

# **THE IMPACT OF AXIOLOGICAL SYSTEM ON THE PERFORMANCE OF A HIGH EDUCATION INSTITUTION. CASE: MEXICO'S IPN**

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## **ABSTRACT**

The actual performance of public education institution is not answering the most critical demands of society. The society's perception indicates that the processes inside the educational institutions are not completely correct and transparent, thus it is conjectured there are some influences in the appropriate educational performance.

This is the objective of the present research: to find if a strong association exists among the educational performance of a public institution of higher education and the ethical behavior of its members.

The research had been done according to the Checkland's methodology and the survey method. It had been found a strong statistical relationship among the two considered variables; the educational performance as dependent variable and the ethical values (Axiological System) as independent variable.

Keywords Axiology, Education Performance, ethical disorder

## **INTRODUCTION**

In the last decade of the twenty century, the debate on the future of the college education has been present in the entire world. Among all concerns two topics are relevant: 1) the quality and efficiency of the educational systems and 2) the necessity to transform them to face demands of a new nature, associated to a global world in which are inserted the national societies (Patiño, 2006a).

Authorized voices in all the countries coincide in pointing out the strategic importance of the education as a fundamental element to generate the sustainable development of the societies (Morin, 1999).

The higher education faces the challenge of strengthening its fundamental objectives and of finding the balances among the task that implies to be included in the international community and the attention to the local circumstances; among the search of the knowledge by itself and the attention to social necessities; between to foster a generic capacities or to develop specific knowledge; between attend employer's demands or to be ahead and to discover the future world of the work based on self employment.

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The educational institutions and in general the organizations that evolve and behave ethically, based socially in consensuated values, will be those that will be able to survive. Today, the ethical conscience becomes the competitive strategy of the institutions and this should be very clear to employers, and all people related with the activity of the educational institutions (Patiño, 2006b).

The necessity to affirm the value and the dignity of the human being in the educational and scientific development, and of assigning him an important place in the technological and scientific aspect, is one of the fundamental purposes that encourage to the educational institutions and the social scientists to claim the values of the humanism.

Popper (1997), considers that the education and the science, more than a theory of the knowledge, should be conceived as an attitude of respect to the human life, to the ethics, morals, and with tendency to the well-being, offering the improvement of the conditions of life of the whole society in search of a better world, it is needed to make science with responsibility to build a good, human and rational society, with a wide conscient vision of the complex world and of the human being.

It is urgent to implement ethical systems that guide the performance of an educational institution, mainly in the formation of the future professionals and scientifics that will work in the same social nucleus.

Without a doubt there are many and very serious problems that have determined the present level of quality of the education in public institutions of Mexico.

For example, at the moment, the service and industrial sectors have a bad image of the institutions of public college education, since a great number of companies are only hiring graduated from private universities.

Other problem perceived through the community of the educational institutions, is the total not transparency and effectiveness in the development of many of the processes that causes an appropriate educational performance.

In sum, and in clear words, the ethical disorder that is conjectured exists in all the levels of the educational institutions, has contributed to the low educational performance

The above circumstances, justified to research the influence that have the ethics and the values (Axiological system) in the educational performance of a public institution of college education.

The research was done during the year 2005 in the National Polytechnic Institute (IPN) in Mexico, since it is one of the biggest institutions in the country and also one of more influence in the industry and in the Mexican society.

Based on the previous context, it is presented the objective of this investigation

**Objective:**

*To determine if the educational performance of a public institution of college education, is affected by the absence of ethics and values on the part of their members.*

**DEVELOPMENT**

According to the previous section, we can establish the investigation problem like the verification of the following hypothesis through the application of the scientific method, proposed by Bunge (1990).

**Hypothesis:**

*The Axiological System and the Educational Performance of the educational institutions are related positively.*

As it can be appreciated, this hypothesis is co relational, since it takes the relationship form among variables.

For the development of this research is adapted the method of investigation of Mario Bunge (1990), see figure 1 and the methodology of Checkland (1981, 1990).

In this paper, the scientific method is the group of stages and rules that point out the procedure to carry out an investigation whose results are accepted as valid for the scientific community (Bunge, 1990, p. 12).

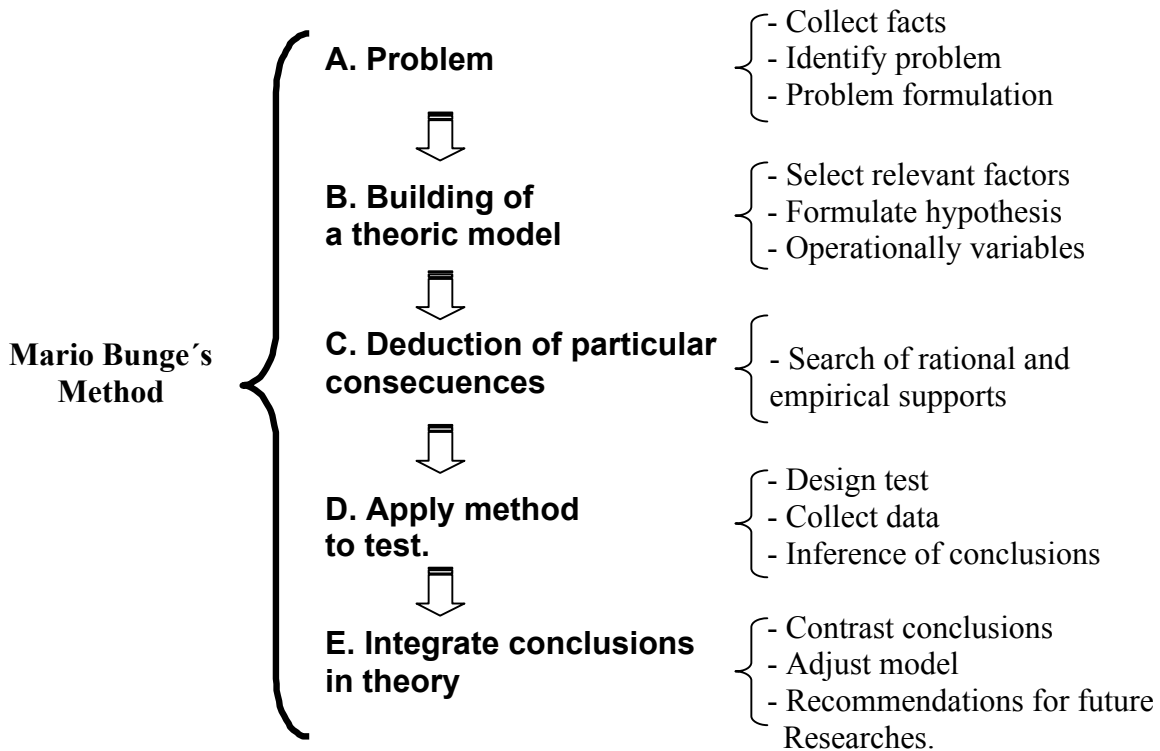


Figure 1. Method of Mario Bunge.  
Source: *The science, their method and their philosophy, 1990; p. 63*

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It is necessary to point out, that for the stage B, “Building of theoretic model”, it was used the Soft Systems Methodology (SSM) from Checkland.

Once defined the problem, the following stage consisted on defining the 2 relevant systems involved in this investigation, which are:

1. Axiological System: system that allows to develop in an ethical, worthy and honest way the operation of an educational institution.
2. Performance System: end purpose of an educational institution.

### Relationship of variables

From the analysis of the outlined hypothesis, and of the relevant systems, we can deduce that 2 relevant variables are included in this problem. The Axiological System like independent variable and the Educational Performance System as dependent variable.

$$\begin{aligned} \text{Educational performance} &= f(\text{Axiological System}) \\ \text{Dependent variable} &= f(\text{Independent Variable}) \end{aligned}$$

It is necessary to clarify that the educational performance is function of many variables, but this paper, by simplicity, only considers, in this first stage the influence of the Axiological System. The influence of the other variables is included in a dissertation document written by author No.1 (Patiño 2006a).

### Research instrument

In this research it was used a research instrument for a sample survey, based on a questionnaire that allows to obtain empiric information of relevant data for the analysis (Kerlinger, 1964, p. 410), and to made operational definition of the variables.

The operational definition of a concept consists on either defining the operations that allow measuring that concept or its observables indicators by means of which that concept is manifested. In our case, the operational definition of the relevant variables that compose the model is carried out by the indicators, show in the table 1.

Table 1. Operacionalize variables.  
*Source: own elaboration.*

Important system Variable	Indicator
AXIOLOGICAL SYSTEM	Responsibility. Honesty. Ethics Respect to the justness. Respect to the dignity.
PERFORMANCE (EDUCATIONAL QUALITY)	Terminal efficiency. Indexes of: approval, desertion and reprehension. Quality of the education Cost of the education

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As a research instrument, three survey questionnaires were developed, one for the academic personnel, another for the support personnel and authorities, and the third, for the students.

Each questionnaire consists of several reactivities, related with the involved variables. The variables are measured with a type Likert scale of 4 values.

Based on the following table.

Table 2. Scale of values for the questionnaire.  
Source: own elaboration.

Nothing 1	A little 2	Regular 3	A lot 4
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### Study universe

The study universe to include, in this case, three big groups that define entirely the members involved in the educational process of the IPN, these groups are:

1. Academic personnel.
2. Support personal to the academics and authorities.
3. Students.

To improve the ítems understanding, it was carried out a pilot survey.

### Process and analysis of data

Once carried out the tests pilot for each one of the instruments, the data process was made with the help of the computation program SPSS, with which the correlations for reliability of the instruments were obtained, using the test of the two halves, considering the first half to the odd questions and the second half the even questions with their respective qualifications (Briones, 1998, pp. 155-156), being on the average for the first instrument a reliability of 80.69%, for the second of 71.41% and for the third of 70.70%.

Once the satisfactory reliability of the instruments were obtained, the following step was to begin its application, which was carried out for each one of the four areas of knowledge in the IPN: 1) area of Engineering and Physic-Mathematics Sciences, 2) area of Medic-Biologic Sciences, 3) area of Social and Management Sciences and 4) area of Interdisciplinary Studies.

To save space following are show only two reactivities of survey questionnaires, one of five items for the variable “Axiological system” and one of four items for the variable “Educational Performance”. The complete survey questionnaires are available in spanish from author number 1.

Reactive item for variable “Axiological system”:

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Ethics behavior and values in the acting of their work functions by the academic and not academic personnel influence positively the educational performance of the IPN?

Table 3. Results obtained for the ítem 1, (academic personnel).  
*Source: own elaboration.*

Anything 1	A little 2	Regular 3	A lot 4
0 %	3.88 %	25.83 %	70.29 %

As can be observed of the previous chart, the community of the IPN, in general, considers strongly that the educational performance of the Institute would be favored with the presence and ethics application in the processes of the educational activity.

Reactive item for the variable “Educational Performance”:

This variable reflects the real performance of the Institute and, like we know, it is complex systems where all the efforts of an educational organization are manifested. The web page of the Institute shows the following indicators of efficiency and affectivity in table 4.

Table 4. Weighted performance indicators of the IPN.  
*Source: I Summarize elaborated from IPN web page, 2001.*

	% Failure	% Desertion	% Approval	
Physic-Mathematics Area	39	24	37	100
Biomedic Area	26	10	64	100
Social & Managements Area	26	9	65	100
<i>Total</i>	91	43	166	300
<i>Pondered percentage</i>	30 %	15 %	55 %	100 %

The previous table 4 shows a faulty performance of the IPN, mainly in the area of Engineering and Physic Mathematics Sciences. The overall performance is 37% considering the last indicator of quality and, on the whole, we have that the weighted efficiency is of 55%, that however, continues being low, thus the educational performance of the IPN, based on this analysis, can be considered faulty.

### **Verification of the Hypothesis.**

Remembering that the hypothesis generated for this research was:

***The Axiological System and the Educational Performance of the educational institutions are related positively.***

By the comparison of percentages of the table 3 we observe that it exists an association of the variables “Educational Performance” and the “Axiological behavior”, in the sense that the behavior with ethics and values would elevate the educational performance. Survey shows that 3.88% thinks it would be little; 25.83% thinks that it would be of regular form and 70.29% thinks that it would be a lot, what expresses the perception of the influence of one on the other of these two variables.

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On the other hand, with the use of the computational program SPSS and the application of the averages of the items involved in the variables “Educational Performance” and “Axiological behavior” result a correlation coefficient: ***Rho of Spearman: 0.554***

This figure indicates us that a positive association exists among these two variables, that is to say, the increase in the independent variable (Axiological) would cause an increase in the dependent variable (educational performance); therefore it can be infer that the research hypothesis is confirmed.

### CONCLUSIONS

- a) The research verified the outlined hypothesis, by demonstration of the positive relationship that exists among the considered variables.
- b) It is perceived the necessities of an appropriate and deep analysis in the systems of college education, the necessity of urgent changes, mainly, focused in the students' benefit, which are those more affected by the poor operation of the institutions and, as a result of it, they are not finding employment in the labor market or they are only finding underemployment, what contradicts the objectives of the institutions of superior education.

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