

# *General bioethics education as a contribution to the construction of a bioethical thinking on educators*

*La enseñanza de la bioética general como aporte en la construcción de un pensamiento bioético en los maestros<sup>1</sup>*

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## **Abstract**

This article presents the results of an investigation that examined a teacher education experience in general bioethics conducted by the University El

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Bosque. It covered 22.568 educators in different regions of the country. In addition to the value of the experience as a disciplinary divulgation exercise, this article intends to find out the impact of bioethical teaching on Educators. The texts produced by them during their pedagogical experience were used as source of information. First, a general analytical reading of the texts was done. From the same, the analytical categories were built through which the assertions made by the educators regarding bioethics were useful to identify general elements that helped in making suggestions in two senses: First, on bioethics teaching and second, bioethics of teaching; taking into account the contribution that these two make to the construction of a civil ethics. The gathering of allegations and suggestions collected from the texts, represent the educators' voice and therefore can be understood as a version of their bioethical thinking in Colombia, especially of those who participated in the teacher training experience.

**Keywords:** teaching training, teaching bioethics, civil ethics, bioethical thinking.

### Resumen

Este artículo presenta los resultados de una investigación que analiza una experiencia de formación docente en bioética general realizada por la Universidad El Bosque, y que cubrió a 22.568 maestros en distintas zonas del país. Además del valor de la experiencia en tanto ejercicio de divulgación disciplinar, el artículo indaga por el impacto de la enseñanza de la bioética en los maestros. Los textos producidos por éstos durante la experiencia pedagógica fueron utilizados como fuente de información. Primero se hizo de una lectura analítica general de los textos. A partir de la misma se realizó un trabajo de construcción de categorías analíticas, a través de las cuales las afirmaciones hechas por los maestros respecto a la Bioética sirvieron para identificar elementos generales que aportan en la elaboración de sugerencias en dos sentidos: primero, sobre la enseñanza de la bioética y segundo, sobre la bioética de la enseñanza; atendiendo al aporte que éstas hacen en la construcción de una ética civil. El conjunto de las afirmaciones y sugerencias recogidas de los textos representan la voz de los maestros, y puede entenderse por tanto como una versión del pensamiento bioético de ellos en Colombia, específicamente aquellos que participaron de la experiencia de formación docente.

**Palabras clave:** formación docente, enseñanza de la bioética, ética civil, pensamiento bioético.

## Introduction

Since 1995, Universidad El Bosque has formed students in general bioethics in the undergraduate and specialization programs of its school of Education and in the ongoing training courses for teachers. Some of these were directed particularly to educators who received them as part of their curriculum content of different graduate programs in which they were enrolled. The teaching of general bioethics was presented as an input and a tool for the building of a civil ethics<sup>5</sup>.

The document that follows is divided into four parts. The first introduces some ideas on the teaching of bioethics, civil ethics, and bioethical thinking as concepts. The following is a description of the pedagogical experience focusing on its particularities. Finally, the questions that guided the experience analysis and the main tools constructed to solve these questions, as the primary aim of the research, will be presented.

The second part introduces in more detail the methodological procedures used with the documentary corpus that was taken as source of information for the investigation.

The third part shows the results obtained of the analysis from documentary sources.

The fourth gathers the analysis of the educational experience with educators, and brings together some general suggestions of bioethics teaching and the teaching of bioethics. These statements and suggestions outline general elements that, according to our understanding, contribute to the construction of a version of the bioethical thinking of educators who participated in general bioethics seminars and modules in La Universidad El Bosque during 1998-2002. Somehow, it represents the bioethical thinking of Colombian teachers.

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<sup>5</sup> A first article that relates some aspects of the pedagogical experience was published in 1999. Escobar Triana, Jaime, "The teaching of general bioethics in the construction of a civil ethics" In: *Investigación educativa y Formación docente*. Bogotá, 1: 1, 1999, pp. 3-13.

## Training teachers on bioethics

### 1. *The Teaching of general bioethics*

Since the nineties, bioethics experienced a conceptual expansion of its scope which took it beyond the traditional boundaries of biomedical and biotechnological research to meet with diverse social problems. Initially, within the national context, bioethics became interested in health justice. The concern to extend the scope of bioethical interest as a tool for thinking social issues was expressed by Carlos E. Maldonado as follows:

“For those who work in bioethics, it is clear that this scientific discipline can contribute to the comprehension and analysis of issues and problems pertaining to life in general, that is to say, to human life as well as life on the planet, to know life as well as to life to be known. One of the fundamentals of bioethics and definitely one of the richest edges of contemporaneous thinking is biopolitics, which is the context and the actual problem in where the relationships between bioethics, civil society and political conflict are subscribed in the broadest sense”<sup>6</sup>.

In this context, it is worth referring to the work of Milani-Comparetti (1998) who speaks on teaching of bioethics. It refers to the need for medical bioethics to go beyond its traditional action field. The previous addresses problems that demand a social ethics to face both the concern for human beings and the environment. So, bioethics teaching is justified outside the schools of medicine. It is this author who introduced the name “General Course of Bioethics”. It becomes important as a movement and as a discipline when it takes on matters such as freedom and social values, respect for the human person and for the principles of autonomy, beneficence, and justice as its own.

In encouraging bioethics teaching, it also encourages bioethics in teaching, both areas of fertile study today. That is why, in some areas bioethics is presented as an ethics for conflict resolution, and it is consi-

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<sup>6</sup> Maldonado, Carlos Eduardo. “Una pregunta difícil: ¿(Cómo) es posible la neutralidad? En *Bioética y conflicto armado*. Bogotá, Colección Bios y Ethos No. 19, Ediciones El Bosque, 2002, p. 31-43.

dered a necessary reflection upon its teaching and divulgation in Latin America and the Caribbean<sup>7</sup> (Garrafa, 2005). In the Colombian context, it is recognized the need to reflect on issues such as the environment, human rights, the complex problem of forced displacement, and bioethics education and education in bioethics<sup>8</sup>. The teachers themselves are the ones to describe the state of art in bioethics disclosure for the period under consideration:

“Undeniably, I am facing something new in this field of bioethics; I feel that it is a privilege almost exclusively provided to us by la Universidad El Bosque. But I am surprised that if the discipline emerged in 1970, more than 30 years ago, we should already have in Colombia at least a minimum of bibliography in the topic. However, I inquired with other colleagues and they do not possess even a paper on bioethics.

“Not even the intellectuals, with whom I customarily deal in their lexicon of academic management, handle the issue of bioethics. It is obvious that what is ignored it is not thought; this is what is happening in this part of the country in relation to bioethics, and for that reason, I consider of great importance the door that La Universidad El Bosque is opening for us and that leaves us with the impulse to further expand the knowledge horizon about this discipline [D320/F6]”.

“Talking about bioethics in today’s world seems an illusion... a fairy tale or at least, a matter that is drawn up from the imaginaries of the different disciplines or knowledge... (...) A theoretical and practical reality imposed every day that should be nurtured as a discipline or set of knowledge related to life and health but at the same time, as a series of rules and ethical commitments of citizens which lead to the control and supervision of human behavior. From them, personal autonomy and human rights such as life are not injured by anyone who inhabits this planet [D283/F5]”.

<sup>7</sup> Garrafa, Volnei. *Enseñanza de la bioética para América Latina y el Caribe. Fundamentos y alcances*. Documento electrónico. 2005 [consulta: 20 junio 2007]. <http://portal.iner.gob.mx/bioetica/archivos/Bases%20conceptuales.pdf>

<sup>8</sup> De ZUBIRÍA, Sergio. “Bioética y educación: tejiendo redes y utopías”. En: Edgar Novoa, et ál. *Bioética, desarrollo humano y educación*. Bogotá, Colección Bios y Ethos, No. 26, Ediciones Universidad El Bosque, 2007, p. 56. See Matyas Rosaelena, 2002; Galvis, Cristian, 2000; Díaz, María, 1997.

It is possible to assume that the effort made by La Universidad El Bosque since 1995 to include general bioethics teaching in its education programs, responds to an interest for the socialization of bioethics as a discipline of knowledge, but above all as a tool that brings the possibility of reaching consensus in different social contexts. It is also introduced as a practical option for conflict resolution, for example, in the school as a communication tool between bioethics an education for building a civil ethics. Two reasons in particular led us to try teaching general bioethics to undergraduate students from various faculties of La Universidad El Bosque, mainly those completing specializations and Bachelor Degrees in the School of Education.

The first was derived from our experience with students in the specialization. In their general formation, we perceived an evident information vacuum when it came to inquire for knowledge or activities related to their responsibility towards surrounding beings, as bioethics suggests. We also identified that connections between science and daily life are not taught in the classroom, and biology, chemistry and social studies do not penetrate into some daily life processes that could serve them as contexts within which they acquire some meaning.

The second motivation was due to our understanding of how the gaps between rich and poor, and between those who have access to knowledge and technology and those who do not, is growing: that is to say, how people are increasingly unequal. But even then, wealth did not make them freer, more autonomous or happier. There are simply personal and community components that make individuals more or less apt to experience solidarity and emotions. This induced us to conceive processes of education in general bioethics where expertise, especially clinical bioethics could be shared and comprehended by all as claimants of knowledge and human action, and as a tool in building a minimum ethics.

These motivations which reflect a social concern, lead us to a text by Diego Gracia (1998) who notes that the teaching of bioethics makes no sense if it only transmits a body of knowledge. Teaching will have some meaning only if it seeks for change, a profound transformation of the learner, of his/her way of approaching the world and in consequence his/her way of behaving.

In a reflection upon civil ethics and citizens coexistence in Colombia, Malcolm Deas (1997) assures that the ethical crisis in the country does not require to change values by behaviors. In doing so, he admits that an ethical pedagogy could be very useful, and suggests promoting ethical behaviors that have “multiplier potential”. It can be argued that the teaching exercise of general bioethics corresponds to a multiplication of such strategies of ethical behaviors. From Bioethics, internal or external educational values, behaviors and attitudes were investigated, in this specific case, to develop further strategies to influence a society with serious problems arising from the armed conflict, social exclusion and poverty. Teaching of general bioethics is presented as an alternative for critical reflection upon the existing social and educational situation.

## 2. *General bioethics and civil ethics*

According to Jaime Escobar (1999), one of the bioethics features is reaching minimum regulatory principles of civil ethics to build a society in peace. In this sense, teaching of general bioethics has, as a feature, the provision of elements for the construction of such civil ethics. But what is a civil ethics? And what is the relationship between the teaching of bioethics and civil ethics? The definitions most recognized in our environment are those exposed by Adela Cortina. Here are two of them:

“Civil ethics is by default, the ethics for citizens; that is to say, the moral that people in a pluralistic society embody to make a peaceful coexistence, and respect and tolerate the different conceptions of the world”<sup>9</sup>. Adela Cortina tells us clearly: “Civic morality consists of a minimum sharing among citizens who have different conceptions of man, different ideals of good life; a minimum that lead them to consider as fruitful their coexistence”<sup>10</sup>. This means that we are socially and politically diverse societies, with development processes that involve different types of conflict and with great cultural and religious pluralism. Civil ethics are the minimum standards that will not let destroy ourselves as a society.

<sup>9</sup> Cortina, Adela. *Ética civil y religión*. Madrid, PPC Editorial y Distribuidora S. A., 1995. p.8

<sup>10</sup> Cortina, Adela. *Ética discursiva y educación*. En valores. Universidad de Valencia <http://www.insumisos.com/lecturasinsumisas/Etica%20discursiva%20y%20valores.pdf>

In his paper for the Civil Ethics and Coexistence Seminar, Mauricio Durán (1998) draws attention to the idea that civil ethics can only be based on consensus building. It could also be argued that the teaching of bioethics with principlism as guide for consensus could contribute in the construction of minimum ethics. Several elements of civil ethics mentioned by Durán are at the same time bioethical concerns. For example, the fundamental concern for the right to life and human rights. They also take into account local peculiarities and concern for citizenship exercise with emphasis on cultural and religious differences.

From Durán's approach (1998) to civil ethics, the need—shared with bioethics—of building a specific pedagogy is underlined. Its main objectives are to promote a better coexistence and a sense of responsibility to the other and the environment, build the ability to tackle conflicts peacefully, reduce violence, and promote citizen participation.<sup>11</sup>

### 3. *General bioethics and construction of the teachers' bioethical Thinking*

The teaching of General to educators, with the goals outlined above, produces a series of statements understood as the educators bioethical thinking. The conceptualization of this thought is not understood and not given *a priori* pedagogical experience, but it is a combination of bioethical teaching and other conceptions that teachers have of the world and their relationships with it. It is understood that some elements of teacher's bioethical thinking evident through the methodologies introduced by education programs, are previous to those programs because values and representations are pre-existent. The forms, in which teaching has influenced the ways to approach problems, autonomy, beneficence, justice, etc., are a structural part, perhaps deep routed of cultural and social situations that affect their lives and their teaching performance. This version is constructed from the bioethical thinking of the teacher, in other words, the idea of bioethics that is present in the texts that educa-

<sup>11</sup> Durán, Mauricio. "Elementos para la construcción de una ética civil en Colombia". En: *Ética civil para la convivencia: memorias del seminario Ética Civil y Convivencia Ciudadana*. Cali, Programa por la Paz, Compañía de Jesús, Pontificia Universidad Javeriana, 1998, pp. 22-52.

tors produced in their training courses. The educator's thought is made up of the expression of previous knowledge, and in the manner he/her assumes he/her will use it. This thought is expressed through statements, explanations, use of concepts, and alternatives to solve problems.

Educators as actors of a phenomenon produce a text that as long as it is a reality referent, lets us access their thought. The thinking here is not a cognitive psychological category<sup>12</sup> (Clark, 1986), or a philosophical one<sup>13</sup> (Peter 2007). It is a socio-educational category<sup>14</sup> (Sandin 2003) which integrates bioethics and education. Research on teachers thinking has been conducted for decades, and it is possible to identify various research streams. From these studies one can point out some fundamental premises: "In the first place the educator is a reflective, rational being who makes decisions and judgments, has beliefs, and generates routines suitable for his/her professional development; in the second place, teachers' thinking guides his/her behavior"<sup>15</sup> (Clark and Yinger, 1979; Shavelson and Stern, 1983, cited in Sandin, 2003).

A large number of socio-educative research on teachers thought, is focused on the teacher/student, or teacher/knowledge relationships, in the context of the classroom and the formal processes of acquisition/imparting knowledge. In this approach made from bioethics, we get distant from the socio-educative investigation because the teachers here become students, but at the same time set out a thought from their status as teachers. Here we want to recognize and maintain as a fundamental premise that the problems that arise in schools, according to the teachers, overrun those of knowledge acquisition, and become more complex when including the whole school community (Arellano, 2005). We rescue educators' assertions for their anthropological and sociological value, amid the pedagogical value.

<sup>12</sup> Clark C., Peterson P. "Teacher's Thought Processes". En: *Handbook of Research on Teaching*. M. C. Wittrock (Ed). New York, Macmillan, 1986, pp. 255-293.

<sup>13</sup> Peter, Michael. "Kinds of thinking, Styles of reasoning". En: *Educational Philosophy and Theory*. Journal compilation, Philosophy of Education Society of Australasia, 2007, pp. 350-363.

<sup>14</sup> Sandín Esteban, María Paz. "La investigación cualitativa en España". En: *Investigación cualitativa en educación*. Madrid, McGraw Hill, 2003, pp. 90-115.

<sup>15</sup> Ibid. pp. 90-115.

The meaning of searching for teachers' bioethical thinking is to develop suggestions for bioethics teaching relevant to their needs and expectations, identifying them as part of a process of knowledge construction, and not simply as recipients. According to Alcaráz and Padilla<sup>16</sup>, if bioethics fulfills one of its functions, it will have achieved an ethical sensitiveness for conflict resolution evident in the portfolio of practical considerations, solutions, and expectations that educators have to offer.

#### 4. *Analysis of a Pedagogical experience*

In 2007, Iván J. Lesport<sup>17</sup> drew attention to the need to evaluate the teacher training process in recent years, which for the year 2002 had brought bioethics to at least 20,000 teachers in Colombia. According to data from the Faculty of Education at La Universidad El Bosque, 15,399 specialization students, 5,835 undergraduate students, and 1,334 students of ongoing teacher training programs, for a total of 22,568 students, participated in the pedagogical process (Department of Education, 2007)<sup>18</sup>.

While this work is not an evaluation, as Lesport says, it continues to build on the foundation stone. The intention is not to award success or failure to that first attempt to bridge the gap between bioethics and daily life through the pedagogical experience proposed by the University, but rather ask questions about bioethics and education, questions that this experience can help answer. On this occasion, it is encouraged to understand more fully how educators use, value, and express, in their own words and through their own concerns, the content taught and the impact caused on them.

It is the interest of the University to reflect the value of the experience from two disciplines, education and bioethics. From education, as a pedago-

<sup>16</sup> Costa Alcaráz, Ana María, et ál. *Análisis de los problemas. La solución de los conflictos éticos*. 2006 [consulta, agosto de 2007]. <<http://www.fisterra.com>>.

<sup>17</sup> Lesport Esmeral, Iván. "Dimensiones bioéticas del concepto Zubiriano de persona para el proceso educativo". En: Edgar Novoa, et ál. *Bioética, desarrollo humano y educación*. Bogotá, Colección Bios y Ethos, No. 26, Ediciones Universidad El Bosque, 2007.

<sup>18</sup> The courses were conducted in international seminars at the University El Bosque and in modules of bioethics, whose duration usually ranges between eight and twenty-four hours on weekends.

gical experience contributing with new knowledge for the development of new curriculum proposals in the teaching of bioethics from bioethics. This is an opportunity to bring together elements for a general version of educators' bioethical thinking from an experience of socialization of a discipline providing knowledge on the understanding of bioethics, as ethics in conflict resolution and understanding. It also promotes the relationships that arise with bioethical principles in a specific, temporary social context (Jecker, 1997). In this experience education and bioethics were intercepted in the experience during 1998-2002.

To articulate the educators bioethical thought, it is necessary to exercise critical content analysis of the papers produced as a result of the pedagogical experience. The teachers experience in courses and seminars has been recorded in thousands of documents: class works, final papers, essays and reflections, reports produced after attending the international seminars on bioethics held at La Universidad El Bosque in Bogotá, among others. In these texts, educators not only think a problem (case) from the bioethics perspective, applying the principlism with their theoretical referents (principles of autonomy, welfare, no maleficence, and justice), but in many cases reflect upon the pertinence of bioethics in its pedagogical task, and raise suggestions for a bioethical approach to other areas of teaching, as well on the implementation of its procedures and concepts in conflict resolution in school life and in the regional, local and particular social context.

Bioethical dialogue with other disciplines is clearly expressed in the thoughts of Gilbert Hottois (2004, 2007):

To outline a definition taking into account complexity, we propose the following:

- Bioethics takes into consideration ethical issues raised by biomedical I & D: “ethical dimension” means that these problems raise questions and discussions related to values and/or rules; I&D refers to technoscientific investigation and the use of its results and products in society; further “development” suggests that the problems are very different when one is in a society called “advanced ”or from the



viewpoint of a “developing” society; “biomedical” includes medicine, biology, and biotechnology.

- Bioethics is less a discipline than a multidisciplinary and interdisciplinary practice ideally called to clarify problems in a multilateral basis<sup>19</sup>.

“The preaching and discourse are at the intersection of several technosciences ranging from human sciences (psychology, sociology, political science) and disciplines that are not properly sciences such as ethics, law, and philosophy in general” (Hottois, 2001).

“... The complexity of bioethics is threefold. It is in the intersection of numerous disciplines. This is, therefore, a kind of reunion of more or less conflicting ideologies, morals, religions, and philosophy. Finally, it is an important place for challenges of a multitude of groups of power and interests constituent of civil society”<sup>20</sup>.

The initial aim of the educational process was to contribute to the formation of a civil ethics through general bioethics teaching framed within the social problems of the country. This aim would be constructed through a process of awareness of individuals about their responsibility towards life and the environment. It also seeks to point out the need to invite the population to engage in the practice of tolerance, solidarity with the chain of life, learning to perform and withstand criticism, developing pluralistic approaches, and solutions (Escobar, 1999) as values that guide the Colombian society.

The general bioethics courses at La Universidad El Bosque are classified in two types: international seminars attendance at the University, and general bioethics modules. The latter were conducted in different regions of the country, where the students from the bioethics specialization and

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<sup>19</sup> Hottois, Gilbert. *¿Qué es la bioética?* Paris: Librairie Philosophique J. Vrin, 2004. Traducción. Bogotá, Universidad El Bosque, 2007 pp. 24-25.

<sup>20</sup> HOTTOIS, Gilbert, MISSA, Jean-Noël. *Nouvelle Encyclopédie de bioéthique en Bioéthique*. Boeck Université. Bruxelles: Edition De Boeck Université, 2001, pp. 124-126. Traducción libre Jaime Escobar Triana 2007.

Master programs behaved as trainers and multipliers of the Bioethical booklet (*Cartilla de Bioética*)<sup>21</sup>.

“In such module, general bioethical aspects were introduced and they were invited make decisions towards resolving school conflicts, using the method of decision making in medicine, according to the moral principles of no maleficence, justice, autonomy, and welfare (Escobar, 1999)<sup>22</sup>”.

The bioethics booklet was used as the main text in the courses. Its development arose from the need to have a material aligned to the needs of the pedagogical experience with teachers. As for the pedagogical experience, we encouraged teachers to express specific environmental experiences to which they belonged and where they were fulfilling their task, and ideas and arguments. As for bioethics as a discipline, we introduced clear and precise content through an elemental exhibition without involving superficiality. We also offered a historical overview of the discipline in the national context, and introduced bioethics as an option for teachers to express their views, beliefs, and expectations in an environment that respects plurality. As for bioethics as a civil ethics, we convened dialogue and debate on conflict situations in the educational community to promote democratic and solidarity behavior.

As an outcome of participation in the seminars and modules, educators produced thousands of texts where they made explicit the notion of bioethics for them. These texts are the documentary body that serves as source of information in this paper. Without a doubt, experience in teacher training in bioethics that La Universidad El Bosque is undertaking, is unprecedented in the country, and in addition to the pedagogical outcome, it offers an opportunity to develop a first version of what the teacher's bioethical thought in the country is.

For the analysis of the pedagogical experience, the texts were considered a source of information in two dimensions. In the sense of Van Dijk

<sup>21</sup> Sarmiento, Yolanda. *Cartilla de bioética*. Bogotá, Colección Bios y Ethos, No. 11, Ediciones Universidad El Bosque, 1998.

<sup>22</sup> Escobar Triana, Jaime. “La enseñanza de la bioética general en la construcción de una ética civil”. En: *Investigación educativa y formación docente*. Bogotá, Universidad el Bosque, 1:1, 1999, pp. 3-13.

(1996): in its structure and production of context which defines who writes it, for what purpose, and for what audience. The analysis of the texts left the stylistic analysis proposed by Van Dijk, and other discourse analysts of speech (Potter, et ál., 1961)<sup>23</sup>. The analysis of the text became a reality referent in search of meanings, symbols and beliefs within the interactionists thought (Blumer, 1998), who considered that actors are in keeping with the ideas they have of themselves built in relation to the environment. The information gathered in these writings shows very different pictures of the social situation surrounding the educators, and the texts become reality referents which include all the elements mentioned by Escobar in his description of the national situation and analysis of the social issue today.

“A rational and secular reflection on bioethics is required, which involves different approaches to life and human relationships to live in community”.

The frame of that reflection would establish rational and fundamental agreements to be applied in specific situations in which decision making for an appropriate *doing*, respects equally an ethical minimum for everyone, prior to the attempt to shape them legally. It would be totally irrational to bring to justice the lives of all people, which would be also ineffective, and an impossible undesirable in society.

The reflection on conflicting ethical issues promotes a mature acceptance of the community, prior to the establishment of laws. It is understood as an ethics for the lives of all living beings on the planet including, of course, humans as a link in the chain of life. This reflection is what bioethics promotes and facilitates<sup>24</sup>.

The phenomenon being studied is a special experience in teacher training. It wants to comprehend an argumentative repertoire, even discursive one, of a focus group, *educators*, for a specific topic, *bioethics*. It is decided that

<sup>23</sup> Potter, Jonathan y Wetherell, Margaret. “Analysing Discourse”. En: *Analysing Qualitative Data*. 1961, pp. 45-65.

<sup>24</sup> Escobar Triana, Jaime. “Bioética y conductas sociopáticas”. En: *Bioética y conflicto armado*. Bogotá: Colección Bios y Ethos, No. 19, Ediciones El Bosque 2002, pp. 13-30.

the text produced in the context of the bioethical seminars and modules provides statements and meanings produced by actors.

It is believed that reality does not exist in itself, but it is a relationship between objects and subjects/actors who generate the study. In this order of ideas, qualitative investigation<sup>25</sup> (Sandín, 2003) sees teachers as producers of meaning likely to be expressed in a series of texts which are considered reality referents.

##### *5. Identification of elements for bioethics teaching and elements for the definition of teacher's bioethics thinking in Colombia*

This investigation sought to identify elements for bioethics teaching and for the definition of teacher's bioethical thinking in Colombia, and to help answer two questions: What is the impact of general bioethics teaching in educators? And on what terms can bioethical thinking of teachers be formulated in Colombia?

This objective takes place under two premises: the first one is that featuring teacher bioethical thought is useful for comprehending the way he/her uses the contents transmitted in lecturing, and the impact that those have in his/her future expectations, which means valuable information for future actions directed to teachers as sample.

The second is that establishing the teacher bioethical thought content is a contribution for curricular suggestions in bioethics, directed to specific problems derived from reflection, valuing, interpretation, analysis, and the practice of bioethical principles in the local and national surrounding.

From the reading of the papers produced by teachers, it is possible to argue that bioethical thought can be formulated in terms of the four topical areas which are identified next:

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<sup>25</sup> Sandín Esteban, María Paz. Op. cit. pp. 90-115.

1. Positioning of teachers facing problems.
2. Relationship and understanding of bioethical principles.
3. Solutions (argumentation).
4. Bioethical and pedagogical relationships (expectations).

To give substance to these discursive themes, five categories of documentary analysis were built. Their content is introduced in the results and the analysis in the discussion:

1. Bioethics: A bioethical approach is done from three aspects:
  - Definition of bioethics.
  - Relationship between bioethics and pedagogy.
  - Relationship between bioethics and other educational fields.
2. Description of events.
3. Analysis and/or use of bioethical principles.
4. Solutions.
5. Values.
6. Teaching of bioethics and bioethical teaching as expectations and needs, according to Colombian teachers.

The investigation contributes to the preliminary identification of the elements that constitute the teachers' bioethical thinking built from a particular pedagogical experience.

The outcomes provide us with elements that must be taken into account in bioethics teaching a) for its definition, b) in the existing ideas about its relationship with pedagogy and other teaching fields, c) in the use and comprehension of the principles, d) in the associated values that prevail in the ethical reflections, and e) for the solutions proposed to problems.

With the above considerations, we can comprehend the general trends of the teachers understanding of bioethics for a specific time frame. These become curriculum and general suggestions for the dissemination of bioethics as a discipline of knowledge, and as a tool in the construction of a civil ethics through educational processes contributing to conflict resolution critical to the citizens in general.

## Methodology and procedures

A first selection of the documents produced by teachers who participated in the bioethics seminars from 1998 to 2002 was made.. Its outcome was the *corpus with which* this research worked. What is described and introduced below was made using the categorization techniques and document analysis proposed by the *content analysis* methodology as it is understood by social sciences. (Sandoval,2001; Babbie, 1996; Berg, 2006; Beke, 2005; Córdova, 2006)<sup>26</sup>.

### The corpus

#### Class work, guides, essays and other papers.

The *corpus* is composed of 506 papers, of which 18% corresponded to work from the Guide booklet for studying bioethics. (Sarmiento, 1998), 31% were case studies in class, 22% were case studies developed as homework, 16% were essays, and 10% was work done after the international seminars.

### The sample

#### Prevalence of the relationship context/textual structure

The papers with which the work was done are a representative sample (n=140) in the *corpus*. The selection criterion was the existent relationship type between topic/actor and document type. It sought that the sample represented the context of preparing the paper as the contents of the course. The development contexts are represented by the issues or problems while relationships, as initially conceptualized. The disciplinary contents are represented in the questions that each paper invites to answer.

<sup>26</sup> Sandoval, Sandra. "Análisis de contenido como herramienta en el trabajo investigativo". En: *La formación de docentes: concepciones epistemológicas, pedagógicas y didácticas*. Bogotá, Universidad Pedagógica Nacional, 2001, pp. 11-24. Ver: Babbie, Earl. "La investigación discreta". En: Manual para la práctica de la investigación social. Bilbao, Desclee de Brouwer, 1996, pp. 405-428. Berg, Bruce. "An Introduction to Content Analysis". En: *Qualitative Research Methods for Social Sciences*. Allyn and Bacon Editions, 2006, pp. 105-127. BEKE, Rebecca. "El metadiscurso interpersonal en artículos de investigación". *Revista Signos*. [online]. 2005, vol. 38, No. 57 [consulta 13 dic. 2007], pp. 7-18. <[http://www.scielo.cl/scielo.php?script=sci\\_arttext&pid=S071809342005000100001&lng=es&nrm=iso](http://www.scielo.cl/scielo.php?script=sci_arttext&pid=S071809342005000100001&lng=es&nrm=iso)>. ISSN 0718-0934.

The sample includes texts representing the frequency in percentage of occurrence in the *corpus* of both types of problems and documents, therefore, covering all the relationships between actors (context) and all the textual structures (papers produced by educators).

Example 1: x number of essays (document type 4) expressing a problem between teachers and students (type of relationship 2).

Example 2: x number of case studies done in class (paper type 2) expressing a problem between teachers and parents (type of relationship 3).

## Procedures

### Content analysis

1. Extra-textual
2. Intra-textual

#### 1. Extra-textual

In the first phase, extra-textual information was read and an overall reading of the text was made to determine which dealt with the problem. This reading was the only extra-textual variable defined at this stage. A database was made, and frequencies were counted with the statistical program for social sciences SPSS<sup>27</sup>.

Each of the 506 papers was examined in their extra-textual features. A database was built focused on categorical variables providing information to identify the structural features of texts, authors, who, when, where, and problems addressed.

The database was built originally introducing information of eight categorical variables in MS Excel, and a relational variable shown later. Then, these variables and categories were converted into numerical variables to produce frequencies.

Variable A: Item/Problem

In this variable, counting of the variables is not enough. Given the initial variety in items found in the database of the *corpus* of 506 papers, an

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<sup>27</sup> Statistical Package for the Social Sciences.

index with more than sixty variables was elaborated. Due to the great number of items, a classification related to authors was considered.

It was imperative to classify them under a relational criterion, that is to say, based on actors and their relationships. Actors were identified as those who participated in the school setting<sup>28</sup> (Pérez-Gómez, 2000) and six types of teacher relationships problems expressed by them. The reason for linking issues/problems with actors is that actions/problems are handled, understood, and experienced by one actor in relation to another.

**Table 1:** Categories of relational problems

	<b>Problem: Type of relationship</b>	<b>Definition</b>
1	Educator –institutions	Problems related to public/social policies and the school as an organization.
2	Educator-students	Problems related to the development of intelligence and to the construction of subjectivity. Problems that students face and that condition their experience in schools.
3	Educator – parents	Problems by the presence or absence of parents having an impact on children and their school.
4	Educator-social context	Social problems affecting school life, social or environmental problems in regional and local settings.
5	Educator-bioethics	Works in which teachers reflect on their knowledge on bioethics as a discipline of knowledge.
6	Educator-educator	Reflections with respect to pedagogical task and that of his/her colleagues.

#### Variable B: Type of job

To set this variable the structure of the papers was identified. We searched for structural differences that turned into different results and similarities.

<sup>28</sup> PÉREZ-GÓMEZ, Angel. *La cultura escolar en la sociedad neoliberal*. Madrid: Ediciones Morata. 2000

The aim of this variable was to make groups of texts, so that one could choose a sample where the size and distribution were representative of the *corpus* to obtain information.

The papers analyzed were classified in six groups:

1. Work guide/booklet.
2. Group case study analysis.
3. Case study/workshop task.
4. Essay/reflection.
5. International seminars guides.
6. Others.

The instructions for each one are presented below:

### **Document type (structure)**

#### **1. Work guide /booklet**

Transcript

Instruction: read carefully the following text: Sarmiento de Escobar, Yolanda. *Bioethics Booklet (Cartilla de Bioética)*, Collection Bios and Ethos, No. 10, Universidad El Bosque.

**SARMIENTO, Y. *Cartilla de Bioética. Colección Bios y Ethos N° 10 Bogotá: Universidad El Bosque, 1998.***



2. Choose one of the booklet chapters and develop it through diagrams, synoptic charts, drawings, songs, poems or any concept tree.
3. Identify a problem in your region related to any of the following aspects: social issues, health care, technological advances, the environment, or education.
4. Describe in detail the problem identified in number 3.
5. Based on bioethical principles, (Bioethics Booklet, chapter II, p. 33) analyze the case study described in number 4, and explain the ethical conflicts related to each principle.

6. State possible solutions to resolve the ethical conflicts mentioned in number 5.
7. Do you find bioethics as a working tool in your pedagogical endeavor? Why?
8. What alternatives do you propose to apply bioethics in different fields in education?

## 2. Group Case study: class/workshop (class)

### Description of the structure

(Document 7/Folio1)<sup>29</sup>

1. Presentation of the Problem.
2. Analysis of facts.
3. Identification of conflicts.
4. Values involved.
5. Course of action.
6. Optimal way.
7. Decision making.

(D11/F1)

Student description.

Facts

*Alternatives.*

(D28/F1)

Student description.

Facts analysis.

Identification of values (referred to principles).

Identification of optimal way

Contrasting values with a reference system.

Decision making

## 3. Case study (homework)

### Description of the structure.

(D10/F1)

Presentation and description of the problem.

Infringed values.

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<sup>29</sup> The corpus papers are identified by number of folio and paper. The list of all papers is presented at the end of the text. The papers are identified with these numbers to respect the authors's identities.

Conflicts.  
Decisions.  
Suggestions.  
(D13/F1)  
Facts  
Conflict of values.  
Decision tree.  
Recommendations.  
Reflection of the student  
(D29/F1)  
Description of facts.  
Conflict of values.  
Conduct to follow

#### **4. Essay/ reflection**

Description of the structure:  
(D2/F1)  
Definition of bioethics.  
Presentation of a problem.  
Alternatives.

#### **5. Guides of International seminars**

(Transcript)

Guide VI International Seminar on Bioethics.

Develop carefully the following items based on the lectures of the VI International Seminar booklet: Bioethics and quality of life.

1. Cite the mentioned lectures.
2. Discuss three of the indicators explained in the lectures that you consider important within education and bioethics.
3. Based on the indicators you wrote, analyze the principles of no maleficence, welfare, justice and, autonomy.

Guide VIII International seminar on Bioethics: *Bioethics, science, technology and society*.

1. Choose one of the lectures given at the VIII International seminar on Bioethics and perform the following analysis:

- a. Identify the central thesis of the lecture.
  - b. Explain what are the main arguments used by the lecturer to defend his/her thought.
  - c. Analyze the previous thought(s) and present your point of view from a critical and reflective posture.
2. Use the Bioethics booklet and resolve the following aspects :
    - a. Identify the problems that have arisen in the development of life as a consequence of science, technology and society.
    - b. Describe in detail the problem identified.
    - c. Based on the principles of bioethics (*Bioethics Booklet*, Chapter II, p. 33) analyze the problem described by explaining the ethical conflicts that may arise, and link them to each of the principles proposed by bioethics.
    - d. Pose possible solutions from a bioethical analysis that you deem pertinent to guide the resolution of the ethical conflicts that you found.
  3. Explain how bioethics contributes to your pedagogical endeavor.
  4. Explain how the topic of the VIII International Seminar on Bioethics: *Science, technology and society*, can influence educational processes.

## 6. Others

### Variable C: Year

1. 1998.
2. 1999.
3. 2000.
4. 2001.
5. 2002.

### Variable D: Origin

Province, Capital.

1. Amazonas, Leticia.
2. Antioquia, Medellín.
3. Arauca, Arauca.
4. Atlántico, Barranquilla.
6. Bolívar, Cartagena.
7. Boyacá, Tunja.
8. Caldas, Manizales.
9. Caquetá, Florencia.



10. Casanare, Yopal.
11. Cauca, Popayán.
12. Cesar, Valledupar.
13. Chocó, Quibdó.
14. Córdoba, Montería.
15. Cundinamarca, Bogotá.
16. Guainía Puerto, Inírida.
17. Guaviare, San José del Guaviare.
18. Huila, Neiva.
19. La Guajira, Riohacha.
20. Magdalena, Santa Marta.
21. Meta, Villavicencio.
22. Nariño, San Juan de Pasto.
23. Norte de Santander, Cúcuta.
24. Putumayo, Mocoa.
25. Quindío, Armenia.
26. Risaralda, Pereira.
27. San Andrés y Providencia, San Andrés.
28. Santander, Bucaramanga.
29. Sucre, Sincelejo.
30. Tolima, Ibagué.
31. Valle del Cauca, Cali.
32. Vaupés, Mitú.
33. Vichada, Puerto Carreño.

#### **Variable E: Program enrolled**

1. Bachelor of Arts in Management and Pedagogical Development in Pre-school.
2. Bachelor of Arts in Ethics and Human Development.
3. Bachelor of Arts in Basic Education (emphasis on Natural sciences and Environmental Education).
4. Bachelor of Arts in Basic Education (emphasis on Mathematics and Informatics).
5. Bachelor of Arts in Basic Education (emphasis on Artistic Education).
6. Bachelor of Arts in Basic Education (emphasis on Social Sciences).
7. Bachelor of Arts in Basic Education (emphasis on Spanish and Literature).

8. Bachelor of Arts in Basic Education (emphasis on a Foreign Language - English).
9. Specialization in Pedagogy.
10. Specialization in University Teaching.
11. Specialization in Distance Education.
12. Specialization in the Pedagogy of Social Sciences.
13. Specialization in School Management.
14. Specialization in Pedagogy of the Language.
15. Specialization in Art Education and Folklore.
16. Specialization in Educational Guidance and Human Development.
17. Specialization in Environmental Education.
18. Specialization in the Pedagogy of Audiovisual language.
19. Specialization in Education in Human Rights.
20. Specialization in Educational Evaluation.
21. Educational Management

#### **Variable F: Authoring**

1. Individual.
2. Group.

#### **Variable G: Authoring + Gender**

When approach the material, one has the intuition that most of the authors are women. This variable clarifies future analysis. It can be useful to determine the effect that this fact has on the collected material.

1. Individual female.
2. Individual male.
3. Group female.
4. Group male.
5. Group mixed.

#### **Variable H: Means used for the elaboration of the text.**

This variable is useful to reinforce the criterion which determines if the papers were done in class or at home. The importance of this division lies in the idea that the papers done at home may have more time to be elaborated but lack the possibility of comprehension through discussions that class work offers.

1. Computer.

2. Hand.
3. Type writer.

## 2. Intra-textual

Once the statistical data (extra-textual) was obtained, a procedure that related variables A (type of relationship) to B (type of work) was done. This with the aim that the sample represented the paper elaboration contexts such as course contents meant in the questions that each document encourages answering. In addition it needed to be representative of the problems, as long as relationships were initially conceptualized.

For the intra-textual analysis a random sample with a percentage basis featuring the *corpus* was selected. The sample texts were read, following the methodology of content analysis based on the interpretation of the texts through the construction of categories.

Once the sample papers were determined, a complete reading of each paper was done. Its purpose was to identify the categories of the documentary analysis described next. The information was systematized in a format named *Data card for the preliminary paper analysis* where words, phrases, and paragraphs were written representing statements for each one of the categories.

Four areas were proposed initially for the formulation of the educators bioethical thought. These were:

1. Teachers position before problems.
2. Relationship of bioethical principles and its understanding.
3. Solutions.
4. Bioethics and education relationships.

### **Intra-textual reading of the sample**

To enrich the information and meaning of the four areas, a reading *data card* was constructed, identified after several trials so that no information would be left out of the analysis. The definitive data card included five aspects named *documentary analysis categories*:

1. Bioethics: the approach to bioethics is done from three perspectives:
  - Bioethics Definition.
  - Relation between bioethics and pedagogy.
  - Relation between bioethics and other educational fields.
2. Description of facts.
3. Analysis and/or use of bioethical principles.
4. Solutions.
5. Values.

After completing the reading of each paper and developing all the reading data cards, they were disjointed and 5 individual papers were constructed corresponding to each one of the documentary categories. The objective was not to represent specific case studies but to read the tendencies with the elaboration and separate reading of the five papers. However, it was possible to return to the original data card of each one of the papers to corroborate any statement.

After producing the five papers compiling textual statements, two types of reading were done for each one. The first called *relational reading*, reported results grouping the information in the categories of documentary analysis related variable A (type of relationship), descriptive of the problem and of its actors. The second, called overall reading, was made by building general categories for each one of them. This reading gives a general vision of the documentary information of the category of documentary analysis.

## Results

The information collected in these writings shows very diverse panoramas of the social situation in which educators are located. Through the case study presentation, a human geography of social conflicts is shown which intersects, conditions, and transcends the frontiers of what we consider the school and its actors. The cases presented by educators are problems that do not necessarily arouse in the school setting or that do not directly respond to the particular situation of the school culture, but that are correlated with profound social conflicts of national character.

The diverse regional, local and cultural teachers' experiences are evident in the texts, whose content shows the different ways to comprehend, value, and approach the problems. That is why the text content is so valuable in the construction of this version of the Colombian teacher bioethical thought.

This segment presents the results of the content analysis of a documentary *corpus* selected from the texts made by the teachers during 1998-2002. The content analysis was done in 2007 with the objective of contributing to the understanding and analysis of the teacher training experience and as a continuation of an approach effort to comprehend the experience already written in an article published in 1999 (Escobar, 1999)<sup>30</sup>.

### ***Extra-textual reading for the corpus***

The results of the frequency analysis can be reported as follows (see annex 1)

1. In relation to the thematic, it can be said that the problems related to the students (33.8%) and the social context (43.9%) are the most frequent.
2. The two most frequent works are the individual relative to the *Boethics Booklet (Cartilla de Bioética)* (18.1%) and the cases analyzed in class (31.7%) generally in groups.
3. Although there are papers from all the country's provinces, the most frequent is presented in Bogotá (3.8%), probably because all the international seminars have taken place in this city. The provinces that follow are Antioquia (10.1%), Cesar (6.8%) and Cundinamarca (6.3%).
4. There are documents of the 21 programs that La Universidad El Bosque offered. The one with the most frequency corresponds to the Specialization in Educational Guidance and Human Development (2.1%).

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<sup>30</sup> In his article Escobar (1999) explains the following about the four courses in bioethics: "This general bioethics that is taught to teachers aims above all at children and through them, at their parents and families, to take the educational and socializing processes to the natural context in which they are formed", p. 7.

5. The majority of the texts are done in groups (57.7%) and a high percentage of the population is female (individual female 28.6%; female groups, 21.4%). It can be said that more than half of the texts were made outside the classroom. .

Intra-textual reading of the sample

**Documentary analysis report of categories<sup>31</sup>**

**1. Definition of bioethics**

The definition found in the texts includes:

1. Relational reading.
2. Overall reading.

**1. Relational reading**

In its conceptualization, bioethics is concerned with the contemporary ethical problems in relation to science and technology as a discipline that attempts to give answers to them. This is the definition of bioethics that is transmitted in the *Bioethics Booklet (Cartilla de Bioética)*, which works as navigational chart of the seminars and modules (Sarmiento, 1998).

For the emergence of bioethics, it is definitive the sense of crisis that modernity faces, before which it offers itself as a safe dock. So, it is necessary for bioethics to be an independent movement before the answers given by religious beliefs and the excessive scientific and technical advance. The conceptions observed—based on the types of problems—present the definition fields.

In the first place, for the teacher-institutions type of problem (1), the intrinsic bioethical relational character appears for its definition, departing from the stated postulates.

**Table 1.** Definition of bioethics (relation type 1)

Bioethics in relation to	Classroom
	Conflicts
	Curriculum

<sup>31</sup> For a better understanding of the results it is recommended to see Table 1, p. 14 of this paper, containing the definitions of the actor/type of problem relationship category, always from the teacher's perspective.



Data obtained from the Works done by the teachers in the seminars and modules<sup>32</sup>.

In acquiring strength in its defining practical component, bioethics is a methodology for reaching problem solution, transformation, and hope.

This method is broadly presented in the teacher-students type of problem (2):

**Table 2.** Definition of bioethics (relationship type 2)

Bioethics for	Creating self awareness
	Responsibility with oneself and with others
	Teaching ways to a healthy life
	Constructing a better coexistence
	Conflict resolution
	Exaltation of positive qualities
	Better decisions

In this scenario which states this problem type 2, bioethics is understood by educators as salvation area, lighthouse, and guide which provide the criteria for the transformation towards civism. Ethical brotherhood is also valued with spirituality and principles with rights.

From the papers of the *teacher-parents* type of problem (3), it cannot be identified a content that makes explicit a definition of what bioethics is.

In the *teacher-social context* type of problem (4), bioethics acquires a new perspective of knowing the theoretical and practical reality, and the meaning and value of coexistence and human development. Bioethics is considered to teach guidelines, ethical values, morals and norms to the

<sup>32</sup> From this moment on, a series of charts is presented which are useful to structure some of the results. All were obtained from the material written by educators and were elaborated from its analysis.

human being and principles for all aspects of life, for educating integral persons.

The bioethical viewpoint on the type 4 problem shows its defining character as a discipline of human awareness and reasoning which helps to solve problems and to give answers to multiple conflicts, while planting a seed of concern.

**Table 3.** Definition of bioethics (relationship type 4)

Bioethics about	Uncertainties
	Trascendence
	Environmental education
	Decisions with principles
	Helping to solve problems

In this same scenario there is the need for bioethics to be object of communication. At the same time, its critical review of the analogy between autonomy and freedom that proposes that there is no freedom where there is no justice.

Moving into the problem type teacher-bioethics (5) it is possible to see its definitive character as a science.

**Table 4.** Definition of bioethics (relationship type 5)

Bioethics studies About	Ethics of Life
	Human behavior, science of life
	The sense of the human, its actions
	Actions related to the application of biomedical technologies
	Life in relation to technological and scientific advances
	Our values and moral principles



In the same vein, the scientific nature of bioethics is a lighthouse on the value and importance of life, which seeks to raise awareness of living conditions, articulating a harmonious human behavior with the integral life elements, and pointing out the specific context of a developing country.

Finally, the problem type educator-educator (6) defines bioethics in essentially as pragmatic awareness of daily life, an observational tool that needs to be applied to local circumstances.

## 2. Overall reading

This reading seeks to enrich each one of the following questions:

What is it?

What is bioethics for?

What are its features?

In what scenarios and contexts is it used?

What problems in real life, does it treat?

Which actions does it socially and individually imply?

What discursive elements does it show?

Expectations

What is the status of disclosure of bioethics in Colombia?

Is there an applied bioethics?

How are its principles applied in relation to education in the regional context?

Teachers' tasks

Actions

What is taught?

Which kind of person is formed when teaching bioethics?

What is the relationship of bioethics with the educational community?

In the bioethics pedagogical relationship, it is suggested that bioethics should be taught from elementary to high school not only as a supplement within traditional classes, but as a separate subject that has two focuses. A social focus supported by workshops, booklets, banners and an intense publicity work. It is interested in topics like hygiene, sustainable development, and those related to the environment in general. And an emphasis on students learning respect, responsibility and love "to

strengthen the love for oneself, respect for others, and love for nature” (D287/F5).

In terms of expectations for the use of bioethics as a focus on their teaching task, there is a great enthusiasm of continuing learning contents and reflection. In a few cases, there is a pessimistic view, since some belief that social reality is a big obstacle.

“What I wish to express at the ending of this path is that having reached a target is a step towards a new one. Not everything ends with the completion of this task: there is a concern in me to deepen the field of bioethics, and it will not be a work requirement anymore, but a personal interest and an academic motivation” [D320/F6].

On the topic of the relationship between *bioethics and other educational areas*, the teachers’ interest is centered upon the creation of new curriculum programs with a bioethical approach. Here, it is evident the need to create educational programs consistent with their principles, and programs that exalt their role as civil ethics for the subjects of social sciences, arts, literature and education in values.

## 2. Description of events

1. Relational reading.
2. Overall reading.

### 1. Relational reading

For bioethics, ethical problems or ethical dilemmas are related to ecology, in other words, relationships between man and the environment where he lives, as to the survival and welfare (Sarmiento, 1998)

However, the analysis of which issues are relevant to bioethics in the different types of problems identified, present a diverse set.

For the *educator-institutions relationship* (1), there is a particular focus on health, and it is in line with human rights from different scenarios.

**Table 5.** Description of events (relationship type 1)

Health	Health system	Acces/coverage
		Quality
	Health policy	State responsibility
		Regulations
	Religious beliefs	Treatment denial
		Concepts of life
Health education	Teacher bioethics	

In the kind *teacher-student problem type (2)* various questions arise about the scope and relevance of the stated problems. A list of transgression towards nature are shown, in relation with how values, behavior norms, goodness or evil in actions are understood as well as rules and manuals of behavior and coexistence.

The stories attributed the students most of the responsibilities without ignoring the presence of personal, family, and social conflicts. Problems of the cases mentioned appear as an expression, outcome, and consequence of external situations and conditions but not outside the school and the teaching process.

The topics relevant to bioethics that have marked the educators’ reflection on the *teacher-student* relationship (2) are among the contexts:

**Table 6.** Description of events (Relationship type 2)

Players		In relation to
Students Educators Families Social context State	Students	Education
		Responsibility towards oneself and others
		Early Sexuality.
		Coexistence
		Rights
		Health.
		Values.

It is important to point out that the relationships presenting most conflict can be found at cohabitation, sexuality, and responsibility towards oneself and others.

In the *educator-parents relationship* (3), bioethical problems are related to adult contexts in the family circle as a primary source and cause of the students' conflicts.

The conflicts within the mentioned family relationships contain basic aspects such as:

**Table 7.** Description of Events (relationship type 3)

Problems in connectioning with:	Life
	Sexuality.
	Coexistence.
	Responsibility towards oneself and others

In the kind of problem *educator-social context* (4), environmental concern and its deterioration emerges as a result of pollution and forest clearing for illegal crops. However, all reflections studied show an impersonal analysis of the actors and their responsibility facing the problems. It is worth observing categories on display. The bioethical nature of the identified social problems can be appreciated, and although the documentary report turns out to be general compared with the other problems, it is not less precise in illustrating that educators view point focuses more on the reflection upon human action than on its complaint.

**Table 8.** Description on events (relationship type 4)

	<b>Wood logging</b>	<b>Water quality</b>	<b>Intrafamilial Violence</b>
Problems	Pollution	Illegal crops	Armed conflict
	Lack of hygiene	Sexually transmitted diseases	Displacement

The above information suggested bioethical pertinence for *the solution* in the sense of ecology, survival and welfare.

In the type of problem *educator-bioethics* (5), a reflective process of educational bioethical appropriation in their teaching task and in their daily life is appreciated. On one hand, a pedagogical reflection upon education



in bioethics appears, and on the other, the return to the values sought by humanity.

It draws one's attention the word on multiculturalism for the provision of health care to Indian populations through a shaman and/or doctor. In specific terms raised by bioethics, this case in particular is a rich source of management on the basis of its active principles.

In the type of problems teacher-teacher relationship(6), the educational community takes on a central value in their various relationships and cohabitation, as well as the responsibility with oneself and the others.

## 2. Overall Reading

The description of the facts shows a variety of problems located in six kinds of structural relationships with which they worked.

Bioethical problems are related to rights; explain the miss-functioning of service delivery systems, in these cases with a tone of complaint.

Other problems are related to students. Here, teachers present problems affecting the educational community and others affecting students in their physical or mental integrity. You can make a categorization:

**Table 9.** Description of events (overall reading categories).

Health problems implications	Abandonment
	Abuse
	Discrimination
	Sexual abuse
Disciplinary problems	Abuse
	Violence
	Poor academic performance
Value problems	Offspring responsibility
	Social educational responsibility
	Early sexuality

Problems for assuming social responsibility	Delegating responsibility in others
	Fear to parents
	Fear to administrative staff
Problemas relating to schools	Access and dropping out
	Debate between quality and coverage

The context of family problems generally describes intra-familial violence from parents to children and among parents. These problems are usually the causes of conflict in the classrooms as well as descriptors of the social situation of communities.

Other problems are economic activities degrading health and the environment. When describing these problems, reasons such as poverty are outlined, which force people to exploit the environment. At the other end, is the use of resources by big employers interested mainly in productivity. A model for development that does not take into account human beings, their individuality and subjectivity is criticized. Other economic activities degrading health and the environment are related to war and drug trafficking. It also describes problems arising as a result of a weak infrastructure of basic services, which refers to hygiene problems and lack of legislation in this field.

In connection with bioethics as a discipline, problems are mentioned on the publicity and implementation of the four principles of bioethics, related to ideas about the ideal teacher and the ideal of education as a social process.

The perceived criticism of each one of the players in the educational community is introduced as well as problems related to conduct, social responsibility in education, and individual responsibility with the duties assumed.

3. Principles of bioethics
  1. Relational reading.
  2. Overall Reading.



## 1. Relational Reading

The principlism components represent one of the options in the tool box, in the practical sense of bioethics. It is from the four principles as bioethics focuses its realization in human actions. In that sense, reflecting on and using the principles in the different types of problems observed are a fundamental piece of the puzzle (Sarmiento, 1998).

Although we have encountered a strong tendency to twin principles with rights, in the reflection on their achievements, it is not appreciated such complaisance as it is often the case with rights. That is, the realization of the principles convenes a critical eye.

**Table 10.** Use of verb forms related to the principles of bioethics.

The principles can be	Infringed	Disregarded	Violated	Respected	Attacked
	Accomplished	Contravened	Crippled	Applied	Affected

Based on the definition of principles and their use as standards or instruments of general guidance, it becomes timely to resume its conceptualization. The non-maleficence has a social and passive character and at the same time a complementary value in relation to beneficence.

Beneficence, in its own right, finds a definition much more precise in doing good, stressing which benefits, the most needy or weakest. It is clearly recognized in this principle the intrinsic and essential element and the relational character seen in the *other* on whom the action or benefit falls.

The principle of autonomy in this context expresses a special value for the particular interests, and the ability to decide according to them, establishing a relationship of convenience and opportunity with the principles of non-maleficence and beneficence. Finally, *justice* is about equity versus resources and assets, in addition to their equal access. While the principles of beneficence and autonomy are concerned with the action which is particular and peculiar of people, justice refers to the relations between social groups (Sarmiento, 1998).

This distinction raises a substantial issue as the principle of justice includes the two other as it deals with the common good.

By analyzing the principlism in different versions, it is possible to see how bioethical reflection tends to fade in the use of the meanings that involve the concepts. This gives a new value to bioethics using the symbolic capital particular to the concepts used for defining the principles, while encouraging a critical position towards the events based on the realization of the principles.

In the type of *teacher-institutions* relationship (1), it is possible to appreciate a reflection on the principles, which responds to the question of whether these occur or not in general situations. Primarily associated with rights such as “One can not violate the fundamental rights of a population when searching for a solution to the armed conflict in another” (D294/F5).

For the type of *teacher-student* relationship (2) a special assessment is found of the occurrence of the principles in the specific related problems: whether or not there was justice or beneficence during the situation in question. In that sense, for using of the principle, it has been preferred the compliance with its definitive aspects. There is little evidence showing the use of the principles applied in solutions, two of them include: “seeking integration of the student, articulating the academic aspect with the social one” (D330/F6); and “welcoming a child and becoming responsible for his/her education” (D83/F1). These uses also relate to the achievement of the principle. In association with reflection and use, the projection of the teacher-student relationship appears in the form of *educating for life*. Education, in relation to the principles, is presented as part of the means which are of its competence.

In the kind of *teacher-parents* relationship type (3) again, the limited exercise to the occurrence of and compliance with the principles in specific situations is repeated.

In the type of *teacher-social context* relationship (4), a reflection takes place that implies an “us” and involves acting initiatives in the same

sense that bioethics proposes, even if it validates the personal opinion to the definition itself: “Acting with justice is doing good or achieving happiness. If respect for others and the defense for equality are sought, there is justice. By the same token: “living in function of autonomy has a number of limitations. It is difficult to assess to what extent the daily behaviors are effective to achieve a genuine autonomy. Education for the demanded autonomy is, above all, the exercise itself of freedom “(D238/F4).

The emergence of personal voice compared to the reflection on bioethical principles, provides also critical positions in relation to its scope: “armed groups want to do good without taking into account people’s will” (D238/F4). Likewise, “the residents of the region are not autonomous because they can not decide if there is a demilitarized<sup>33</sup> zone or not” (D294/F5). The difficulty for the implementation of the principles has a rich set of benchmarks aimed at matching the definitive aspects of the principles with its appropriation in the circumstances in the regions of the country. An important aspect has to do with the dialogue between principles:

**Table 11.** Relationship among principles (Type 4 relationship)

Autonomy	There was autonomy with the blockade of roads and in the initiative to defend the rights.
Non-maleficence	The blockade of roads brought problems to some populations (D346/F6)

Despite the increased emphasis on autonomy given by some bioethical schools (Sarmiento, 1998), this example points out the importance of enriching the discussion on the relationships among the principles themselves. In the type of *teacher-bioethics* relationship (5) the position appears far more sobering: “With the practice of these principles, perhaps awareness might be created that a man is ethical only when life, as such, is sacred to him [and] that of the plants, animals and fellow human be-

<sup>33</sup> It refers to a territory of the country as a zone of encounter between government and the guerrillas with the purpose of holding talks to look for an end to the armed conflict. That area (San Vicente del Caguan, Province of Caquetá) had an extension of approximately 42,000 square kilometers.

ings [too], and when he surrenders to others to become helpful to every living creature that needs help “(D142/F2). The reflections on this matter corroborate the principles and their urgency for education.

Finally, the type of *teacher-teacher* relationship (6) emphasizes on the compliance with the principles as a vehicle to measure the level of commitment, delivery, awareness and participation of teachers.

## 2. Overall reading

### Summary of the use, reflection and absence of principles

“Bioethics is a discipline that enables, through its essential principles, to undertake actions and have attitudes consciously directed towards the achievement of coexistence. To the extent to which every member of the education community can take it on board, enables the formation of groups and people committed to building a more just, equitable and pluralistic society” [D203/F3].

We find a great diversity on how teachers use the principles of bioethics. Teachers not only apply the principles to a given situation or reflect on them, but use the principles for different purposes. For example, to describe the problem, criticize, explain the consequences, judge the problems or those involved in proposed actions, and mention the actions that never existed, among others.

In some cases the principles are assimilated as rights. In that regard, they are considered infringed: “Beneficence: totally violated by the environmental problem for the entire community” (D121/F2). In other cases the principles are considered as the desirable course of action. On those occasions it is defined as ideal the presence of the “there was” principle and the “there was not” to show conflict. “Autonomy: there was no autonomy to leave their lands, and it does not exist for deciding where to live and how to rebuild their lives” (D304/F5). In addition, the existence of the principle is judged as a desirable action and as a reference point for the proposal of other actions.

When the reflection of the principles allows the particularization of individuals, we can identify the mention of two types of actions: actions that enable the existence of the principle and actions that prevent the principle to become a representation of the ideal development. When actions are particularized, various actors are appointed, those of the school community, students, parents, institutions, teachers and others who constitute the social environment: neighbors, community, business and state.

When reflecting on the principles, the varied time is also used, which sometimes describes what the past lacked so that the principle could exist as an ideal; and on other occasions what must be done in the future for the principle to exist.

The reflection of the principles also allows for a questioning about the ideal of being a teacher and on the need of using the principles as guidelines for a better coexistence and teacher performance.

Teachers should look inside themselves at their actions and redeem themselves as individuals, so that, with their example, they can better form students. "A teacher is needed whose focus is not on the content but in its formative duty. He/she must be committed to his/her social environment to contribute to improving quality of life. A teacher must focus on bioethics as the basis of educating to build and develop projects guided by principles forming good citizens, that seek the true meaning of their experience, and share nature not to dominate it or destroy it" [D363/F6].

#### 4. Solutions

1. Relational reading.
2. Overall Reading.

##### 1. Relational reading

In the development of solutions, the interpretation and implementation defining major components of bioethics is found: its intention of becoming guide and clarifier, and if possible source of reflection contributing to the construction of actions in light of the different situations facing

humanity. In that sense, all the documents analyzed, provide valuable information about the ways or strategies by which bioethics is incorporated, as well as its fields for action in both the discourse and practice.

The notion of a solution appears hand in hand with the association of the methodological and observable definition of bioethics. Being seen as a tool, its principles gain value simultaneously with the relational meaning of life and ethics. In that vein, the solutions include a holistic view on bioethics from the various aspects studied: its defining elements, principles and associated problems, as well as participation at various levels ranging from the State, society, the institution, the classroom, the family and the individual, in whatever way reflection is expressed, from the human difficulties to the conscience itself of the essence of the individual. In the type of *teacher-institutions* relationship (1), we find that the solution gains a discursive and infinitive character, with expressions ranging from the impersonal language, very much employed for the State -investment in infrastructure- up to the impersonal for the specific: “ the educator must be the critical conscience of society “(D162/F2). He/she focuses on affirmative actions in relation to health, family, education, ethics, reforestation, Human Rights and the assimilation and transformation of the techno-scientific revolution.

In the type of *teacher-students* relationship (2), the solution becomes teleological through the pedagogic reflection on education. In that sense, the solution seen as a practical realization is the result of putting into play a set of contents inside education, or a “solution through education based on”:

**Table 12.** Solutions (Type 2 relationship)

Values	Rights	Participation	Birth control	Communication
Sexuality	Stability and faithfulness	Guidance	Psychological support	Commitment
Educators training	Responsibility	Spiritual aid	Educating for life	Improving quality of life



With the exercise of education at the centre of the bioethical solution, educator's leadership gains value, as well as the need for studying and analyzing the stages of child development and behavior, the parents understanding of the respect and demand of children's rights. Correspondingly, educators should become aware of the change in the student body compared to previous generations, as well as their relationships, which can not be based on fear. In the same vein the importance of involving the family in the process is noted.

One final aspect that deepens on the debate on bioethics in itself, is the consistency between principles and solution, since it is well understood that they are applied to achieve the solution. This aspect is briefly referenced and lacks development for this type of relationship.

Turning to the type of *teacher-parents* relationship (3), the reiterative lack of involvement of the father shows, which is in turn excused by the mother. In the observed perspective for the kind of teacher-students relationship, the importance of including family in the educational process exists, but at the same time, it requires the willingness of the family to participate actively in the educational process of their children. In that sense, the solution includes the educators' calling together with the family's initiative. This is a topic that illustrates the discussion about the coherence between principles and solution.

In the type of *teacher-social context* relationship (4), new components are again conferred to the bioethical solution. First, the emergence of other means of communication constitutes an added value for its dissemination. Another solution in the social context would be the tightening of the control mechanisms and sanctions where appropriate, and in relation to the environment and rights. For this type of relationship there is a greater component of proposals for the solution in the third person, where conflict situations are out of the educators voice: "foster a better standard of living for the vast majority of our compatriots, who for various reasons today enlarge the number of people displaced, resenting society and persecuted "by granting them the principles of social justice and solidarity, and not by considering them a social scourge or plague" (D284/F5).

The interest in the proposals reaches a new level in the field of proceedings against the problem of determining: 1) scope of the problem, 2) causes, 3) actors, 4) the objectives of the confrontation, and 5) resources in dispute. In general, all the solutions are presented in response to violence, the armed conflict and displacement, providing an implicit and defining role to the State.

In the type of *teacher-bioethics* relationship (5), it is possible to see once again the value of communication, sanctions and solutions based on the impersonal language. But for this type of relationship, there is a local component that sets it apart, and community solutions are prioritized in the classroom and education, reflecting a sense of belonging and responsibility: “build among educators and students, methods to resolve conflicts in the institutions and promote the common good “(D184/F3). The importance of the attention to what is local is also seen in the solution to education: “the bioethical reflection on education is a valid initiative for initiating processes of reflection and changing students’ behavior, contributing to the creation of a different culture through education, research and action “(D350/F6). In the type of *teacher-bioethics* relationship (6), the issue of commitment is addressed together with educational training, as aspects that stand out for the solution and whose reference is repeatedly compared to the problems associated with the educators’ exercise.

### 3. Overall reading

The solutions are layered, of which six can be identified. The actions that are introduced as solution-action for resolving conflicts should be carried out by or addressed to:

**Table 13.** Solutions (overall reading)

State	
Service providers	
School community	Teachers
	Parents
	Students
	Institution
	Curriculum
Family	
Individual	
Community in general	



1. The State
  - a. Investment: public service infrastructure, hygiene campaigns and drinkable water, vulnerable populations, children, elderly, women, displaced.
  - b. Rights promotion: legislation for conflict resolution, strengthening the legal actions defending people's fundamental rights in Colombia (i.e. acción de tutela).
  - c. In terms of education: a review of the proposed automatic promotion and politicization of the debate on quality and coverage.
2. Service providers.
  - a. Improvement in the quality of service.
  - b. Staff training for better customer service.
  - c. Consultation with users to improve service.
3. School community

Teachers: actions at union level that protect the rights and the syndical union.  
Parents: look for consistency between what families teach and what is taught in schools.  
Students: requiring sanctions and support to prevent drops out from the school system. From them, actions that show attitudinal changes are expected from them.  
Institution: Actions to punish offenders enforce respect and knowledge of the school rules, and for academic, psychological and spiritual support.  
Curriculum: workshops in bioethics, conciliation, integral education, rights.
4. Family: actions aimed at family union, teaching moral values, and protection.
5. Individual: actions aimed at a change of awareness.
6. Community in general: actions aimed at raising awareness of environmental responsibility, health brigades and creating a spirit of solidarity. In the solutions that involve actions for the community is not made explicit who bears the responsibility, if the community itself or the State.

## 5. Values

One idea that is repeatedly found in the *corpus* is the need to change the awareness. This change will interact differently with each other and the environment. With regard to the armed conflict, it is also the change in

awareness which will lead to peace. It is interesting to draw attention to the probably religious approach to refer to the change of awareness: it is this change which will change attitudes and behaviors.

Although economists seek to impose the values of efficiency, effectiveness and productivity in social contexts, especially in the provision of education and health services in all the documentation studied, the values that prevail are the moral. The values most frequently mentioned are in order of appearance as follows:

**Table 14.** The most common moral values

Respect	For rationality
	For life
	Among people.
	Mutual
Social responsibility	To education
Tolerance	
Love	For oneself (self-esteem).
	For country
	Authentic
	Ability to love
	Towards fella

## Discussion

It is demonstrated from the findings that the texts produced by teachers are a mixture of the education in bioethics and the ideas of the teachers' subjectivities, localized geographically and temporally. The texts tell the teachers' ideas and expectations with respect to bioethics. All these assertions allowed identifying the components that make up the bioethical thinking of the teacher, in the context of this pedagogical experience in particular. Its reading and analysis is helpful for elaborating suggestions of the curriculum focused on their interests and needs, because they show how they were interpreted. In addition they embody the expectations that teachers have with respect to bioethics as a discipline and as a civilian ethics for guidance, clarification and the constructions of solutions to vital conflicts in everyday life in general and in the school context in particular. In terms of the impact of the process on the expectations, teachers argue



in favor of communicating bioethics as a civil ethics, that contributes with the resolution of vital citizens' conflicts, and in bioethical education, for a socio-political work that integrates a bioethical approach within the curricula of the different subject areas (natural sciences, social sciences, education of values, literature) as well as in the Institutional Education Project (PEI). It is believed that bioethics as a discipline has a communication problem that prevents its incorporation to the group of conceptions of the ideal educator and ideal education as a social process.

To describe the appropriation of knowledge regarding the use of concepts, we refer again to the categories of documentary analysis and the formulation areas of the bioethical thought used throughout the process of content analysis. The following assertions made come from and at the same time built educators' thought that could be identified and discussed in the results.

With respect to the *definition of bioethics*, it is important to build a complex definition, that makes explicit its relational and functional elements, in addition to the items on which bioethics can contribute to reflection. The definition of bioethics should clarify that it is both a discipline and a civil ethics, and make emphasis on the relationship that the actor may have with each of these meanings. It is a civil ethics for everyday life and a disciplinary knowledge for the construction of educational proposals with a bioethical approach.

In the bioethics and pedagogy relationship is suggested that bioethics should be taught from primary to high school, not only as a supplement within the traditional classes, but as a separate subject. The classes must develop tools for learning respect, responsibility and love. This is consistent with the values that prevail within its axiological scale, and contrasts with those who are supposed to be the values in a neoliberal society, effectiveness, efficiency and productivity.

During the first stage of the process of bioethical education reported in this research, teachers expressed difficulty in reading the traditional texts on bioethics by its contents eminently clinical and their jargonized language. While the work developed in the classroom tried to move

the knowledge and methods of bioethics from their original states to make them closer to the problems of the everyday life of citizens (environment, education, politics and other), the exploration was limited by the lack of texts that supported literature, demonstrating the need to develop materials suitable to different groups and populations. From this need arises the idea of drafting a *bioethics booklet* as a basic text for the seminars and modules through simple language, but without losing conceptual depth. This would allow publicizing the principles of bioethics first to teachers and through them, to their students. The description of the events makes it possible to identify an emphasis on social justice, students and surrounding conditions that mark their school life, the way of including parents in the school community, teachers in relation to bioethics as tools for a better ownership of their social work, and national issues in general. The description of the facts is the best space to describe and classify the actors of the school community and the social environment from the perspective of the educator. In general, it shows critical concepts of the deficiencies and lack of commitment. What would the perception of students, parents, and community with respect to teachers, social context and ethical problems be? Would this view make us teach bioethical problems differently? It is possible to assume we would get other assertions but it is likely to argue that the awareness teachers have of their social role, in their statements, conform a vast and invaluable knowledge of the surroundings and problems that constitute the interests of bioethical education.

This pedagogical process shows that bioethics was transmitted as a body of knowledge serving as a tool for teachers to develop their guiding and propositional ability. This has an impact on the kind of thoughts and actions arising in conflict situations in the school. Similarly, bioethics is introduced as a space for reflection and discontent. From this follows the need to think of it as a space to pose problems related to a civil ethics constituted from a source of change.

Teaching the *principles of bioethics* demands special learning strategies so that its meaning not only allows the affirmation that the principles are applied. It is a constraint to assume that there is an agreement in their interpretation: it is necessary to recognize that there may be different

versions of what autonomy or justice may be. It is imperative to locate them historically and geographically, given the diversity of problems and situations in different regions in Colombia. In that sense, contributions to the line of bioethical research gain relevance. The line of research asks for the understanding and conceptualization of the principles. All the documents studied show that there is an immense variety of ways to use a principle in reflection. We must make a clear distinction between principles and rights, whether human, civil or social. The specificity of each bioethical principle must be taught to differentiate their use and value from common language and within each culture. We need to specify in what sense autonomy, equity, non-maleficence and beneficence are related to bioethics, to leave no room for teachers to think of bioethics as a parallel-legal system. It is necessary to emphasize the concepts of maximum and minimum ethics. Likewise, teaching principles must be linked to action, that is, create protocols for reflection that emphasize the propositional character facing a solution.

In response to the suggestions, a reflection from the bioethical principles view can be used as a tool for personal assessment of teaching, and at the same time for institutional assessment related to its *mission*. This emphasizes that Education in Bioethics and the Bioethics of Education are different things.

In the possible *solutions* is where it is evidenced the responsibility of bioethics to transmit its scope and objectives clearly and within a clear principle of the reality of their achievements in the social field. It should be emphasized that bioethics is the notion of a world that can only change society from the transformation of individuals, to improve its capacity for social action: but distinguishes and makes clear that bioethics is not a legal instrument and that is far from being able to influence the actions of the State. We need to clarify the coherence between principle and solution. Encouraging teachers through language, not to delegate solutions in a distant other but to propose solutions after general reflection. It is suggested to construct a protocol for presenting solutions that uses categories by levels, first general and then particular, to reach the action of the individual.

The fact that the teacher wants to assume a social role draws attention, which by having initially entered into conflict with the domain of the Church, might have been perceived as a threat at times. It is interesting to see how in practice, the teacher has an important social function, although his/her guild is not respected, and its aggregates have lost strength.

At the end of this long journey we wonder why? We can say that without this interest in understanding the bioethical thinking of the teacher, we would not have found that for the participating teachers, mainly primary and high school teachers, they are bioethical problems in need to be reflected upon to find solutions. Both the aggressiveness and lack of commitment in the classroom, as the precarious conditions of public service infrastructure or neglect in which the state has the displaced population are bioethical problems worthy of reflection to find solutions.

Brought into the classroom, bioethics must define the problems by levels: from the general to the particular, from national to local. In addition, there should be two focuses: developing educational proposals and making teachers (individuals) aware of their individual responsibility.

Although the bioethical discourse calls for expanding beyond the borders of a forced interest in justice in health, it's worth saying that according to the problems and solutions raised by teachers; this is a goal that must be pursued. It is interesting to recall that *public schools* were established in Colombia as a strategy for sanitation but a century later they haven't been able to meet the need of drinking water and health of all the school-age population. It seems that the social context that is drawn by teachers is a radiograph of modern times that lead the country to live with the promises: of development, sanitation, justice, equality, among others.

It is suggested that courses in bioethics emphasize specific elements: 1) definition, 2) problems, 3) principles, 4) solutions, and 5) values. Each of these must take into account how far the teacher can participate and, from a bioethical focus, assume the responsibility of not creating expectations that exceed their defining scope.

Finally, it should be remembered that this investigation applies the principlism method in general bioethical education, but leaves open the possibility of using other methods. Similarly, it encourages taking into account mixed and alternative methods. Based on this study, it might be possible to develop other parallel investigations with questions emphasizing on variables like the concept of justice and gender.

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## Annex 1

### *Descriptive statistics of the corpus<sup>34</sup>*

**Table 1.** Type of relationship (prevalence)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid.	Teacher-institution	22	4.3	4.7	4.7
	Teacher-students	158	31.2	33.8	38.5
	Teacher-parents	9	1.8	1.9	40.5
	Teacher-environment	205	40.5	43.9	84.4
	Teacher-bioethics	59	11.7	12.6	97
	Teacher-teacher	14	2.8	3	100
	Total	467	92.3	100	
Missing	System	39	7.7		
Total	506	100			

**Table 2.** Type of work (structure)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Work guide/ booklet	90	17.8	18.1	18.1
	Case study in class/ workshop class	157	31.0	31.7	49.8
	Case study as homework	111	21.9	22.4	72.2
	Essay/reflection	83	16.4	16.7	88.9
	International seminar/ guide	54	10.7	10.9	99.8
	Total	496	98.0	100.0	
Missing	System	10	2.0		
Total	506	100.0			

<sup>34</sup> Every data in Annex 1 were obtained from the descriptive analysis of the documentary corpus of the papers done by teachers in the general bioethics seminars and modules, Universidad El Bosque.

**Table 3.** Number of years

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1998	51	10.1	12.4	12.4
	1999	113	22.3	27.4	39.8
	2000	123	24.3	29.9	69.7
	2001	73	14.4	17.7	87.4
	2002	52	10.3	12.6	100
	Total	412	81.4	100	
Missing	System	94	18.6		
	Total	506	100		

**Table 4.** Origin (numeric)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Amazonas	1	0.2	0.3	0.3
	Antioquia	37	7.3	10.1	10.3
	Arauca	7	1.4	1.9	12.2
	Atlántico	1	0.2	0.3	12.5
	Bogotá	117	23.1	31.8	44.3
	Bolívar	11	2.2	3	47.3
	Boyacá	12	2.4	3.3	50.5
	Caldas	3	.6	.8	51.4
	Caquetá	7	1.4	1.9	53.3
	Casanare	1	0.2	0.3	53.5
	Cauca	11	2.2	3	56.5
	Cesar	25	4.9	6.8	63.3
	Chocó	2	0.4	0.5	63.9
	Córdoba	5	1	1.4	65.2
	Cundinamarca	23	4.5	6.3	71.5
	Guaviare	1	0.2	0.3	71.7
	Huila	17	3.4	4.6	76.4
	La Guajira	10	2	2.7	79.1
	Magdalena	9	1.8	2.4	81.5
	Meta	15	3	4.1	85.6
Nariño	1	.0.2	0.3	85.9	

	Norte de Santander	3	0.6	0.8	86.7
	Risaralda	2	0.4	0.5	87.2
	San Andrés y Providencia	1	0.2	.3	87.5
	Santander	7	1.4	1.9	89.4
	Sucre	4	0.8	1.1	90.5
	Tolima	12	2.4	3.3	93.8
	Valle del cauca	19	3.8	5.2	98.9
	Vaupés	1	0.2	0.3	99.2
	Vichada	3	0.6	0.8	100
	Total	368	72.7	100	
Missing	System	138	27.3		
Total		506	100.0		



**Table 5.** Program enrolled (numeric)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Bachelor of Arts in Management and Pedagogical Development in Preschool Education	8	1.6	2.4	2.4
	Bachelor of Arts in Ethics and Human Development	26	5.1	7.8	10.2
	Bachelor of Arts (emphasis on Natural Sciences and environmental Education)	15	3	4.5	14.8
	Bachelor of Arts (emphasis on mathematics and informatics)	28	5.5	8.4	23.2
	Bachelor of Arts (emphasis on Artistic Education)	14	2.8	4.2	27.4
	Bachelor of Arts (emphasis on Social Sciences)	3	0.6	0.9	28.3
	Bachelor of Arts (emphasis on Spanish and Literature)	3	0.6	0.9	29.2
	Bachelor of Arts (emphasis on a Foreign Language - English)	5	1	1.5	30.7
	Specialization in Pedagogy	9	1.8	2.7	33.4
	Specialization in University Teaching	11	2.2	3.3	36.7
	Specialization in the Pedagogy of Social Sciences	2	0.4	0.6	37.3
	Specialization in School Government	11	2.2	3.3	40.7
	Specialization in the Pedagogy of the Language	10	2	3	43.7



	Specialization in Artistic Education and Folklore	33	6.5	9.9	53.6
	Specialization in Educational Guidance and Human Development	90	17.8	27.1	80.7
	Specialization in ENvironmental Education	32	6.3	9.6	90.4
	Specialization in the Pedagogy of Audiovisual Language	5	1	1.5	91.9
	Specialization in Human Rights Education	8	1.6	2.4	94.3
	Specialization in Educational Evaluation	16	3.2	4.8	99.1
	Specialization in Educational Evaluation	3	0.6	0.9	100
	Total	332	65.6	100	
Missing	System	174	34.4		
Total		506	100		

**Table 6.** Authoring

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Individual	209	41.3	41.7	41.7
	Group	292	57.7	58.3	100
	Total	501	99	100	
Missing	System	5	1		
Total		506	100		

**Table 7.** Authoring + Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Individual female	142	28.1	28.6	28.6
	Individual male	67	13.2	13.5	42.1
	Group female	106	20.9	21.4	63.5
	Group male	13	2.6	2.6	66.1
	Group mixed	168	33.2	33.9	100
	Total	496	98.0	100	
Missing	System	10	2		
Total		506	100		

**Table 8.** Done for the elaboration of the text

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Computer	301	59.5	60.1	60.1
	By hand	182	36	36.3	96.4
	Type writer	18	3.6	3.6	100
	Total	501	99	100	
Missing	System	5	1		
Total		506	100		

## Annex 2

### *Descriptive Statistics of the Sample*<sup>35</sup>

**Table 1.** Type of relationship (prevalence)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Teacher-institutions	9	5.9	5.9	5.9
	Teacher-students	51	33.3	33.3	39.2
	Teacher-parents	3	2	2	41.2
	Teacher-social context	64	41.8	41.8	83
	Teacher-bioethics	19	12.4	12.4	95.4
	Teacher-teacher	7	4.6	4.6	100
	Total	153	100	100	

**Table 2.** Typo of work (structure)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Work guide/booklet	30	19.6	19.6	19.6
	Case study in clase/ workshop in class	45	29.4	29.4	49
	Case study homework	32	20.9	20.9	69.9
	Essay/reflection	27	17.6	17.6	87.6
	Internacional seminar/guide	19	12.4	12.4	100
	Total	153	100	100	

<sup>35</sup> All data in Annex 2 is obtained as a result of the descriptive analysis of the corpus documentary sample of the papers elaborated by the teachers in the General Bioethics seminars and modules, Universidad El Bosque.

**Table 3.** Year

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1998	18	11.8	14	14
	1999	39	25.5	30.2	44.2
	2000	32	20.9	24.8	69
	2001	27	17.6	20.9	89.9
	2002	13	8.5	10.1	100
	Total	129	84.3	100	
Missing	System	24	15.7		
Total		153	100		

## Annex 3

### *Format used for the content analysis*

Analysis of documents

Document #:

Type of document:

Typ of relationship:

Events (regional problem)	Category

Principles	Category
Justice	
Non maleficence	
Autonomy	
Beneficence	

Solutions	Category

Values (see coples)/Beliefs	Category

Bioetichs (defnition)	Category

Bioethics and pedagogy	Expectations

Bioethics and different educational areas	Category