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Connection Modules, Dryness Sensor, Dust Sensor, Light Sensor, Cloud Servers.

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ABSTRACT

The present study was conducted to investigate primary school teachers' awareness of cognitive theories and their application in the teaching process in Chabahar city. The research method was descriptive and correlational. The statistical population included all primary school teachers in Chabahar city (400 people), and the sample size was 196 people, calculated using the Cochran's formula. Data collection tools in this study were two researcher-made questionnaires along with an observation checklist form for observing teachers' performance in using inspirations derived methods from cognitive theories in teaching. The reliability of the questionnaire in the present study was calculated at 0.84 by Cronbach's alpha method. Based on the results of the research hypothesis, primary school teachers' awareness of cognitive theories in Chabahar city is lower than the average level, meaning the average scores of teachers in this course in relation to cognitive theories in children's cognitive theories test is less than 10. The results also showed that the application of cognitive theories in the classroom and teaching process happens mostly in the field of information processing theory, and it happens the least in the field of metacognitive theory. Passing in-service training courses, level of education and field of study (educational sciences and disciplines related to students' education) have been considered effective in the level of awareness and information of teachers and using students' cognitive theories.

Keywords: Chabahar City, Cognitive Theories, Elementary School, Teaching, Teacher

INTRODUCTION

1. Introduction

The concept of professional development of teachers has emerged since the middle of the twentieth century with the necessity for reforms in educational systems. In the formation of this concept, research findings and comparative studies of educational systems have had a great impact because different studies and researches show that teachers have a two-way role in making educational reforms. On the one hand, teachers are the subject of educational reforms, and on the other hand, they are considered the agents of educational reforms. Therefore, the



most common goals in teacher training are professionalization (focus on low quality or without quality teachers), capacity building of teachers (preparing teachers to accept new responsibilities when facing changes in the curriculum), updating teachers and keeping their teaching knowledge and ability up-to-date in accordance with new teaching conditions and methods (Aghazadeh, 2014).

Learning is one of the pillars of human life. Learning enables people to adapt to environmental conditions. In fact, life will be impossible for human beings without learning. Therefore, to achieve this important thing, an organization called the education system has been created, and one of its goals is to create the need to learn and provide opportunities for that. Education is based on learning, and without it, no training will be possible. The methods a teacher uses for teaching all depend on learning; as long as students are not ready and interested in learning, activities and training done by teachers will not have the slightest outcome. Therefore, learning is not something that happens on its own, but we need to be aware of its principles and methods. These principles and methods are listed in a set called learning theories. One of the most important learning theories is students' cognitive theory. Any action that is based on a purpose or goal requires a theory. Therefore, teaching, which is a purposeful action, requires a theory in order to present content in a logical way to students, in an attempt to reduce unnecessary pressures on learners to memorize on the one hand and on the other hand to be able to have sufficient knowledge of learners in order to present materials suitable to their situation (Zanganeh, 2013).

From what has been said, it seems that the knowledge of students' cognitive theories is an inescapable necessity for teachers and educators because all the activities and efforts of teachers are to provide more and more useful experiences to learners, and they always expect their words and experiences to be better learned by students. But this goal will be achieved when teachers are fully aware of the principles and methods in which children learn and how they can be guided in their learning, in addition to how children grow and develop. Although no theory can be considered the most conclusive theory in learning or can be introduced as the only tool or the answer to educational problems and difficulties, each teacher, in terms of environmental conditions and special situations for himself and his students, can use special methods to solve existing problems and this method may be compatible with one of the theories of learning or with a combination of theories, and the teacher should use the theory to improve the teaching and learning (Seif, 2015).

In an efficient education system, various components and elements, including curricula, learners, teachers, teaching aids, environment and equipment, budget and credits, etc., interact with each other in order to achieve the expected goals. In addition, it is necessary that each component alone has the required quality and efficiency. In this regard, the teacher plays the most important role in providing appropriate conditions for learning activities, and it is essential for teachers to have the required competencies to perform such a role in the educational system. Given that elementary school courses are among the most important and basic courses; Therefore, elementary school teachers need different education according to the students' cognition and their developmental stages.

2. Significance of the study



Training will be based on learning in any way. Accordingly, when a teacher seeks to figure out how to teach a particular subject, he or she has to refer to learning methods and theories and study how each student learns. In fact, teaching patterns are learning patterns, and we teach students how to learn while helping them with acquiring information, theories, skills, values, ways of thinking, and ways of expressing themselves. Foreign language teachers need a growing understanding of learning and how it occurs for effective teaching in the classroom. This understanding includes the knowledge of cognitive learning theories and their application in the teaching process. There are several cognitive learning theories that jointly help to understand how learning occurs in children. This common practice, that is, using the techniques and principles from the perspective of different theories is better than considering a single perspective when designing an educational plan (Auvigne, 1997).

Human resources play the most fundamental role in achieving the developmental goals of societies, and the underlying role of educational systems at all levels becomes clear in achieving the ideals of society. Regarding the degree of importance of different levels in the education system, without compromising the serious position of higher education, more sensitivity and importance should be given to pre-university levels because, with correct and principled planning in pre-university education, the new generation has the correct scientific and cultural insights and foundations, and these foundations are the basis for gaining expertise and scientific capabilities in an advanced level, and among the various levels of pre-university education, the elementary level plays a major role and is considered the basis of all teachings. In the first step, the development of elementary school curricula must be adapted to the scientific and cultural needs for improvement (Woolfolk, 2001).

One of the reasons for the importance of this subject is that it is according to these students' cognitive theories that planners, authors and teachers can prepare curricula appropriate to the age and cognitive development of students so that the logical and conceptual development of students' knowledge increase. Teachers can pay attention to the decisive role of experiences or interaction with the environment in students' learning; also, teachers, educators and counselors can study the principles of the cognitive theory according to the age and cognitive development of the child using any method, tool or situation that they use to assess and evaluate students, (Safavi, 2010).

Education based on the developmental stages of children refers to any curriculum theory that emphasizes a child's developmental stages as the main factor in determining the level and sequence of the curriculum. Some curriculum leaders today use a Piagetian framework in selecting and organizing appropriate learning experiences. For example, Brooks (1998) describes how teachers in Shoreham Wading River schools in New York receive extensive training in theories and research on children's cognitive development first. In the next step, these teachers learn how to measure the cognitive development level of their students using formal and informal tools. Finally, special strategies for modifying pre-determined curricula to adapt these curricula to students' cognitive levels are taught to them (Miller, 2006).

Because teaching is done to facilitate learning and each of the educational goals represents a specific type of learning, therefore, it is necessary for teachers in all stages of teaching to refer to the findings of learning theories and make appropriate and logical decisions based on the rules and theories of learning, especially students' cognitive theories, in order to improve teaching activities.



3. Literature review

-Abshang (2016) studied "The level of knowledge of teachers' multiple intelligences and its application in primary schools." This was descriptive field research. The results indicate that teachers' knowledge of multiple intelligences and their attitudes toward this intelligence and the extent to which this intelligence is used in their teaching methods are moderate to high. According to the research results, it can be claimed that the level of teachers' awareness of multiple intelligences and their use in their teaching methods is significant and positive.

-Bagheri (2016) has conducted a study entitled "Study of the familiarity of primary school teachers in Shahroud with theories of learning and its application in teaching," which is a descriptive research and a field method was used. The results of this study have shown that the level of teachers' familiarity with learning theories is optimal, and the effect of teaching on learning from a teacher who is aware of learning theories is greater than a teacher who is not mindful of these theories. There is no significant difference between teachers' knowledge and awareness of learning theories and their application in the teaching process in terms of variables such as gender, degree, the field of study, teaching experience and participation in in-service training courses.

- Shahdipour (2016), in his study, "Comparison of knowledge of normal and special education primary school teachers about learning disabilities and attention deficit hyperactivity disorder," concluded that the level of knowledge of special education primary school teachers about learning disabilities and attention deficit - Hyperactivity is more than the level of knowledge of normal primary school teachers and also the level of awareness of special education school teachers in attention-deficit - Hyperactivity is more than the awareness of learning disorders, and also the level of knowledge of normal school teachers about learning disorders has been more than their awareness in attention-deficit - Hyperactivity. As a result, teachers who had more awareness and a more positive attitude performed better concerning these students. The good performance of teachers despite the neutral attitude can be due to the influence of various interfering factors on attitude and performance and is rooted in the complexity of brain function and human behavior.

- Baradaran (2016), in a study entitled "Survey of primary teachers' awareness of aesthetics and art education in Tehran," concluded that 1. The level of teachers' familiarity with the category of art education is relatively high. 2. The level of teachers' familiarity with the category of art history is above average. 3. The level of teachers' familiarity with the category of aesthetics is too high. 4. The level of teachers' familiarity with the category of art criticism is relatively high. 5. The level of teachers' familiarity with the category of art production is relatively high.

- Mohammadpour (2016), in his research, "Study of the relationship between the level of awareness and how to use the national network of growth and professional development of junior middle school teachers," concluded that teachers are mostly aware of the network website, facilities, services and the network menu through the Internet, magazines and colleagues, and by accessing the network, they use it regularly in various matters, including educational writings, designing course questions, and in their teaching methods. As a result, the results of the interview were in good agreement with the questionnaire.



-Ramezani (2017), in a study entitled "Study of the relationship between English language teachers' awareness of creative teaching factors and their self-regulation and gender," concluded that there is a significant relationship between teachers' awareness of creative teaching factors and self-regulatory skills. The results also indicate that there is no significant relationship between the responses of male and female teachers in these two structures.

- Cheung (2000), in his study, "Teachers' Beliefs about Different Curriculum Designs," contrary to expectations, found a positive and significant correlation between approaches, in a sense that, for instance, teachers with a humanistic orientation had a strong tendency to support behavioral orientation as well. No significant difference was observed in teachers' orientations in terms of educational level (primary and secondary) and gender.

Al-Khatib (2007), in a study entitled "A survey of general education teachers' knowledge of learning disabilities in Jordan, Considering the Variables of Teaching History and Education Level," concluded that, in general, teachers have a moderate awareness of disability. And also, the female teachers' awareness was higher than male teachers'. But there was no difference between teachers' knowledge according to their level of education and work experience.

- Sternberg (2008), in his research about "Applying psychological theories to educational practice," concluded that there are two approaches to the use of psychological theories in education, which he has referred to as the general domain and the specific domain.

- Gokturk's (2010) research on the need to use new approaches from learning theories in music teachers' teaching concluded that new conferences, seminars and workshops on new approaches for elementary school music curriculum should be organized in order to help music teachers understand better trends.

Dugan Tass (2011), in a study about identifying the level of knowledge and perspectives and learning theories about curriculum approaches to investigate the impact of applying theories in the curriculum, talks about the holistic curriculum approach, which was adopted in 2005 for elementary education curricula. One of the reflections of this approach is the determination of eight periodic courses of the curriculum and the relationship between the results of the courses and the subject of the periodic course. The findings of this study showed that the knowledge of the program committee members is limited to the definition and performance, and the reason for using the periodic curriculum course and its implementation is to evaluate the learning processes and the necessary competencies that the teacher should have. Although the course curriculum structure is defined, there are some problems such as adapting the periodic course curriculum results with this curriculum results, including them in the curriculum, preparing the curriculum content, and accepting them at the elementary level.



4. Research purposes

1. A study of the familiarity of primary school teachers in Chabahar city with cognitive theories
2. A study of the use of cognitive theories in teaching by primary school teachers in Chabahar city

5. Research questions

1. How familiar are the primary school teachers of Chabahar city with cognitive theories?
2. To what extent do primary school teachers in Chabahar use cognitive theories in teaching?

6. Research Method

According to the objectives and questions of the research, which is in order to examine the level of knowledge of primary school teachers in Chabahar city about cognitive theories and their application in the teaching process, the present study has followed a descriptive research method. In terms of purpose classification, this is applied research. According to the classification of research based on the data collection method, it is descriptive and survey type research. Among the descriptive research, it is of correlation type because the relationship between several variables is studied.

7. Statistical Population

In the present study, the statistical population is all formal primary school teachers in Chabahar (N = 400).

8. Sample size and sampling method

In the present study, the sample size based on Cochran's formula was estimated to be 196 teachers and was done by a simple random method.

9. Data Collection Tools

1. Questionnaire

Data collection tools in this study are two researcher-made questionnaires that Arefi, Fathi Vajargah and Naderi (2009) have previously used in a study and have obtained their validity and reliability.

1. A researcher-made test to measure teachers' awareness of cognitive theories, including 21 multiple-choice questions (with seven questions assigned to each theory);

2. Researcher-made questionnaire for applying cognitive theories: including questions related to personal characteristics of age, gender, background, the field of study, degree and in-service courses and 21 items on three cognitive theories (assigning seven questions to each theory) with the 5 points Likert scale (never, very little, sometimes, most of the times and always).

2. Observation checklist form for observing teachers' performance in using inspirations derived methods from cognitive theories in teaching:

Using this form, teachers' awareness of cognitive theories in the teaching process will be observed and examined. The form contains 20 components that will be prepared and compiled based on cognitive theories, and the observer will perform it in several classroom sessions and complete the checklist.

10. Data Analysis Method

In statistical research, after collecting the data from the sample group, it is necessary to perform analyses on data to turn the quantitative data into qualitative data; so we can answer research questions based on them. SPSS software version 23 was used to analyze the data of this research. Data analysis of this research has been done at two levels descriptive statistics and inferential statistics. Descriptive statistics characteristics such as frequency and frequency percentage have been used, and for questions 1 to 6 (one-sample t-test), questions 7 and 8 (t-test for independent groups), inferential statistics are used.



11. ~ Research Findings

Test research questions

Question 1: How familiar are the primary school teachers of Chabahaar city with theories of epistemology?

Using the test tool to assess cognitive theories, it was found that the level of awareness and knowledge of primary school teachers in Chabahaar city in relation to cognitive theories was lower than average; the average score of teachers in this test was 7.61 (on a twenty-point scale) and less than 10. The highest mean score was related to information processing theory with 7.78, and the lowest mean was related to metacognition theory with 6.38 (Table 4-4).

Table 1: Statistical Indicators of Teachers' Knowledge of Cognitive Theories Test

Statistical Indicators Learning Theories	Mean	Medium	Standard Deviation
Information Processing Theory	8.78	8	4.29
Cognitive Theory	8.02	7.5	4.28
Cognitive Learning Theory	7.42	7	4.23
Metacognition Theory	6.37	6	3.82
Total	7.60	7.5	4.03

Question 2: To what extent do primary school teachers in Chabahaar use cognitive theories in teaching?

Based on the findings of the checklist tool for observing the performance of teachers in using inspirations derived from cognitive theories in teaching, the application of cognitive theories in the teaching process by primary school teachers in Chabahaar city on "always" and "most of the time" received 9.42%, on "sometimes" and "very little" received 4.8%, and on "never" received 8.4% of the answers (by observers). In this regard, the most application of cognitive theories in teaching by primary school teachers in Chabahaar city is related to information processing theory with 9.52%, and the lowest of them is related to metacognition theory with 5.23% (Table 4- 5).

Table 2: Descriptive Indicators Related to the Application of Cognitive Theories in the Teaching Process by Teachers

Grading Scale Learning Theories	Frequency/ Percentage	Alway s	Most of the times	somet imes	Very little	never
Information Processing Theory	Frequency	36	68	50	35	7
	percentage	18.2	34.7	25.9	17.6	3.5
Cognitive Theory	Frequency	19	71	55	32	19
	percentage	10.0	36.5	27.6	16.5	10.0
Cognitive Learning Theory	Frequency	25	69	62	32	7



	percentage	12.9	35.3	31.6	16.5	4.1
Metacognition Theory	Frequency	10	35	55	63	33
	percentage	5.3	18.2	27.6	31.8	17.1

12. Conclusion

Research findings showed:

1. The amount of knowledge of primary school teachers in Chabahar city of cognitive theories is lower than the average. The average score of teachers in this course in relation to cognitive theories in the test of children's cognitive theories is less than 10. The present results are in line with Arian Doust's results in 1996. The amount of information and knowledge of primary school teachers in Chabahar city about the concepts and teaching methods of different courses in this period was lower than average, and the average was less than ten. Therefore, from the results of the first question of the research, it is inferred that the knowledge of the teachers of the sample group of cognitive theories is at a low level. And teachers in the general model of education in the in-service training stage must refer to learning theories and especially theories of cognition in order to teach more effectively in accordance with learners and different subjects.
2. Although the level of knowledge of primary school teachers of the sample group in Chabahar city of cognitive theories is at a lower than average level, they use a wide range of cognitive theories in the classroom and teaching process. This is in line with the results of Marashi's (1995) research, during which it was mentioned that the teachers of the sample group in Tehran have appropriate jobs and professional skills. In fact, teachers use theories in moderation without knowing their names, characteristics and theoretical classifications.

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