

Analysis of Teacher Candidates Perception of Learning Theories in the Light of Anthropological Theory of Didactic

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Abstract: This research aims to determine the perceptions of prospective teachers of learning theories and the factors affecting the development of these perceptions. For this purpose, institutional and individual recognition (in terms of Antopological Theory of Didactic) related to university-level learning theories of prospective teachers were determined based on anthropological theory and the relationship between them was investigated. In this context, firstly, the sources belonging to the courses about the learning theories (lecturers' lecture notes, books, etc.) were analyzed using ecological and prakseological approaches. Then, in order to determine the knowledge level of the prospective teachers about learning theories, a success test consisting of open-ended questions developed by the researchers was applied. As a result of the study, it was determined that candidate teachers internalize behavioral learning theories but they have important difficulties related to other theories. According to this, the basic problems encountered in the individual definitions of these theories have been revealed and comporaed with the institutional definitions. Please use 14-point bold for your article title, with an initial capital letter for any proper nouns. Please margin the article title to the center. Please use one blank line between all author names on the first page. All the authors of a paper should include their full names, affiliations, postal addresses, telephone and fax numbers and email addresses on the last page of the manuscript. One author should be identified as the Corresponding Author and has a contact email. An informative 10-point abstract (100 to 300 words) presenting the main points of the paper and conclusions. Please include descriptive keywords (up to 5). Separate keywords with a comma. Capitalize the first letter of each keyword (e.g., Science education, Survey development). Add your abstract here. Add your abstract here. Add your abstract here. Add your abstract here. Add your abstract here. Add your abstract here. Add your abstract here.

Keywords: Anthropological theory of didactic, Teacher candidates perception, Learning theories

Introduction

One of the most important properties putting mankind at a distinct place among the wider set of living things is its ability to learn. Yet, there are no universally accepted and all-encompassing theories on how the learning skill was developed. A glance at the literature, academic or otherwise, reveals numerous hypotheses and theories on this topic. Behavioralist theories have the distinction of being the first ventures into understanding learning in a historical perspective, and explain learning with reference to stimulating behaviors, focusing on the changes in observable behavior, rather than on mental processes (Duman, 2006). It is assumed that learning occurs by establishing a connection between the stimulant and the behavior, while reinforcements lead to the acquisition of the behavior. The lasting marks left by the interaction the individual has with the environment constitute the experiences of the individual. Learning, in turn, is the product of such experiences. According to behavioralist theories, reinforcement, repetition and motivation are the principle elements of learning (Ulusoy, 2006). Studies on learning revealed that the behaviorist theory's shortcomings in explaining complex cognitive processes such as perception, personality, problem-solving, and attention, sparked the transition from behaviorism to cognitive approaches (Ün Açıkgöz, 2003).

The cognitive theory considers learning a mental process, and refers to unobservable cognitive processes going beyond observable behavior in order to explain how it occurs (Fer, 2011). One can go into further detail in terms of categorizing cognitive theories, however: “discovery” theories arguing that learning is about discovering, “information-processing” theories focusing on the memory process, and “significant learning” theories claiming that learning can be achieved in a meaningful way (Fidan, 1985).

The constructivist theories which drew substantial attention in recent years in the cognitive theories scene, and which emphasize the act of discovery, can be considered a perspective with a rich background, rising on the research and thoughts of numerous researchers. This perspective is built on the views of a number of household names in education sciences, such as Bruner, Vygotsky, Piaget, and Dewey, who in turn can be considered distant students of Socrates, Kant and Rousseau, and thus combines the outlooks of various schools of thought in education sciences in particular, and positive social sciences in general (Yurdakul, 2004).

Constructivism is based on a number of principles whereby social interaction entailing unique learning tasks for seeking, interpreting and analyzing knowledge, enhancing the thought-provoking process, integrating past and new experiences, and finally meaningful learning, plays a crucial role (Şaşan, 2002, quoted by Yeşilyurt, 2012).

Purpose

Pre-service teachers, who would go on to assume a huge responsibility in the learning process at the school, should have some robust ideas on how to achieve the most effective form of learning, and thus be aware of the theories covering various dimensions of the learning process. In this context, the present study aims to understand the pre-service primary school teachers’ perceptions regarding learning theories, and identify the factors playing a part in the development of such perceptions.

In the light of this goal, the study is based on the anthropological theory of didactics, emphasizing teaching’s impact on learning. The anthropological theory of didactics is built around the hypothesis that learning on part of the individual takes place under the influence of institutions. This theory states that the individual’s perception of a piece of knowledge is directly associated with the contexts the individual faces (with respect to the knowledge in question), and is even a reflection of such contexts (Chevallard, 1989). In that case, any setbacks in the individual’s perception of the knowledge (such as misconceptions or faults) would be associated with the systems teaching that knowledge, rather than circumstances arising from the individual herself. Against this background with significant references to the anthropological theory of didactics, this study aims to answer the question “what is the pre-service teachers’ level of familiarity with learning theories, on an individual basis?”

Method

The research method employed in the study was case study survey, one of the descriptive methods of research. Descriptive research methods enable research without any interruption of the existing natural conditions during the analysis process, and without causing any change in the environment analyzed (Çepni, 2010). The present study’s focus on learning theories and learning state at the 4th year of the program, marked by an absence of intervention in the existing environment during the study, makes it clear that the research perspective exhibits the characteristics of descriptive research. The study analyzes the features of institutional recognition and the associated development of recognition on part of the student. In other words it aims to describe a certain existing state of affairs. In this context, the research model chosen was one of surveying, namely the “Case Study Survey Model”.

In the study, a competence test composed of open-ended questions was developed to assess the pre-service teachers’ perception of learning theories (their individual recognition levels), followed by the content analysis of the data thus gathered. The following questions were asked to the participants:

- Please define learning. Provide a brief explanation of your answer.
- State the most important factor affecting learning.
- Which learning theory is most effective in explaining learning, in your view? Why?
- Which theory and/or theories of learning will be serving as the foundation of your classes in the future? Please provide a brief course description to exemplify your answer.

Results and Discussion

The pre-service teachers' answers to the questions aiming to reveal the general characteristics of their individual recognition levels concerning learning theories are summarized in Table 1.

Table 1. Teachers' answers to open-ended questions

Answers	Frequency	Descriptions
Definition of learning		
Behavioral approach	18	-
Cognitive approach	1	-
Factors affecting learning		
Conditions that encourage learning	9	The environment affects the individual's learning (6)
Rudiments	5	-
Repeat	2	Repeat is required for permanent learning (1)
Rudiments	1	Preliminary information is important for configuring new information and the environment is effective in learning (1)
Conditions that encourage learning		
Unanswered	2	-
Learning theory that explains learning in the most effective way		
Constructivism	8	It is important to establish a link between old knowledge and new information in learning (2) Student-centered teaching strategies enable effective participation,(2)
Cognitive approach	3	Environmental factors affect the learning (2)
Unanswered	8	-
Learning theories that teacher candidates plan to use in future		
Modern Theories	12	Students are actively involved in the learning process. (3) Individual differences are taken into account in the teaching process (3) Provides effective learning (2)
Classical theories	1	Learning takes place by memorization (1)
Modern and classical theories	4	The process of structuring knowledge is important (2)
Unanswered	2	-

Table 1 presents the distribution of the pre-service teachers' answers to the questions included in the data gathering tool, along with a categorization of the answers. The pre-service teachers' answers were categorized under four main categories, with reference to the essence of the questions.

The table above reveals that 18 pre-service teachers defined learning in the light of the behaviorist perspective, while one pre-service teacher embraced a cognitive perspective in defining learning. It is also evident that the pre-service teachers did not provide any details to justify their answers. Below are a few direct quotes from the pre-service teachers' statements regarding the definitions by pre-service teachers.

S6: "Scientifically speaking, learning is a state of the brain, occurring through intensive repetition."

S8: "It is a change of behavior with lasting impression, occurring with the student."

S12: "It is a change of the individual's behavior with relatively lasting impression, occurring through experience."

Table 1 reveals that the pre-service teachers refer to just three factors as elements affecting learning, among many others identified in the context of learning theories, albeit with certain variations: preliminary knowledge, conditions encouraging/enabling learning, and repetition. Nine pre-service teachers were observed to emphasize the conditions encouraging/enabling learning, while five focused on preliminary knowledge, and two underlined

repetition among the factors affecting learning. One pre-service teacher underlined two factors, while two pre-service teachers did not answer the question, as witnessed from the table. Some answers provided are quoted directly below:

S1: *“Availability is the most important factor affecting learning.”*

S17: *“The individual’s attitude, interest and the environment are the most predominant elements affecting learning, in my view.”*

Within the framework of the study, pre-service teachers were asked ‘which learning theory offers the best explanation of learning’, with eight pre-service teachers mentioning constructivism, while 3 referred to the cognitive theory. Eight pre-service teachers left the question unanswered. Two pre-service teachers who referred to the constructivist theory noted the connections this theory established between the old and the new knowledge through the process of learning, while two others mentioned an association between effective participation and an embrace of the teaching strategies putting the student to the center stage. Below are some quotes from pre-service teachers:

S1: *“It is constructivism, for it establishes connections between the old knowledge and the new knowledge, and connects the knowledge to daily life.”*

S4: *“People do not easily forget what they had learned on their own. Each individual (self) should achieve learning through active participation.”*

S8: *“It is the social learning theory. I believe the environment factor plays a major part in learning on part of human beings. People learn more and easier in a social setting.”*

In response to the last question of the data collection tool, asking about the theories the pre-service teachers intend to use once they take up teaching positions, more than half of the participants mentioned modern theories (Table 1). Among the justification provided for the use of these theories, pre-service teachers referred to their advantages in ensuring effective participation by the student, taking individual differences into account, and ensuring lasting learning. Four of the remaining pre-service teachers expressed their will to embrace modern and classic theories in conjunction, and one pre-service teacher noted the intention to adopt the classic theories. The answers provided by some of the participants are as follows.

S5: *“I would use the conventional learning theory. For the system based on memorizing is the most effective one. It can be coupled with cooperative and life-long learning as well.”*

S12: *“It would be the constructivist learning theory. I can manage the process as a guide, taking the process into account along with the product itself, and attaching importance to individual differences. It would make me aware of the interests of the students, as well as multiple intelligences they have.”*

Conclusion

The analysis of the data gathered within the framework of the present study carried out to identify the individual recognition characteristics pre-service teachers exhibit with respect to learning theories leads to certain fundamental results. The pre-service teachers who took part in the study often refer to a behaviorist definition of learning, claiming it is “a change of behavior with lasting impression”, but fail to provide any further discussion of this definition. On the other hand, the pre-service teachers state that cognitive theories provide the most effective explanation of learning, and intend to employ these theories once they start teaching through their careers. This is proof that the pre-service teachers have embraced new perspectives towards learning, but have not yet engaged in scientific learning regarding these issues.

Recommendations

In line with the conclusions reached through the present study, one could recommend organizing the contents of undergraduate courses with a specific focus on the learning outlooks embraced by the existing learning programs, and a marked emphasis on applied practices to complement the theoretical insights in the courses.

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