RESEARCH

# KNOWLEDGE OF CIVICS IN MEXICO

*An International Comparative Study*

FELIPE TIRADO SEGURA / GILBERTO GUEVARA NIEBLA

Felipe Tirado Segura is a full-time, definitive, head professor C of División de Investigación, Facultad de Estudios Superiores-Iztacala, UNAM. Avenida de los Barrios s/n, Tlalnepantla, CP 54090, Estado de México, E-MAIL: ftirado@servidor.unam.mx

Gilberto Guevara Niebla is a career head professor A at Colegio de Pedagogía de la Facultad de Filosofía y Letras, UNAM. Circuito Interior, Ciudad Universitaria, s/n, CP 04510, México, DF. E-MAIL: gguevara@prodigy.net.mx

Work financed by the support program for research projects, number IN403900, UNAM.

**Abstract:**
This article serves as a reflection on teaching civics, based on an international comparative study known as the Civic Education Study. The study was carried out with 987 Mexican school children, fourteen years of age and in the third year of secondary school. Although some results are critical, they are not exceedingly low in comparison with the international mean. Of concern in the analysis of responses is that the Mexican children show little skill in discerning between facts and opinions; they identify the political parties but do not clearly understand the operation of public power. The analysis of fourteen sociodemographic factors is presented to evaluate their relation to scholastic achievement on the test. Multiple regression analysis is carried out with a latent variable constructed to represent the family's cultural capital, which best explains the variance. The article closes with a discussion of civic education.

**Key words:** civic education, international comparative analysis, secondary education, meta-evaluation, values, Mexico.

## Introduction

In today's world, serious deterioration is being seen in forms of interaction and social cohesion. Immersed in a process of globalization, with profound, dizzying changes, governed by financial capital, amidst unbalanced competition, fraudulent bankruptcies, corruption and impunity, we observe the generation of social problems, including growing distrust, uncertainty, and a loss of values reflected in delinquency, drug addiction, and pederasty. Such problems have a grave impact on civic education and reveal dramatic signs of ungovernability, such as public lynching.

Actions must be taken to halt or mitigate the problem, as complex as it is worrisome. One such action is civic education, which is expected to promote civilized, ethic behavior, develop a sense of democracy, and educate citizens to promote the interaction and social cohesion indispensable for civilized life.

Civic education is an extremely relevant task but also very difficult to cultivate. It is inscribed in the complexity of axiology, is manifest in attitudes and actions of daily life, and forms part of culture in all settings of human activity. And although civic education is the responsibility of all, the institutions that must pay particular attention to the topic are the schools. As indicated by Barba (2005:9), "education is, by nature, a question of values, a process of moral formation".

Education constitutes an element to promote civilized life as it encourages values like justice, equality, fairness, integrity, responsibility, solidarity, respect, tolerance, plurality and freedom. Such values must become an essential part of school life and daily school practices through the actions of teaching through example, practicing what is preached, and creating a proper climate or ethos. Upon making a comparative analysis of various programs, focuses, models and proposals in school, Barba indicates (2005:11), in brief, that a common concern "is reconstructing the bases of human interaction."

## Research

To contribute to civic education, it is important to recognize its current status, and to promote research that will identify and explain its causes. In this manner, sustained options can be suggested to strengthen the quality of civic education.

To evaluate civic education in Mexico, in contrast with other countries, an adjustment was made to the *Civic Education Study* (Torney-Purta *et al.* 2001) prepared by the International Association for the Evaluation of Educational Achievement (IEA).

The *Civic Education Study* is a very complete international research study. In 1971, the IEA undertook its first international study on civic education with the idea of contributing, with empirical indicators, to the understanding and improvement of this area of education. As a result of the study, the conclusion was reached that complex diversity exists among nations, and that none of the ten participating nations attained uniformly successful levels in internalizing civic values. The observation was made that students who have an active school life with decision-making, obtain higher scores in knowledge as well as in anti-authoritarian attitudes, in contrast with students educated in traditional procedures who participate in patriotic ceremonies and memorize standards, famous names and dates from history (Torney-Purta, Oppenheim and Farnen, 1975).

In 1994, the IEA carried out a new study, given the profound changes of recent decades, such as women's participation in politics and the employment market, the collapse of political structures in Eastern Europe, economic globalization, the new supra-national structures like the European Union, accented migration, growing political and environmental interdependence, the impact of the mass media and electronic intercommunication. The conclusion was reached that these circumstances form new contexts that transcend ethnic, linguistic and religious affiliations, and disturb nationalistic conceptions. Therefore, the decision was made to analyze and rethink the conceptions of civic education.

We are interested in some of the reasons that motivated the IEA to promote a second study (carried out in two phases): the significance of such changes in young people's values and sense of national identity and citizenship, the attitudes that are being generated, the reaction to unemployment, violence among ethnic or religious groups due to the profound distrust of government, and the actions formal education must or can take in these new circumstances.

*First Phase*

This stage involved four years of work and an international committee of twenty-four countries. The purpose was defined as identifying and examining in a comprehensive framework the explicit and implicit ways that students are politically and culturally educated. An exploration is made of how young people internalize values to become citizens.

The committee agreed on a conceptual framework, based on two contemporary psychological theories: the ecological approximation of Bronfenbrenner (1988) and the situated cognition of Lave and Wenger (1991).

Bronfenbrenner's approximation presents a conceptual model of concentric circles: the individual is in the center with his particularities (gender, age, interests, etc.); he is surrounded by a micro-system of family, school, colleagues and community; this is integrated and surrounded by a meso-system of social institutions such as government, churches, health, political parties or the media, which in turn is circumscribed by attitudes and ideologies of the dominant culture, modified in a system of time. The discourse and practices concerning civic values are constituted in interaction with the family, friends, neighbors, schoolmates, teachers, the media, and churches.

The thesis of situated cognition emphasizes that certain contextual and cultural aspects favor or determine the phenomena of appropriating knowledge. Thinking in good part is detonated and modulated by the circumstances in the setting or context. Thus social organizations and their operating procedures constitute cultural arrangements that define meanings and promote learning. Plus virtually all social institutions are implied in civic education: the family, media, religious organizations, social movements, and obviously, the school.

Having defined the conceptual framework, eighteen topics were formulated to explore civic education with a constructivist ethnographic vision in the context of each participating nation, with a recommendation to review and reflect on diversity. Using a series of topic guides, individuals and

groups were interviewed, including professors, students, school directors, inspectors, educational authorities, government commissions, political leaders, and opinion leaders. The topics guides are based on defining citizens' rights and obligations, and interpreting predominant history, and identifying the texts, historical events, ideas or principles considered most relevant.

Each country made a synthesis of its study, with an introduction of the national education system, the role, status and vision of the dominant civic education, the curriculum plan and the activities carried out to implement it. The result of this phase was a report of the twenty-four national case studies, accompanied by a general summary (Torney-Purta, Schwille and Amadeo, 1999). The work points out that civic education is a cause of great concern in the participating countries, although it is not given the importance it deserves.

*Second Phase*

The compiled, analyzed, organized, and consensual information from the first phase was the basis for the second. It consisted of preparing a questionnaire of knowledge, skills, opinions and attitudes about civic content, and applying it to representative samples of fourteen-year-old students in twenty-eight countries. Table 1 reports the score each country obtained on the IEA scale in the section of civic knowledge.

**TABLE 1**
*Score Obtained on the IEA Scale. Civic Knowledge*

| Civic Knowledge | | |
|---|---|---|
| | **Country** | **Score** |
| 1 | Poland | 111 |
| 2 | Finland | 109 |
| 3 | Cyprus | 108 |
| 4 | Greece | 108 |
| 5 | Hong Kong | 107 |
| 6 | United States | 106 |
| 7 | Italy | 105 |
| 8 | Slovak Republic | 105 |
| 9 | Norway | 103 |
| 10 | Czech Republic | 103 |
| 11 | Australia | 102 |
| 12 | Hungary | 102 |
| 13 | Slovenia | 101 |
| 14 | Germany | 100 |
| 15 | Denmark | 100 |
| 16 | Russia | 100 |
| 17 | England | 99 |
| 18 | Sweden | 99 |
| 19 | Bulgaria | 98 |
| 20 | Switzerland | 98 |
| 21 | Portugal | 96 |
| 22 | Belgium | 95 |
| 23 | Estonia | 94 |
| 24 | Lithuania | 94 |
| 25 | Latvia | 92 |
| 26 | Rumania | 92 |
| 27 | Chile | 88 |
| 28 | Colombia | 86 |

Fourteen-year-old students were selected for several reasons: *a)* Compulsory basic education tends to end at age fourteen in most of the countries; *b)* Considerable numbers of older students

drop out of school; *c)* IEA studies often explore this age group; and *d)* The preceding study in 1971, was carried out with fourteen-year-old students.

Almost ninety thousand respondents participated in the study. The questionnaire explores the topics identified in the first phase, such as electoral processes, individual rights, national identity, political participation, and so on.

Appropriate questions were developed to evaluate knowledge, interpretation skills (distinguishing between fact and opinion), and the understanding of concepts, attitudes and opinions. The test consisted of thirty-eight items of knowledge and skills, and 136 items of attitudes and opinions. After testing the questions, a selection was made of those that obtained acceptable psychometric parameters in the classical model, IRT and confirming factorial analysis.

**Comparative Study**

The present study was based on research carried out by the IEA in the second phase; it used most of the questions whose results were made public (fifteen on knowledge and interpretation skills and seventy-one on attitudes and opinions) (Torney-Purta, *et al.* 2001). The questionnaire for this study also included five questions about civics from the National High School Entrance Examination (Examen Nacional de Ingreso a la Educación Media Superior--EXANI-I), which strengthened substantially the potential for analysis by associating the results with the hundreds of thousands of cases at the National Evaluation Center (Centro Nacional de Evaluación—CENEVAL). The questionnaire also included sixteen questions prepared by the authors for this study (five on knowledge and eleven on attitudes). At the end of the test, the characteristics of the surveyed population were taken through fourteen questions (variables like gender, age, parents' education, family income, etc.).

Given the study's scope and the limits of this publication, the current report presents and analyzes only the results of the first section, which corresponds to the twenty-five questions on knowledge. The SPSS program was used (SPSS Inc., 2003).

*Analysis of Results*

Population

The survey was completed between 2002 and 2003. The attempt to use random samples in various states of Mexico was not possible because of unwillingness, lack of coordination, and other difficulties encountered in several schools. Therefore the decision was made to use the questionnaire as broadly as possible at different educational levels, with an understanding that indicative data would be obtained instead of representative results of the population.

The number of surveys completed was 4,917 in eight states. For the initial analyses, the base was strengthened by removing surveys with contradictory or unbelievable responses, as well as incomplete surveys. Thus 4,279 remained, according to the following distribution by state.

**CHART 1**

*Distribution by State*

| State | Number | % |
|---|---|---|
| | | |
| 1 Chiapas | 491 | 11 |
| 2 Tlaxcala | 421 | 09 |
| 3 Oaxaca | 333 | 07 |
| 4 Jalisco | 496 | 11 |
| 5 Zacatecas | 494 | 11 |
| 6 Estado de México | 756 | 17 |

| | | |
|---|---|---|
| 7 Distrito Federal | 1152 | 2( |
| 8 Hidalgo | 135 | 0 |
| Not specified | 1 | 0( |
| **Total** | **4 279** | **100.00** |

A study of the distribution by age reveals that almost three-fourths of the participants were students between ages thirteen and fifteen (3,107 = 73%), similar to the fourteen-year-old age group of the IEA study (Chart 2). Analyzing the grades shows an upward projection: the youngest students have the lowest averages and the oldest students, the highest. In an analysis of variance, the differences are statistically significant ($p<0.000$) between the thirteen-year-olds and the fourteen- to fifteen-year olds; thus the conclusion is that age is a relevant factor associated with test results.

**CHART 2**
*Distribution by Age*

| Age | Mean | Number | Standard Deviation |
|---|---|---|---|
| 13 years old | 45.9 | 491 | 18.8 |
| 14 years old | 53.1 | 1,452 | 19.6 |
| 15 years old | 54.3 | 1,164 | 18.7 |
| **Total** | **52.4** | **3,107** | **19.3** |

The distribution of the school year of the participants, ages thirteen to fifteen, shows upward-moving grades. The students in the first year obtain the lowest averages, followed by students in the second year, and lastly, by those in the third year. These differences are statistically significant ($p<0.000$) in all cases, leading to the conclusion that the school year is a relevant factor that is associated with test results (Chart 3).

**CHART 3**
*Distribution by School Year*

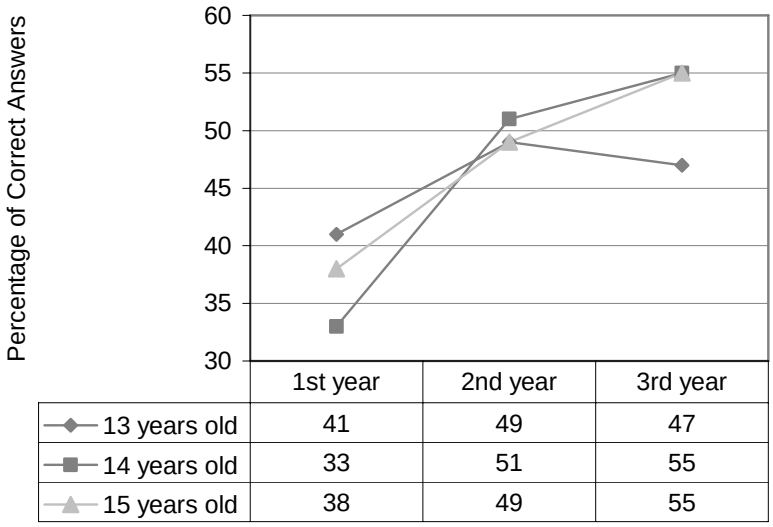
| Grade | Mean | Number | Standard Deviation |
|---|---|---|---|
| 1st year in secondary | 38.0 | 161 | 16.8 |
| 2nd year in secondary | 49.3 | 705 | 19.6 |
| 3rd year in secondary | 55.1 | 1,901 | 18.9 |
| **Total** | **52.6** | **2,767** | **19.4** |

Graph 1 shows the interesting extra-age effect that is probably due to repeated grades (age fourteen in the 1st year) or a second failure (age fifteen in the 1st year), with average scores 22 and 17 percentage points below the typical score for the age.

The above shows that both age and grade in school make significant differences. Therefore, *the subsequent analyses are made with only the 987 cases of fourteen-year-old students in the third year of secondary*

*school* who adhere to the mode (71%) of the respondents and who correspond to the operating definition of the population studied in the Civic Education Study of IEA (fourteen-year-old students enrolled in the grade in which the mode is found). In administering the *Programme for International Student Assessment* (PISA), fifteen-year-old students are considered in selecting the samples, without regard for their grade in school. Because of the reported data, we believe it is more appropriate to use the criteria utilized by IEA: young people enrolled in the same grade in which the mode of the age group to study is found.

**GRAPH 1**




| | 1st year | 2nd year | 3rd year |
|---|---|---|---|
| 13 years old | 41 | 49 | 47 |
| 14 years old | 33 | 51 | 55 |
| 15 years old | 38 | 49 | 55 |

## Strength of Questionnaire

The questionnaire was very solid, since most (80%) of it was questions prepared by IEA and CENEVAL (5%). Both institutions demand compliance with a series of very rigorous norms in order to obtain approval for their questions. However, the results of this study show aspects of interest that invite further research.

In tests of the questions' power of discrimination (27% sup. – 27% inf. / N), a mean of 0.47 was found for the IEA questions, almost equal to those of CENEVAL (0.46) and the 0.32 of the five questions formulated for this study. The best question, considering its discrimination power, was by CENEVAL (A20 – 0.66). Out of the questions from this institution, 40% discriminate above 0.50; out of the IEA questions, 40% also meet this condition, as well as 20% of the questions formulated for this study.

The alpha coefficient of the reliability of the twenty-five questions of knowledge is 0.744; on observing that the removal of three questions resulted in an alpha of 0.757, the analyses and comparisons were made with both arrangements. Considering only the fifteen questions from IEA, the alpha is 0.683, showing that the incorporation of the other questions improved the reliability of the evaluation.

The mean score for the twenty-five questions was 51.8% correct answers, a percentage very close to the ideal (50%); in other words, the test of knowledge was neither easy nor difficult for the respondents. The standard deviation is 17.4. The asymmetry is -0.089 (standard error .078) and the

kurtosis is -0.499 (standard error 156); since these values are close to zero, the distribution is estimated to have an acceptable approximation in terms of a normal curve.

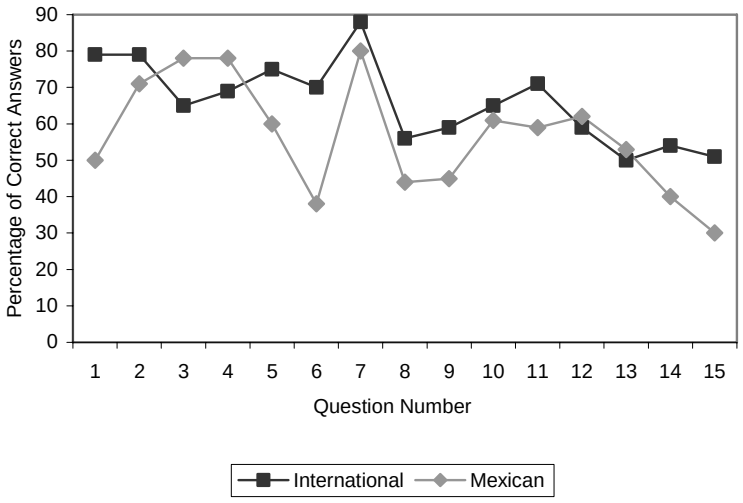
On considering only the fifteen questions that permit international comparison, the Mexican population obtained a mean of 56.3% correct answers, 8.7% below the twenty-eight nations that participated in the IEA study, which was 65%. In four questions, the Mexican population was above the international mean. Therefore, it is estimated that the position of the Mexican students in this thematic area is not as low as in other international studies, like the PISA or the *Trends in Mathematics and Science Study* (TIMSS).

## Questions

The qualitative aspect in an examination lies in what is asked. Therefore, certain questions that are outstanding in their uniqueness are studied.

In two of the four questions in which the Mexicans obtained a score higher than the international group, considerable differences occur (12.9% and 8.9% above the mean). Graph 2 shows the values of Questions 3 and 4.

**GRAPH 2**
*Questions from IEA*




One of the questions calls for recognizing a case of discrimination against women when employment is denied (answer = because the woman is a mother). Another question requires understanding why it is important for a democratic nation to have many participative organizations (answer = to provide an opportunity for the expression of different viewpoints). It is satisfactory to see this result in questions that demand a level of understanding:

In four of the fifteen questions on the IEA, the Mexican students scored far below (at least fifteen percentage points) the international sample; see questions 1, 6, 14 and 15 in Graph 2 (22.5%, 30.2%, 16% and 27.3%). One problem seems to be centered on the difficulty in differentiating between fact and opinion (questions 14 and 15)—a relevant problem because it deals with an important skill that reflects cognitive ability in basic discernment

Question 15 and its results are shown as a percentage of correct answers by country, including Mexico.

| | | |
|---|---|---|
| 1 | United States | 69 |
| 2 | Finland | 68 |
| 3 | Cyprus | 63 |
| 4 | Norway | 59 |
| 5 | Australia | 58 |
| 6 | Hong Kong | 57 |
| 7 | Switzerland | 56 |
| 8 | Italy | 55 |
| 9 | Denmark | 54 |
| 10 | England | 54 |
| 11 | Sweden | 54 |
| 12 | Germany | 53 |
| 13 | Greece | 53 |
| 14 | Russia | 52 |
| 15 | Poland | 50 |
| 16 | Hungary | 48 |
| 17 | Estonia | 46 |
| 18 | Czech Republic | 46 |
| 19 | Bulgaria | 44 |
| 20 | Slovenia | 44 |
| 21 | Slovak Republic | 44 |
| 22 | Belgium | 42 |
| 23 | Latvia | 42 |
| 24 | Rumania | 39 |
| 25 | Lithuania | 35 |
| | Mexico | 27 |
| 26 | Chile | 26 |
| 27 | Colombia | 26 |
| 28 | Portugal | 25 |

R15.-Three of these affirmations are opinions and one is a fact. Which of the following is a FACT?

a) People with very low income should not pay taxes.
b) In many countries, rich people pay higher taxes than poor people.*
c) It is fair for some citizens to pay higher taxes than others.
d) Charitable donations are the best way to reduce the differences between the rich and the poor.
e) I do not know.

In an analysis of meta-evaluation, it is important to observe intravariability; i.e., differences shown by a population as in the case of the Mexican students who, in question 15, are between position 25 and 26; yet in question 4, they are between positions 5 and 6. Mexico's mean location is not reported in the general table of scores because the international research report does not offer sufficient elements to do so.

Another problem was recognizing the definition or properties of a law (question 1). Still another problem consisted of understanding political meaning in a democracy (question 6). This question is reproduced for various reasons: It is the question that shows the widest difference with regard to the international sample (30.2 points lower); only one of the twenty-eight participating nations obtained a lower score; and the following data show that almost half of the Mexican students selected a mistaken option (distracter) (d). Thus a review is in order:

**R06. In a democratic political system, which of the following ought to govern the country?**

a) Moral or religious leaders.
b) A small group of people with a good education.
***c) Representatives elected by the people.****
**d) Experts in political and governmental matters.**
e) I do not know.

**ANSWERS (%):**

| **a** | **b** | **c*** | **d** |
|---|---|---|---|
| 1.2 | 5.6 | **40.8** | 48.9 |

The impression is that this question was answered more in terms of opinion than knowledge, with a desire to indicate that experts *should* govern and not necessarily those who are elected by the people. The answer may possibly be due to Mexico's political context of disillusion and to an incorrectly used or translated word ("*ought to*" in English was translated into Spanish as "debería" instead of "debe"). In response to an express request presented to the test administrators in Chile, they reported to us that 53.7% of their students selected option "c" while 33.4% selected option "d"; the reply reinforced our hypothesis that the word was incorrectly used or translated.

Here the most relevant factor is to make a meta-evaluation and observe the semantic sensitivity implied by the construction of questions, while warning that the analysis of large-scale tests is often limited to statistical indicators. Qualitative implications of a semantic type and meaning in the context are almost never addressed.

It is interesting to observe that the results of this question contrast with another question, incorporated by the study's authors, that explores the same conception (democracy) yet obtains a significantly higher number of correct answers (+24.9%):

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**R24. A democratic state or government is distinguished by:**

a) The presidency lasts a certain period.

b) There are political parties.

c) Legislators make laws.

**d) Citizens elect those who govern them.***

e) I do not know.

**ANSWERS (%):**

| **a** | **b** | **c** | **d*** |
|---|---|---|---|
| 14.4 | 10.4 | 5.3 | **65.7** |

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Thus upon comparing the results of questions 6 and 24, which allude to the same content of knowledge, we find a marked difference that should alert us in reading and interpreting the results of standardized tests.

In another question (5), presented below, the Mexican population scored 14.7% below the international mean. The response (16.4%) seems to be based more on the nation's political context:

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**R05. In democratic countries, what is the function of the existence of more than one political party?**

a) ***To represent different interests in Congress.****

b) **To limit political corruption.**

c) To prevent political manifestations.

d) To stimulate economic competition.

e) I do not know.

**ANSWERS (%):**

| **a*** | **b** | **c** | **d** |
|---|---|---|---|
| **60.3** | 16.4 | 6.1 | 7.2 |

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Of the five questions from EXANI-I, three have a taxonomic level of comprehension of concepts, and two of principles. Comparing the indicators obtained from CENEVAL (1999) and this study (2003), we see that the level of difficulty and the discriminating relation do not correspond. Discrepancies in the level of difficulty occur, ranging from 3.2% to 15.4% (chart 4).

**CHART 4**
*Comparison of Indicators*

| | 1999 | 2003 | | 1999 | 2003 |
|---|---|---|---|---|---|
| *Question* | *Difficulty* | *Difficulty* | *Difference* | *Discrimination* | *Discrimination* |
| R16) | 25.8% | 41.2% | + 15.4% | 1.27 | 0.27 |
| R17) | 48.7% | 45.5% | - 3.2% | 1.08 | 0.51 |
| R18) | 50.2% | 44.1% | - 6.1% | 1.18 | 0.41 |
| R19) | 45.2% | 32.3% | - 12.9% | 1.54 | 0.44 |
| R20) | 68.6% | 58.9% | - 9.7% | 0.83 | 0.66 |

The statement must be made that although the populations are similar, they are not equivalent. In the case of EXANI-I, the students have finished secondary school or are very close to finishing, and hope to enter high school (average age of fifteen, secondary school completed). Thus it is notable that on Question 16, the fourteen-year-old students obtain a score that is 15.4% higher. This question aims at a general understanding of the national constitution:

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**R16. The set of norms that establishes the organization of public powers, the protection of natural resources, and the situation of all citizens with regard to the state, is:**

a) The agrarian law
b) The state Constitution
c) The civil code
d) The penal code
e) The national Constitution

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Other specific results of interest, yet not part of the IEA questions, are that 88.1% of the 987 participants confuse the levels of government (federal, state, and municipal); 68% do not identify the principles that constitute the legitimacy of an action (reasonable, fair, and equal); 64.2% do not recognize the branches of government (executive, legislative and judicial), and 54.5% do not differentiate among the functions of the branches of government (balance of power). In contrast, only 15.6% did not recognize the three dominant parties in Congress (PAN, PRD, PRI).

The analysis of questions seems to show that the participants recognize political actors but do not understand clearly how public power operates or is constituted. This may be a result of the disproportionate political advertising promoted by the parties, in addition to the political scandals covered by the media, and the deficient conceptual teaching at school. To exercise their political rights lucidly, citizens must understand the configuration and functions of political power, and recognize the interests and plans represented by the parties; therefore, the results obtained are of concern.

## Population Variables

In order to analyze certain factors that may be associated with scholastic achievement, four population variables were explored: gender, age, number of siblings, persons in household, number of persons in household, home newspaper delivery, number of books in home, number of years of expected schooling, expected educational level, mother's educational level, father's educational level, time dedicated to watching television each week, grade in school, and family income.

The general congruency of the distribution of these data in the explored population variables offers us good indexes of confidence; the observed consistency shows that the participants seem to have answered truthfully.

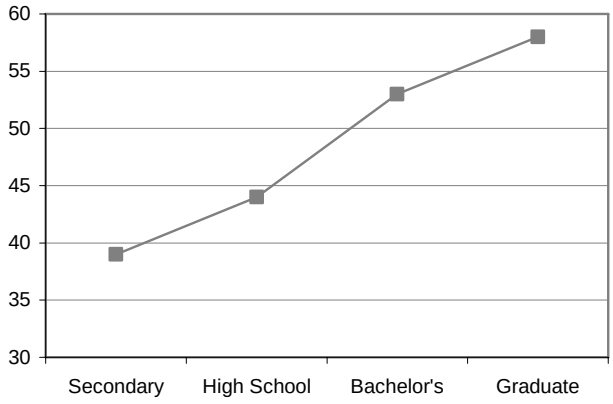
The analysis of variance, considering the fourteen factors of the population variables, revealed statistically significant differences in all variables except two: gender—in which the mean scores of females and males was 52.7% and 51.0%, respectively, or a difference of 1.7 percentage points—and the difference between those who receive a newspaper at home (51.9% average score) and those who do not (51.8%), only 0.01%.

The variables that show the widest differences occur in terms of the people in the household and the number of people in the household. Students who live with their mother (average score of 53.8%) or their parents and siblings (53.1%) obtain higher scores than those who live only with their father (41.3%), and much higher scores than those who live with their spouse (29.3%), which although very few in number (0.3% of the participants), have a difficult situation (at the age of fourteen) that is reflected in their average score. Those who live with four persons, which would be a small family, obtained the highest scores (53.3%), in contrast with those who live alone (27.2%), a possible reflection of abandonment.

The second factor that shows the greatest differences in average scores is the student's expected educational level, in terms of the number of years the student expects to remain in school (no year = 36.1% average score, versus 9 to 10 years = 57.6%), as well as in terms of the educational level the student expects to reach (secondary school = 39.5% versus graduate studies = 57.6%) (Graph 3).

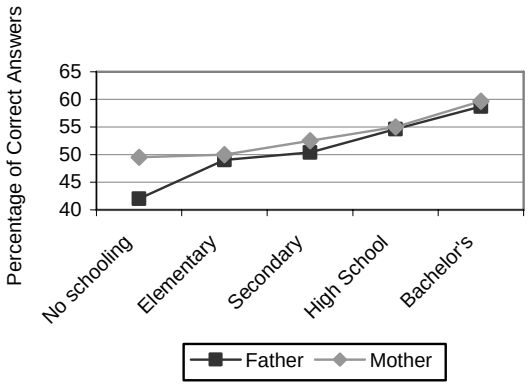
In the analyses of variance, the differences are statistically significant ($p < 0.000$) and the correlation of these variables is +0.60 (statistically significant at the level of $p < 0.01$), thus conferring a good confidence level. These indicators allow observing the relevance of motivation or appreciation of schooling, in a student's educational achievement.

**GRAPH 3**
*Expected Educational Level*



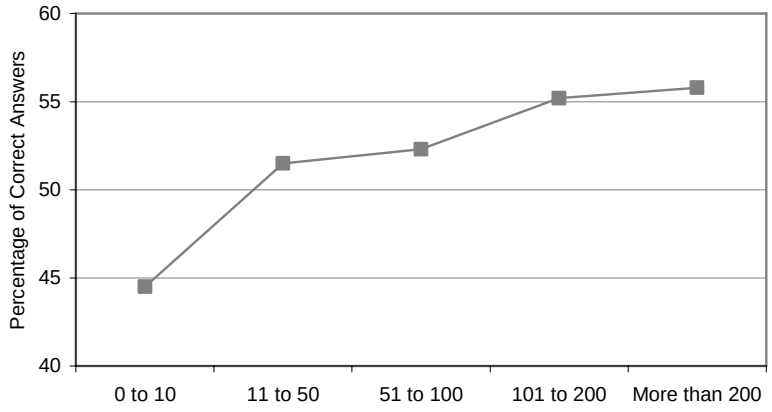

The following factor that reveals important differences is the parents' education. As shown in Graph 4, the greater the parents' education, the higher the average score of their children, making the associated effect evident.

**GRAPH 4**
*Parent's Educational Level*




In a similar manner, a clear link is observed between the number of books available in the home and the score obtained on the examination (Graph 5).

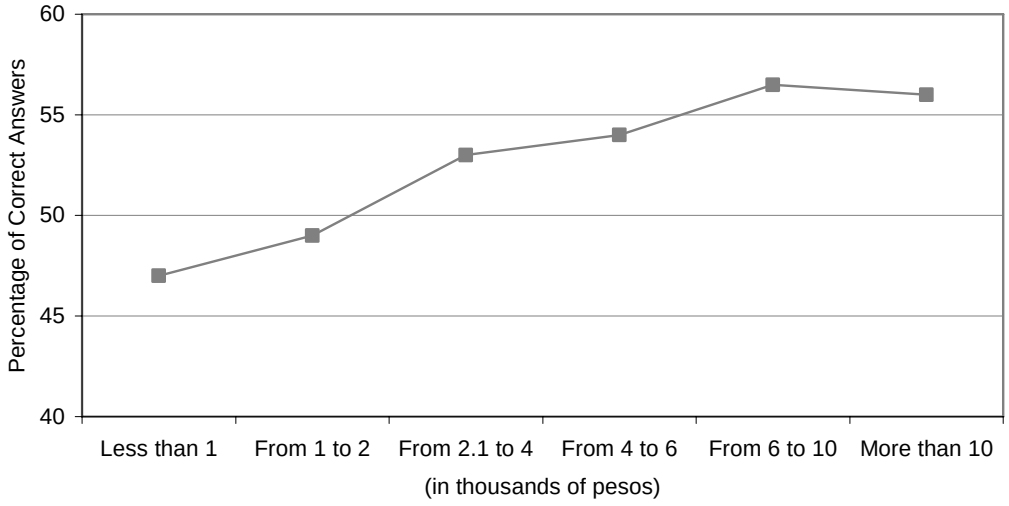
**GRAPH 5**
*Number of Books at Home*




The father's schooling, the mother's schooling, and the number of books at home are positively and significantly related (+0.53, +0.28 and +0.21, respectively). This permits assuming that the family's cultural setting is an substantive factor in scholastic achievement, as observed in the studies based on EXANI-I, which includes more than 3.5 million cases (Tirado, 2004).

The student's average family income is another variable that clearly reflects performance. Graph 6 shows that those with fewer resources obtainer lower scores; the higher the family income, the higher the percentage of correct answers. It is important to observe that the group that obtained the highest average score does not correspond to the group with the highest income.

**GRAPH 6**
*Family Income*




An analysis of the population variables shows that as the number of siblings rises, the average scores tend to move downward; the group of only children, however, does not show the highest score. The highest score corresponds to those who have one sibling.

The final variable corresponds to the time dedicated to watching television each week. Those who never or almost never watch television are those who obtain the lowest scores (average of 46.2% correct answers); these are probably cases with socioeconomic conditions so precarious that the family does not have a television set. A surprising result, contrary to what is generally assumed, is that the students who indicated the greater number of hours of television watched per week (more than 25), are those who received the highest scores (55.6%). Another possibility is that the scale was not appropriate, since the highest option (more than 25 hours) does not permit differentiating among amounts that may be disruptive for schooling.

The obtained data permit assuming that the family's cultural factors, such as the parents' education, the number of books at home, and motivation for schooling, are more relevant in scholastic achievement than the level of economic income, due to the magnitude of the differences as well as to the consistency in the data. Although covariance among these factors certainly exists, the parents' education, for example, is clearly related to family income ($r = 0.40$).

To analyze further the possible weight of the family's cultural capital as a determining factor in the results attained by the students, we carried out (with help from Andrés Sánchez Moguel) an analysis of multiple factorial regression. Initially, various models were constructed in which the observed population variables were used in a search for better adjustment. Subsequently, considering the associations among the factors that were best adjusted, and addressing the fact that these factors are related in a varied manner, the decision was made to construct a latent variable that we called "family cultural capital", based on indirect indicators (number of books, level of

parents' schooling). The Lisrel program of structural equations was used (Jöreskog and Sörbom, 2005), along with the procedure detailed by Mels (2004:cap. 8).

Once this new latent variable was defined, a linear analysis of multiple regression was carried out. The most parsimonious model (i.e., which explained the greatest amount possible of variance in the score, by using the smallest number of variables) has an $R^2$ of 0.134 and includes the independent variables shown in Chart 5:

**CHART 5**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | *B* | *Std. Error* | *Beta* | | |
| 6 | (Constant) | 9.613 | .933 | | 10.307 | .000 |
| | No. in Household | .354 | .148 | .075 | 2.397 | .017 |
| | TV Hours | .406 | .122 | .105 | 3.323 | .001 |
| | Income | .157 | .095 | .056 | 1.660 | .097 |
| | Culture | 1.355 | .145 | .313 | 9.338 | .000 |

No. in Household = Number of persons who live in the participant's home. TV Hours= Number of hours per week of television watching. Income = Monthly family income. Culture = Latent variable (constructed).

It can be observed that the factor most associated with variance, considering the standardized coefficient (which permits comparison) is the family's cultural capital (culture), thus confirming the weight of its relevance.

## Discussion

The civic education of Mexican students is a matter that motivates interest and is being researched, as shown in the state of knowledge on this topic (Maggi *et al.*, 2003), which reports that up to 1995, twenty-four studies had been completed, and by 2001, another sixty-eight. However, it does not seem to grant the proper relevance to the matter, taking into consideration the serious crisis of values of contemporary society and the risks of social instability.

The evaluation has gained great presence in the analysis of education processes; however, this study shows the importance of making more analyses of meta-evaluation, or of evaluating evaluations. As seen, the definition of the population that considers age and grade in school is very relevant, although not a part of PISA. The semantic and contextual aspects in the writing of the questions have a crucial qualitative aspect in understanding a differentiation of answers, not often taken into account. The intravariability observed in the sample in relation to general statistics invites us to reflect on the intrinsic design problems of instruments of evaluation.

It is of concern that Mexican students recognize the political parties but do not show a clear understanding of the branches of government in Mexico, or their function; they seem to know the actors without knowing their responsibilities and functions. It is important to promote knowledge that is understood, as stated in this study; knowledge that not only provides information but also promotes personal reflection, critical opinion, criteria, and the differentiation between fact and opinion; an understanding of political history as a process of the social gestation of governability, thus avoiding the rote learning of legal norms, authorities or dates based on patriotic ceremonies.

As seen, the factors of the cultural setting of the students' daily context have a very important weight in differentiating among scholastic achievement, which is most certainly influenced little by the school. It is relevant to notice, however, that there is a set of variables that is within the school's reach, as well as student variables that can have an influence, such as student interest in staying in school and study habits, which are factors clearly associated with improved performance. Although only civic knowledge was examined in this study, the results are analogous to those of the EXANI-I,

which explores all areas of knowledge. Many factors can be favored at school with pertinent and relevant content and practices that stimulate students' interest and enthusiasm. The school can influence conceptual development and skills in establishing dialogues, reaching agreements, and generating consensuses that give the group legitimacy and social cohesion; skills that can be extrapolated to other situations and moments in students' lives.

Civic education is generated in many contexts, both scholastic and extrascholastic. Thus civic education must be related to daily life, with the participation of family and community. If the formal curriculum is far from what really happens at school and in the students' social life, adhering to formal learning is irrelevant. An integral plan must be conceived so that the purposes of the curriculum are in agreement with daily life at school, creating a formative setting where real problems are faced, where teaching is based on the constant practice of values, and where each student's integrity and rights are respected. Specific didactic and teacher training must be developed, and responsibilities decentralized so that decisions are made at the school level, and students are involved in dialogue and the construction of consensuses, and in civic and community life.

A field study on civic education in the state of Morelos (Araujo-Olivera *et al.*, 2005) reports that respect is the value students most mention. They refer to respect as essential for social interaction, with the idea of not infringing on the rights of others. The authors emphasize, with established reasons, that students allude to passive respect: respect that is simply letting individuals be and do as they wish as long as others are not affected; a need for social interaction and dialogue in reaching agreements is not conceived, given the natural divergence of interests or heterogeneous desires that arise in all social interaction. Democracy as a form of life requires knowing how to construct agreements.

The relevance of civic education must be reevaluated in the light of current circumstances in order to support the democratic means that permit constructing agreements, and thus promote legitimacy to strengthen the social and political order of stability and social cohesion so necessary for the nation's future.

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**Article Received:** September 19, 2005
**Ruling:** March 21, 2006
**Second Version:** April 3, 2006
**Accepted:** April 18, 2006