

EVALUATION OF BIOETHICS MORAL JUDGMENT OF THE ADOLESCENT IN THE EDUCATION BY COMPETENCIES

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ABSTRACT

The main objective of this study was the bioethics evaluation in social-moral reasoning of the Mexican adolescent in educative competencies process in the high school level. Deepening in the adolescent moral reasoning from forming attributes in the educational instruction, the intrinsic structure of moral judgment (Kohlberg has described micro-morality), finding from this context extrinsic resources (macro-morality) that were important components for the bioethics evaluation across the holistic method described by Schmidt. The moral reasoning of 312 Mexican adolescents was obtain as from Kohlberg's theory and the Piaget, Rest, Pérez-Delgado and Mestre* studies by social-moral questionnaire in the full version and the effect of factors was obtained, determining the cognitive level, gender and working status.

Key words: Adolescent, competencies, moral.

RESUMEN

El objetivo de este estudio fue realizar la evaluación bioética del razonamiento sociomoral del adolescente en el proceso de construcción de competencias bioéticas, identificando recursos dentro de las necesidades locales en el nivel medio superior de educación en México. Profundizando en el razonamiento moral del adolescente desde los atributos formadores en la instrucción educativa, se expuso la estructura intrínseca del juicio moral (micromoralidad descrita por Kohlberg), encontrando desde este contexto recursos extrínsecos (macromoralidad) que constituyeron componentes importantes para la evaluación bioética a través de la metodología holística descrita por Schmidt. Se obtuvo el razonamiento moral de 312 adolescentes mexicanos partiendo desde la teoría de Kohlberg y los estudios de Piaget, Rest, Pérez-Delgado y Mestre, mediante el cuestionario sociomoral en la versión completa, determinando el efecto de factores como el nivel cognitivo, sexo y estatus laboral.*

Palabras claves: adolescentes, competencias, moral.

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INTRODUCTION

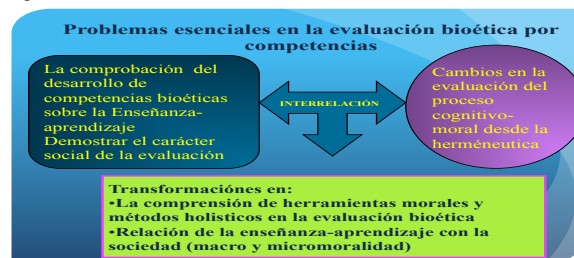
In the search of the foundations for the construction of moral competencies, research arises in the educational processes that integrate adolescent attributes of influence over moral reasoning and assessment tools that provide certainty and veracity to the teaching of values and which fulfill the character of competencies.

Bioethics education is preponderant in the globalized world. The generation of programs at different levels of education, framed by the cultural diversity, motivates valid research that provides educational components to teachers for cognitive learning and moral reasoning, essential factors for coexistence and social peace.

Bioethics evaluation is possible if we know the parameters of moral judgment involved in the teen education based on competencies. This is why the goal of this study was to conduct bioethics evaluation in the social-moral reasoning and the factors of influence that benefit the construction process of bioethical competencies, identifying and using existing resources within the needs in the high school level of education (where adolescent is immersed in Mexico), as the main Bioethics problem in this age is the lack of knowledge to identify and correctly apply moral values and principles in everyday life (Kohlberg 1987, 1995, 1994 Lind, 1998)¹

¹ Lind G. (2007). *Moral Ist lehrbar*. Odenbourg Schulbuchverlag, Munchen, Spanish, Mejia A. *Morals can be taught*. Edit. Trillas, Pág.19

Figural.-



The evaluation is described as a continuous process of reflection on the process of teaching and learning. When we use the psico-educative evaluation apply three components: evaluation diagnosis, formative and summative² This was implemented by the integral education reform on the competencies of high school level (RIEMS) in México since 2009.³

MATERIALS AND METHOD

Seeing the importance in deepening moral reasoning of the adolescent since the formal attributes for educational instruction for expose the intrinsic structure of moral judgment (micro-morality described by Kohlberg), and the present extrinsic resources (macro-morality) which are important components in the development of those; the educational process is complemented

² Díaz-Barriga F. Hernández R. (2004) Capther.8. Constructivismo y evaluación psicoeducativa. *Estrategias docentes para un aprendizaje significativo. Una interpretación constructivista*. México: McGraw-Hill. pag. 351-425

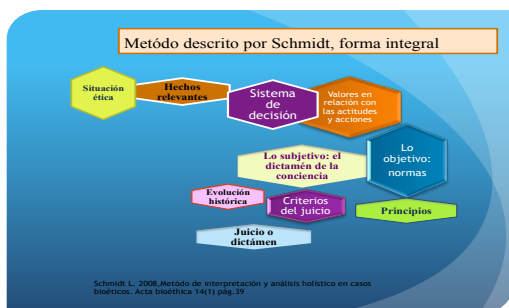
³ Diario oficial de la federación. 2009. Decreto. ACUERDO. número 488 por el que se modifican los diversos números 442, 444 y 447 donde se establece: el Sistema Nacional de Bachillerato en un marco de diversidad; las competencias que constituyen el marco curricular común del Sistema Nacional de Bachillerato, así como las competencias docentes para quienes impartan educación media superior en la modalidad escolarizada, respectivamente.

with the implementation of holistic methodology⁴ in the bioethics evaluation.

This research was based on Kohlberg's theory and Schmidt methodology is related to what has been described by Kohlberg, because in the holistic analysis (Schmidt), is included the historical, ethical and legal responsibilities where skills are developed to the study and logical processes of systematic concatenation of ideas, forms and experiences; respecting the beliefs and cultures, and setting as a starting point the ethical minimums.

Moreover, Rest describes concretely what it represents the macro and micro morality, in relation to macro- morality, it refers to the shape and structure of society, institutions and laws; and micro-morality to the relationship of individuals face to face in daily life arising questions as: Is this a good relationship? Is this a virtuous person?⁵ (Table 2)

Holistic method proposed by Schmidt in the integral form is described set out in the following figure 2:



Based on these guidelines, an observational investigation, comparative, cross-sectional, not blind and quantitative was designed; in a population

of 312 students of Centro de Bachillerato Tecnológico industrial y de Servicios in Monterrey Nuevo León, taking 104 students of the semester I, 104 semester III and 104 semester V in the high school education, in an age range of 15-20 years, of both sexes (50 % male and 50% female) with and without job (50% employed and 50% unemployed) without distinction of religion; participating voluntarily by signing an informed consent. The research explore the effect of age, sex, grade level and employment status on the DIT test P index, as well as certain social-demographic variables.

The intervention was carried out in a single 90-minute session in a classroom without the presence of teachers and / or school authorities. It was handed the questionnaire on social-moral problems in its long and Spanish version, (DIT/ Defining Issues Test)⁶ ⁷formed by 6 hypothetical stories.

Other variables that were included in order to describe the population and determine its homogeneity were social stratum, belonging to school groups, autonomy in decision-making in the academic field, in the school community and family; occupation of the father and mother and their most recent study.

According to the documentation of DIT, the test consistently reported across different studies, an estimate reliability coefficient of Cronbach's alpha of 0.7 and above. Four purposes of tabulating results of this study, we only took the value of the instrument DIT P index.

⁶ Rest, J. (1986) *DIT Manual*. University of Minnesota, Minesota, third edition.

⁷ Rest, J., Bebeau, M.J., Narvez, D. y Thomas, S.J. (1999) *Postconventional Moral Thinking: A Neo-kohlbergian Approach*. Psychology Press, 240 pag.

⁴ Schmidt L. 2008, *Interpretation methods and holistic analysis of bioethics cases*. Acta bioética 14 (1) pag.39

⁵ Rest J.1999. DIT2: *Devising and Testing a Revised Instrument of Moral Judgment*. Journal of Educational Psychology, Vol.91. No.4, 644-659. University Minnesota.

RESULTS.

The age of the students is located between 15 and 20 years, with a mean of 16.5 years and a standard deviation of 1.08 years. The P score presents a mean and median of 23.1 and 23.23 respectively; the standard deviation is 8.98 and the lowest score obtained in the sample is 5 and the highest in 50.

Taking into account that the P index scale goes from 0 to 95, it may be concluded that the sample was presented mostly in the lower part of this (Table 1).

Table 1

Age statistics	Holistic obtained	Holistic expected
- P Index Score: 29 - Range: 15 to 20 years old. - Mean: 16.5 - Standard Deviation: 1.08	Piaget: - Concrete Operations (Cognitive). Kohlberg: - Pre-conventional (moral)	Piaget: - Formal Operations (cognitive) Kohlberg: - Post-conventional (moral)

Regarding the social-demographic variables a third part of students surveyed do not participate in religious activities nor belong to any school group. We can notice that in general the maximum parental education are high school, they do not have a professional job and mothers in general are engaged in housework. The relationship between age and P score is nonexistent.

For the analysis of the influences of various factors on the P index, ANOVA test shows no significant effects at the level 5% in the variables of sex, semester and employment status; as in the well-known interactions of second and third order among them.

However, the interaction between the semester and employment status showed a value of probability of 0.052.

Multiple comparisons tests showed significance in the students of fifth semester with HSD Tukey and Bonferroni tests, but not with the Scheffé test. The average of those who work in the fifth semester is 20.38 and those not working 25.71 and the Cohen D standardized effect size is 0.6, which can be considered a medium and certainly important effect.

Table 2

Statistics of employment	Holistic Obtained	Holistic Expected
- ANOVA: 0.052 - HSD Tukey fifth semester NOT working: 25.21 - HSD Tukey fifth semester working: 20.38	- Lower P score in students who work. I can be presumed that the result is related with the time of study.	Relation between moral and cognitive development: : - The more time of study (Stimulation) the better cognitive development. - The better cognitive development, the better moral development.

The correlation of the P score with age is nonexistent (0.029). Different segmentations of the sample given by the variables of the study, also showed significant correlations.

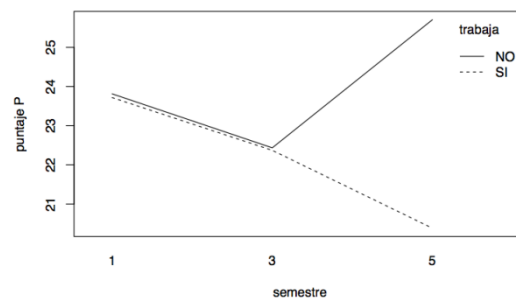


Figure 3

The results of the variable sex, shown below (table 3).

Table 3

Sex Statistics	Holistic Obtained	Holistic Expected
<p>Men: -50% of sample - P score obtained: 23.98 -Mean P score: 23.1944</p> <p>Women: - 50% of sample -P score obtained: 22.05 - Mean P score: 22.9487</p>	- Not important difference	Gilligan: - High in women

DISCUSSION

In the study it was possible to apply concepts of the theory of Kohlberg basis that describes basic ideas that allow analysis of morality, organized into three levels: pre-conventional, conventional and post-conventional.

According to Piaget’s theory, that the moral and cognitive development should be related, considering stages according the age.

Although, by the age of the sample, they should be located at the stage of formal operations, even when the sample results show that the moral judgment corresponds to the previous stage (Concrete operations).

Holistic findings show: “principles” is the ethic situation adopted the position as students, employment status and gender. The decision system is based on the autonomy to exercise freedom without considering the other. The objective obey school rules, reflected in staying in school levels (I, III, V semesters). The historical evolution comes from the family, where the maximum parental education level is secondary, their Jobs are not professional and mothers in general develop housework at home and at work. The judgment criteria involved are punishment-obedience, located at the

individualistic view of the micro-morality.

Tolosa, Zerpa in 2009, presented evidence of 86 participants using the short version of the DIT (Defining Issues Test), of both sexes, with a mean age of 16.5 years, indicating that the structures of moral judgment predominantly remained at the conventional level of moral reasoning.⁸

Romo describes the profile of moral judgment of 906 students in 8 schools in Aguascalientes, with the predominant conventional social-moral development level, although there are differences in scores on the P index, post-conventional morality, as in this study the average was lower.⁹

The level of moral development of early adolescent P index was lower than that reported by Barba in studies with groups of high school students in Aguascalientes Mexico¹⁰. The Rest long version social-moral questionnaire was applied, showing that students were located in the stage 4.

Regarding studies Barba, the differences obtained in our study can be explained by cognitive differences obtained in the ENLACE: National Assessment of Academic Achievement in Schools,¹¹

⁸ Tolosa A.Zerpa C. 2009. *Efecto de un programa de comprensión de textos, de contenido moral, en las estructuras de razonamiento moral de estudiantes del primer año del ciclo diversificado*. Revista de Pedagogía. versión impresa ISSN 0798-9792 Rev. Ped v.30 n.87 Caracas.

⁹ Romo J. (2004) *Juicio moral en estudiantes de bachillerato. Un diagnóstico*. Revista Iberoamericana de Educación (ISSN: 1681-5653) .Caleidoscopio –revista de difusión local del Centro de Ciencias Sociales y Humanidades de la Universidad Autónoma de Aguascalientes núm. 15, año 8, Ene-Jun pag. 7-27.

¹⁰ Barba B.(2001)*Razonamiento moral de principios en estudiantes de secundaria y bachillerato*. Revista Mexicana de investigación educative.Vol.6.No.13, pag. 501-523

¹¹ Consejo Nacional de Autoridades Educativas, Capítulo EMS. Avances y resultados en la educación media superior.(2013).www.sems.gob.mx/work/models/sems/resource/114541/anexo_2_opt.pdf

2012-2013, in which Aguascalientes ranks first in math and reading and Nuevo León is located in the nineteenth place. Apart from the cognitive, we took into account the demographic and socio-cultural context in the research reported.

Therefore, a correlation is achieved by detecting the cognitive development bears a moral shift, as described by Kohlberg as showing higher performance in ENLACE higher moral stage is reflected in the population described by Barba. Low cognitive performance leads to lower morality as described in the results obtained by the DIT in the two populations (Aguascalientes, Nuevo León).

Given the variable age of the participant population, remain in the stage of concrete operations, which is marked by a gradual decrease of egocentric thinking (Piaget¹²).

The parameters of the moral judgment that allow a bioethical evaluation of the adolescent, in education competition, were composed of structures of judgment and socio-moral perspective of our population to be in the pre-conventional level corresponding to a concrete individualistic perspective of interest (each one by yourself). This confirms the difference in the evolutionary effects due to age and social experience with the populations shown in previous studies of holistic interpretation.

In the social context, the fact that student that works, to have more responsibilities, present a greater morality would be expected.

However, the results are better in students who do not work.

Finally in relation to sex, the study showed no significant difference of P index score between genders. According to literature, it was expected to obtain a high rate of the P score in women (Gilligan¹³).

CONCLUSIONS

The instruments: DIT and holistic methodology used showing the extrinsic and intrinsic description of adolescents with homogeneous characteristics in public education. According to the results of the P index and established by Kohlberg, students in the sample are in the pre-conventional level, in stage I and whose moral status is determined by the heteronomous morality, defined as the egocentric perception of the world and of social relations, with punishment-obedience orientation and stage II where it is important to follow the rules according to self-interest and needs, leaving others to do the same. The social perspective is concrete individualistic.

Bioethical dilemmas integrated in the Rest tool, were favorable, based on moral decision where the person appropriates and internalizes the moral situation and knowledge through a series of deliberate and conscious operations, allowed the teen develop self-awareness.

Bioethics education competencies, in the integrated high school level with a bioethics evaluation, supported in the holistic method and the moral tools, will take to cover the two basic functions:

¹³ Gilligan C.(1977) *In a different Voice: Women's conceptions of self and morality*. Harvard Educational Review. Harvard University.pag.484

¹² Piaget J. (1991) *6 Estudios de psicología*. Nueva serie 2,Edit. Labor.pag.87

educational and social, to ensure that formative assessment is the most valuable resource for teacher thus be solved in adolescents lack the knowledge to properly identify and apply moral values and principles in everyday life. Holistic integration as core diagnostic monitoring support the development of moral identity of the teenager, who understand the responsibility and commitment to the environment, with others and with themselves.

The results of the study allows to know the Mexican student moral reasoning and attributes which are integrated into bioethics evaluation therefore should be taken into account as a basic component in building competencies in adolescent education.

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