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ORIGINAL

Theoretical-strategic conceptions of the values formation process in stomatology students

Concepciones de carácter teórico-estratégicas del proceso de formación de valores en alumnos de estomatología

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ABSTRACT

Introduction: in this research, by analogy to the definitions of knowledge and skill invariants, the concept of value invariants is defined, it is based on the fact that responsibility, solidarity, industri-ousness and dignity constitute the value invariants.
Development: a pedagogical strategy for the formation of values in students of the Dentistry career is presented, which consists of five stages and actions in each of them, which is conceived in two di-mensions; The first is the teaching, in which, on the basis of the logic and components of the educa-tional teaching process, a hierarchical treatment of values is suggested, on the basis of which is the systematization of the value invariants and, on this, the proposes to address the rest of the values of the social assignment; The second dimension is the extra-teaching dimension, in which the modes of action of the values to be formed in the social activity of the students can be valued in greater rich-ness.
Conclusions: the fact is revealed and argued that responsibility, solidarity and industriousness make up a dialectical triad, which on the axiological level becomes the driving source of the value for-mation process, while dignity constitutes the cell of said process.

Keywords: Value Invariants; Pedagogical Strategy; Stomatology Students.

RESUMEN

Introducción: en la presente investigación, por analogía a las definiciones de invariantes de conoci-miento y de habilidad, se define el concepto de invariantes de valor, se fundamenta que la responsa-bilidad, la solidaridad, la laboriosidad y la dignidad constituyen los invariantes de valor.
Desarrollo: se presenta una estrategia pedagógica de formación de valores en estudiantes de la ca-rrera Estomatología, que consta de cinco etapas y de acciones en cada una de ellas, que se concibe en dos dimensiones; la primera es la docente, en la cual, sobre la base de la lógica y los componentes del proceso docente educativo, se sugiere un tratamiento jerarquizado de los valores, en cuya base está la sistematización de los invariantes de valor y, sobre esta, se propone tratar el resto de los va-lores del encargo social; la segunda dimensión es la extradocente, en la que puede valorarse, en una mayor riqueza, los modos de actuación de los valores a formar, en la actividad social de los estudian-tes.
Conclusiones: se revela y argumenta el hecho de que la responsabilidad, la solidaridad y la laborio-sidad conforman una triada dialéctica, que en el plano axiológico deviene en fuente motriz del proce-so de formación de valores, mientras que la dignidad constituye la célula de dicho proceso.

Palabras clave: Invariantes de Valor; Estrategia Pedagógica; Estudiantes de Estomatología.

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INTRODUCTION

Cuban education has been immersed in a continuous process of improving its educational system, and in particular, one of its main priorities has been the formation of the values required by our social system, aimed at the full development of human potential, in order to build a more just and equitable society.

Although significant progress has been made, there are still areas of dissatisfaction in the process of comprehensive personality development among students, including:

- Dissatisfaction with student behavior in school and society.
- Not all teachers know how to develop their teaching-learning process with the aim of forming a single value.
- Teachers must instill a large number of values, but they do not have a strategic concept that allows them to fulfill this task.

With regard to dissatisfaction, on a social scale, with the values held by the younger generations today and the role that universities should play in this regard, Raúl Castro Ruz stated that "The loss of ethical values... can be reversed through the concerted action of all social factors... The same is true at different levels of education... such behavior in our classrooms is... incompatible. We must bear in mind that... schools must instill in children respect for the rules of society... living in society means, first and foremost, accepting norms that preserve respect for the rights of others and decency..."[1]

In this paper, the authors aim to draw on the systemic nature of values to present theoretical and strategic criteria and concepts for the process of forming fundamental values in dentistry students, which are embodied in a pedagogical strategy.

DEVELOPMENT

Numerous definitions have been developed for the concept of value. The authors consider that no definition should disregard the following two aspects:

- It is everything that has meaning for the individual and society.
- It is a behavioral regulator.

For this reason, we accept the definition of value given by Héctor Valdés, who states that: "they are conditioned by prevailing social relations" and "are formed in the process of interaction between people and the object of their activity, in the production and reproduction of their material and spiritual life" and that, in essence, they are:

- "...spiritual determinations that designate the positive significance of things, events, phenomena, relationships, and subjects for an individual, a social group or class, or society as a whole...
- ...essential components of the ideology and expression of the culture and history of a given society and of the interests, points of view, needs, and contradictions of different subjects...
- ...guides and regulators of behavior" that "constitute a system, since they are dynamically related to each other."[2]

It is well known that values form a system and that all systems have their own hierarchy. Given this situation, it is worth asking: What is the hierarchical level of fundamental values in terms of the order in which they should be introduced into the teaching-learning process?

The answer to the above question must be inferred from the characteristics of two processes that, in the present case, are integrated: the teaching-learning process and the value formation process.

Since values are a component of content, the analogy of invariants will be used, which reveal a hierarchical logic in the structuring of the system of knowledge and skills of the content.

Talizina understands invariants as "very compact new objects that contain a very small amount of knowledge, but which are 'so powerful' that they can generate all the possible variants and invariants of concrete objects."[3] Therefore, based on a small amount of knowledge, the rest of the content knowledge system can be generated and inferred.

Authors such as Álvarez[4] and Fuentes[5] treat invariants not only as knowledge (knowledge invariants), but also as skills (skill invariants). So, if values are also a component of content, why not also talk about value invariants?

The authors define the concept of value invariants as a small number of values whose systematization, in the training process, contributes to the systematization and development of any other value of the social contract.

To reveal what the value invariants are, we need to look more closely at how values are formed, since, as defined above, these values contribute to and strengthen the formative process of any other value and, therefore, must influence the way in which this process is developed.

According to Baxter, in order to form values, it is necessary to "...use persuasion as one of the fundamental methods, in addition to the conscious and active participation of the subject in their own formation, where the performance of every activity has meaning for them. This process is facilitated by a committed interpersonal relationship, in a communication characterized by open and frank dialogue, where each person's experiences and knowledge are shared with authenticity and consistency".[6,7]

In essence, most of the literature on values education (or education in values) in school institutions states that this complex process is primarily self-education, and is achieved through the students' activities, which are fundamentally communicative, in dialogical relationships, in a participatory, democratic, and value-based environment, in which students express themselves freely and without fear of repression and the teacher, knowing the way each of their students thinks and acts, contributes, through persuasion, to the correction of their inappropriate ideas and behaviors so that they can integrate objectively and harmoniously into the social context.

Since the formation of any value is primarily self-education in human activity of a social and collective nature, individuals must take responsibility for this process, which is defined as "...the fulfillment of the commitment made to oneself, the collective, and society".[8] The author cited reveals the following, among others, as ways of acting on this value: fostering a climate of commitment, dedication, and responsiveness to assigned tasks, demonstrating discipline, efficiency, quality, and rigor in their fulfillment; promoting a mode of democratic participation, where individuals feel involved in the destinies of their family, community, work and student groups, and country; embracing criticism and self-criticism as powerful instruments of moral self-regulation.

As can be seen from the definition given of the value and its modes of action, responsibility has a powerful influence on the formation of any other value and can therefore be considered a value invariant.

If responsibility, according to its definition and modes of action, reveals and contributes in essence to the activity that *the subject* must carry out in the process of forming any value (if it is assumed in that process), then another value is required that manifests itself as its dialectical opposite, revealing and contributing in essence to the activity carried out in the *collective*. For the aforementioned collective activity to unfold, attitudes are required in the subjects that foster group interaction, so the opposite value sought will be solidarity, which is defined as "...committing oneself in idea and action to the welfare of others, in ... collectives ... the nation, and towards other countries. It means always being attentive to the entire human mass that surrounds us".[8] According to the aforementioned author, the ways in which this value is expressed include the following: expressing and promoting collectivist attitudes, actively participating in the solution of the problems of the group and the community, and identifying with the just causes that arise within it; contributing spiritually to the fulfillment of collective tasks, socializing the results of the work carried out; strengthening the spirit of collaboration and teamwork, developing collective consultation, dialogue, and debate to identify problems and unity of action in the selection of possible alternative solutions. Based on the above, solidarity is also an invariant value.

The dialectical contradiction between responsibility and solidarity, which is established in the formative process of any value and, in turn, is its driving force, must be resolved in human activity and, therefore, in the face of industriousness, which is defined as "... the maximum use of work and social activities carried out with the awareness that work is the source of wealth, a social duty, and the means to achieve social and personal goals".[8] According to the aforementioned author, the ways in which this value is expressed include the following: showing full dedication to work and social activities, demonstrating discipline, efficiency, and quality in the performance of tasks, overcoming obstacles, and finding solutions to problems; feeling satisfaction with the results of one's work and social contribution; and combating any manifestation of complacency and laziness. Based on the above, industriousness is also a value invariant.

The preceding paragraph establishes that the dialectical contradiction between responsibility and solidarity is resolved through industriousness. On the other hand, the contradiction between responsibility (which essentially manifests the attitude of the subject in the axiological process) and industriousness (which reveals the essence of the formative process itself in terms of the activity it requires) is resolved through solidarity (as the essence of collective activity). Furthermore, it can be argued that the contradiction between solidarity and hard work is resolved through the responsibility of the subject. All of this reveals that the invariants of value—responsibility, solidarity, and hard work—constitute a dialectical triad, which becomes the driving force behind the formation of any other value.

There is another important fundamental value in Cuban society, which becomes a dialectical negation of the aforementioned triad, since, on the one hand, in its formative process it takes the positive aspects of the values of responsibility, solidarity, and industriousness, requiring their manifestation in that process; and on the other hand, on the axiological level, it represents a higher qualitative level, incorporating the aforementioned values as particular cases of its manifestation. This value is dignity, which is defined as: "... respect for oneself, one's country, and humanity".[8]

The aforementioned author points out the following, among others, as ways of acting with dignity: maintaining exemplary behavior in social activities and in everyday life by demonstrating conduct consistent with the ethics of the Cuban Revolution; keeping one's individual life project inextricably linked to the social project and putting one's talent at the service of society; combating all manifestations of selfishness, individualism, consumerism, and submission.

From the preceding paragraph, we can infer that dignity is also a value invariant. Furthermore, dignity as a value contains the dialectical triad of the other three value invariants, presupposes those values, and, for that reason, is itself a driving force in the process of value formation (since it contains its dialectical contradiction). We can therefore affirm that it becomes the *cell of the process of value formation (or values).* Consequently, the invariants of value can be presented as a triangular pyramid, with the values of the dialectical triad (responsibility, solidarity, and industriousness) at the base and dignity at the apex.

The formation of any value must take place with the dynamics revealed in the preceding paragraphs and, therefore, the systematization and strengthening of value invariants are the driving force behind the process of forming that value.

The teaching-learning process begins with the introduction of new content by the teacher and, at the end of the class, homework should be assigned. It is in the next class that the concept of responsibility can be introduced naturally, leading students to appreciate the social and individual significance of the value and their respective ways of acting. Subsequently, the teaching-learning process proceeds to the formation of basic skills associated with the content introduced, which is the time to clarify and assess what hard work is and how it is carried out.

The process then moves on to solving more complex, practical, or creative tasks using the content covered. This requires working with each student in their zone of proximal development, where the student cannot work alone to complete the task and needs help from the teacher and more capable students. This requires the application of productive teaching methods and techniques (participatory, group work), and it is the ideal moment to introduce the definition and assessment of the value of solidarity and its modes of action.

The value of dignity must be clarified, assessed, and systematized simultaneously with the dialectical triad of value invariants, and in view of individual differences in the performance of the various teaching tasks that have been developed, it can also be addressed through general criticism of those who fail to comply and praise for those who excel. Furthermore, it should be introduced naturally as a cell in the value formation process, serving as the common thread in the systematization of any other value.

PEDAGOGICAL STRATEGY

Stage 1: Planning

Actions:

- Diagnosis of the current state of the formation of the nine fundamental values of Cuban society.
- The teacher determines, in relation to the content to be covered and the diagnosis made, the fundamental values that can and should be systematized in each class or activity (extracurricular).
- Redefinition of the objectives of each class or activity so that their axiological nature is made explicit.
- Restructure the content so that its axiological dimension is made explicit.
- Selection of participatory teaching-learning methods and techniques that encourage students to evaluate and exchange ideas on the significance of the values that will be addressed in the class or activity.
- Select the necessary resources to promote the axiological outcome of the class or activity.
- Determination of the system of tasks for each class or activity that promotes moral education, as well as the development of study skills and reading comprehension, which are of substantial importance for the aforementioned education.
- Planning each class or activity, specifying how the content will be used to systematize the corresponding values, with priority given to developing students' motives and interests.
- Evaluating each student's axiological projection in the activity, prioritizing self-evaluation and co-evaluation.

Stage 2: Development of classes

In this stage and the next, the aspects planned in the previous stage will be developed.

Actions:

- Clarification and assessment, in the first classes (with the systematization specified above), of the value invariants.
- Systematization, in the rest of the classes, of the nine fundamental values (taking into account the elements already specified).

It is suggested to use problem-solving methods and participatory techniques (group-based), as well as the following procedures:

- Clarification of values. This procedure aims to help students understand what they value, become aware of a set of personal values, and stimulate the valuation process in them. Exercises can be developed that include clarifying questions and the completion of unfinished sentences. Clarifying questions about a text: in this case, a short text presenting a conflictive situation is proposed, and the students' answers to questions prepared in advance by the teacher are used as a basis for discussion.
- Discussion of moral dilemmas. These are short stories that present a conflict of values, so that students are faced with a dilemma and have to reflect, choose a solution, and argue why they made that choice. They can be presented through an oral explanation of a story, a video, or a reading, and the teacher should keep the following points in mind: a) make sure the topic to be discussed is clear to the students, b) define the main character(s), c) offer a choice between different alternatives that lead to different consequences, d) ask the students what the main character should do and why, e) ask questions that facilitate discussion."[8]
- Case studies. These consist of "describing a situation, which may be real or fictional, based on which the members of the group propose different solutions. This type of procedure enables analysis, clarification, and the search for concrete and realistic solutions, while also helping students acquire decision-making skills."[8]
- Critical commentary on texts. "...It involves developing comprehension skills that enable students to grasp the complexity of specific situations, involving a process of intertwining theory and practical morality. This can be achieved through conflict analysis, docudramas, or discussion of news stories. Stories or novels that present conflicts and allow students to discuss the characters, their actions, goals, and intentions, or other issues decided by the teacher can also be used."[6]
- Self-regulation of behavior. This aims to "... address moral behavior, involving the effort of individuals to control their own behavior so that their moral judgments and actions coincide, that is, so that their behavioral habits are a derivation of their value criteria. This goal requires systematic educational work and puts the individual in relation to themselves through the translation of their value criteria into rules of conduct in a process that allows them to modify the objectives they initially set when these do not allow a valuable way of being to flow."[8]
- Analysis of values and critical analysis of reality. "Enables the investigation of social problems, the clarification of concepts, as well as debate and discussion on specific topics previously selected by students and teachers."[8]

Stage 3: Development of extracurricular activities

These activities will be carried out in the school or community with the students in the group and led by the teacher. They will require the teacher's creativity in planning and developing them, with the aim of systematizing and evaluating (giving priority to

evaluation and co-evaluation) the ways in which the values that are the subject of the activities are put into practice. They should be systemic in nature. It is suggested that the procedures suggested in the previous stage be used in these activities.

Actions:

- System of group actions focused on the assessment of values (in addition to the procedures already suggested, it is recommended to use group work techniques such as round tables, panels, plenary sessions, and others).
- System of political, ideological, work, cultural, and sports activities carried out by students under the guidance and supervision of the teacher (here it is important to evaluate the degree of development of the students' modes of action). In higher education, the group's educational project plays an important role in this regard.[9,10,11]

Stage 4: Evaluation

Each student's knowledge of the definitions and modes of action of each fundamental value of Cuban society will be evaluated, as well as the manifestation of these modes of action in each activity and after the end of each semester.

Actions:

- Self-evaluation.
- Co-evaluation.
- Survey of students to verify their understanding of the values and how they are put into practice.
- Observation of the activities carried out by the students.
- Integrated assessment of each student and the group, prepared by the teacher in accordance with the above actions.

Stage 5: Improvement

Based on the results obtained in the previous stage, the teacher will plan to improve the process of developing and forming the fundamental values of Cuban society, which involves improving what was done in the previous stages and, if necessary, in each of their actions.

Actions:

- Assessment of the integrated evaluation carried out each quarter, semester, and year.
- Determination of progress and shortcomings in the axiological formation of students and the strengths and weaknesses of the work carried out in this regard by the teacher.
- Determination of a plan of measures to improve the process of values formation in students.

CONCLUSIONS

The process of values education in the training of dentistry students defines responsibility, solidarity, hard work, and dignity as invariable values. The first three constitute a dialectical triad that becomes the driving force behind the formation of any value, while the last, which underlies this driving force, constitutes the cell of the process. The pedagogical strategy developed facilitates the organization of the educational process for students in the dentistry program, with the aim of contributing to the formation or development of values in a systematic, flexible, participatory, and gradual manner, including both academic and extracurricular dimensions.

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CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

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