





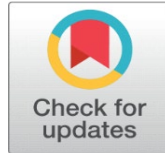
LEARNING STRATEGIES DEVELOPED IN THE STUDENTS THAT HAVE AN IMPACT ON THE KNOWLEDGE OF BIOETHICS

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ABSTRACT

The strategies lead to a selection of the information that the student studies for the solution of problems and the acquisition of new knowledge. Health personnel in training must allow themselves to modify some behaviors for their professional performance. Cognitive strategies are made up of information acquisition, encoding (or storage), retrieval (or evocation) and support (social, affective) strategies, conceived as a reproductive action, which serves as the basis for the development of basic processes of thought. Objective: To evaluate the learning strategies of the students of the 4th semester of the Medical Surgeon Degree with respect to the Bioethics Learning Unit. Method: Descriptive, observational study with a quantitative, correlational approach. Intentional non-probabilistic sample of 100 students, both sexes, aged 19 to 21 years of the 4th semester of Medical Surgeon for a period of 6 months. The acquisition learning strategies, coding strategies, recovery strategies and support strategies identified in the student when bioethics classes began will be evaluated using the ACRA Scale. Results: Acquisition Strategy: Repetition 85%, Attentional 65%. Coding Strategy: Elaboration divided into relationships 44%, self-questions 25% and paraphrases 31% and Organization 32%. Recovery Strategy: wording 36% and execution 40%. Support Strategy: metacognitive 33%, social 24% and affective 43%. Conclusion: Implementing a study program suitable for the learning of the Bioethics Learning Unit causes a positive impact. The ACRA instrument facilitates better and adequate learning in the clinical area.

Keywords: Learning Strategies, Bioethics, ACRA, Students

1. INTRODUCTION

In learning, the humanist training based on bioethics, as a Learning Unit in the training of the student of the Medical Surgeon Degree, is essential in their cognitive and learning development.

One of the important processes in learning bioethics are the strategies that students develop and go hand in hand with cognitive processes, which involve a set

of intellectual operations associated with knowledge, control, and regulation of the cognitive mechanisms involved in a person collects, evaluates, and produces information, in short: to learn. [Tirapu-Ustárrroz et al. \(2007\)](#)

Academic learning should be defined as a constructive cognitive activity [Castaneda & Ortega \(2004\)](#) since it involves: a) establishing a purpose: learning; and b) a sequence of actions aimed at achieving or satisfying that purpose. Therefore, academic learning shares with other cognitive activities the characteristic of being temporally organized into before, during and after the activity per se.

The strategies lead to a selection of the information that the student studies for the solution of problems and the acquisition of new knowledge. It is possible to learn to use thought effectively to improve the quality of learning, hence the importance of improving the learning strategies that exist in the student and establishing new ones that can facilitate the knowledge that is acquired. Some authors refer that the effectiveness of the strategies that are used will depend on the characteristics of the content that is intended to be learned [Martínez \(2004\)](#).

Cognitive strategies are made up of information acquisition, encoding (or storage), retrieval (or evocation) and support (social, affective) strategies, conceived as a reproductive action, which serves as the basis for the development of basic processes of thought. [Román and Gallego \(2001\)](#). As Sternberg (1992) affirms, "they are processes that translate an input of sensory information into a conceptual representation into another and can even translate a conceptual representation into an output of motor information."

Learning strategies allow learning to learn and develop strategies to make better decisions in each situation that we face every day. This implies that the person is able to understand the way they think and learn and, in this way, apply that knowledge about these processes to obtain better results in their learning. The ACRA Scale aims to identify the learning strategies most frequently used by students when they are assimilating the information contained in a text, when they are studying. Each strategy can be used more or less frequently and that is what facilitates the scale. This Scale is divided into the following strategies, the Acquisition or Attention scale is related to the selection, transformation, and transmission of information from the external environment to the sensory register. Later, the information is directed to the cortical areas related to short-term memory (STM), through Repetition processes. Therefore, attentional strategies and repetition strategies were evaluated on this scale. Coding scaling is the process subsequent to acquisition and involves deeper and more complex processing in which prior information is integrated into larger meaning structures. This process requires more time and effort but ensures the passage of information from STM to Long-Term Memory (LTM). The coding strategies will be elaboration (relationships, self-questions, and paraphrasing) and organization (groupings, concept maps). The Retrieval scale is the capacity of the cognitive system to remember what was previously stored in the LTM. The defined strategy will be the response generation (ordering of concepts, writing or execution). Lastly, the Support scale has a direct impact on the acquisition, coding, and recovery scales, increasing motivation, self-esteem, and attention.

It is therefore in the area of Education in Bioethics, the acquisition of tools for the development of learning strategies favors the development of critical thinking, stimulates the capacity for self-reflection and creates in the student an awareness of autonomy, self-control and self-regulation of the learning processes, especially Bioethics.

It is understood that what is relevant is that when interactive activities are carried out in the classroom, through motivating strategies, students process the information without difficulty, forming part of their own learning, which constitutes a significant and lasting contribution of knowledge, only thus it will be extrapolated to new situations.

In this context, the interest arises to carry out the following research whose objective is to characterize the learning strategies developed by students of the 4th semester of Medicine for the knowledge of Bioethics during the period from January to August 2023.

2. METHODOLOGY

A descriptive, observational study with a quantitative and qualitative approach will be carried out in a sample of 100 students, sex 1:1 from the 4th semester of the Medical Surgeon Degree, aged 19 to 21, for a period of 6 months. A questionnaire will be applied to keep track of the age, sex, and place of origin of the student.

The acquisition learning strategies, coding strategies, recovery strategies and support strategies identified in the student when bioethics classes began will be evaluated using the ACRA Scale. The ACRA test - Scales of Learning Strategies, consists of 4 independent scales that evaluate the use that students habitually make. 7 information acquisition strategies (20 items); 12 information coding strategies (18 items) and 9 processing support strategies (35 items). Its application lasts 45 to 50 minutes and can be from 14 years onwards. Each item admits a score from one to four (value 1 to answer A=never or almost never, 2 to B=some of the time, 3 to C=quite often and 4 to D=always). After the test was carried out, the most used strategies were identified and had an impact on student learning.

To carry out the research, the students will be given a letter of informed consent for the protection of their data and to verify that they agree to participate in the project. The questionnaires were carried out at the same time and in the same environmental context to avoid any modification unrelated to the answers obtained. For the analysis of the data and establishment of the results, the SPSS software for Windows version 15 was used.

3. RESULTS

After carrying out the ACRA test with the students of the Medical Surgeon Degree, the following results are presented.

Figure 1 shows the results of the Acquisition strategy, based on the two repetition strategies, which allow the student to acquire knowledge by repeating what they have learned, putting it into practice. It is as such, the articulation of concepts with their own words. This strategy presents a percentage of 85%, higher than that of the attentional strategy with 65%, being that in the area of bioethics more attention is required in learning because we are more receptive to the events that we read or hear, performing learning activity more effectively.

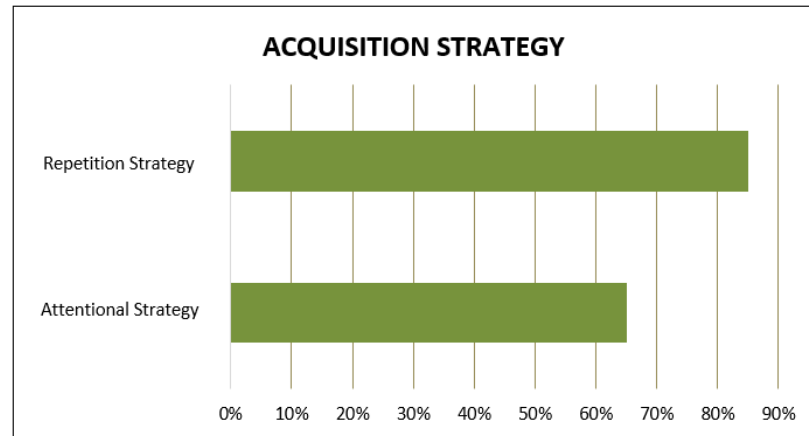
Figure 1

Figure 1 Represents the Two Acquisition Strategies (Repetition and Attention) in the Students of the Bioethics Learning Unit

Figure 2 shows the coding scale in learning. As mentioned, it is the process after acquisition and implies a deeper and more complex processing in which previous information is integrated into broader meaning structures. This process requires more time and effort but ensures the passage of information from Short-Term Memory to Long-Term Memory.

Based on the learning of Bioethics, the elaboration strategy that is divided into relationships, self-questions, and paraphrases, we can observe that he and the student present a percentage of 44% higher than that of self-questions (25%) and paraphrases with 31%. With these data we can notice that the student uses paraphrasing to a lesser extent, which constitutes an indicator of comprehension, since the student transforms a structure made into his own meaning. It is important to verify that most of the students can be more visual because the context of the Organization strategy (32%) focuses on visual images, metaphors, and analogies.

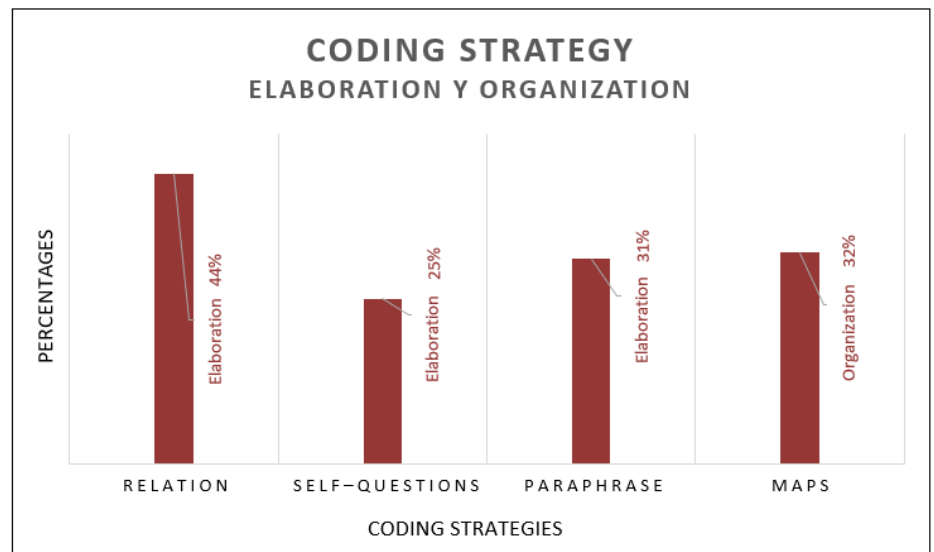
Figure 2

Figure 2 Represents the Coding Strategy with its Two Subdivisions, Elaboration and Organization, in the Students of the Medical Surgeon Degree of the UA Bioethics.

Visualizing the organizational strategy, the Maps constitute 32% of the total sample of the students, being that it constitutes a deeper phase because they encode the information to a greater extent.

Figure 3 shows the response of the students based on the Recovery Strategy with the 3 subdivisions, ordering of concepts, writing and execution. This strategy focuses on the ability of the student for his cognitive system to remember the material previously stored in the LTM. These three strategies allow the student, based on the brainstorming that arises in reading and in the classroom, to order the concepts and be able to understand them.

In the results, this subdivision is difficult to apply to students since it represents 27% of the total student sample. Writing is in second place with 36% and execution with 40%. These last two values go hand in hand in the literature, however, we can discern them to visualize that the student can carry out an essay and later be able to execute it with a writing.

Figure 3

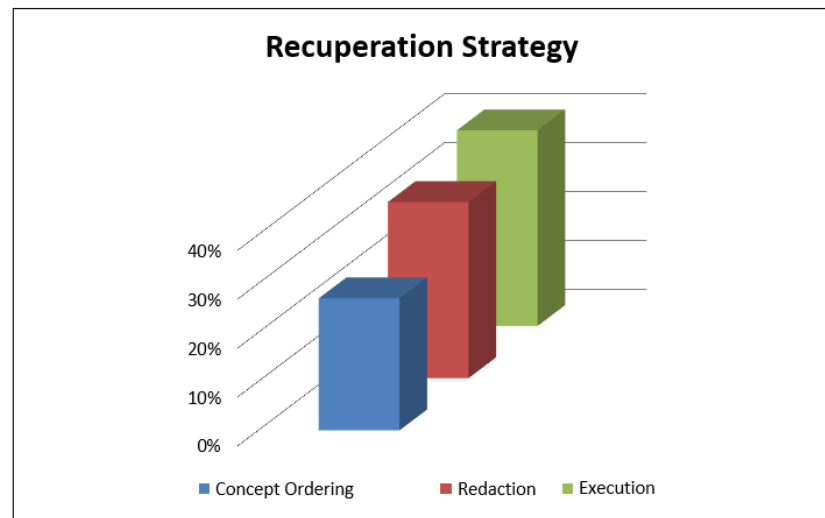


Figure 3 Represents the Recovery Strategy with its Three Subdivisions: Organization of Concepts, Writing and Execution

Finally, Figure 4 represents the Support Strategy. This evaluates the previous exposed strategies, where the student recognizes their own knowledge for learning and regulates their own thinking, that in the results this metacognitive process is low, having 33%. Regarding the social characteristics where the interaction with peers is expressed, their assessment in terms of their behavior and their expectations based on their experiences is 24%. Having to have more work in the development of this support strategy.

Likewise, the affective part is seen to be higher with 43% of the total sample. This shows that the student has greater control over the anxiety and attention processes and can both avoid conflicts and motivate classmates, despite the low percentage in the social strategy.

Figure 4

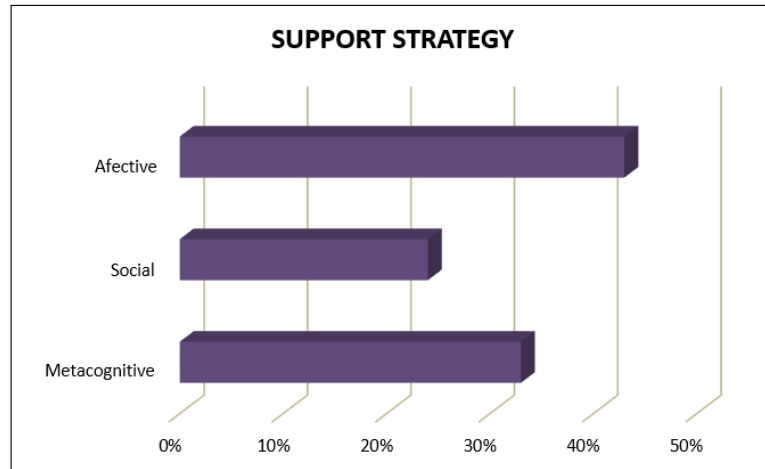


Figure 4 Represents the Support Strategy with its Three Subdivisions: Metacognitive, Social and Affective

4. CONCLUSION

It is important to recognize the strategies that the student implements in the Bioethics Learning Unit, because it allows delimiting a study program appropriate to the student's needs.

Work in the social field is essential for the training of the student, considering that there are parameters that can be measured with the ACRA instrument, which facilitates better and adequate learning in the clinical area.

CONFLICT OF INTERESTS

None.

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