

Teaching of Bioethics and Competence-based learning for the Professional exercise of Postgraduate Students

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ABSTRACT

The objective of the research was to contribute with the knowledge of the professional training in dentistry from the didactic constructivist to competences of responsibility in the professional exercise from the context of bioethics. To achieve the objectives, a pedagogical model of learning-teaching constructivist teaching was designed, which allowed the achievement of significant competences in the exercise of their profession in the context of bioethics for accountability. In the proposed model, we designed learning sessions that were actively developed in postgraduate students of the School of Stomatology at the University Scientific del Sur, 2016.

Material and method used, a descriptive, transversal research was analyzed, including postgraduate students of Stomatology, a set of learning sessions was carried out under the constructivist pedagogical model for the achievement of professional competences in bioethics.

Results, achievement of professional responsibility competences in bioethics from the perspective of learning teaching. Applying constructivist didactics for the achievement of skills, abilities and skills, was achieved by applying the pedagogical model in learning sessions where 56.25% of students evaluated as very good, 38.25% good and 5.0%, regular, these results. The model was validated with significant results.

Also analyzed were ethical dimensions for life, professional training, ethical responsibility, odontologist-patient relationship and bioethical principles and professional practice applied from bioethics, comparative analysis the results are positive in the statistic of measures of central tendency, dispersion;

Was demonstrated with the constructivist model in the context of learning teaching of bioethics for the professional practice of postgraduate students in stomatology at the University Scientific de Sur, 2016, expressed professional competences with responsibility in bioethics.

INTRODUCTION

The research presented on this occasion is related to the need to implement the bioethics course, given the problems faced by dental professionals in their professional practice. Bioethics as ethics applied to science and life in general must be understood in an interdisciplinary context. Therefore, the training of professionals in stomatology must have the relevant competencies for respect for life in bioethics. In this perspective, the dimensions of ethics for life, professional training, ethical responsibility, the dentist-patient relationship and bioethical principles and professional practice applied from bioethics were investigated.

To solve this reality, the problem, the objectives and the pertinent hypothesis were raised, as well as a didactic model applied in learning sessions. The research sought to demonstrate how the teaching of bioethics and competency-based learning allows the professional exercise with responsibility of postgraduate students of

Stomatology at the Southern Scientific University, 2016. This problem is expressed in the teaching of bioethics for significant achievement with a didactic design and competency-based learning seeking meaningful learning in professional practice with the responsibility of the dentist. The objectives of the research, in a general way, were oriented to contribute to the knowledge of professional training in dentistry from the teaching of bioethics and competence-based learning, with a constructivist didactics. Quantitative-qualitative significant competencies of postgraduate dental professionals were analyzed from the context of bioethics.

To respond to this need, a pedagogical model was designed that allowed significant learning in the professional practice of graduate students of the Professional School of Dentistry. Already in the results the proposed pedagogical model was validated. In the process, it was shown that from the teaching of bioethics it allowed the achievement of competencies, learning of responsibility in professional practice by graduate students at the Professional School of Stomatology. The teaching of bioethics and learning from the constructivist model achieved competencies for professional practice with responsibility in the context of bioethics.

The Teaching of Bioethics

Cely Galindo and Herazo Acuña (2005), mention that since 1970, when the word Bioethics was born in the mouth of the scientist Van Rensselaer Potter, from the University of Wisconsin, a researcher in cancer biochemistry, the health sciences have appropriated bioethics to re-signify their ancestral ethical theories, especially contemporary medicine, which, without forgetting the Hippocratic oath, has been involved in the vertiginous development of technoscience's. Bioethics emerges as a new ethic so that the Society of techno-scientific knowledge does not become morally out of control. Dentistry also seeks new horizons of articulation of its own with cutting-edge technoscience that provide solutions to problems.

Dental practice, like any other professional exercise in the area of health sciences, requires a return to our condition as human beings; That is why the interpretation of the premise: "It is not enough to be a good dentist. Fundamentally, you have to be a good dentist" (Cely Galindo & Herazo Acuña, 2005), it can occur from different aspects of scientific knowledge.

Cely Galindo and Herazo Acuña (2005) tell us: in the clinical setting, a close affective relationship is established between patients and their dentist, the former, who absolutely trust the clinical skills for the approach and treatment that they require to regain their health oral and therefore their integral health and on the part of the dentist, responsibility, moral and professional commitment in addition to the spirit of service that is their duty to be, positions of manifest in the execution of clinical procedures, based on scientific knowledge obtained in their training and academic practice.

However, this unsuspected and unusual affectivity makes these patients susceptible and sensitive to perceive the susceptibility and sensitivity of their dentist. Cely Galindo and Herazo Acuña (2005), mention that, in academic and professional training as dentists, the training of purely clinical knowledge and information prevails, largely neglecting the training based on the values and humanistic elements that it provides us ethics and bioethics.

A. The principles of bioethics

The principles of bioethics are based on universally accepted ethical values. The current scientific technological development has impacted on the content of traditional ethics, which since the time of Hippocrates had not seen such important revisions and conceptual contributions. The judicialization of professional life has caused patients, professionals and institutions to enter into a legal production, the complexity of which makes dental medical decision-making a complex issue.

Decision-making involves a choice between different alternatives, in which one will always be better or less bad for the patient and according to Harron, Burnside, and Beauchamp (1983) should be based on four principles: Beneficence, Refers to the search for the good or benefit of the patient, to the protection of their rights, to the obligation of relief and to decisions that sometimes require a cost-benefit analysis in making therapeutic decisions, avoiding ineffective or useful treatments and measures. All this is derived from the fact that each patient is an ultimate goal in herself, and our diagnostic-therapeutic activity is an instrument at her service. Non-maleficence, known since the Hippocratic era, refers to the obligation not to harm patients.

Currently with the latest technological and medical advances, respect is not only for life, but also for the quality of life and the will expressed by patients with the right to autonomy in decisions. Justice, a bioethical principle that

raises the right to a decent minimum of health care, distribution and priorities in the use of health economic resources. Right to a health system that seeks access to care based on the needs of patients, and no other social or economic considerations of inequality in access to the system.

Autonomy is the most modern principle of bioethics, since it arises as a consequence of a concept of human being that implies the idea of personal freedom. The principle of autonomy requires respect for the decision-making capacity of people, and the right to have their will respected, in matters that refer to themselves. We practice the principle of autonomy, when performing patient-centered care, giving all relevant information, with understandable language, knowing how to listen during the interview, adopting an empathic attitude trying to understand their emotions, situation, expectations and desires. The context of bioethics is also addressed by the Dental College of Peru, in the "Code of Ethics and Deontology of the Dental College of Peru" (Del Peru, 2007).

B. Indicators of teaching in bioethics

Capabilities skills: It measures the professional skills acquired, including organizational technique, relationship with the environment, response to contingencies of the exercise. Capacity is the key concept in pedagogical practice, according to Milton Manayay (2011), in capacity the educational institution defines its approach, teachers maintain the purpose of their teaching-learning to "develop capacities", it is a psychological concept, interrogates and promotes learning. Capacity-ability-skill-competence are executed in an integrated dynamic way. It optimizes capacities, abilities and skills, they are transformed into competence (s), in all competence skills and abilities underlie.

Competencies skills: Flexibility and breadth exercised by the professional, are expressed in general, professional and specialized competences. Capacity, competitiveness, concern. Ability to know-how to do something with acquired learning. Competence, type of teaching:

Every educational teaching process involves an epistemological conception, Manayay discusses the concept: What is learning? It is the way they learn, three dimensions in the human mind: affective dimension referred to the judgments about reality, cognitive dimension is the information of knowledge that allows to learn reality; expressive dimension, expresses what you believe, think, know, know. The author argues that competition allows the formation and construction of new, useful, efficient human beings for themselves (Manayay, 2011).

Teaching strategy: Set of didactic strategies used in the learning-teaching process, in the training of competencies of professional postgraduate dentists.

Professional skills: Professional profile that adapts the dentist to the social and professional environment, among them teamwork, problem solving, effective communication and organization are considered. This component is part of the didactic content, it is a system of actions and operations to be mastered by the student; This responds to an objective or competition. The ability as a mode of action, is linked to the activity, it is defined as the process of a practical and sensitive nature by which people come into contact with the objects of the surrounding world and influence them for the sake of personal satisfaction.

Professional dexterity: Ability to develop their professional activities, talent, expertise and aptitude in the exercise of the profession.

lii. Competence-Based Learning

Constructivist or competency theory

Piaget briones (2006): States that human intelligence has two attributes, organization and adaptation. First, organization, which is made up of structures or knowledge schemes, each producing different behaviors in very specific situations. In school age, abstract schemes appear called as operations that derive in the sensorimotor by internalization, that develop mental activities. Second, adaptation, a simultaneous process in assimilation and accommodation. Assimilation internalizes new events, information to existing mental schemes. The accommodation relates the process of change that the mental schemas undergo in the accommodation; intelligence is the product of both processes.

Balance: In learning, the process of imbalance between assimilation and accommodation arises, this overcomes three complex levels:

1. Cognitive schemes of the subject, representations of reality, if it is incompatible an imbalance occurs.

2. Balance of the subject's schemes, they must accommodate each other, generates cognitive conflict. 3. Equilibrium, level of greater complexity in hierarchical integration of schemes.

Vygotsky (1980): Mental activity, perception, memory, thought distinguish the human being. These features of the sociocultural context produce internalization of culture, the central thing is signs and symbols. Thought is a socio-genetic object, where the mental functions have a social origin of the subject from biological processes that he brings at birth. The concepts are mediation and zone of proximal development.

The first, behavior is mediated by material, symbolic and significant tools. The second, learning, achieves the support of the social context. Human behavior is mediated by material, technical and symbolic tools. Provides tools to act on the environment to modify it. Mental activity is not static or immutable, it has perception, memory, emotions, thought, language and representations.

Law of double formation: According to Vygotsky (1980), mental functions and their meanings are directly linked to the child's interactions with adults, the meanings of signs and behaviors are internalized, becoming intra psychological or intrapersonal; culture outside the subject is part of the subject's mental activity. The zone of proximal development and formal learning: culture is internalized in the school (call it university), it develops elements of its cognitive mental structure, the teacher elaborates, reorganizes pedagogical content.

For Vygotsky, cognitive development is caused by learning, pedagogy must elaborate processes for mental development to the zone of proximal development, it consists of understanding the real level of development that is determined to independently solve a problem, and the potential development determined by solving a problem, under the guidance and advice of the teacher.

The student is able to solve a task of medium difficulty, solved this, will be submitted to solve another problem of greater or equal difficulty, always with the advice of the teacher assigned for said purposes.

B. Indicators for meaningful learning

Ethics of human life: Ethical reflection on life, the beginning of human life, human dignity, morality, rights and values that professionals must know and apply in their professional practice to preserve the health of the patient in particular.

Professional training in responsibility: The Dentist assumes legal, ethical and moral responsibility for the effects of dental care.

Ethical responsibility: It is the obligation that the consultant has to respond to the consequences that may arise from his professional performance against the ethical and moral Code that he has assumed.

Dentist-patient relationship and bioethical principles: The doctor-patient relationship is the ability, skill and art of the doctor to interact and establish dialogue with her patient.

The application of the bioethical principles: Autonomy, beneficence, maleficence and justice, would guarantee adequate health care. Bioethics provides tools to the healthcare professional to solve ethical dilemmas and support interdisciplinary and interprofessional discussions regarding the best way to act, as well as the sanctions to which we are exposed for not complying with them.

iv. Results of The Practice

The main results of this research are described below, the data correspond to the results of the bioethics teaching process and competency-based learning in stomatology graduate students.

A. Teaching bioethics

Applying constructivist didactics for the development of capacities, abilities and skills of competences, it was achieved, applying the pedagogical model in 4 learning sessions that 56.25% of the evaluated students qualified as very good, 38.25 % as good and 5.0% as fair.

The results were validated from the statistical analysis of each of the indicators of the variable Y whose results are significant. Results of the pedagogical model design.

Table 1: Average marks in 4 learning sessions, dimensions evaluated 1, 2, 3, 4.

N° Student	MB/ 4Ses.	B/ 4Ses.	R/ 4Ses.	D/ 4Ses.	N°	%
	18-20	16-15	13-14	-12		
01	3	1	-	-	4	5,0
02	3	1	-	-	4	5,0
03	1	3	-	-	4	5,0
04	2	2	-	-	4	5,0
05	2	2	-	-	4	5,0
06	4	0	-	-	4	5,0
07	0	4	-	-	4	5,0
08	3	1	-	-	4	5,0
09	3	1	-	-	4	5,0
10	4	0	-	-	4	5,0
11	3	1	-	-	4	5,0
12	2	2	-	-	4	5,0
13	2	1	1	-	4	5,0
14	0	3	1	-	4	5,0
15	3	1	-	-	4	5,0
16	4	0	-	-	4	5,0
17	2	2	-	-	4	5,0
18	1	2	1	-	4	5,0
19	2	1	1	-	4	5,0
20	1	3	-	-	4	5,0
Total	45	31	4	-	80	
%	56,25	38,75	5,0	-		100

B. Competency-based learning

According to each question we have the following:

Question A1: Of the total number of students interviewed, 25 of them almost always practice ethical services for life and of them, 11 received the application of constructivist didactics and 14 did not. The measures of central tendency and data dispersion corresponding to question A1

Average: The average score of the students is 3.57. This means that the average student almost always practices ethical principles for life.

Median: (Q2 = P50) 50% of the students have a score less than or equal to 4. This means that 50% of the students almost always practice ethical principles for life.

Fashion: The largest number of students has a score of 4. So, it means that most students almost always practice ethical principles for life.

Variance: The average of the squared deviations of the students' responses from their mean is 0.530. It means that the behavior in relation to the practice of ethical principles for life is positive, equal to 0.53.

Standard deviation: The average of the deviations of the students' grades with respect to their mean is 0.728 points. In other words, the average of the responses on the mean of the practice of ethical principles for life is 0.728.

Question A2: Of the total number of students interviewed, 25 of them almost always consider ethics and professional practice important and of them, 15 if they received the application of constructivist didactics and 16 did not. Measures of central tendency and data dispersion corresponding to question A2.

Average: The average score of the students is 3.78. This means that on average people almost always consider ethics and professional practice important.

Median (Q2 = P50) 50% of the students have a score less than or equal to 4. This means that 50% of the students almost always consider ethics and professional practice important.

Fashion: The highest number of students has a score of 4, which means that most students almost always consider ethics and professional practice important.

Variance: The average of the squared deviations of the students' responses from their mean is 0.341. It means that the behavior in relation to whether they consider ethics and professional practice important is positive, being equal to 0.341.

Standard deviation: The average of the deviations of the students' grades with respect to their mean is 0.584 points. In other words, the average of the responses on the mean of whether they consider ethics and professional practice important is 0.584.

Question A3: Of the total of students interviewed, 18 of them almost always know and apply professional values and of them, 6 if they received the application of constructivist didactics and 12 did not. Measures of central tendency and data dispersion corresponding to question A3.

Average: The average score of the students is 3.43. This means that on average people almost always know and apply professional values.

Table 2: Summary of field data by indicator

Indicator	Items (Question)	Without didactics constructivist				With didactics constructivist			
		1	2	3	4	1	2	3	4
Ethics of life	A1	0	1	3	1	1	1	6	11
	A2	0	0	2	1	1	0	3	15
	A3	0	0	6	1	1	0	12	6
	A4	0	0	4	1	1	0	1	17
	A5	0	0	4	1	1	1	2	15
Responsible professional training	B1	0	0	7	1	2	0	11	6
	B2	0	0	3	1	1	1	0	17
	B3	0	0	10	8	1	0	5	13
	B4	0	0	11	7	1	4	8	6
	B5	0	0	7	1	1	0	7	11
Ethical responsibility	C1	2	2	7	2	1	4	10	3
	C2	2	5	4	2	1	6	5	6
	C3	1	1	6	5	2	2	10	4
	C4	1	6	2	4	2	1	11	4
	C5	1	0	5	7	1	1	7	9
Dentist-patient relationship and bioethical principles	D1	0	0	4	9	1	0	1	16
	D2	0	3	1	9	1	0	2	15
	D3	0	3	1	9	1	0	2	15
	D4	0	0	5	8	1	0	2	15
	D5	0	2	3	8	1	0	2	15
Professional practice applied from ethics	E1	0	0	5	8	1	0	7	10
	E2	0	3	8	2	1	3	10	4
	E3	1	5	5	2	3	7	5	3
	E4	0	3	5	5	1	3	9	5

Median: (Q2 = P50): 0% of the students have a score less than or equal to 3. This means that 50% of the students almost always know and apply professional values.

Fashion: The largest number of students has a score of 3. So, it means that most students almost always know and apply professional values.

Variance: The average of the squared deviations of the students' responses from their mean is 0.419. It means that the behavior in relation to whether they know and apply professional values is positive, equal to 0.419.

Standard deviation: The average of the deviations of the students' grades with respect to their mean is 0.647 points. That is, the average of the responses on the mean of whether they know and apply the professional values is 0.647.

Question A4: Of the total number of students interviewed, 31 of them almost always respect human dignity and of them, 17 if they received the application of constructivist didactics and 14 did not.

Measures of central tendency and data dispersion corresponding to question A4.

Average. - The average score of the students is 3.78. This means that on average people almost always respect human dignity.

Median (Q2 = P50): 50% of the students have a score less than or equal to 4. This means that 50% of the students almost always respect human dignity.

Fashion: The largest number of students has a score of 4. So, it means that most students almost always respect human dignity.

Variance: The average of the squared deviations of the students' responses from their mean is 0.341. It means that the behavior in relation to whether they respect human dignity is positive, equal to 0.341.

Standard deviation: The average of the deviations of the students' grades with respect to their mean is 0.584 points. That is, the average of the responses on the mean of whether they respect human dignity is 0.584.

Question A5: Of the total number of students interviewed, 29 of them almost always respect the moral norms from the profession and of them, 15 received the application of constructivist didactics and 14 did not. Measures of central tendency and data dispersion corresponding to question A5.

Average. - The average score of the students is 3.70. This means that on average people almost always respect moral standards from the profession.

Median (Q2 = P50): 50% of the students have a score less than or equal to 4. This means that 50% of the students almost always respect the moral standards from the profession.

Fashion: The largest number of students has a score of 4. So, it means that the majority of students almost always respect the moral standards from the profession.

Variance: The average of the squared deviations of the students' responses from their mean is 0.437. It means that the behavior in relation to whether they respect moral norms from the profession is positive, being equal to 0.437.

Standard deviation: The average of the deviations of the students' grades with respect to their mean is 0.661 points. In other words, the average of the responses on the mean of whether they respect moral standards from the profession is 0.661.

V. Discussion of Results

Statistically analyzed the problem, it was investigated the way in which the teaching of bioethics and competency-based learning allows the achievement of professional competence oriented to the professional responsibility of stomatology graduate students of the Southern Scientific University in 2016. The specific problems were oriented in the search of: The way in which the teaching of bioethics allowed a significant achievement of professional competences oriented towards social responsibility in the exercise of the profession. The learning based on meaningful didactics allowed the achievement of learning for the professional responsibility of the stomatology graduate students of the Southern Scientific University in 2016. The objectives of the research allowed: Contribute to the knowledge of professional training in dentistry based on constructivist didactics for responsibility competencies, in the professional practice of the dentist from the context of bioethics. At a specific level it was demonstrated: That, the constructivist perspective, obtained an achievement of responsibility competencies from the bioethical context, in the postgraduate dental professionals. Achievement of significant competence in postgraduate dental professionals, from the context of bioethics. The pedagogical model allowed

the achievement of significant competencies in the professional practice of graduate students of the Professional School of Dentistry, and application of the design of the learning sessions. The pedagogical model systematized quantitatively, allows the achievement of professional competences from the perspective of bioethics for the responsibility of graduate students of the School of Stomatology. Analysis of the quantitative data of each indicator analyzed: The final result of the research confirms the hypothesis that if there is a significant relationship between the teaching of bioethics and learning based on competencies for the professional practice of postgraduate students in Stomatology of the Southern Scientific University, 2016. The objectives of the research show that there is a relationship between the teaching of bioethics and its relationship with the competency-based learning of postgraduate students in Stomatology at the Universidad Científica del Sur, 2016. Oscar Vera Carrasco (2012) makes a bibliographic review of the competences of the doctor in training and the inclusion of the bioethics course in the curriculum in medical schools, he mentions that it is urgent to implement curricula to provide competencies that allow managing conflicts of values a democratic clinical action. Therefore, it is necessary to design pedagogical strategies to achieve the expected learning. The teaching of bioethics based on learning in competencies allows the student: comprehensive actions to identify, interpret, argue and solve problems in the clinical area with suitability and ethical commitment, mobilizing the different knowledge: being, doing and knowing. María Torres-Quintana and Fernando Romo (2006) propose bioethics, as an alternative for dialogue, with evidence, tools for dentists and doctors regarding the way professionals act, approach professional practice from ethics, interaction dentist-patient, access to dental health. The role of health professionals is threefold: to provide the best care to individual patients, to care about the community in which they work, and to use the resources they have in the most effective way. Finally, the teaching of bioethics with significant learning, allows the dental student a comprehensive training, with knowledge, skills and values, capable of recognizing and adequately solving clinical ethical dilemmas, committed to their professional responsibility, with social conviction and humanist.

Conclusions

From the analysis of the quantitative data, the following is concluded: That if there is a significant relationship between the teaching of bioethics and competency-based learning, as demonstrated in the whole of the analyzed sample, 56.25% rated it as very good, 38.25% as good, and 5 % as regular. Which allows to conclude the validity of the designed pedagogical model. There is a relationship between teaching with significant achievement and professional practice in postgraduate students in Stomatology at the Universidad Científica del Sur, 2016, with a positive impact on the quality of care and responsibility of the dentist. There is a relationship between didactic design in teaching and meaningful learning in postgraduate students in Stomatology of the Southern Scientific University, 2016.

RECOMMENDATIONS

It is recommended to implement curricular plans from the constructivist perspective for the achievement of professional competences in bioethics in the professional schools of stomatology in the Peruvian university. It is recommended to develop didactic designs in professional training based on competencies from bioethics in the context of professional training and ethical responsibility in the professional practice of postgraduate students in Stomatology at the Universidad Científica del Sur, 2016. It is recommended that the professional schools of the Peruvian universities where the professional career of Stomatology is developed, implement the Bioethics subject of teaching and learning based on competencies in the Postgraduate School of Stomatology of the Scientific University of the South.

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