not to conform them to it".<sup>[30]</sup>

## DISCUSSION

However, each of these theories has weaknesses, but they all have their value. For example, if we look closely, the root of humanist theories such as Ganieh and Maslow could be found in cognitive psychologist perspectives and behaviorists.<sup>[21]</sup> In general, we can say that using any of these theories in its place is desirable and useful. Behaviorist perspectives however were faced with a lot of criticism, wherever the changing behavior is intended oral tentatively, fast data transfer is needed, they have demonstrated their effectiveness.<sup>[33]</sup>

Cognitive theory with learning theories is successful method for exploration, witnesses and information processing, application of the principles of meaningful learning in equipping learners to problem solving and inquiry skills, curiosity stimulation, and motivation. However, they are not enough for transferring the required knowledge to all of the learners and they require more time and trained work force.<sup>[9,29]</sup>

Humanist theory, although with broad-based approach and principles of adult education, is a good foundation for teacher–student relationship and prepares the learning environment not to limit the thoughts and feelings of the learners; it opens the way for the development of the students. These cases in all aspects of academic program do not have proper efficiency and are very time consuming in some cases. They need close and continuous interactions between teacher and student that limit their use in large classes.<sup>[34,35]</sup> Therefore, it seems that all listed items are true in nursing education.

It should be paid more attention to clinical aspects and improvement of professional ethics of the learners. The combination of these theories together can be considered as a viable career path in this field. Using a variety of learning strategies in the education of nursing students can better cover their needed aspects and keep their motivation to learning. Teachers must also be familiar with all these views in order to apply each of them in its place according to the characteristics of learners, their motivation level, types of materials, purpose of education, and existing facilities.<sup>[36]</sup>

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