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EVALUATION OF THE RESEARCH-BASED LEARNING METHOD (MABI) AT THE CICS UMA-IPN

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Abstract: The research-based method (MABI) uses Referenced Participation and different learning techniques in the classroom, supported by different teaching tools, educational methods and information and communication systems, ICT. The objective of this strategy is to improve and make the Research-Based Learning Method (MABI) more flexible so that, without losing its essence, it adapts to the conditions of the teacher and the students of the different curricula, in order to raise the learning level of the students. This method is described in the didactic planning of the Academic Program: Surgeon and Midwife, the Learning Unit: Cardiovascular App and Hematopoietic System, (Biochemistry) used in the 41st Generation. The results obtained were that the students' failure rate decreased. Since approximately the number of failed students was between 10 or 12 students per group in past generations when only a single exam was applied and now after applying this method the failure rate is between 2 and 4 failed students per group of a total of 40 students, obtaining very good results.
Keywords: Evaluation, Learning, MABI.

INTRODUCTION

Starting in 2001, the National Polytechnic Institute began a major project through the strategy "Let's design the future" 6, which promotes institutional renewal, responding with greater quality and relevance to the needs of its community and the country. As a result of these needs, the Research-Based Learning Method was created, which has the use of ICT as a natural instrument and students use the web as a communication and information instrument for their activities. Learning is a co-responsible, participatory and permanent process, where the learner, teacher, fellow students, institution and other social factors where the student develops intervene. As an element of learning there is research, which is carried out based on real events that are addressed on the basis of scientific development. The results of the research materialize in conceptual frameworks that support the theoretical framework of learning and generate social response, through practices that allow its transformation, thus favoring know-how. As facilitating elements of learning are educational technologies and information and communication technology (ICT), which allow teaching-learning action beyond the walls of the classrooms.

THEORETICAL FRAMEWORK

Learning is a co-responsible, participatory and permanent process, where the following intervene: the learner, teacher, fellow students, institution and other social factors where the student develops. The triggering element of learning is research, which is carried out based on real events that are addressed based on the scientific development of the state of the art. The results of the research materialize in conceptual frameworks that support the theoretical framework of learning and generate social response, through practices that allow its transformation, thus favoring know-how. As facilitating elements of learning are educational technologies and information and communication technology (ICT), which allow teaching-learning action beyond the walls of the classrooms. (Gregorio, 2007).

(Light G. and Roy C. 2009) mentions: "Teachers often view learning as an outcome in terms of a "state of knowledge" that students achieve as isolated individuals rather than as an outcome in terms of a construction process. that they achieve within an integrative social situation."

He also refers to a situation that is a matter of utmost importance in the teaching-learning process: "Moreover, this situation affects and is felt by students who have no idea what

the nature of the problem is when they have not learned. In such situations, the teacher's response is commonly limited to ineffective comments about the grades obtained in the exams or to telling them that their work did not reach the expected quality, or that the student is not trying hard enough. (Dominguez, 2012)

It is known that exams are another support instrument for learning and not an evaluation element in the strictest sense. Exams must be an instrument that provides feedback or redirects the learning process. Its construction must be carried out from that perspective.

(Onrubia 2005) refers to the implications of learning in virtual environments and what can be done through teaching to promote learning, specifically referring to two of them: The first is the difference between the "logical structure" of the content and the "psychological structure".

In the first, it shows a full responsibility of the teacher to structure the learning object with congruence, depth, relevance and within the context of the study plans and programs, based on an investigation of the state of the art and the implementation of empirical processes. methodologically carried out, in an exercise that goes beyond the classrooms and the times assigned in the academic administration.

Regarding the psychological structure, it is necessary to evaluate the structures of each of our students, in order to adjust the contents to their needs for integration and reconstruction of their knowledge structures, supported by motivation strategies for their realization.

DESCRIPTION OF THE INNOVATION

The research-based learning method (MABI) was born as an answer to the question of how to bring the principles and foundations of the Institutional Educational Models and Social Integration to the classrooms, there in front of the student but also beyond, in the spaces that you use to support learning. It is established as a fundamental element that in this method the student is the center of the activity of the teaching-learning process, without leaving the teacher in the background but seeking an interaction between both in a permanent, dynamic and flexible transformation but guided by an integrating element such as This is scientific research, a real and robust source of knowledge.

The final objective of the application of this strategy is to improve and make the Research-Based Learning Method (MABI) more flexible so that, without losing its essence, it adapts to the conditions of the teacher and the students of the different curricula and levels, in order to raise the level of learning – of the process and the product – of the students, by identifying elements that must be integrated or modified so that the MABI fulfills its mission with quality.

This is described in the Teaching Planning of the Learning Unit in which the research-based learning method (MABI) is described, which has the use of ICT as a natural instrument and students use the web as an instrument of communication and information. during the development of their different activities.

IMPLEMENTATION PROCESS

A group of students from the 40th Generation of the Medical School who took the Modular Unit: Basic Sciences of the Cardiovascular System and Hematopoietic System (Biochemistry) from April 19 to 22, 2016, was considered for the application of the MABI, which is shown in academic planning.

NATIONAL POLYTECHNIC INSTITUTE INTERDISCIPLINARY HEALTH SCIENCES CENTER MILPA ALTA UNIT DEPARTMENT OF MEDICINE

Academic Planning: 40 Gen Medicine

Competency: (purpose of the unit): Integrates the functions and factors that maintain and modify homeostasis based on the biochemical and physiological aspects of the cardiovascular system and hematopoietic system

LEARNING UNIT	CARDIOVASCULAR SYSTEM AND HEMATOPOIETIC SYSTEM, BASIC SCIENCES (BIOCHEMISTRY)
PROFESSOR:	BLANCA ELISA PÉREZ MAGAÑA

SCHEDULE: From April 19 to 22, 2016

THEMATIC CONTENT	DATE	HOURS	LEARNING STRATEGIES	EVALUATION OF LEARNING	TEACHING RESOURCES
Protein components of myocardial cells. -Organization of myofibrils ultrastructure of myofilaments. -Mechanisms of cardiac muscle contraction - The heart as an endocrine gland. -Energy sources for muscle contraction: Beta oxidation, Aerobic Glycolysis, Glycogenolysis and Phosphocreatine System. - Function and clinical application of enzymes (L.D.H. and C.P.K.). -Blood Lipids. -Biochemical Profile, --Normal electrophoretic pattern of lipoproteins. -Classification of Primary and Secondary Hyperlipoproteinemias -Clinical diagnosis and coronary risk in -Hyperlipoproteinemias. -Cholesterol in vascular pathology. -Iron; digestion and intestinal absorption mechanism, extra and intracellular transport of iron, factors involved in iron absorption -Hemoglobin: chemical composition and synthesis of hemoglobin, -Importance of vitamin C, B12 and folic acid in the synthesis of hemoglobin	19/04 20/04 21/04 22/04	6 6 6 6	Research-based learning method (MABI) Identification of prior knowledge with brainstorming about the cardiovascular system The teacher will present a short introduction to the main components of the contractile unit of the cardiac muscle. Selective search for relevant scientific information on the thematic contents individually for the resolution of discussion guides 1, 2 and 3 Discussion of discussion guide 1 individually and in groups to present the analysis in a plenary session. Discussion of discussion guide 2 individually and in groups to present the analysis in a plenary session. **The teacher will present and make known the importance of the Hematopoietic system** **Discussion the 3 fit discussion guide individual and group and present the analysis in a plenary session**	Diagnostic evaluation Evaluation of discussion guide No. 1 individually and the group work that will be sent to the teacher by email Evaluation of the discussion guide No. 2 individually and the group work that will be sent to the teacher by email. Evaluation of the discussion guide No. 3 individually and the group work that will be sent to the teacher by email. Evidence portfolio: 50% (individual and group activities) + 50% Summative evaluation	Blackboard, chalk, eraser. Acetate Overhead Projector Flipcharts Video projector Teaching material: Power Point presentations Informative Documents of the Ap. Cardiology and Hematopoietic System Formative evaluations offered in the WEB through virtual memory www.dropbox.com Or in the generation e-mail.
Total of hours		24			

EVALUATION OF THE RESULTS

The total evaluation that was considered to pass the course was the sum of 50% of the evidence portfolio with the selective search for relevant scientific information from discussion guides 1, 2 and 3 individually. Presentation of group works based on the integration of individual works. Group readings and analyzes based on their bibliographic references. The concept of referenced participation is used, which consists of participating in the development of the Learning Unit only when there is a bibliographic or research reference. This was the element of control and monitoring of learning, using as evidence the works sent via the Internet and saved in a folder per student and the other 50% was the summative evaluation represented by the exam. Finally, the final grade was based on the evaluation of the learning process and the learning itself.

ICTs were used as a support instrument and to not only use the four walls of the classroom in the learning process. With the difference that email advice was provided for sending work; Having reviewed the work this way, they were given feedback in the same way.

The group was provided with sufficient basic and complementary material through an Internet page, using the virtual memory www.dropbox.com

The control of the activities was carried out with the support of an attendance list and a checklist posted to the group.

From the application of (MABI)

A written survey of 5 questions was carried out.

MABI oral evaluation questions for students who took the course

1. What difficulties and facilities did teachers and students have in applying the MABI?

2. Do you consider that the MABI favored the learning and achievement of your students?

3. Is there an element that shows improvement in the learning process? Yes, yes, which one and yes, no why?

4. Do you consider that the MABI facilitates the evaluation of achievement?

5. What would you modify to improve the MABI?

The students' written comments on the Research-Based Method were as follows:

DIFFICULTIES

Information sources are not 100% reliable or are incomplete.

Pages with scientific support (journals or articles) are not free

The cost of books is high

The library books are insufficient for the number of students

ADVANTAGES

- The necessary tools were available, such as a computer, Internet access.
- You can work from home, at the most convenient time and when you get to class compare, discuss and share information, which reaffirms knowledge and also compares and shares bibliographic sources
- It favors learning and mastery of the topics since it was necessary to read and understand everything before class and during class only knowledge is homogenized and doubts are clarified, which is positively reflected in the achievement of the program's objectives.
- By investigating the topics yourself, you gradually assimilate and master the topics contained in the exam.
- The element that shows that this method is useful are the results of the

exam, since when this is done, you already have the resources to obtain satisfactory results and solve it easily and correctly.

- The difficulty of evaluating the student only with the exam is reduced, since what is collected in the evidence portfolio is considered in addition to this.
- By enhancing bibliographic research, achievement is also evaluated by encouraging student participation during class.
- Skills are acquired to investigate and carry out quality research work.
- Not only are the acquired knowledge retained, critical analysis is stimulated

SUGGESTIONS FOR IMPROVING THE STRATEGY

- That the school has a Blog or Platform in which digital books can be downloaded and thus save time searching for information.
- Propose reliable web pages in this case of Biochemistry of the Cardiovascular System and Hematopoietic System

CONCLUSIONS

According to my teaching experience at CICS–UMA, the student failure rate has decreased. Since the number of failed students was between 10 or 12 students per group in past generations when only a single exam was applied and now after applying this method the failure rate is between 2 and 4 failed students per group out of a total of 70 students. The achievement of the students was superior, which is reflected in the failure rate that was minimal.

Therefore, I consider it very important to consider this method based on research, which implies more work for the teacher, yes, and for the students as well, but with the sum of the activities that the students send, I consider that we are getting to know them more and they are giving each other feedback. knowledge day by day and the final evaluation is not only based on the exam. This method adapts to the conditions of the teacher and the students, in order to raise the level of student learning, by identifying elements that must be integrated or modified so that the MABI fulfills its mission with quality.

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