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Study of Epistemological Foundations of Pre-Organizer Teaching Method in Teaching-Learning Strategies

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Abstract: The purpose of this study is to investigate the epistemological foundations of the pre-organizing teaching method in order to determine the position of these bases in the theoretical and practical fields. The research method is descriptive-analytic and it is kind of qualitative and attributive. Research data derived from multiple sources, articles, dissertations and research projects using text analysis techniques. The results of the study showed that organized cognition is hierarchical, personal, unique, subjective and relative. The set of factors of rationality and emotional affairs are effective in the formation of cognition. It is, therefore, close to the standpoint of existentialism philosophers. The teacher constantly uses the deductive method during the learning and development of knowledge. The characteristics of the learner's prior knowledge as a starting point for the teaching process are constancy, clarity and incremental capability. Also, the method of acquiring knowledge in this pattern is through direct and sensory experiences.

Keywords: Epistemological Foundations, Teaching Pattern, Pre-organizer, Teaching-Learning Strategy.

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Introduction

Teaching, more than anything, is giving knowledge to others, but knowledge is only useful when it can be the background for change in the novice and increase his range of possibilities (naghibzade, 2002, p.16). UNESCO has called the 21st century the century of learning, and quality education for all is on the agenda in all countries. For teachers, experts and educators, there is always the strategic question of how to increase or improve the quality of teaching as the opportunity for access to education grows. Teaching is an activity performed by one person to simplify the learning of another. This was what Gage, Nathaniel Lees brought in the book "The Scientific Basis of the Art of Teaching" to describe the quiddity of education. Teaching can be divided into two complementary parts. 1- Managing information and structuring knowledge throughout the textbook through what is called didactic. Like mathematical didactic etc. 2- Processing and transforming information to build knowledge through interactions between learners, lecturers, resources, and contexts along with organizing Situation Pedagogique by the teacher belonging to the Pedagogique department. In addition, from a philosophical perspective, learning and teaching can be pursued in the epistemological topic (Gootie & Tardif, 2005; Translated by Mashayekh, 2015, p.3). In these topics, the origin, nature, limitations, and methods

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of cognition are addressed (kadivar, 2018, p.4). Epistemology is the science that discusses human knowledge and the evaluation of their types and the determination of their truth and falsehood (Hosseinzade, 2014, p.17). There are issues that until they are not solved there will be no possibility of resolving other issues. Among them are epistemological topics that In the West are known as the theory of knowledge or epistemology. In the history of western civilization, Plato is not the first person to engage in teaching profession and has proposed desirable perfection and methods of education; But no one before him has tried to know when training is inevitable and what needs to be answered and under what conditions training is possible. He was the first to have a philosophy for education (Chateau,1977; Translated by Shokouhi, 2005, p.8). But the generations immediately before Plato, the mid- and late-fifth century or Pericles century, were surprisingly witnessing the emergence of men who had no occupation other than education. They went from town to town delivering successful lectures, collecting for their private lessons in return for a large sum of money. These teachers were known as Sufists that means knowledge experts (Chateau, 1977; Translated by Shokouhi, 2005, p.9). We know that Plato's education differs greatly from that of the Sophists because it has no material purpose. That is not an opportunity to address this debate in this continuum. Philosophically, how we look at the teaching-learning process is influenced by how we look at the source of epistemological knowledge (Waxman & Walberg, 1999). Since the education system is broadly concerned with the exploration and transmission of knowledge and epistemology defines the foundations of knowledge, there are important questions in this subject that are closely related to teaching and learning methods. Thus, the closest relation between knowledge and education is in the teaching and learning methods (Habibi, 2015, p.13). Epistemology or theory of knowledge forms a major part of the interaction between education and curriculum content. The teacher deals with knowledge in most aspects of his career, even when he thinks about the child's intellectual development and emotional maturity, he is dealing with knowledge or, in other words, reliable knowledge. Therefore, having an epistemological perspective for a teacher is a basic necessity. Epistemology is the main treasure of teaching profession (Kneller, 1908; Translated by Bazargan Dilamaghani, 2004, p.29). Epistemology is the key factor in selecting teaching and learning methods, identifying, distinguishing and understanding how they operate and how they affect and apply to particular cases. On the other hand, education contains teaching and teaching contains knowledge. That is itself linked to how to build a productive interaction between teacher and learner, content or curriculum, and these are all important in the course of education. All these terms double the emphasis on present theoretical research. On the other hand, the pre-organizing teaching method has been the subject of attention since Ausubel, as a cognitive psychologist, emphasized its importance and took it into consideration along with lecture and explanatory teaching methods. Ausubel believed that the learner at any time and stage of learning has a clear structure, consistency and clear picture of the knowledge in particular subject. He called this structure a cognitive structure and believed that it would determine the learner's ability to deal with new ideas (Safavi, 2018, p.200). In this way, students are not passive because, Ausubel believes the pre-organizer provided by the teachers makes the learners' minds struggle. The pre-organizers do this by linking the learner's prior knowledge with what needs to be learned, (Aghazadeh, 2013, p. 268). Ausubel illustrates the importance of this pattern's influencing: if all the content of educational psychology were to be summarized in one single principle, it would be that the most important factor that has the most influencing on learning is the learner's prior learnings. Realize and train according to this principle (Saif, 2019, p.170). The researches that have been done so far in the field of teaching and the epistemological foundations have a wide and varied

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scope. What is at stake in this study is researches that address the epistemological foundations of the pre-organizing teaching model. In the field of pre-organizer learning model, Hajipour's research (2011) was conducted to investigate the impact of pre-organizer learning history and academic achievement and its attitudes on the third grade of girls' high school in Marand, the sample population was 900 students and the available sample size was 84 students. The research design was quasi-experimental. Descriptive and inferential statistics were used to test the hypotheses. The results showed that the groups using the pre-organizing teaching method had achieved academic progress; But there was no significant difference in attitude to history lesson among students who were trained by the above and traditional teaching methods. Tourani's Research (2012) examines the relationship between philosophical assumptions of teaching methods (lecture, pre-organizing, probing and problem solving) and the research spirit of students, which was done through qualitative research and combined theoretical research, The findings showed that there is a correlation between the philosophical assumptions of the mentioned teaching methods and the components of the research spirit. Ganji, Zahed Bablan, and Moeinia Kia's research (2012) was conducted as a meta-analysis of research on the role of teaching patterns on students' academic achievement. Out of 851 research papers including research projects and master's and doctoral theses available at Ardebil Teacher's Research Institute of Education Organization until 11/01/2012, focusing on the role of teaching patterns on students' academic achievement. The results of the combination of studies and effect coefficients showed that the pre-organizer model effectiveness was ranked seventh out of the 9 models studied. Research of Forouzan Nejad (2013) as Designing and Evaluating Multimedia Education Program Based on Pre-Organizational Model and its Impact on Academic Achievement Motivation of Qa'en Social Education Course Using Quasi-Experimental Research Method with Experimental and Control Group The sample size was twenty people with available random sampling method. The results showed that the internal and external motivation of the students who saw the multimedia pre-organizer was greater than the other students. Gholipour Baraftab Research (2014) was done on the Effect of Pre-Organizing Teaching on Creativity and Self-directed Learning of Yasuj Grade 6 Elementary Students Using a Quasi-Experimental Design in a Pre-Test Post-Test Sample Size of 40 People and Cluster sampling Method. The results showed that the mentioned teaching method had a significant effect on fluidity, flexibility, Innovation and creativity expansion and Self-directed Learning. Aalipour's research (2014) was done on the effect of pre-organizers and enrichment based on English grammar learning in two separate (quantitative and qualitative) studies. In a quantitative study, 80 high school students were randomly divided into three experimental and one control group and after completing training courses, immediate and delayed tests were conducted. The results showed the superiority of the interlanguage pre-organizing group over the other groups. Kalhor & Mehran research (2015) was done on the effect of concept maps education on meaningful learning of English language of high school students in Karaj. 38 students were selected by purposive sampling method and a pre-test - post-test quasi-experimental design with control group was used. The results of the independent test showed that concept maps strategy increased learning and comprehension in the experimental group compared to the control group. The research of Rostampour, Kal roo s2zi, pishgooi and Alari (2016) was conducted to investigate the effect of triage learning using pre-organizing pattern on knowledge of nursing personnel of crisis teams in selected hospitals of the army by semi-empirical method. In this research, two hospitals were selected as the study population and were randomly assigned to intervention and control groups. 50 nurses from the two hospitals were selected as available. The results showed that the mean score of nurse's knowledge before intervention in the experimental group, was different from the control group and considering the

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positive results of this model on raising the awareness of nurses in crisis teams, it was recommended to apply this method in nursing schools. Mazaheri's research (1396) was conducted to study the knowledge of second-grade math teachers about pre-organizers and their application with survey method with a population size of 100. A sample of 75 was selected using Morgan table. The results showed that the knowledge of the teachers from the 'pre-organizers' was moderate and there was a meaningful relationship between the level of use of different organizers in teaching. Research of Ghadampour, Sadeghi, Yousefvand, Maleki and Rajabi (2018) was done as comparison of the effectiveness of pre-organizing, platforming and traditional education models on academic resilience of secondary school students of english language in Khorramabad. Data were analyzed by covariance analysis. The results showed that in the post-test phase, pre-organizing and platform modeling methods increased academic resiliency. But in the long-term, there was no significant difference between the two methods (pre-organizing and platforming). So, these two teaching methods were effective in enhancing academic resilience in short-term. By contemplating on the results of these studies the importance of avoiding the extra costs and necessity of present research and its effectiveness for different groups of teachers, lecturers and university professors becomes clear more than ever. Although there have been numerous studies in the country on the paradigm of pre-organizing teaching, addressing the philosophical or epistemological foundations of this paradigm remains a significant challenge. Identifying the epistemological foundations of the pre-organizing teaching pattern can affect the quantity and quality of student learning, teacher performance and awareness, and the control and organization of student learning. Unfortunately, despite the importance of the subject, no research has been done in this area so far. Therefore, considering the importance of understanding the epistemological foundations of the pre-organizing teaching model in the teaching-learning process and lack of research in this field, the following research seeks to answer the following questions:

What is the role of educational elements in the pre-organizing teaching pattern?

What is the place and method of gaining knowledge in the pre-organizing teaching pattern?

Material and Method

The approach of this study is descriptive-analytical and qualitative and documentary. In these studies, the results are recorded with appropriate tools such as a receipt, table, and form, and at the end of the work they are classified and utilized (Hafeznia, 2014, p.197). Since the purpose of this study is to examine the nature of the epistemological foundations of the pre-organizing teaching model, the data analysis method is the text analysis method. In order to answer the questions, first the role of each of the elements of the pre-organizing teaching pattern is identified and analyzed and then the conceptual analysis of the epistemological foundations of the mentioned pattern is given with references related to the research. Therefore, the main terms of the research subject and then their relation to each other are described, explained and analyzed. Then the data and information from this analysis are interpreted, coded, categorized and deduced. The process of data analysis begins with copying and storing the data and continues with the implementation of one of the encryption methods (theoretical, thematic, etc.) (Hariri, 2006, p.236). In this method, the collected data are first described and then interpreted. And finally, there is a general conclusion, and in this path, affairs like coding are used. To achieve the purpose of the study, the epistemological foundations of the pre-organizing teaching pattern studied as a teaching-learning strategy.

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Results

The findings of this study can be stated in the following bases:

The Role of Educational Elements in the Pre-Organizing Teaching Pattern

In the theoretical basis of the pre-organizer pattern, Schwab (1973) considers three distinct and related sets to describe the concept of structure. The concepts in each lesson create a special construction, collectively called knowledge. Like physics, mathematical knowledge ... every field of knowledge is formed on the basis of a hierarchy. It means, first general concepts and then minor concepts are formed. So, general concepts must be presented before minor concepts. What we want to teach a student in a lesson must be related to his or her cognitive structure - that is, to the other concepts and contents of that discipline already in the student's mind (Shabani, 2005, p.225). Therefore, the pre-organizer is a general theme or concept that is taught in the introduction to relate the topic presented to the students to previous topics of the same lesson (Eslahi, Refaei, & Jafari, 1977, p.59). This method leads to the enhancement of concepts, the meaningful internalization of information, the habit of regular and logical thinking, and the enhancement of exploration in students (Khorshidi, 2018, p.323).

Teaching steps

The pre-organizer pattern has three steps: Pre-organizing presentations, presenting the lesson, consolidating the structure of cognition. The third step examines the relevance of the lessons learned to the theories in mind and provides an active process for learning. At this stage, the students are asked to organize the assumptions or inferences that they may have learned in the lesson. The judgment and critique of these inferences and assumptions and the contradictions within them, foster a critical tendency towards knowledge. The learning situation is more interactive in the third stage and the teacher is in control of the mental construction (Joyce, Weil, & Calhoun, 1972; Translated by Behrangi, 2015, p.271). A summary of the teaching steps in the pre-organizer pattern is illustrated in Figure 1.

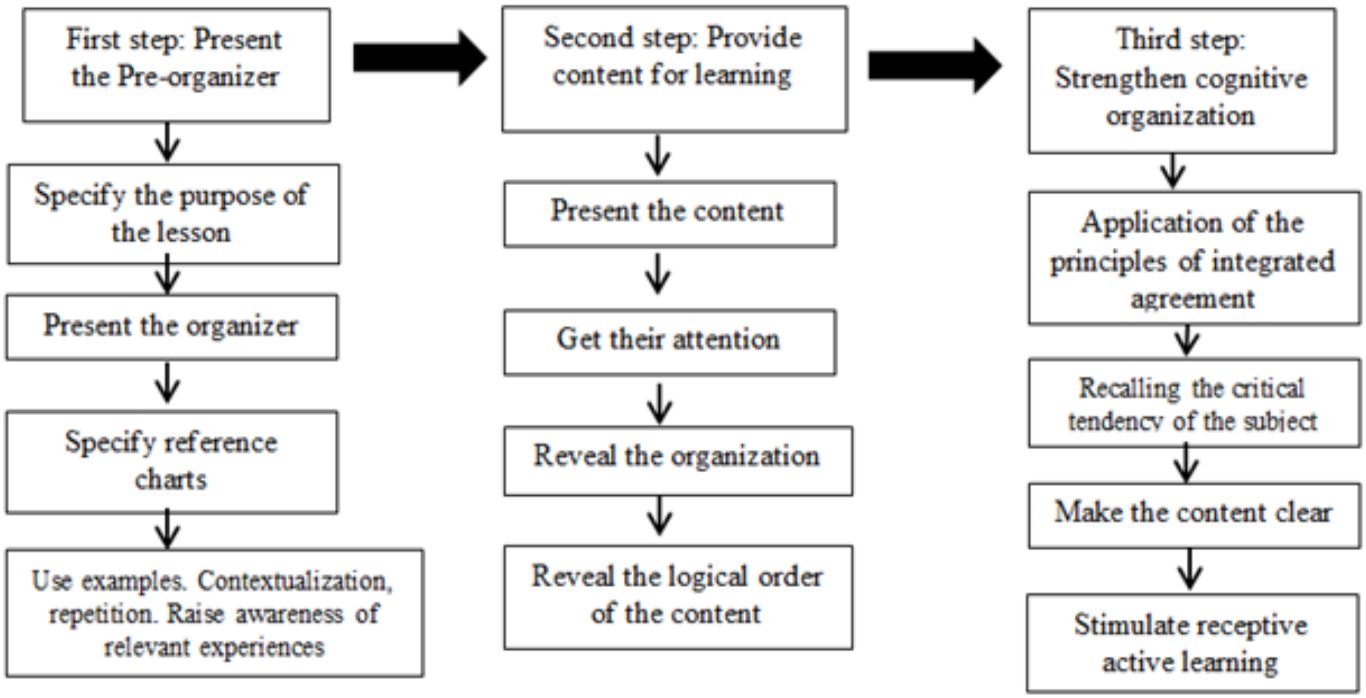

Diagram 1. Steps of the Pre-Organizer Teaching Pattern Based on the Text of Joyce, Weil, and Calhoun; Translated by Behrangi, 2015, p.271

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The role of the teacher and the student in the pre-organizing teaching pattern

Because of the complexity of teaching and the diversity of students, teachers have to master various perspectives and be flexible in their application (Karimi, 2018, p. 8). In pre-organized teaching method, the teacher is in charge of mental structure and helps the students to distinguish the new subjects from previous ones (Khorshidi, 2018, p.322). The teacher acts as a facilitator in active learning rather than a mere instructor (Westwood, 2008; Translated by Fathivajargah, 2016, p.14). Students are not passive in the pre-organizing method. According to Ausubel, the pre-organizer provided by the teachers makes the learners' minds struggle. According to Ausubel, by utilizing a variety of pre-organizers, passive learning of lectures and explanatory teaching methods become active methods (Aghazadeh, 2013, p.268). There are various approaches to teaching, the most well-known of which is Jerome Bruner's discovery method and David Ausubel's meaningful verbal learning. Bruner and Goodenough (1956) emphasized understanding the structure of the subject under study, the necessity of active learning as the basis of real understanding, and the value of deductive reasoning in learning. Ausubel believes that knowledge is acquired through the reception of verbal information and ideas and the relationships between ideas. He says repetitive learning is not meaningful, because what is learned is not associated with the current knowledge of the learner. But in a meaningful way of learning, the subject is presented systematically and in a proper sequence. In this approach, deductive reasoning and moving from the general to the minor are of primary importance (Lotfabadi, 2010, p.256).

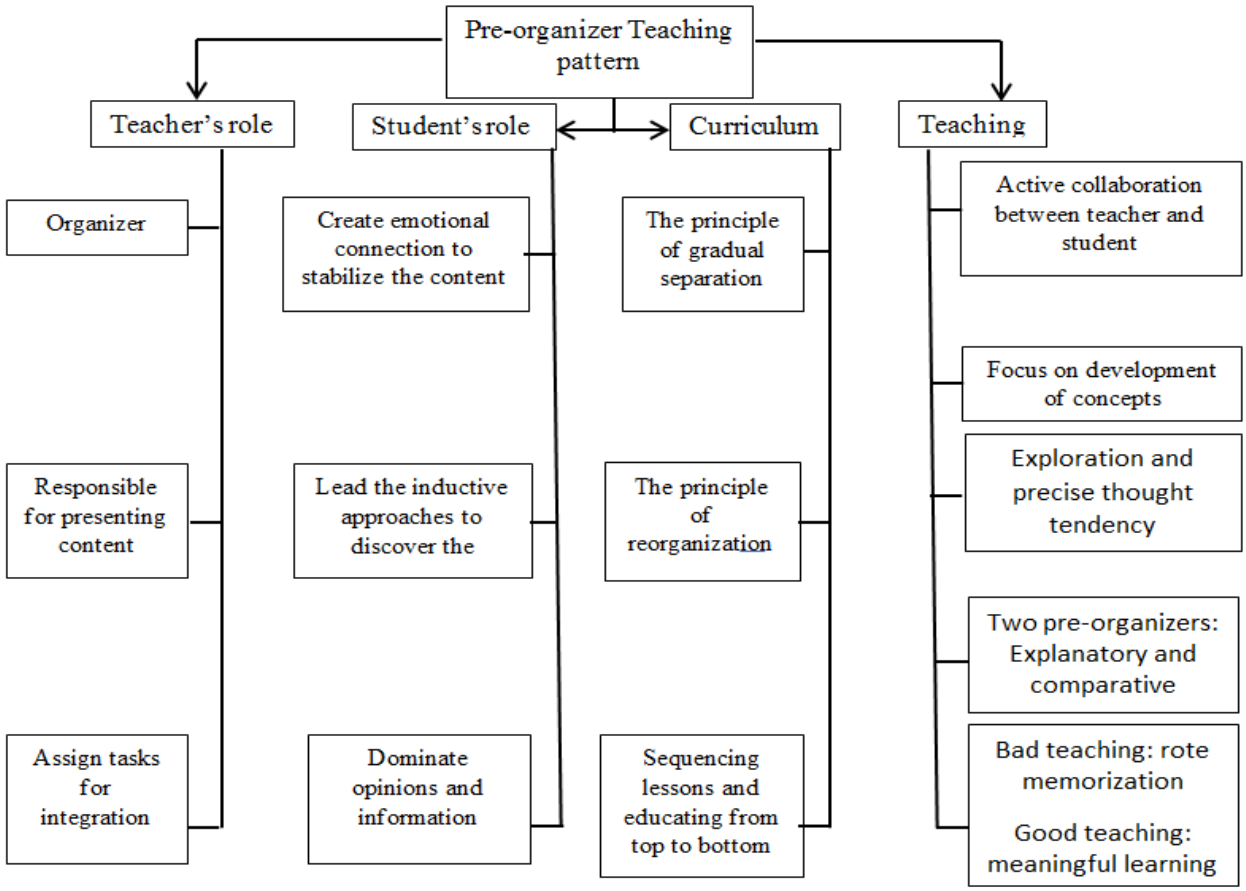

Figure 2. Educational elements in the pre-organizing teaching pattern

The status of knowledge and its acquisition method in the Pre-Organizing teaching pattern

Ausubel states that each learner builds and organizes his or her own knowledge. In addition, knowledge is constructed as a framework of special concepts (Aghazadeh, 2013, p.272). Knowledge is not something that

can be injected from the teacher to the learner and the learner interprets the information received in his/her own way, then expands the information available by linking it to his/her existing knowledge and other aspects of the lesson to be learned. Therefore, there may be nothing in common between the two learners in terms of learning and transferring what they learn (Aghazadeh, 2013, p.273). In this kind of personal creation system, the pre-organizer pattern usually deals with the contents from the whole to the details. Knowledge seems to be partially discussed in the discussion of the epistemological foundations of the pre-organizing teaching pattern. Because each individual learner actively controls the incremental knowledge and constructs knowledge personally. So, each person is responsible for the process of forming his/her own knowledge. In studying the epistemological foundations of the pre-organizing teaching pattern, knowledge in new situations is frequently chosen by the learner and is individually constructed. In this pattern, as every knowledge is interpreted from the perspective of every person, so the set of factors of rationality and emotional affairs naturally contribute to the formation and spread of knowledge (Gootek, 1997; Translated by Pak Seresht, 2012, p.177). This phrase seems to bring the philosophy of existentialism to mind. In Ausubel's theory of meaningful learning, the knowledge of a course is organized as a hypothetical pyramid scheme with a hierarchy, and its cognitive structure creates the individual's scientific context. In this pyramid construction, the most general issues are at the top of the pyramid, and the less comprehensive are in the middle of the pyramid, most of the detailed information are at the bottom of the pyramid. In Ausubel's opinion, this style of teaching (teaching more comprehensive subject first and more detailed subject at the last) corresponds to the natural stages of cognitive construction (Saif, 2019, p.171). According to the description of the theory, it seems that the teacher will continuously use the deductive method during this teaching. Ausubel honors verbal learning, and believes it is very effective for students aged 11-12. He also says direct experiences are beneficial for children. Thus, regular sensory experiences seem to form the basis of knowledge in studying the epistemological foundations of this pattern. Ausubel believes that learners learn to make connections between new knowledge and their prior knowledge in their own cognitive structures. He states that the only factor affecting learning is what the learner knows beforehand. So, teachers should determine what they know and teach base on that (Aghazadeh, 2013, p.268). This last sentence seems to be reminiscent of Plato's philosophy. In the idealism epistemology the process of cognition involves the recognition of latent ideas, which are already formed in the mind (Gootek, 1997; Translated by Pak Seresht, 2012, p.33). Learning as a rational process is about reminding ideas and applying them. Students are trained to become aware of ideas and organize them into a system in which the component is linked to the whole. Learning is therefore a process of self-interest and individual (Gootek, 1997; Translated by Pak Seresht, 2012, p.35). Since the idealistic curriculum has a hierarchical basis, the curriculum process in idealistic epistemology seems to be different from the epistemological foundations of the pre-organizational teaching method. At the top of this curriculum are the general themes of philosophy and theology, which express the most vital relationships with God and the universe. In this idealistic program, more specific subjects are justified on the basis of their relevance to more general subjects. General topics, bypass the constraints of time, place, and special situations, and because they are general and abstract, they have the potential to be generalized to different situations (Gootek, 1997; Translated by Pak Seresht, 2012, p.39). Thus, in explaining the epistemological foundations of the pre-organizing teaching pattern, it can be said that the mind is active and forced to struggle. By utilizing a variety of pre-organizers, inactive learning becomes active learning. The pre-organizer links the learner's prior knowledge to what needs to be learned. In this viewpoint, knowledge is constructed and organized by each learner. The method of acquiring knowledge in this pattern is explained

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because of the emphasis on direct experiences. The starting point for teaching in this method is to determine and identify the learner's knowledge.

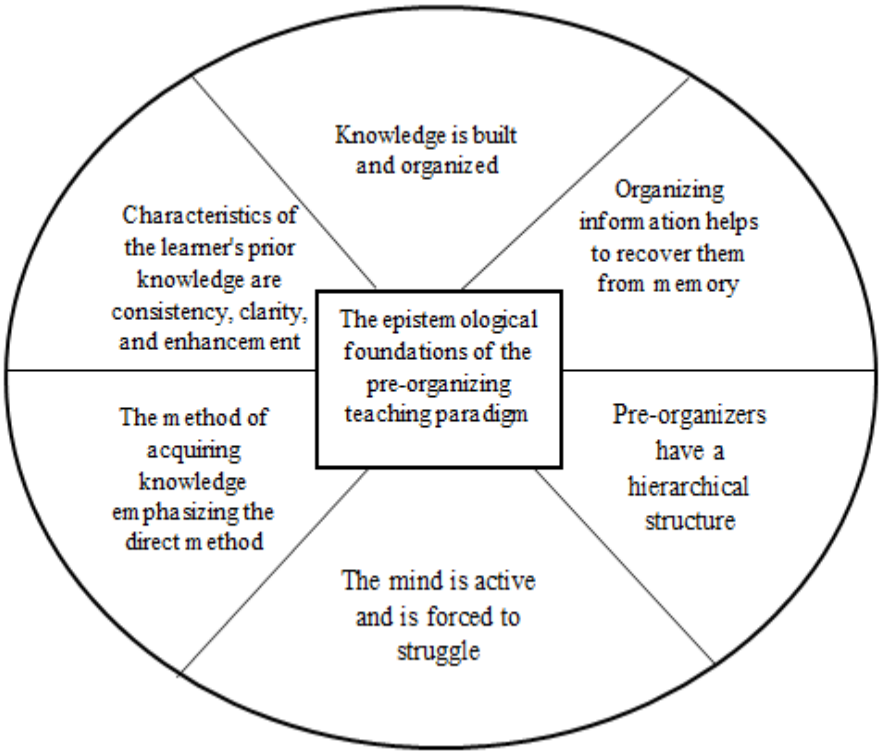

Figure 3. Explaining the epistemological foundations of the pre-organizer teaching model circular design taken from Sarmadi's book, 2011, p.232

Discussion

The present study aimed to investigate the epistemological foundations of the pre-organizing teaching pattern. In this regard, two questions were asked to achieve the purpose of the study. First, the role of each of the educational elements (teacher, student, teaching, and curriculum) in the present model was analyzed, and next, the status of knowledge and the method of acquiring knowledge and explaining the principles were discussed. The findings of this study indicate that each individual makes his/her own knowledge completely unique and is also responsible for the process of forming his/her own knowledge. Thus, each learner organizes, controls, and interprets knowledge in his/ her own way. So, the set of factors of rationality and emotional affairs play an effective role in flow and consolidate this process. Hence, it seems to be in line with the philosophers of existentialism. On the other hand, the findings show that knowledge in the pre-organizing teaching pattern evolves with a hierarchical structure so that knowledge is systematic and has a proper sequence and this situation corresponds to the cognitive stages of each learner. The teacher uses the deductive method during the continuous learning and development of knowledge. In this model, learning will not be meaningful and profound if the structure of knowledge is not aligned with the learner's current knowledge during learning. Characteristics of the learner's prior knowledge that the aforesaid pattern emphasizes as the starting point of the teaching process include consistency, clarity, and incremental capability. The exploration of the epistemological foundations of the pattern also revealed that the method of acquiring knowledge in this pattern is

direct and sensory experience due to the children's handicraft. Regular sensory experiences form the basis of knowledge in the pre-organizer pattern. Overall, since research on the epistemological foundations of the pre-organizing teaching pattern has not been conducted overseas and the study has been conducted for the first time in Iran, there are still many aspects that require further research. The results of the present study are useful for the community of educators and philosophers. It is suggested that other research in the format of cultural studies address the philosophical foundations of the pattern. This will lead to the spread of knowledge and the discovery of unknown aspects of the philosophical foundations of the pre-organizing teaching pattern in our country's cultural background.

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References

Aghazadeh, M. (2013). A Guide for New Teaching Methods Based on Brain-constructivist cooperatives Learning, Metacognitive Researches &…. Tehran: Aeezh.

Alipoor, J. (2014). The impact of pre-organizers and text enrichment on learning English grammar. Doctoral dissertation on the guidance of Manijeh Yohanai. University of Esfahan. Faculty of Foreign Languages.

Chateau, J. (2005). Great coaches. Translation by Shokouhi, Gholam Hossein. Tehran: Tehran University.

Eslahi, A, Refaee, D, Jafari, S. (2017). Effective teaching methods with emphasis on new technologies. Tehran: Avaye noor.

Faramarzian, S. (2000). Pre-organizing effect and organizing lessons on learning. Master's Thesis. To Asghar Razavi. Shiraz University.

Froozan Nejad, F. (2013). Designing and evaluating a multimedia education program based on pre-organizing model and its impact on the motivation of academic achievement in social education. Allameh Tabatabaei University. Faculty of Psychology and Educational Sciences.

Ganji, M. Zahedbabelan, A. Moeenikia, M. (2012). A meta-analysis of research on the role of teaching patterns on students' academic achievement. School Psychology Magazine. 1(1). PP. 107-93.

GHadam Poor, E, Sadeghi, M, Yoosefvand, M, Maleki, S, Rajabi, H. (2018). Comparison of the Effectiveness of Training with Pre-Organizer, Platform and Traditional Modeling on Academic Resilience. Journal of Teaching and Learning Studies.10 (2). PP.123-141

GHolipoor Bar Aftab, F. (2014). The effect of pre-organizing method on the creativity and self-directed leadership of the sixth elementary students of Yasuj city. Master's thesis for guidance of Reza Zarei. Islamic Azad University of Marvdasht.

Gootek, J L. (2012). Philosophical schools and educational education. Translation by Pak Seresht, M, Tehran: Samt.

Gootie, K. Tardif, M. (2015). Pedagogy, science and art-teaching-learning from ancient times to the present (theory and application). Translation by Mashayekh, F. Tehran: Samt.

Habibi, SH. (2015). *Philosophical schools and education*. Tehran:Avaye Noor.

Hajipoor, KH. (2011). *The study of the pre-organizing effect of the lesson of history and academic achievement and its attitude toward the third high school girl's degree in humanities in the city of Marand, academic year 2010-2011*. By the guidance of Eskandar Fathi Azar. Tabriz University. Faculty of Psychology and Educational Sciences.

Hafeznia, M. (2014). *An Introduction to the Research Method in the Humanities (Fundamental Review with Additions)*. Tehran: Samt.

Hariri, N. (2006). *Principles and methods of qualitative research*. Tehran: Islamic Azad University of Science and Research.

Hoseinzadeh, M. (2014). *Epistemology*. Tehran: Imam Khomeini Educational and Research Institute (RA).

Joyce, Bruce R. Weil,M. Calhoun, E (2015). *Models Of Teaching: 9th ed*. Translation by Behrangi, M. Tehran: Kamal Tarbiat.

Kadivar, P. (2018). *Psychology of learning (from theory to practice)*. Tehran: Organization for the Study and Compilation of Humanities Books of Universities (samt).

Kalhor, M. Mehran, G. (2015). *Effect of Conceptual Mapping on Valuable Learning of Secondary School Students*. Journal of Research in Educational Systems. Year ninth No. 29.

Karimi, Y. (2018). *Educational Psychology*. Tehran: Aeasbaran.

KHalili SHooreini, S. (2009). *Philosophical school and educational Ideas.* Tehran: Yadvareh Ketab.

KHorshidi, A. (2018). *Teaching methods and techniques*. Tehran: Yastaroon.

Kneler, G.F. (1971). *Acquaintance with the philosophy of education*. Translation by Bazargan Dilamaghani, F. (2001). Tehran: Samt.

Lotfabadi, H. (2010). *Educational Psychology*. Tehran: Samt.

Mazaheri, P. (2017). *Awareness of Secondary Math Teachers' Knowledge of the Second Period of Pre-Organizing and its Application*. Master's Thesis. to guide Ashna, A . Refah College.

Naghibzadeh, M. (2002). *Take a look at the philosophy of education*. Thirteenth Edition:Tahoori Publishers.

Rostampoor, M. Kalroozi, F. Pishgooei, A. Aliari, SH. (2016). *Investigating the effect of teaching triage on pre-organizing model on knowledge of nursing personnel of crisis teams in selected hospitals AJA*. Journal of Medical Education. third year. No. 3 pp. 148-141.

Saif, A. (2019). *Modern Educational Psychology*. Tehran: Dooran.

Safavi, A. (1997). *General methods and teaching techniques*. Tehran: Moaser.

Samadi, A. (2010). *Pre-organizing method in academic achievement and self-regulation of high school students in Parsian city*. Master's Thesis. Iqbal Zarei's Guide. Hormozgan University. Faculty of Humanities.

Shabani, H. (2005). *Educational skills (methods and teaching techniques)*. Tehran: Samt.

Toorani, A. (2012). *Investigating the relationship between the philosophical assumptions of teaching methods (lectures, pre-organizers, exploration, and problem-solving) with students' researcher's morale. You have come to your guide.* Al-Zahra University (S). Faculty of Education and Psychology.

Waxman, H; Walberg, H. (1999). *New Direction for Teaching Practice and Research.* Berkeley, CA, McCtchan Publishing.

Westwood, P. (2016). Teaching methods and techniques. Translation by: Fathivajargah, K. Tehran: Master of Science Publishing.