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## **MINERVA PROGRAMA 2012**

**Topic: The State of Mexico's Educational  
Development Plan 2011-2017**

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## **Topic: The State of Mexico´s Educational Development Plan 2011-2017.**

### **Presentation.**

Development and the Recession are dynamic processes of globalization. They have acquired fundamental importance in economic life, affecting the economic and social structures of countries, dominating the media production economically and, on the other hand, modes of social intervention, highlighting the fact that education is a fundamental pillar of society.

Education, as one of the most important factors that stimulate the integral development of individuals and reduce socio-economic inequalities; which is a prime directive of public policies, and that simultaneously reduce the social gap, and at the same time foster the development of human capital in such a way that they become an engine for achieving a competitive economy based on knowledge.

To understand the functioning of a society, it is necessary to understand the basic functioning of its economy; and it is not possible to understand the economy of a society without understanding its economic history; given that economic decisions not only have framed its physical environment, but they also defined their character as a society.

In this context, it is important to know what is the economy and what is its impact on the life of man, to be able to improve the quality and style of life of the people.

The economy provides an invaluable support for the education system to explain the ways that individuals and societies are organized, and how define your selections and they make their decisions and selections to meet their needs in the best possible way, with the available resources, which are typically limited.

The present paper consists of the following sections: the introduction refers briefly to the objectives of the study; next, is a description of the geographic and demographic context, and the current situation of education in the State of Mexico; paragraph number 5, has a brief description of the importance of the economy to the education system, section 6, explains the situation of the school in the new social context from the perspective of the economy; section 7, illustrates the Formation of Human Capital, one of the tasks of education; number 8 includes analytical notes on the proposals of the Development Plan in the State of Mexico in the educational area; and the 9th, called externalities in education, concludes, the final considerations and the bibliography.

### **Study Objectives.**

In this context, using microeconomics and macroeconomics, this project aims to study the Lines of Action -Education sector-, as expressed in the Strategic Development Plan 2011-2017 of the State of Mexico, the relationship between them and the expected impact on the different stakeholders and figures are affected: students, teachers, parents and society.

The results of the various processes of assessment and analysis, as well as the generation of timely and relevant information will be basic inputs to guide decision-making, for the reformulation of public policy, and to overcome the limitations in their execution.

With the revision of the general panorama of the educational system of the State of Mexico, we will identify key components; with the intention of incorporating factors of economic analysis to the evaluation of educational projects. In the same way, we will discuss the theme of financing as a tool for decision making, in the context of educational management.

For this we will be raised mechanisms to allow follow up the Development Plan, and measure the extent of its goals and track the social impact on the population in Mexico State.

### **Description of the context**

The State of Mexico, located geographically in the south central region of Mexico, has a population of more than 15 million. It borders the states of Puebla, Hidalgo, Queretaro, Michoacan, Guerrero, Morelos, Tlaxcala and Mexico City, which almost surrounds. It is the most populated state, with 13.51% of the population, comparable to the total population of 12 states: Aguascalientes, Campeche, Colima, Baja California Sur, Durango, Morelos, Nayarit, Tlaxcala, Querétaro, Quintana Roo, Yucatan and Zacatecas.

In the field of education, the cycle 2011-2012 had the largest registration, comparing the numbers of the students in the state there are 4,521,025 with the total population of the State of Mexico, which is 15,175,862, it is observed that 29.79% of the State is registered in an educational institution. Also, these students are equivalent to the 12.95% of all the students in Mexico.

The state had over 233, 150 teachers who were assigned to more than 23, 534 schools.

In the field of management, the main challenges facing the State of Mexico, are poverty and the need to improve the quality of life and the care of vulnerable groups; in this sense, education services are one of the best keys available to the public administration to consolidate the collective aspirations of society mexiquense, based on principles of democracy, freedom, justice and equity.

**ESTADÍSTICAS DE INICIO DE CURSOS 2011-2012**  
**SERVICIOS EDUCATIVOS DEL ESTADO DE MÉXICO**

<b>MODALIDAD ESCOLARIZADA</b>			
<b>NIVEL</b>	<b>MATRÍCULA</b>	<b>DOCENTES</b>	<b>ESCUELAS<sup>3/</sup></b>
PREESCOLAR	580,361	24,675	8,186
PRIMARIA	1,962,618	68,841	7,803
SECUNDARIA GENERAL	549,334	29,710	2,063
SECUNDARIA TÉCNICA	185,134	9,103	469
TELESECUNDARIA	94,152	4,937	1,123
<b>TOTAL SECUNDARIA</b>	<b>828,620</b>	<b>43,750</b>	<b>3,655</b>
<b>SUBTOTAL DE EDUCACIÓN BÁSICA</b>	<b>3,371,599</b>	<b>137,266</b>	<b>19,644</b>
PROFESIONAL TÉCNICO	52,806	3,342	95
BACHILLERATO GENERAL	317,872	24,365	895
BACHILLERATO TECNOLÓGICO	160,686	10,899	487
<b>SUBTOTAL EDUCACIÓN MEDIA SUPERIOR</b>	<b>531,364</b>	<b>38,606</b>	<b>1,477</b>
LICENCIATURA EN EDUCACIÓN	10,482	1,618	47
LICENCIATURA TECNOLÓGICA Y UNIVERSITARIA	293,434	29,651	322
TÉCNICO SUPERIOR UNIVERSITARIO	14,463	1,105	12
<b>SUBTOTAL LICENCIATURA</b>	<b>318,379</b>	<b>32,374</b>	<b>381</b>
POSGRADO EN EDUCACIÓN	692	184	13
POSGRADO UNIVERSITARIO Y TECNOLÓGICO	19,347	5,100	155
<b>SUBTOTAL POSGRADO</b>	<b>20,039</b>	<b>5,284</b>	<b>168</b>
<b>SUBTOTAL EDUCACIÓN SUPERIOR</b>	<b>338,418</b>	<b>37,658</b>	<b>549</b>
<b>TOTAL MODALIDAD ESCOLARIZADA</b>	<b>4,241,381</b>	<b>213,530</b>	<b>21,670</b>
<b>MODALIDAD NO ESCOLARIZADA</b>			
EDUCACIÓN INICIAL	13,024	225	149
EDUCACIÓN ESPECIAL	32,978	2,978	472
EDUCACIÓN PARA ADULTOS <sup>1/</sup>	121,713	12,592	1,062
CAPACITACIÓN PARA EL TRABAJO	0	0	0
EDUCACIÓN ARTÍSTICA	7,138	671	47
EDUCACIÓN DEPORTIVA	15,512	498	48
BACHILLERATO GENERAL ABIERTO <sup>2/</sup>	64,229	161	2
BACHILLERATO TECNOLÓGICO ABIERTO	1,209	179	7
LICENCIATURA TEC. Y UNIV. ABIERTA	19,742	1,931	45
LICENCIATURA EN EDUCACIÓN SEMIESCOLARIZADA	783	87	6
POSGRADO EN EDUCACIÓN ABIERTO	96	44	4
POSGRADO UNIVERSITARIO TEC. ABIERTO	3,220	254	22
<b>TOTAL MODALIDAD NO ESCOLARIZADA</b>	<b>279,644</b>	<b>19,620</b>	<b>1,864</b>
<b>T O T A L</b>	<b>4,521,025</b>	<b>233,150</b>	<b>23,534</b>

1/ INCLUYE: PRIMARIA Y SECUNDARIA PARA ADULTOS Y FORMACIÓN PARA EL TRABAJO.

2/ LAS CIFRAS REPORTADAS PARA EL BACHILLERATO GENERAL ABIERTO DE CONTROL FEDERALIZADO, CORRESPONDEN A LOS ALUMNOS ATENDIDOS DE ENERO A DICIEMBRE DE 2011.

3/ ESCUELA TURNO; PARA EDUCACIÓN SUPERIOR SE CONSIDERAN SERVICIOS EDUCATIVOS.

FUENTE: G.E.M.; Formato 911: Secretaría de Educación; Subsecretaría de Planeación y Administración; Subsecretaría de Educación Básica y Normal; Subsecretaría de Educación Media Superior y Superior; Servicios Educativos Integrados al Estado de México; Dirección General de Información, Planeación, Programación y Evaluación.

At present, under the Development Plan 2011-2017 of the State of Mexico, policies are intended primarily to increase the standard of living and to provide greater equality of opportunity for citizens. To accomplish these objectives requires specific actions in all areas of public administration, for the conformation of a government of transcendent results for this and future generations.

When a new government presents a plan for the development of the country, one must use combinations and changes in the variables. Thus the importance of

studying the relationships among the expected or planned objectives and what is actually achieved.

## INDICADORES BÁSICOS DEL SISTEMA EDUCATIVO ESTADO DE MÉXICO

*INICIO DE CURSOS 2011-2012*

	ESTATAL <sup>1/</sup>	NACIONAL <sup>1/</sup>
ANALFABETISMO	4.0	6.4
GRADO PROMEDIO DE ESCOLARIDAD (DE 15 AÑOS)	9.3	8.8

INDICADOR	PREESCOLAR		PRIMARIA		SECUNDARIA		MEDIA SUPERIOR		SUPERIOR	
	ESTATAL	NACIONAL	ESTATAL	NACIONAL	ESTATAL	NACIONAL	ESTATAL	NACIONAL	ESTATAL	NACIONAL

### INDICADORES EDUCATIVOS 2011-2012

COBERTURA	72.7	82.4*	98.6	103.4*	97.5	97.2*	63.2	68.5*	23.3	29.3*
ABSORCIÓN/ATENCIÓN	95.6	100*	88.7	91.0*	95.9	98.0*	90.0	97.0*	81.7	83.9*
DÉFICIT DE ATENCIÓN	23,706	N/A	30,433	N/A	12,271	N/A	24,261	N/A	20,369	N/A
RELACIÓN ALUMNO/GRUPO	21	N/A	26	N/A	32	N/A	35	N/A	N/A	N/A
RELACIÓN ALUMNO/ESCUELA	71	51*	252	150*	227	170*	360	278*	836	653*
RELACIÓN ALUMNO/MAESTRO	24	21*	29	26*	19	16*	14	15*	10	10*

### INDICADORES EDUCATIVOS 2010-2011

DESERCIÓN	N/A	N/A	0.5	0.8*	4.6	5.6*	15.2	14.5*	7.3	8.2*
EFICIENCIA TERMINAL	N/A	N/A	95.5	95.0*	86.5	82.9*	60.9	63.3*	N/D	N/D
REPROBACIÓN	N/A	N/A	2.1	3.4*	16.5	15.0*	32.9	33.2*	N/D	N/D
COEFICIENTE DE EGRESIÓN	N/A	N/A	99.7	99.6*	94.3	93.0*	90.1	90.6*	N/D	N/D

1/ Quinto Informe de Gobierno, Secretaría de Educación Pública.

\* Los valores nacionales son estimados

N/A = No Aplica.

N/D = No Disponible.

FUENTE: G.E.M.; Formato 911: Secretaría de Educación; Subsecretaría de Planeación y Administración; Subsecretaría de Educación Básica y Normal; Subsecretaría de Educación Media Superior y Superior; Servicios Educativos Integrados al Estado de México; Dirección General de Información,

### Current Situation of Education in the State of Mexico.

The average schooling of people over 15 years in the State of Mexico is 9.3 years, amounting to the completion of than secondary school. This level is a little better than the national average, which is 8.8 years.

One of the major problems in the education field in the State of Mexico is illiteracy in that 4 of every 100 people aged 15 years and over, can't read or write, i. e., a total of 447,289 people. In the national context, the average is 6.4 people in every hundred,

or a total of 5,124,960 Mexicans who can't read or write. The State of Mexico has set as its goal to decrease, its illiterates to 3.4 in per 100 by 2017%.<sup>1</sup>

Coverage in preschool education is 72.7%, in primary 98.6%, and in secondary 97.5%. In these last two levels, registration is close to 100 percent. It is estimated that there is a backlog of more than 66 thousand children who are not registered in basic education, but the infrastructure actually has the capacity to enroll virtually everyone.

In upper secondary education (EMS), the coverage rate is 63.2% but only 23.3% at the top level. On the other hand, the number of secondary student graduates who did not enroll in EMS was 24, 261 and the 20, 369 did not continue their studies in higher education after having completed upper secondary education.

At EMS, in general, all indicators of quality: coverage, care, desertion, terminal efficiency, disapproval and coefficient of egression, are below the national average. This year (2012), signed the decree that gives mandatory at this level, although it has already started its operation, is envisaged as a deadline to comply until 2022, whereupon, the backlog will continue to accrue.

The higher education (ES) poses great challenges to the State Government. Currently, 2 of every 10 people of school age are enrolled. And with certainty, the demand will grow with the improvement of indicators in lower levels for terminal efficiency, absorption, reproof, and desertion. The challenges are many, and in addition to improving the current level indicators; the institutions must be renewed, with equitable and sustainable development models that allow incorporating most of their graduates to the activities of the productive economy. In addition, they must generate in the personnel that work there and in their graduates an entrepreneurial mindset and culture of creativity and innovation; and since we live in a globalized era, they allowed look outward, not only to meet and learn from the strategies of other institutions, but to create conditions enabling their graduates to be inserted into these contexts.

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<sup>1</sup> Secretaría de Educación Pública (2011). Quinto Informe de Labores 2010-2011. México.

A situation which requires special attention is the performance of students from basic education and from EMS in the ENLACE test - which aims to assess the level of achievement that students reach in the fields of math and Spanish for the first case and in the math and communication, in EMS- given the low levels of performance by local students, in comparison with the results of the national average.

One priority is the need for an evaluation policy to improve the quality of education. Despite numerous efforts, so far there is no clear definition of the elements that make up a comprehensive system of evaluation which will enhance the performance of students, teachers and schools, and in general, of the educational service, advances for assessing the achievement of pupils and teachers, including the implementation of a national evaluation of academic achievement schools (ENLACE), the national program of teaching career, update of teachers in service national exams and the national examination of knowledge, skills and competencies of teachers; but without get to give a practical utility to results or diagnoses for the reinforcement of the students or the training of teachers, to address gaps or deficiencies detected.

## **5. Importance of the economy in education.**

Economic science is eminently social and incorporates in its tasks to other sciences, such as sociology, methods for the analysis of the structure and the functioning of societies; psychology, the study of the behavior of the individual; and among other things, to anthropology, to the characterization of man at different stages of its growth. Generally, many economists study databases, they have little contact with primary sources.

In the words of Galbraith,<sup>2</sup> economics is the study of the role of the organizations, of the way in which men resort to companies, unions and governments to meet their

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<sup>2</sup> Galbraith, J. K., Salinger, N. (2001) Introducción a la economía: una guía para todos (o casi). Barcelona, Crítica.



economic needs; It also maintains, that to understand the functioning of economic activity is to understand the greater part of our lives.

Like all science, the economic study is divided into numerous areas and fundamental principles of economic theory, which, according to Mankiw,<sup>3</sup> in a simplified manner, are framed in three categories that are:

The decision-making process. To choose their options individuals use different tradeoffs, especially considering scenarios linked to the context, such as the intensity of their needs, goals, prices, costs, benefits and incentives, among other variables. Behaviors, decisions, or consumption in every case, are part of the same social system, the need to interact with other people and have objects in mediation to get them. The opportunity cost of a thing is that what is given up to get it.

The interaction of individuals. Economic theory holds that an exchange of goods and services, can improve the well-being of everyone, and the greater the fluidity and the fewer the barriers to such exchanges, the more the conditions of life of the people improve; in these tasks, planning can become an element that can occasionally help improve results. The state can sometimes improve the results of the market.

Functioning of the economy as a whole. The standards of living of a country depends on the output of goods and services, the capacity of production, on the levels of investment and on economic policies that are implemented to address different problems related to inflation or unemployment.

In the framework of the above description, it was observed that as we study the economy at different levels, we can say that microeconomics is the study of the dynamics of the decision making of individuals, governments and companies, and how they interact.

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<sup>3</sup> Mankiw, N. G. (2011). Principles of Economics. Mason, OH, USA, South Western Publishing Co.

And too the analysis of the functioning of the economy as a whole is a task of macroeconomics, whose purpose is to achieve a simplified vision of the entire economy, which lets us act on the level of economic activity in a particular context, or in the case of a municipality, state, region or a set of countries.

In this context, macroeconomic policy means the set of government measures aimed at influencing the global progress of the economy. Economic policy objectives include growth, inflation, control and employment

In any case, microeconomics and macroeconomics are two branches of the same discipline, economics, and as such aim to resolve questions of the same problem: the satisfaction of needs with limited resources, but the focus is from different points of view.

## **6. The school in the new social context from the perspective of Economics.**

The school as an educational institution cannot continue pursuing the objectives of yesteryear. Therefore, it is time to reflect on the role of the school, and the measures that will give opportunities for renewal, leaving an almost static role which was initially created to serve a more steady, mostly rural society and with few career alternatives; and is now asked to meet new interpersonal networks sometimes damaged or destroyed, or generate new ones.

Because currently its primary role is the transmission and evaluation of knowledge, the question is, until where it will be possible to generate knowledge and to enable tools to modify life at school. And also if, as an institution, it will be able to learn from experience, generating successful and innovative responses.

The school is a community reference center. It builds identity, meaning and knowledge; therefore, as it conforms to its mission, it must rescue its value as an emerging community that, at the same time that it preserves its culture, is allowed to join others.

There are two areas in which economic methodology is specific:

1. Educational systems are assigned resources for the fulfillment of their objectives: human, material and financial resources which are scarce and must be used in the best way possible to achieve the desired goals. Decision-making in resource allocation aims at optimal solutions at various levels of administration, which in the case of Mexican public education constitute federal, state and municipal allocations assigned to different levels and educational modalities.

2. Each category of budget allocation corresponds to an optimal level of results, but in reality these levels are rarely reached. However, assess in the way in which budgetary exercises of the educational systems approach those optimal objectives, presents indicators that reflect the functioning of education systems from the point of view of optimizing the use of financial resources. Economic methodologies present specific analysis that can assist educational systems in this problem of efficiency.

The interest of development a lists in economic theory, has promoted several studies on the role of education in these processes, recognizing it as a central element for economic and social development and even for the establishment of levels of equity and social justice that should guarantee democratic coexistence. And likewise, establishes the need to concentrate efforts of direct investment in this area.

In addition, education not only serves to transmit knowledge, but also credited to persons of ability and productivity potential.

International experience tells us that development policies can operate only if most of the population understands and supports then, therefore a democratic environment in decision-making is essential. If policy changes are not contrary to the values and sense of justice of the majority of the people, that process of change can be defined, in general terms, as development. Therefore, decision – making must be associated with information systems linked to the exercise, and institutions should learn from their own experiences.

It is important to review the role assigned to education in the development of the country, certainly the most advanced nations have more elevated schooling. However, if the obligation to promote the productivity of a country is left only to education, that would be a serious matter since, although the educational level influences productivity, education alone does not create jobs. According to Garro (1999)<sup>4</sup>, "education should be an end in itself, regardless of its role in the productive apparatus. They do not educate people so that they are workers, not is the final objective to satisfy the need of employers. People are prepared for the job, not only for employment. Everyone should be educated to be better individuals. Indeed, most educated people are more productive: refers to more educated in a broad sense, including ethics; this greater training can increase national gross product and individual income. Everybody wins: the individual and society".

The economists of every nation have role, and those who have been commissioned to drive these tasks and to implement investigations that explain and predict economic behavior must orient the roles that could be developed each of the actors in the educational process.

## **7. The Formation of human capital.**

The interaction between the economy and education, the subject of human capital, is one of the areas that particularly demonstrates the role that education plays in the models and theoretical schemes in such interaction, with the incidence of other non-economic social disciplines: public administration, political science, sociology, social psychology or pedagogy. The theoretical body developed in economics is of great value to the education, since the latter field offers its methods and alternative schemes of analysis, performance and results.

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<sup>4</sup> In Calderon, M. I., Ríos, R. M. A. y Ceccarini, M. F. (2008). *Economía de la Educación*. Mendoza, Argentina: Universidad Nacional de Cuyo.

The famous British economist Alfred Marshall, endorsed the importance of education for sustainable development in his classic work principles of Economics. He stated that for a country, "the most valuable capital is invested in human beings"<sup>5</sup>. Human capital represents the productive capacities of people as agents that produce income in the economy".

The human capital theory is based on the thesis of training activities to modify the potential productivity of individuals, so that services and the quality of the workforce, and productivity increase. The higher income people, their distribution improved, progress have in family planning or the increase in the health of the population, are obvious social and economic benefits that education provides.

Professionally people, with specializations often are able to produce more or generate a more valuable production and transcendent in the market; employers generally recognize it as well and to pay them higher wages. Some of the negative scenarios that can occur in the formation of human capital are:

- In regard to the school, if the quality of education is poor or the knowledge and skills achieved not consistent with market demands, graduates are not hired and that investment in human capital is not efficient, resulting in less useable human capital and fewer benefits to individuals, firms and society.
- If the demand for labor is low, as a result of the lack of job creation by the economic growth, it is likely that human capital is wasted, workers are underpaid, and the investment in education is wasted.
- It may happen that social pressure, trade union tactics, or institutional environment many faces employs to pay the same wages to workers with different educational levels and skills in order to maintain a relative equality in salaries. In these cases, those cost-benefit and opportunity of education is reduced and would not be attractive to the government, enterprises, or for individuals, to invest in education.

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<sup>5</sup> Marshall, A. (2006). Principios de Economía I-II. Editorial Síntesis, Madrid, España.

## **8. Analysis of the Development Plan of the State of Mexico in the area of education.**

The financing of education is without a doubt, the main concern of those who manage the operation of educational services. The shortage of resources seriously limits the possibilities of carrying out plans and strategies designed to meet the demands of all kinds facing educational systems.

Through the task of planning is indispensable, it is not easy, and in recent years has been on the verge of losing credibility, because the work being done in some offices dedicated to this task, has contributed little or nothing to the definition of policies, decision-making and the attention to fundamental educational problems. Currently the model conceptualizes redefines its modus operandi in accordance with the scientific, technical, economic, social and political changes, and with new social and educational demands.

It is important to have enough information to ensure a successful decision process, to decrease the risk of carrying out certain projects, and to evaluate schemes that allow a reasonable follow-up comparison of them.

Cecchini,<sup>6</sup> says that social indicators are instruments of measurement of well-being, which allow us to assess the levels, distribution and changes in welfare, as well as identify, describe and explain relevant relationships among different variables relating to the welfare of the people. Also, the indicators are fundamental for social policies, since they allow for the monitoring and evaluation of programs and projects aimed at development and poverty reduction.

In the case of the subject that concerns us, the administration planned to perform a series of actions to fulfill its mission of providing educational services of quality, such

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<sup>6</sup> Cecchini, S. (2005). *Indicadores Sociales en América Latina y el Caribe*. Organización de las Naciones Unidas/CEPAL, Santiago de Chile.

as having enough classrooms and infrastructure; the collection of the budget, and such other materials as books, notebooks and information technologies, as well as maintenance services. The category of professional attention, with the education and training of teachers, among other tasks is also planned.

This paper makes an exhaustive analysis of the Development Plan in order to develop mechanisms that allow us to keep track, to measure their outcomes, to assess the achievement of the goals, and to evaluate the social impact on the population in the State of Mexico.

The vision 2011-2017, formulated for the state government, is the reflection of an ambitious aspiration of developing for the entity, and is based on three thematic pillars:

1. The exercise of a solidarity government,
2. The development of a progressive state, and
3. The transit towards a protected society.

The educational sector is located on the pillar of a solidarity government, which is geared to respond to the social, cultural and educational needs of people, through the creation of institutions and the instrumentation of care programs. This pillar is structured by 4 goals which, in turn, are broken down into strategies and these lines of action, and then broken down into objectives:

Objective 1. To be recognized as the government of education.

Objective 2. Combating poverty.

Objective 3. Improving the quality of life of mexiquenses, through the positive transformation of their environment.

Objective 4. Achieving a more egalitarian society through attention to vulnerable groups.

These 4 objectives have 18 strategies, which in turn are broken down into 62 lines of Action stated in the scheme presented below.

Below its on outline resume with lines of action, major activities planned goals, and indicators, of the Plan of Development of the State of Mexico 2011-2012 in the field of education.

### Sectorial Solidarity Program Government 2011-2017 Lines of Action

LINE OF ACTION	DESCRIPTION	MAIN ACTIVITIES	GOALS 2012-2017	INDICATOR NAME	INDICATOR DESCRIPTION	TARGET VALUE TO YEAR 2017
Improve the quality of education at all levels.	Develop actions to the integral formation of the student, the professional development of teachers and comprehensive assessment of the educational system	Develop plans and programs of study in accordance with the regulations. Strengthen the training and updating of teachers. Consider the results of the comprehensive assessment in the decision-making process.	Develop a program to improve the quality of education at all levels.	Students with achievement levels Good to Excellent in Test ENLACE	% of students who are placed in levels good and excellent, with respect to the total number of students tested.	<i>Primary:</i> 43.3 <i>Spanish;</i> <i>Math 39.2;</i> <i>Secondary:</i> 20.1 <i>Spanish;</i> <i>Math 17.2</i> <i>High school:</i> 64 <i>Spanish;</i> <i>Math 39.5</i>
Promote initial education with comprehensive services for children from 45 days to two years and 11 months of age, to contribute to their overall development.	Promote regulations to provide initial education	Develop and disseminate the pertinent regulations	Issue the regulations covering the requirements and procedures to regulate the provision of services.	Regulation to provide initial education.	Issued policy paper. It realizes actions to regulate the initial education with comprehensive services for children from 45 days of infants up to 2 years and 11 months of age.	1
Promoting educational innovation programs that contribute to the improvement of the teaching-learning process and the performance of educational indicators, in order to bring about a better scholastic achievement.	Implement actions to improve educational achievement	Accredit educational programs of higher average education (EMS) and higher education (ES), as well as design and implement innovative teaching strategies in the classroom that will contribute to improving student performance, and promote the work of academies in the institutions of EMS and ES.	Accredit educational programs in the institutions of EMS and is. Improve the educational achievement of students of basic education (EB). Certifying processes in educational institutions	Accreditation of quality educational programs.	Percentage of quality educational programs accredited in relation to the programmes capable of being accredited. It provides information that helps to develop actions to improve the quality of education.	100



LINE OF ACTION	DESCRIPTION	MAIN ACTIVITIES	GOALS 2012-2017	INDICATOR NAME	INDICATOR DESCRIPTION	TARGET VALUE TO YEAR 2017
Promote the recognition of teachers and educational authorities, based on merit in professional performance	Strengthen the incentive programs for teachers at all educational levels based on the merit of their professional performance.	Improve the systems of incentives to teachers associated with the achievement of their students and their results in educational assessments, as well as develop a recognition program to teachers in the institutions of ES (IES) of State Control.	Recognize the professional performance of teachers: Carrera Magisterial, Carrera Docente y Carrera Docente Administrativa	Teachers benefit.	Percentage of teachers who benefited economically through Carrera Magisterial, Carrera Docente y Carrera Docente Administrativa, in relation to the number of registered teachers. Identifies the level of participation of teachers in the program and the degree in which benefit.	60.64
Consolidate educational institutions effective and appropriate learning environments.	Promote the accreditation of educational programs	Accredit educational programs	Accredit educational programs in the IES	Accredited programs of study of quality ES.	Percentage of educational programs accredited in is regarding susceptible of being accredited programs. It provides information that helps to develop actions to improve the quality of education.	100
Encourage and promote actions aimed at the teaching of the English language in education.	Perform actions promoting language learning English, reading comprehension skills, listening comprehension, oral expression and written expression.	To diagnose the teachers to know the level of English language proficiency. Train, upgrading and professionalizing teachers in the teaching of English as a second language.	Perform actions that promote the certification language teachers English.	Strategic actions aimed at the teaching of the English language.	Strategic actions aimed at the teaching of the English language.	100
Promote the effective linking of the EMS and the ES with the public, private and social sectors.	Strengthen the actions of entailment and social service of the State EMS system, with the public, productive and social sectors	Integrate students education Dual model and establish agreements with enterprises and micro-enterprises	Incorporate students from EMS and is the model of Dual education. Conclude agreements business-school and business-student. Strengthen the State of Social Service program.	Students incorporated into the model of Dual education.	% of students who benefited from education Dual model with respect to the programmed students. It allows to detect the degree in which the education system meets the demand of education linked to the needs of the productive sector based on its capabilities to respond.	100

LINE OF ACTION	DESCRIPTION	MAIN ACTIVITIES	GOALS 2012-2017	INDICATOR NAME	INDICATOR DESCRIPTION	TARGET VALUE TO YEAR 2017
Promote research for competitiveness and innovation.	Made and publish research projects developed in the IES	Register, develop and establish lines of research and develop research projects in the IES.	Increase registered in IES Research projects annually.	Research projects Higher Education Area.	Percentage of research projects that are recorded in the IES with respect to the scheduled projects.	100
Perform comprehensive assessments for the improvement of the educational system.	Develop of assessments that allow having information of factors influencing educational attainment to contribute to the improvement of the State educational system.	Promote the development of assessments to have information on factors that influence educational attainment to help improve the state education system.	Develop assessments of processes, programs and context of the State educational system. Develop studies and research in educational evaluation. Develop a program of evaluation for the improvement of basic education (EB).	Students at higher levels to 3 in the test PISA.	Percentage of students located at performance levels above 3 on the test PISA in relation to the total number of students tested	Reading 15.8; Mathematics 9.7; Science 8.1
Diversify the educational offerings through new models of Digital education, open and distance	Expand the range of EMS and is relevant and flexible models to meet demand educational and strengthen and promote program that contribute to the development and training of young people.	Promote and disseminate models of EMS to distance and promote educational programs.	Diversify for the attention of students through plans and programs of study in Digital education, open and distance. Open care centers and assessment (nodes) of the Digital University at strategic points on the entity.	Atención a alumnos con nuevos modelos de educación.	Identifies the percentage of students who receive education through new educational models, such as Digital education, open and distance in relation to the total number of students who demand it. Identifies opportunities for improvement in the performance of this task under the criteria of efficiency and equity.	100
Promote the Editorial of the Executive State program	Consolidate Editorial Council of the State public administration in order to streamline the editorial processes of the State Executive.	Adapt guidelines for operation of the Editorial Council of the State public administration and perform the administrative re-engineering of the editorial process.	Publishing books and magazines. Authorize publications. Distribute books Editorial Fund of the State of Mexico.	Publications of the Editorial Council of the State Public Administration.	Number of publications issued, approved and distributed.	602,800

LINE OF ACTION	DESCRIPTION	MAIN ACTIVITIES	GOALS 2012-2017	INDICATOR NAME	INDICATOR DESCRIPTION	TARGET VALUE TO YEAR 2017
Promote educational facilities adequate, relevant and worthy	Promote more and better educational facilities through the construction, modernization and / or equipment of the same, to reduce to a minimum the space deficit.	Build, modernize and/or equipped educational facilities.	Build, modernize and/or equipped educational facilities	Educational facilities built.	Percentage of school spaces created in relation to the programmed. Identifies the degree of progress in the attention to the needs of creation, enlargement of optimization new school spaces considering the low capacity to meet the criteria of sufficiency and effectiveness.	100
Increase coverage and absorption rates at levels of EB, EMS and ES.	Improving rates of coverage in EB, EMS and ES.	Increase the capacity of the educational facilities, as well as the relevance of new services to cater to increasing numbers of students in EB, EMS and ES	Attend the potential demand of different types and levels of education	Coverage by educational level.	Percent of students attended at an educational level with regard to the population that is age for that level. Indicates the capacity of the educational system to meet students of a specific age group.	80.8 Preschool, Primary 100, Secondary 100; Superior Media 73.2; Superior 30
Promote alternative and inclusive educational services in all types and forms, with a humanistic approach.	Offer educational attention to children and young people with special educational needs associated or not to disability.	Attend students with different abilities and carry out feasibility studies for the opening of new services	Assist students with special educational needs through Multiple Care Centres (CAM) and Support Services Units to the Regular Education (USAER) with specific support commensurate with their needs.	Students served in Special Education.	Percentage of students served in Special Education with respect to total programmed students. Identifies opportunities for improvement in the performance of this task under the criteria of efficiency and equity.	100

LINE OF ACTION	DESCRIPTION	MAIN ACTIVITIES	GOALS 2012-2017	INDICATOR NAME	INDICATOR DESCRIPTION	TARGET VALUE TO YEAR 2017
To promote the policies, programs and actions aimed at meeting the goals of the Millennium Development Goals (ODM) in 2015.	Improve the rate of coverage in primary education.	Increase the installed capacity of the educational facilities, as well as the relevance of new services to serve a greater number of students in elementary school.	Attend the potential demand in primary education.	Coverage in Education Primary.	Percentage of students served in Education Primary with regard to the population that is aged for course. Indicates the capacity of the educational system to meet a specific age group students who must be normatively attend the Primary. It allows to identify the need for more services where coverages are low, according to the criteria of efficiency and equity.	100
Promote a system of State Certification for teacher training institutions.	Develop a State System certification for teacher training institutions to enable graduates have the expected profile in the plans and programs of study.	Identify the rule that allows the certification institutions and create the State System of Certification.	Promote the development of Program Certification for Teacher Training Institutions.	Certified teacher training institutions.	Percentage of training institutions for teachers certified in relation to the total number of institutions. Identifies opportunities for improvement in the performance of the attention to quality educational services by institutions	100
Promote Intercultural and bilingual Education between students belonging to indigenous peoples to ensure their right to education.	Benefit children thrive in an indigenous context with educational services under a bilingual intercultural approach.	Train teachers, as well as visits of follow-up and accompaniment, and improve pedagogical practices.	Pay attention to the indigenous population under a bilingual intercultural approach.	Students who benefited from indigenous education	Percentage of students served with Intercultural and Bilingual Education in relation to the programmed students.	100
Strengthen the management to get more resources from the Federation and allocate them to the educational programs of the institution.	Take reasonable steps to provide sufficient resources for the attention of the education in the State of Mexico, before Federal agencies, to count with relevant equipment and infrastructure that will expand coverage in EB, EMS y ES, in order to foster the conditions of equity in education through the dignification of educational spaces.	Submit to the Secretary of Education Public (SEP) in duly justified proposed regulations to manage the annual increase in federal resources.	Develop a program for the management of federal resources at all educational levels	Annual growth rate of resources of the Federation contributed to the entity for educational programs.	Annual percentage increase of resources granted by the Federation to the entity over the immediate previous year. It shows the variation in time of the educational resources provided by the Federal Government to the entity for educational programs.	1

LINE OF ACTION	DESCRIPTION	MAIN ACTIVITIES	GOALS 2012-2017	INDICATOR NAME	INDICATOR DESCRIPTION	TARGET VALUE TO YEAR 2017
Promote the installation of school canteens.	Enable and / or equip school spaces for dining, mostly in full-time schools.	Identify and packed spaces in schools to function as dining.	Enable and/or equipped canteens in schools full time.	School canteens installed	Percentage of school canteens in operation in relation to the programmed. It allows to identify progress in compliance with the coverage of the program.	100
Promote the rehabilitation of schools in precarious conditions.	Improve the conditions at school through their rehabilitation and/or maintenance.	Detecting needs for rehabilitation and/or maintenance of school campuses for their subsequent care and implement rehabilitation actions.	Develop rehabilitation actions on school. Develop actions of preventive and corrective maintenance as well as activities to address contingencies in schools to improve the quality of the educational infrastructure.	Attention to campuses with demand for adaptations.	Percentage of school spaces with adjustments in relation to schedule. It allows to know the degree of progress in improving the conditions of the educational infrastructure actions	100
Establish programs and actions such as scholarships to study EMS, the ES and the graduate program in Mexico and abroad, in priority areas for the entity.	Develop specific programs of scholarships for EMS and ES.	Promote the permanence of students in EMS and is until the conclusion of his studies through specific scholarships	Encourage and support students of EMS levels and is in danger of defection by lack of resources through scholarship program, permanence. Providing scholarships to outstanding students in Normal Schools of the Subsystem State.	Attention to the demand for permanence scholarships.	Percentage of scholarships of permanence with regard to applications received. Provides information on the extent to which it meets the demand of grant applications for ES in country and abroad, helping to reduce the indices of school dropout in EMS and ES.	62
Strengthen the care for the population in condition of educational backwardness.	Reinforce the actions to the attention of a greater number of persons 15 years and over in condition of educational backwardness.	Implement high-impact programs to combat educational backwardness in which persons of 15 years and over.	Pay attention to the population 15 years and over in educationally with primary and secondary literacy services.	Educational backwardness.	Percentage of people 15 years and more illiterate or who have not completed the EB in the total of the population of the same age group. Shows how many young people and adults of every 100 with 15 years or more have to be served in basic education.	28.9

LINE OF ACTION	DESCRIPTION	MAIN ACTIVITIES	GOALS 2012-2017	INDICATOR NAME	INDICATOR DESCRIPTION	TARGET VALUE TO YEAR 2017
Generate harmonious coexistence environments in schools that promote learning and healthy coexistence between teachers, students and parents, to avoid undesirable behaviors such as bullying.	Harmonize the environments of learning and school coexistence.	Develop and implement the Values Program School Coexistence Harmonic. Train teachers on bullying prevention.	Develop and implement the Values Program School Coexistence Harmonic.	Program of securities by a Harmonious School Coexistence	Program of securities by a Harmonious School Coexistence	1
Improving terminal efficiency in EB, EMS and ES.	Increase the percentage of students who complete an educational level with respect to the number of students who entered this level in the corresponding cohort.	Lower percentages of disapproval and desertion.	Increase terminal efficiency in primary, secondary and EMS	Terminal efficiency by educational level	Percentage of students who complete an educational level according to the number of years scheduled. This indicator applies to Education Primary, Secondary and EMS. Displays the capacity of the educational system to promote and retain students	Primary 98.9; Secondary 87.5; EMS 63.5
Improving terminal efficiency in EB, EMS and ES.	Expand the percentage of students who conclude a level of education with respect to the number of students admitted to this level.	Increasing the average educational level of the population of 15 years and over. Improving terminal efficiency of primary, secondary and EMS. Perform feasibility studies, projections of population, enrollment and identify requirements that allow increasing coverage in EMS.	Increasing the average educational level. Increase terminal efficiency in primary education, secondary and EMS. Increase terminal efficiency in primary, secondary and EMS.	Average grade of schooling.	Average degrees approved within the educational system of the population 15 years and over. It allows to assess the effectiveness of the State Educational System to raise the schooling of the population and measure their rate of progress.	9.9
Establish the State Register of Educacin for decision making.	Having a State System for Educational Information planeacin estrategica, process control and evaluation of the actions and outcomes in education.	Develop the State system of educational information that ensures integrity, veracity and timeliness of information for decision-making in the administrative units and work centers, as well as implement a Government of data in educational matters.	Develop and implement the State System of Educational Information. Develop and implement dashboards and interactive portal for monitoring, control and evaluation of programs and strategic projects..	State System of Educational Information.	State System of Educational Information.	1

## **9. Externalities in education.**

As time passes there is more determination to promote quality education. Increasingly there is more understanding of the need for science, technology and education in economic development of countries and in the social progress of their inhabitants. The improvement in knowledge, production techniques, and work habits, raises the productivity of people and, from this, their income, their family organization, and their ability to move up the social scale.

When performing the Evaluation of a proposed social benefit it is compared to the costs that such a project entails for society. In short, the social benefit to be obtained is defined.

Costs and social benefits may be different than expected initially. In addition, the social value of goods and services differ depending on who pays or receives; often the benefits fall to third parties, as in the case of externalities or indirect effects.

Externalities are defined as those situations in which the costs or benefits of production and/or consumption are not reflected in their cost of production. In other terms, externalities are those effects that improve or worsen the situation of people that have not paid or been compensated for them.

They are classified as negative externalities when a person or company performing activities, but does not assume all costs. Instead, they transfer to others, perhaps to society, some of their costs; and positive externalities, when that person or institution does not receive all the benefits of its activities, or which others - possibly society - benefit without paying.

Externalities arising from education are diverse, e. g., cultural, productive, and social. Culturally, education helps form the identities of individuals and the collective; for example, the habits of tolerance and democratic coexistence, and solidarity or tolerance attitudes. In production, over positive or negative attitudes toward work,

and social synergies, which facilitate and reinforce the achievement of the goals that we aim to achieve as person, are externalities. In the social sphere, the functioning of institutions and organizations on which the fabric of society depends the average levels of education of the population, the formation of people is very important in the design of individual incentives, within the institutions and in the structure of their information channels.

Externalities are more notable at lower levels of education than at higher levels. Therefore low levels of education are compulsory and at the higher levels are not compulsory or free.

Some of the positive externalities of education are <sup>7</sup>:

- Higher margins of flexibility and occupational adaptation of the labour force.
- Greater dissemination of common social and cultural values.
- Positive effect of education on economic growth.
- Strengthening of democratic institutions.
- The habits of tolerance and democratic coexistence and solidary attitudes.
- Decrease in the percentages of crime or insecurity.
- Increased participation in social, economic and political institutions.
- Increase in the production and the income of people who work with an educated person.

### **Final Considerations.**

- Though not disqualifying the importance of organizational factors, analysis shows that in the school system of the State of Mexico gives greater emphasis to the administrative aspects of the educational process rather than to the

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<sup>7</sup> Arjona, F.; Tappata, H. y otros (1999). El Nuevo Debate Educativo. Incentivos e Instituciones. Mendoza, Argentina, Bolsa de Comercio de Mendoza.



components of academic achievement. Therefore, mediation mechanisms must search to locate each one in its dimension.

- Bearing in mind that, in the long term, the ultimate goal it is to increase social welfare, the success of macroeconomic policy will depend not only on increasing the size of the "pie" (efficiency), but also, on achieving proper care of all components of the education sector.
- While the educational results of the entity are commensurate with the national reality, they are still insufficient. One way to explain this is by tracking the generation 1994-2011<sup>8</sup>. In the school year 1994-1995, a total of 307,053 children entered primary school and, for the cycle 2010-2011, only 46,498 students graduated. This means that only 15.0% of children admitted to primary school in 1994-1995 finished their studies in 2010-2011. One of every three desertions occurred between one educational level and another, i.e., students culminated a level and did not return to continue their studies. To reduce student dropouts, the Government of the State of Mexico has to be punctual in the establishment of a monitoring system with information on the evolution of each mexiquense's terminal efficiency, to offer feedback services and attention to each case.
- To achieve economic growth, a country needs not only enough resources to invest to build human capital, given its importance, it should contemplate a wise development strategy, with measures that have an impact on the funding of education, the modification of administrative environments; as well as innovative ways in educational practice and the service offering, to name a few.
- It is necessary to renew the vision of the unit that leads the educational system, with the establishment of effective systems of administration and management, and an increasing participation of civil society.

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<sup>8</sup> Gobierno del Estado de México (2011). Plan de Desarrollo del Estado de México 2011-2017. Toluca, México.

- Investment in education as well as improving the possibility of economic growth and popular living standards is also valuable in itself, since education expands the vision of people and helps to have a healthier life, fuller and more secure from the financial aspect of character.
- There is agreement on the need to develop a program to address the lack of career for young people and to promote a better future for the country, including education, employment, cultural and recreational activities as well as safety.
- About the possibility of developing institutional projects in Mexican education, one must not lose sight that the principles under which the educational task is governed are defined in the third article of the Constitution, make emphasis on comprehensive education, and simply summarized in the task of educating students learn to reflect and decide on social, cultural, and economic problems.
- Elements in formulating the organizational development, it is necessary to consider in futuristic nature of strategic planning and not lose sight of the entirety, linking the economic and social and educational policies, nor the dynamics of the variables inside and outside the educational system and their affect on learning.
- One should not forgot the opportunity to use the results of the evaluation processes envisaged, to generate relevant information, and to use it as an input to guide decision-making support, the redefinition of new strategies to achieve the objectives of the Development Plan 2011-2017 and its programs.

## **Bibliography.**

Abel, A. B., Bernanke, B.S. and Croushore, D. (2011). *Macroeconomics*. Boston, Ma.: Addison –Wesley.

Arjona, F.; Tappata, H. y otros (1999). *El Nuevo Debate Educativo. Incentivos e Instituciones*. Mendoza, Argentina: Bolsa de Comercio de Mendoza.

Boetke, P. J. (2012). *Living Economics: Yesterday, Today, and Tomorrow*. Oakland, Cal.:The Independent Institute-Universidad Francisco Marroquin.

Browning, E. K. and Zupan, M. A. (2012). *Microeconomics: Theory and Applications*. Hoboquen, N. J.: John Wiley and Sons, Inc.

Brunner, Joaquín. (2000). *Globalización y el futuro de la educación: tendencias, desafíos, estrategias*. Santiago de Chile: UNESCO.

Calderon, M. I., Ríos, R. M. A. y Ceccarini, M. F. (2008). *Economía de la Educación*. Mendoza, Argentina: Universidad Nacional de Cuyo.

Cecchini, S. (2005). *Indicadores Sociales en América Latina y el Caribe*. Santiago de Chile: Organización de las Naciones Unidas/CEPAL.

Chomsky, N.; Mitchell, P. R., Schoeffel, J. (Eds.) (2002). *Understanding Power: The Indispensable Chomsky*. New York: The New Press.

Friedman, M. (2002). *Capitalism and Freedom*. Chicago: The University of Chicago Press

Galbraith, J. K., Salinger, N. (2001). *Introducción a la economía: una guía para todos (o casi)*. Barcelona: Crítica.

Gobierno del Estado de México (2011). Plan de Desarrollo del Estado de México 2011-2017. Toluca, México.

Hillman, Arye L. (2003). Public Finance and Public Policy: Responsibilities and Limitations of Government. Cambridge, U. K.: Cambridge University Press.

Lee, R. D. Johnson, R. W. and Joyce, P. G. (2012). Public Budgeting Systems. Burlington Ma. : Jones and Bartlett.

Mankiw, N. G. (2011). Principles of Economics. Mason, OH, USA: South Western Publishing Co.

Marshall, A. (2006). Principios de Economía I-II. Madrid: Editorial Síntesis.

Paschoal R. J. (1985). Introducción a la Economía. México: Enfoque Latinoamericano.

Secretaría de Educación Pública (2011). Quinto Informe de Labores 2010-2011. México.

Suranovic, S. (2010). International Trade. Theory and Policy. Irvington, N. Y.: Flat World Knowledge, Inc.

Tedesco, J. C. (2000). Informe sobre la investigación “Los Docentes y los desafíos de la profesionalización”. Volumen I y II, IPE. Santiago de Chile: UNESCO.

Venegas, J. P. (2006). Planificación Educativa Bases Metodológicas para su Desarrollo en el Siglo XXI. San José, Costa Rica: Editorial Universidad Estatal a Distancia.