

The Act of Learning, a Cerebral or a Psychological Phenomenon?

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Abstract: The principal purpose of our text is to publicate the contribution that the psychoanalysis can give to teaching and learning to engineering courses. For that reason, we proposed the confrontation as the title indicated, understanding that it is a productive opposition. Not only to show us new ways for comprehension of learning, but also it may generate new didactic offers for the challengers met in class-rooms by teachers and students of engineering courses. The text was issued from a dream of Ribas, the second author. The dream caused a first text named «From Pavlov to Freud, from conditioning to desire: the little-big differences at learning», which shows the influences of Pavlov and Freud works at learnings of XX century. The actual text is the rewriting of the first, but, going by other way, including the description of the dream which was the origin of these two works.

The reflexology is the psychology school which was born at the beginning of XX century and which origin in the pavlovian theory. Its famous law, very applied in teaching, says that every conditioning answer is the result of the behavior repetition associated to some stimulus and always followed by an award. Contemporaneous and dissonantly to the reflexology, Freud created the unconscious psychology, also called deep psychology or psychoanalysis that it is an investigation procedure of the psyche-process difficulty obtained by others ways. Although the psychoanalysis has existed since the beginning of the century and has been one of the most powerful models for explaining the human psyche, it exists few investigations about the transposition of its concepts for learning. It exists, then, a great-unexplored field in this direction. Then, our contribution to the ICECE2000 is to show a little of our investigations about learning through the psychoanalysis.

Keywords: learning, teaching, psychopedagogy, psychology and psychoanalysis.

1. Introduction

As this work was originated from a curious dream, we think that telling it is a good way to introduce the reader in the central focus of the text. After the description of the dream and facts associated to it - as simple daily facts of ourselves - we try to answer the question made in the title of this text.

It is possible with a single example to show the unconscious nature of learning. And, when it is accepted the hypothesis of learning as an unconscious phenomenon, like dreams, it is possible to explain a lot of problems of learning and repetition at engineering courses through psychoanalysis. We will tell the mentioned dream as follows.

2. Don't tell me what I've already known

For the reader may better understand the meaning of the mentioned dream and its connection with the facts happened after that, we will tell now something it happened before, making emphasize a little detail that aroused Ribas curiosity and it was probably one of determinants of that dream.

In march 1999, Ribas was travelling with his wife by car, from Porto Alegre, the city where he lives, to Florianópolis City, Santa Catarina state, Brazil, to take part in a psychopedagogical journey for three days. While he was driving by the road called «Estrada do Mar», he received a call from an engineer, who invited him to give a conference about the subject training for engineering companies directors.

According to this engineer, the subjects of the conference should be about new training conceptions that could help the engineering companies to make face to the national and foreign competition. He said that the entrepreneurs did not want to hear anything they were used to hear, and they wanted new solutions for training of their professionals for new challengers. That aroused the attention of Ribas who answered that had understood the

important sense of entrepreneurs demand and he was abstracted like this: *Don't tell me what I've already known, and tell me what I haven't known yet*. Finished this short dialogue by telephone, he went on his trip with this phrase in his thought, thinking about preparing a presentation with the idea in this phrase synthesized.

3. The dream with an elephant

During these three days spent in Florianópolis City, Ribas and his wife stayed in the flat of Ribas's sister in law. As he had to go to the psychopedagogical journey the following morning, he went to sleep early. He slept thinking of the telephone conversation he had had with the engineer and dreamt he was writing the text for the mentioned conference. He woke up remembering the following strange phrase: *Open the head of an elephant to see what it contains*. It is incredible like that phrase was significant, and after a year, Ribas remembers it as time was not passed.

Still in bed, without knowing why, he had the idea, when he thought of opening the head of the elephant, the remember of the famous experience that Pavlov [1] made with dogs, where he discovered the conditioning reflex. After this association, a sequence of others associations came some minutes later he had got up. Those associations were with him during the breakfast and during almost all morning, like we are going to tell now.

4. The followed associations

During some minutes after breakfast, Ribas had some important associations that during the morning were a first schedule and later a text was published in Cobenge-99 [2]. At eight o'clock he left the flat of his sister in law, by car, to take part in the psychopedagogical journey. It took him, more or less, fifteen minutes to make that way.

While he was travelling, he was indulging about the dream with the elephant when a question appeared: What connection would exist between the elephant of dream with the dog of the Pavlov experiment? He had an idea, soon, he had exaggerated something in the idea of *opening the head of the elephant to see what it contains*. He stayed, then, thinking that if he opened the head, he would find its cerebrum, that it is extremely little comparing with its big body. The exaggeration, then, it was explicit: *The big difference between the body and the cerebrum of the elephant*. This, at the same time, issued, as a lighting bolt, the remember of a phrase he had aroused his attention, three years before, when he had read the book «Dialectic for beginners», of Cirne-Lima [3]. The phrase is: *"A little mistake at the beginning produce a big mistake at the end"* (p. 207). Immediately, he remembered that words «mistake» and «difference» are relationned with the word «learning».

How would he be able to relate the difference between the body and the brains dimensions of the elephant with learning? At this moment, it came in the network of his associations Freud's name, and after that he found the thought it was missing to complete the association network and to find the answer for the question before. This answer appeared as questions made by himself while he was driving. Which differences are there in learning of students, if teaching goes on either the Pavlov's theory of conditioning reflex, or freudian theory of unconscious?

After that moment he thought of «little and big differences in learning» that it would depend on following anyone of these ways. And while he thought about those differences, it appeared, as essential the following distinction: while in the pavlovian model the force of learning is «conditioning», in freudian model is «desire». It is convenient to emphasize here one of the central points in freudian theory of dreams: dream is an achievement of desire and it is an unconscious process.

Finally, he thought: "Which is the connection of that with the entrepreneur's request «Don't tell me what I've already known»?". Well, he thought he would put in order the ideas of those associations, doing an outline of one text. And like this imagining, he arrived to the place of psychopedagogical journey, being very anxious to have some available time to write all that before forgetting something.

5. The first outlines

Arriving to the place of pedagogical journey, Ribas knew it would begin in the afternoon. Looking up his agenda, he noticed he had made a mistake with time. Then, as he had nothing to do during the morning, he tried immediately to begin to do a first outline of all his ideas, while they were present, worried for not to loose them, because they were extremely important at that moment.

Thinking about the mentioned sentence, said by Cirne-Lima [3], a little mistake at the beginning produce a big mistake in the end, he thought: What difference will there be in learnings of students of XXI century, if teaching offers would have less influence of the pavlovian theory and more inclination for the freudian theory of unconscious?

As it is very difficult to answer this question, because it involves the uncertain future, and knowing that psychoanalysis do not have preventive character, we change our question above by another more practicable: Which

teachings can we get when we remember our own experiences of learning as students of XX century? It is convenient to consider the fact that schools we went they were predominant influenced by learning theories, developed from the conditioning reflex. We also emphasize the important detail that conditioning reflex and unconscious theory were born together at the beginning of century. Why, then, the theory of Pavlov, developed after experiments with dogs, had primacy over the theory that Freud developed after investigations in his clinical work with humans?

6. From Pavlov to Freud

To open a head of an elephant to see what it contains, certainly seems in advance a strange idea and also nonsense. Although, we can take it as a metaphor to talk about differences between two big scientific contributions of human knowledge. We are telling about the discovery of conditioning of Pavlov and psychoanalysis creation of Freud, important facts at the threshold of XX century and of undeniable value in human and science history. The difference about we are saying here is related to learning conception. A learning conception based on Pavlov's discovery, is seen as a conditioning process, while a conception based on the creation of Freud, is seen as a unconscious psyche process. Then, there are important differences between offers of teachings directed by one of these possible ways, among other ways. For paraphrasing Cirne Lima [3] that «a little mistake at the beginning produce a big mistake in the end», we can say that «a little difference in the way of teaching may cause a big difference in learning».

7. From conditioning to desire

Thinking about learning as a process of conditioning, means considering the student as an object of learning. This case, learning is considered as a single schedule of stimulus-answers, a conditioning reflex. The conditioning is in this conception, the determinant of learning. By other way, thinking about learning as a unconscious psyche process, we can see the student not only as an object, but also as a subject of his own learning. Being like this, the learning becomes a singular fact and it has an unrestricted and significant sense in life of subject person who is learning. The student is not a number in the class list any more, and he is going to be seen as a learning person and the owner of his desire, his own learning and of his own life. The determinant of learning, in this way, is the desire, own of each learning person.

8. Later studies

After having had the experience of dream with the elephant and the followed associations, the curiosity and interest of the second author increased to answer the question, already mentioned and which has always accompanied. If both discovery of conditioning reflex by Pavlov and creation of psychoanalysis by Freud happened at the threshold of this century: Why did Pavlov have a predominant influence in learning theories during the XX century?

Emilio Rodríguez [4] says that Freud, in 1878, as Pavlov did twenty-five years afterwards, he also worked with animal philosophy, investigating the salivate glands with laboratory experiments with dogs. But Freud, on the contrary of Pavlov, was not adherent to animal verification and he preferred to dedicate to analytical listening. Rodríguez also says that Pavlov made a mistake when he considered the «psyche salivation» or «water in the mouth» as a psychological phenomenon. We think that this difference of pleasure or vocation, between these two great investigators, is one of the principal reasons that it had as result a big difference among the ways followed by them. This concept is important to understand which kind of influence has been performed by each other of them, accordingly to the object of investigation chosen. We think that this point is very important to try to answer the question on title of this text. Also it would be important to mention the value of comparative studies of results in the thoughts of Pavlov and Freud in teaching. This would help to clear the learning and repetition troubles at engineering courses of Brazilian universities. We are going to see something about these influences along the history as follows.

Elisabeth Roudinesco [5] dedicates a great part of her work about the history of psychoanalysis in France to analyze the pavlovian and freudian movement, beginning with the history of soviet psychoanalytical movement. After that, we can understand the source of a great part of problems in learning and repetition in the actual academic world and why it has persisted for decades and centuries. As it tries of a complex, depth and extensive work, we transcribe only some fragments of that important work, trying to answer, at least in part why the predominance of cerebral sciences over the psychoanalysis along the XX century. For that, we choose there fragments of that large work, related to the predominance and influence of model of Pavlov, in teaching and learning conceptions at the beginning of the century and with reflex which repercussion goes until the end of the century.

Roudinesco shows like the pavlovian theories is related with the socialist ideas of Leon Trotsky who organized the Red Army trying to reduce the psychoanalysis to pavlovian theories: *"In 1923, Trotsky writes to Ivan Pavlov to explain to him that the psychoanalysis, in spite of its literal side, does not believe at primacy of soul abyss, and the freudian theory may be included by a materialist psychology, as a particular case of conditioning reflex theory"* (p. 50). And she also shows how the learning conception as a conditioning process, based on pavlovian theory, then takes place in soviet society: *"Due to its important law, concerning to assure satisfaction for material and cultural needs human, the socialist society may find in pavlovian theory the confirmation of its revolutionary ideas, and through them the person must be modify or «conditioned» to learn new ways of living"*. (p. 52). By the middle of the century, twenty years after what happened in the Soviet Union, the same situation happens in France: *"The latent hostility of French communists to psychoanalysis goes through, therefore, a manifest opposition to freudian-marxisme. That demonstrates that during wars, and in a confuse way, an equal debate similar to happened in the Soviet Union is taking place. Nowadays and with delay a question of a possible compatibility between freudian theory and materialism is being considered, and not really to consider the freudian hypotheses. It explains why, in 1949, the discussion will appear explicitly under the auspices of a pavlovian evaluation of psychoanalysis"*. (p. 67).

9. Why so many people repeat at engineering courses?

We describe the strange and unexpected way we faced with that question, in a text we are writing about repetition. During a trip to Buenos Aires, Argentina, with some objectives planned before, Ribas was impressed how a single fact, dialy and unexpected was the principal value of that trip. We mention it in this publication because it is a dialy event such as the dream with the elephant, before related, and which we will be able to learn a lot about the learning that is one of the important focus of our work.

We relate in this work about repetition, that fact and how, afterwards, we had the idea of doing a psychopedagogical work with students and teachers of engineering courses. It is a psychopedagogical space where we work with students with learning difficulties and repetition problems and with teachers who wish to revise their practice in the classroom.

10. Conclusion

Returning to the sentence regarding to the question of directors in engineering companies: «Don't tell me what I've already known». It is possible that the thoughts relating to the sentence of directors had an important influence in the dream with the elephant and later associations. It may be adopted different positions in daily situations, similar to the example here told. One of them, it is to consider these daily facts and dreams as rejected things and without importance, because they do not have sense; therefore, we do not waste our intelligence, time and energy with them. Another position it is to give importance to daily events like these, exactly, by lack of importance. Thus, it may be considered like judgment or indication of importance in those daily events, exactly, the judgment that, in general, we use to reject: their apparent irrelevant, importance and absence of sense.

If we adopt the second position, we will notice how much we can learn with the daily events and with our unconscious knowledge, either through the dream, or by other ways where this knowledge appears. Regarding that, it is opportune to evidence two characteristics of dreams, according to Freud [6]. One of them it is the dream is an accomplishment of desire and the other it is that one of functions in dream work is to study the dreams thoughts that were not cleared when the person was awake. After that position, we can conclude three important things for understanding of human learning, as a psyche process. At first, the learning is an essential unconscious phenomenon; the second thing, come from the first, it is that the unconscious can teach and learn; and the third thing is that the desire is the force or learning.

We would like finishing this text, telling that, although it was not answered the question of title, we notice some evidences, taken from our experiences and with base on the psychopedagogical and psychoanalysis. It is important to mention, also, that we do not take away the importance of brains in learning and in human thinking. But, the central question we pretended put in focus was that when Freud makes evident the unconscious determinism as organizer of human existence, he invents the psychoanalysis, revolutionizing the relative knowledge to nature of psyche process that rule our daily life. And then, based on that centenary science, we can explain the learning through the freudian hypothesis of unconscious. This is the central point that leads our psychopedagogical work with teachers and students of engineering courses, being its principal objective the learning problems and specially the repetition, the last understood as a psyche process with great unconscious sources.

Thus, we hope more than answer the question of the title, with a specific and certain answer, as it was an engineering problem, had been able to arouse the curiosity of reader for new questions about teaching and learning.

11. References

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