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The Evolving Role of Research in Mexican Graduate Programs in the Field of Education: A Case Study of Six Selected Programs (1980-1992)

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THE EVOLVING ROLE OF RESEARCH IN MEXICAN GRADUATE PROGRAMS IN THE FIELD OF EDUCATION: A CASE STUDY OF SIX SELECTED PROGRAMS (1980-1992)

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VITA

Maria de la Luz Romay was born in Mexico City, on September 20, 1943. Ms. Romay obtained her college education in the National University of Mexico, graduating in 1972 with the degree of Licentiate in Pedagogy.

She served as a elementary and secondary teacher in several private schools in Mexico City, San Luis Potosi, S.L.P., Monterrey, N.L., and Torreon, Coah. from 1965 to 1981.

She received a Master's degree in educational research and development from Iberoamericana University in 1988. Upon graduation, Ms. Romay took the position of chairperson of the Master's program in education in Iberoamericana University, and she also worked for the National Polytechnic Institute as a consultant and associate professor. At the present she is still working for these two institutions of higher education in Mexico City, with both teaching and research responsibilities.

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CHAPTER I

INTRODUCTION

The demand for graduate education in Mexico has increased over the years as modernization has impacted all aspects of Mexican society. The development of graduate education in Mexico has been a recent phenomenon, given that most graduate programs have been created during the last twenty-five years (Klubitshko, 1986; Latapi, 1978; Morles, 1981). This level of education has developed and expanded at a very rapid rate throughout the country (Ibarrola, 1986).

The expansion of graduate education in Mexico has been caused by a number of different factors. First, it has occurred concurrently with the complex growth of the Mexican system of higher education within which many institutions, as Clark Kerr (1963) correctly described, have become "multiversities," trying to fulfill their threefold function of teaching, research and service. Graduate education supports research activities and prepares researchers in different fields of study (ANUIES, 1982; Arredondo, 1985; Dresch, 1974; Resendiz & Barnes, 1987).

Secondly, the social and economic development of Mexico since the 1950s encompassed new industrial and technological needs. This social progress has contributed to the transformation of Mexican higher education system wich

complements it by preparing specialized human resources (Arredondo, 1985). The development of graduate education implies a continuous dialectical adjustment to the prevailing historical and social conditions of Mexican society.

Since the number of institutions offering graduate programs has grown 13.2 times since 1970, enrollment in graduate education is steadily increasing. This growth suggests that Mexican society perceives advanced studies to be of some value. Currently many educational state agencies, industries, and institutions of higher education demand a Master's degree as a prerequisite to employment. Despite this apparent development, some concerns have been raised about the purpose of graduate education, inconsistent curricula, financial constraints, and the evolving needs of graduate students (Garritz-Ruiz, 1990; Malo, 1981). The quality of some graduate programs has been questioned by government agencies such as the National Council of Science and Technology--CONACYT--(Barron, 1990). Moreover, as a result of changes in the national economy and in the labor market, graduate programs in institutions of higher education compete with several programs called "Diplomados" offered by universities as continuing education.

Institutional growth and societal modernization have obligated institutions actively concerned with graduate education to reinforce research activities and to redefine their purposes in order to serve external and internal needs.

In fact, research is usually a key element in the curricula of any graduate program. It is concerned with one of the major functions of institutions of higher education and the preservation and advancement of knowledge (Casanova, 1989; Green, 1989; Jackson, 1988; Lindsay, 1988). But the complexity of research imposes serious organizational and financial burdens on graduate programs and creates patterns of research work that are often difficult to harmonize with effective teaching. Each institution may differ in the manner in which it promotes research as part of the graduate curriculum.

Divergent viewpoints have been expressed about the integration of teaching and research in graduate education (Barabtarlo & Theesz, 1983; Bravo, 1987; García-Colín, 1990; Lindsay, 1988; Rugarcía, 1989; Sánchez-Puentes, 1988). Although educational research activities have been a common component of most of the Master's programs in education, specific expectations from students and faculty influence the emphasis given to these activities or requirements. However, graduate education in any field must encompass the development of new knowledge and its effective application (Pelczar, 1985; Pelikan, 1983). Both, teaching and research should be integrated in the educational process.

Due to the short history of most of the existing graduate programs in education, no attempt has been made to examine the relationship between teaching and research, or how they

influence the outcomes of graduate education. It is surprising, as McGrath (1959) stated, that graduate programs "have, with notable exceptions, made no effort to investigate the validity and the success of their own activities" (p. 44). Thus, there is a need for more investigation of the research outcomes of graduate education, especially as the current decrease in financial resources available for higher education has demanded greater effectiveness and accountability.

This project relies on the researcher's past experiences within Mexican graduate programs in education. These experiences provided the impetus to analyze more in depth what is happening in some of those programs as a means for a better understanding of the purpose and nature of graduate education in Mexico. Other concerns that also led this researcher to this topic were the lack of productivity and continuity of different graduate programs in education, as well as decreasing enrollment and competition among institutions. Therefore, **the purpose** of this study is to determine the role of research in Mexican Master's programs in the field of education and how educational research training is perceived to contribute to the quality of the programs studied. This study will examine the different approaches in research training provided by Master's programs in education, as part of their effort to enhance the professional preparation of educators and administrators.

By investigating the opinions of participants and

analyzing the academic characteristics of six selected programs, this study seeks to answer the following **research questions**:

1) Are the program characteristics (i.e. purpose, curriculum, academic requirements) related to research training? If so, how?

2) What courses, methods, or techniques have been used to teach research skills?

3) Are teaching and research integrated in the graduate programs selected? If so, how is that integration achieved?

4) What kind of research has been produced by students of Master's programs in education?

5) What resources do these programs have to support research work for their students (i. e., financial resources, library and physical facilities)?

6) What do faculty, administrators, and students believe regarding the importance of research training in their graduate programs?

Several **assumptions** underlie this research:

1) Education is a formal and informal process which takes place in different settings and is influenced by different agents. In particular, graduate education is related to a lifelong process of education.

2) Education and training are different, and one should be concerned with both.

3) Many of the roles for which graduate students are

preparing may be replaced or redefined in the forthcoming decades due to changes in the labor market and in the educational system.

4) Universities are social organizations and subsystems that respond to multiple pressures and social factors.

5) Graduate programs in education in Mexico are oriented toward the preparation of educational leaders.

The methodology of this study is predominantly qualitative and focuses on the comparison of similarities and differences between selected programs using the Constant Comparative Method (Glasser & Strauss, 1967).

The problem studied is relevant because it is virtually impossible to imagine graduate education without research. This study addresses the relationship between theory and practice in educational processes by providing empirical evidence about the different patterns of research that exist in the graduate programs in education. Indirectly, this study identifies factors which influence the effectiveness of research training and how research impacts the quality of the selected programs. Furthermore, given the lack of systematic evaluation of graduate education in Mexico, this study may contribute to the development of the literature in the field.

In summarizing the content of this study, Chapter I states the purpose of this research and establishes the significance of the problem. Chapter II describes the development of Mexican graduate education, with special

emphasis on the status of graduate programs in education. Chapter III reviews the pertinent literature for the topic of this research. Chapter IV gives a detailed description of the research methodology employed in this project. Chapter V reports and discusses the results of the data collected. The final chapter draws conclusions of the study and presents recommendations.

CHAPTER II

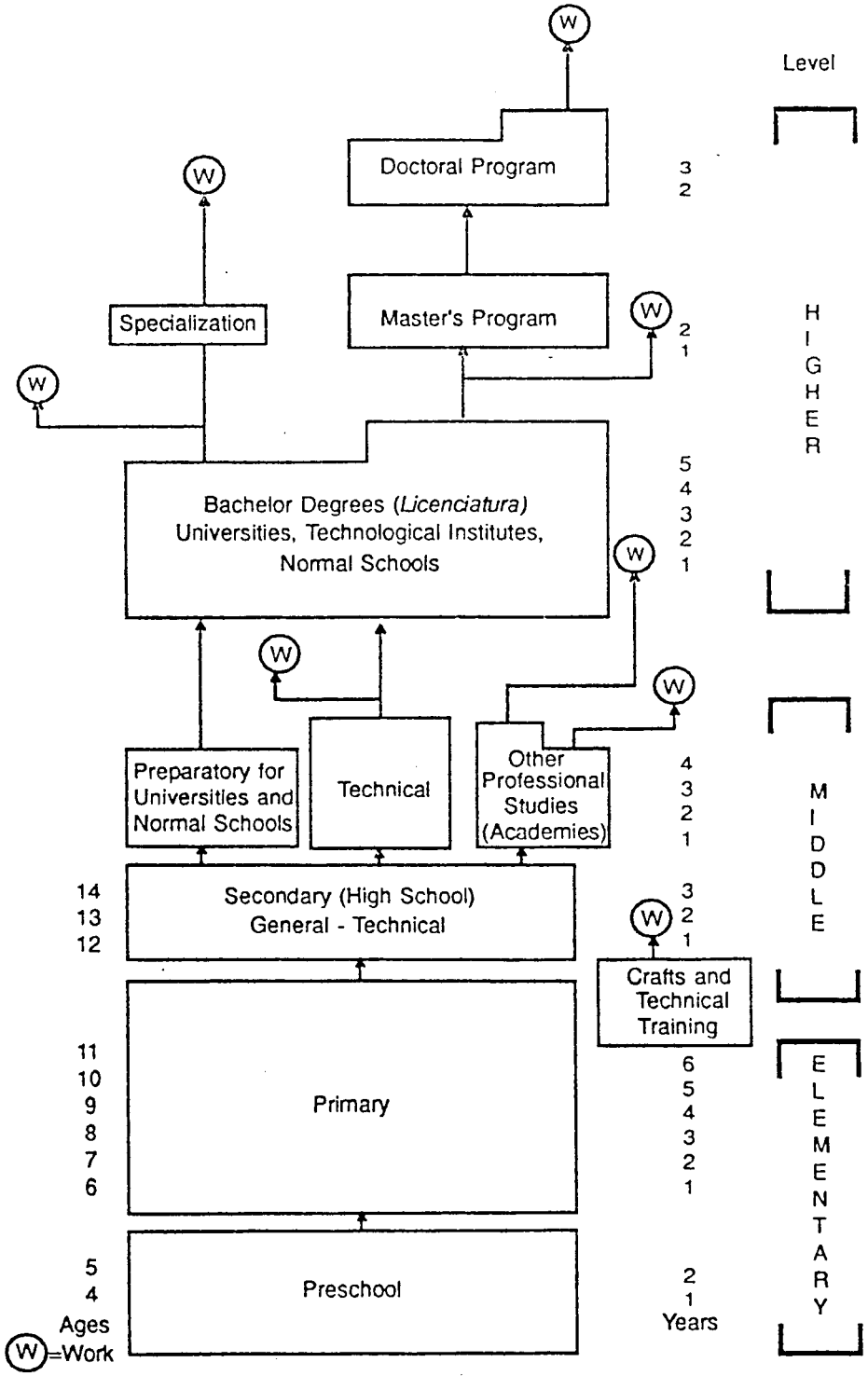
THE DEVELOPMENT OF MEXICAN GRADUATE EDUCATION

In any country the development of graduate education must be understood within the growth and transformation of that country's system of higher education. The case of Mexican graduate education is not an exception. This chapter describes the development of Mexican graduate education through its socio-historical context. The last section of this chapter presents the status of Mexican graduate programs in the field of education.

The Mexican System of Higher Education

Higher education in Mexico includes all programs offered by universities, technological institutes and normal schools. This level of education is divided into two cycles. The first cycle prepares students for professional positions and leads to the "licentiate" or other professional title, equivalent to the American bachelor's degree. This education may be followed by graduate programs, as a second cycle. Graduate education leads to specialties, master's degrees, or doctoral degrees in specific fields of study (See Figure 1).

Figure 1 The Structure of Education in Mexico



SOURCE: Secretaria de Educacion Publica (1991). *Sistema Nacional De Educacion Tecnologica.* Mexico: Secretaria de Educacion Publica.

The system of higher education experienced very rapid growth between 1960 and 1980, and its student population seems to continue growing rapidly during the 1990s. Today, its population represents 5% of all students enrolled in the national system of education (See Table 1). This situation is due to the high proportion of young people in the country who have achieved a higher level of education.

Currently there are 2,077 institutions of higher education: 1,448 universities (485 of which are autonomous), 68 technological institutes, 473 normal schools, and 88 in varied categories. There are 497 private universities that serve 19% of the students at this level. In 1990 the headcount in institutions of higher education was 1,256,791 students.

The National University of Mexico (UNAM) and the National Polytechnic Institute (IPN), the two largest public institutions, account for over one half of the total student population in higher education (more than three hundred thousand students). The next largest public universities are located in Guadalajara, Monterrey, Puebla, Morelia, and Veracruz. There is also a growing network of Regional Institutes of Technology which are directly controlled by the Ministry of Education.

Traditionally, universities have been autonomous in their governance, but the federal government provides most of the

Table 1

Mexican Educational System 1989-90

Levels of education		Students		Teachers		Schools	
ELEMEN	PRE-SCHOOL	2,662,588	10.6	98,521	9.0	43,399	28.2
	PRIMARY	14,493,893	57.5	455,532	42.4	80,636	52.3
	CRAFTS/T. TRAINING	436,168	1.7	22,153	2.0	3,240	2.1
MIDDLE	SECONDARY	4,267,156	16.9	233,042	21.2	18,686	12.1
	VOCATIONAL	413,481	1.6	37,303	3.4	1,807	1.2
	PREPARATORY	1,678,439	6.7	108,726	9.9	4,204	2.7
H	NORMAL	118,501	0.5	12,824	1.2	473	0.3
EDUC	LICENCIATE	1,094,325	4.3	107,675	9.8	1,203	0.8
	GRAD.EDUC.	43,965	0.2	12,569	1.1	401	0.3
	T o t a l	25,208,396	100.2	1,099,345	100.0	154,049	100.0

Source: SEP (1991). The National Technological System: Annual Report, p. 31.

Codes: ELEM - Elementary education
T. TRAINING - Technical Ed.
H.EDUC - Higher Education
GRAD. EDUC - Graduate Education

financial resources to public universities and technological institutes. Thus, the state plays an extremely important rolein public institutions of higher education. However, after the 1970 decade governmental control of education changed. As enrollment and politization in these universities grew, the general public came to perceive these institutions as providing inferior education. This has resulted in more private sector participation. Various groups have created private universities as an alternative to public higher education. The largest private institutions are the Autonomous University of Guadalajara, the Iberoamericana and the Institute of Technology and Higher Studies of Monterrey.

Middle education is linked in important ways to higher education. The second cycle, called "preparatory", has traditionally been administered by the universities and other institutions of higher education. Preparatory schools are divided into technical education and humanistic education. The technical option leads to diverse specialties, or the title of middle technician in the industrial, commercial, artistic, or farming fields; the humanistic option leads to a diploma or certificate with a specialization such as physics-mathematics, economics-administration, biological sciences, social sciences, classics, humanities and fine arts.

Another type of education developed recently by institutions of higher education includes several programs with a distinctive vocational purpose, which carries students

beyond the licentiate, but are shorter than the master's degree. These programs, sponsored predominantly by private institutions, are called "Diplomados". They generally combine formal coursework on a regular basis with practical work experience and are connected to private enterprises.

Although in theory institutions of higher education are responsible for basic research, neither they, nor their programs for training researchers, are well supported. Research is not emphasized within the academic structure. It often takes place in special institutes administered by the institutions but operating independently.

Most of the research done in Mexico has been undertaken by the public higher institutions located in the Capital. However, there is a lack of coordination between institutions. Governamental reports show that "the number of researchers is insufficient and most of them lack specialized training" (National Program for the Modernization of Education, 1989, p. 148). In addition, the expenditure in research projects is still insufficient since 70% of it is used to pay personnel. A general view of Mexican research demonstrates that it is far from meeting the country's needs and requires a bigger budget.

Historically, higher education in Mexico has developed throughout four centuries. The first Mexican university was founded in Mexico City by a Royal Decree in 1551. It was recognized as the Royal and Pontifical University of Mexico. During the colonial and independence periods (17th to 19th

centuries), several institutions for advanced studies and centers for research existed such as the Botanical Garden, the Royal School of Surgery, and the Royal Academy of San Carlos. Since that time the Napoleonic university, composed of a collection of professional schools, became the model for almost all Mexican institutions of higher education (Silva Herzog, 1974, p. 5-14).

When the Ministry of Education was created in 1921, a department which would have control over technical education, including university education, was also created. However by 1930, there were only four universities. In 1940, the Office of Higher Education and Scientific Research was created under the auspices of the Ministry. But it was not until the 1950s that the demand for access to higher education increased. During the decades of the 1960's and 1970's the states came under political and public pressure to build more universities often without enough operating funds.

Status of Graduate Education in Mexico

Graduate education in Mexico, as in the rest of Latin America, is relatively new. The majority of the programs were created during the last twenty-five years (Klubithsko, 1986; Latapi, 1978; Morles, 1981). As of 1981 "eighty percent of the then existing graduate programs were created after 1968" (Malo, 1981, p. 10). Graduate education is now beginning to serve an important role within the system of higher education,

although its rise has been encompassed by explosive and disorganized growth (Oteiza, 1982).

In spite of the increase of graduate programs, the number of students is still low as it represents only 3.5% of the total population enrolled in higher education. Moreover, 85% of these students are in Mexico City, and the rest are located in a few institutions. There is, therefore, a deficit in the number of graduate programs to meet the needs of the different sectors of the country.

Historically, the National Autonomous University of Mexico (UNAM) was the first institution that established graduate programs in 1926 (Ocampo, 1983, p. 16), yet it was not until 1946 that graduate programs were truly separated from the undergraduate level. Therefore, graduate education in Mexico started one century later than in the American educational system (Walters, 1965). Graduate education grew very rapidly after 1960. Ibarrola (1986) points out that 70% of the graduate programs were created during the decade of 1970s (p. 9). This late development of graduate education is natural as over 50% of the state universities were chartered between 1953 and 1976 (Castrejon, 1982, p. 50) and the majority of the private universities were founded after 1960 (Arredondo, 1987).

The most important problems that Mexican graduate education has confronted are: lack of planning, resources, coordination, and accreditation mechanisms (ANUIES, 1982).

"Graduate education in Mexico has not functioned as a system, but as a disjointed set of pieces" (Servin, 1986, p. 8). One can identify certain parallelism with the evolution of American graduate education as Clark (1983) asserts

> the widespread adoption of graduate education was neither planned nor instituted by encompassing administration or any other particular body. Rather it came out of a disorderly competition as emerging universities faced the common problem of how to accommodate research and advanced training in the college settings. (p. 212)

Furthermore, Mexican graduate education has not reached a national agreement with regard to minimum academic requirements. It was not until 1986 that the first Congress of Graduate Education was held under the leadership of UNAM, which attempted to identify commonalities among the graduate programs of various institutions.

Another significant phenomenon in the development of Mexican graduate education has been the dependence on foreign training. From 1971 to 1983 most of the scholarships granted by the National Council of Science and Technology (CONACYT) were for study abroad, mainly in the United States, United Kingdom, France, and Germany. This dependency persists because doctoral programs only represent 3.6% of the overall graduate enrollment (ANUIES, 1990, p. 9). Currently, some institutions of higher education are still appointing faculty

members to teach at the graduate level without a master's degree.

Garcia (1990) recently compared the characteristics of private and public graduate education and found that they are not only different, but to a certain extent, opposed in terms of prestige, clientele, and administrative control. The leading public institutions in graduate education in Mexico are more research-oriented and allocate some of their graduate programs in independent centers for research. For instance, UNAM and COLMEX, respectively, allocate 50% and 17% of their budget for research activities (p. 110).

Private graduate education is not regulated by the government; each private institution is licensed to develop its own graduate programs. Graduate students often obtain financial aid from government agencies, therefore, graduate programs are less selective than programs at the undergraduate level in private institutions (Levy, 1986; Osborn, 1976, p. 56).

The emergence of graduate education in Mexico resulted from a differentiation process, within the higher education system. Through this process institutions of higher education with more resources have established graduate programs as a means of providing specialized activities within the academic structure (Bruner, 1987). Very often graduate programs have been created within departments that basically administer undergraduate programs. There is seldom a specific academic

unit dedicated to the coordination of graduate education. However, depending on the relevance of four factors one can identify the relative importance of graduate education in any given institution. These factors include the number of human and material resources available, the importance attached to research activities, the size of enrollments, and how long the institution has had graduate programs.

Therefore, graduate education in institutions characterized by a high level of differentiation is more independent from undergraduate programs. In these cases, one can find a well established division or a research institute, parallel to academic departments for undergraduate programs. However, graduate activities are still dispersed among several academic units without strong coordination. UNAM seems to be the most differentiated of all institutions within the Mexican higher education system. It has over 10,000 graduate students and 291 graduate programs. This institution alone accounts for 29% of the total graduate enrollment. Other public institutions with large enrollments in graduate education are the National Polytechnic Institute (IPN), the Autonomous University of Nuevo Leon (UANL), and the University of Guadalajara (UG).

In the private sector, ITSEM and UIA are the institutions with oldest graduate programs (See Table 2). Yet, graduate students at these institutions get the same academic and administrative treatment as undergraduate students with regard

Table 2

Graduate Enrollment in the Main Mexican Institutions of Higher Education (1990)

Institutions	Total enrollment	Graduate enrollment	
1. UNAM	95, 973	10, 774	11.2%
2. U de G	70, 376	1, 721	2.4%
3. IPN	52, 186	2, 227	4.3%
4. UANL	47, 589	1, 792	3.8%
5. UAEM	20, 999	1, 159	5.5%
6. UACH	11, 122	810	7.3%
7. ITSM*	10, 185	739	7.3%
8. UIA*	8, 863	657	7.1%
9. UR*	6, 512	678	10.4%
10. CINVESTAV	449	449	1.0%
11. COLMEX	271	177	65.3%
Total	324, 525	21, 183	6.5%
Higher Ed. enrollment	1, 256, 791	43, 965	48.2%

Source: ANUIES (1990). Directory of higher education in Mexico. Mexico: ANUIES.

(*) Private institutions

Abbreviations of the institutions cited above:

1. National Autonomous University
2. University of Guadalajara
3. National Polytechnic Institute
4. Autonomous University of Nuevo Leon
5. Autonomous University of the State of Mexico
6. Autonomous University of Chihuahua
7. Institute for Higher Studies in Technology of Monterrey
8. Iberoamericana University
9. Regiomontana University
10. National Center of Advanced Studies and Research
11. College of Mexico

to scholarships, registration procedures, and library policies.

Enrollment. As was pointed out earlier, Mexican graduate education actually began to grow in the decade of 1970s. Table 3 presents enrollment data between 1970 and 1990. The figures reveal that whereas in the 1970s there were only 13 institutions offering graduate programs, by 1980 the total rose to 83. Growth in the private sector was roughly 3.5 times higher than in the public sector. Conversely, during the decade of the 1980s the public sector surpassed the private enrollment and institutional growth (See Figure 2) (Garcia, 1990, p. 112).

Table 3

Graduate Enrollment 1970-1990

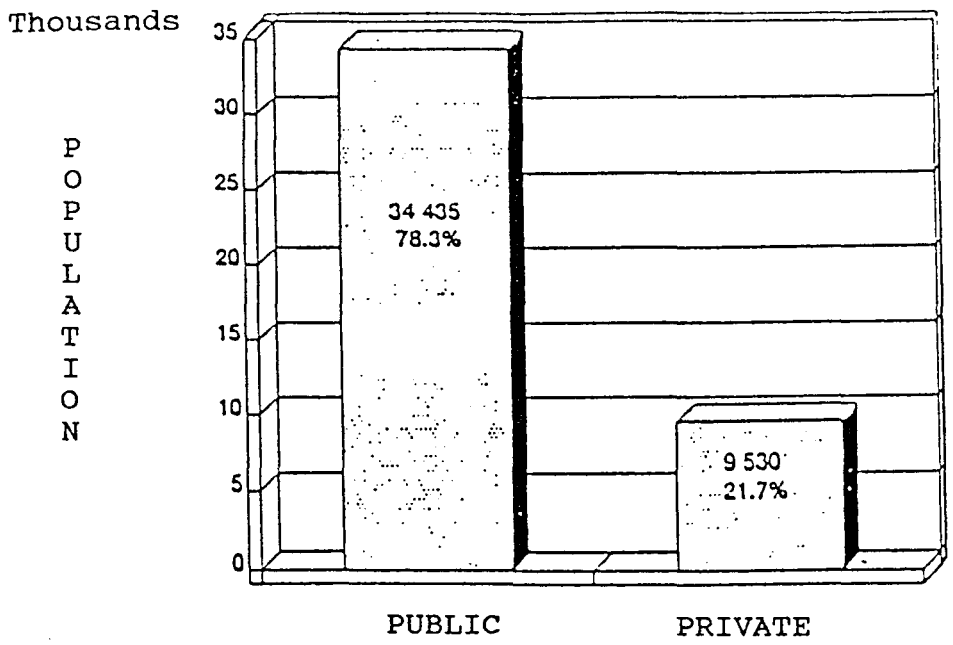
YEAR	STUDENTS			INSTITUTIONS		
	Public	Private	Total	Public	Private	Total
1970	4,960	793	5,753	11	2	13
1975	11,812	4,574	16,386	51	26	77
1980	19,478	6,025	25,503	46	37	83
1985	30,443	6,597	37,040	101	45	146
1990	34,435	9,530	43,965	108	64	172

Source: ANUIES (1970-90). Directories of graduate education in Mexico. Mexico City: ANUIES.

The enrollment in the private sector at the beginning of the decade of 1980's decreased in comparison with the latter decade. This situation might be associated with the expansion

Figure 2

Distribution of the Population of Mexican Graduate Education (1990)



Source: ANUIES (1990). Directory of Graduate Education. Mexico: ANUIES.

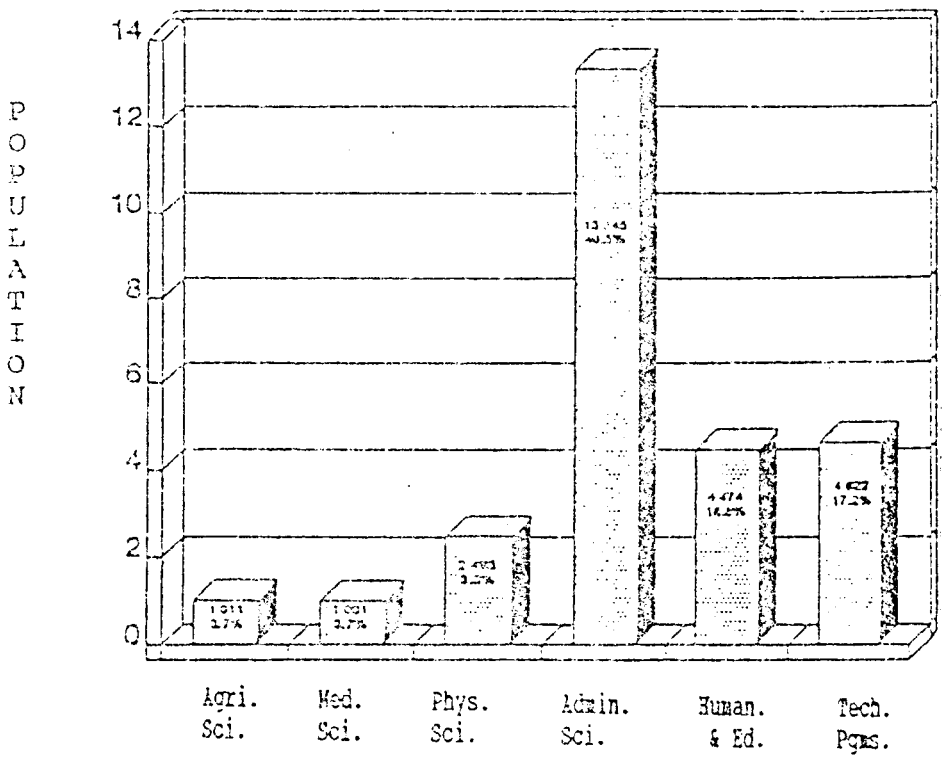
of public programs and the economic crisis that makes it more difficult for students to afford the costs of education in private institutions. It seems that private graduate education will lose students in the forthcoming years if private institutions do not find alternatives to finance their graduate students.

Distribution among fields of study and degrees. Graduate enrollments reveal certain imbalances among different fields and sectors. Social sciences and administration accounted for almost 40% of the total enrollment in Master's programs in 1990. While basic sciences, humanities and administration are declining, the most rapid growth may be observed on the medical sciences. Although agricultural programs are growing, their number is still minimal (See Fig. 3).

A possible explanation for this situation is two fold. Graduate education is still in the early stages of development, so it can not undertake serious planning efforts to rationalize the distribution of the fields according to the national priorities. On the other hand, the natural sciences have traditionally been one of the most specialized areas in Mexican higher education, and administration is a traditional field with enough prestige and demand in the marketplace toattract part-time students, eager to compete for better job positions by gaining a graduate degree.

Figure 3

Areas of Study in Mexican Master's Programs (1990)



TOTAL 26,946 students

Source: ANUIES (1990). Directory of Graduate Education. Mexico: ANUIES.

The enrollment in the private sector is spread out among the fields because a single field, business and administration, makes up 61% of its overall enrollment. Such concentration weakens the importance of private graduate education in other fields.

Overall, the data regarding graduate education show that its pace of growth has been inconsistent. Although overall growth in the private sector has diminished, the actual number of private institutions is increasing. This contradiction has been reflected in a lack of enrollment or termination of some programs after few years.

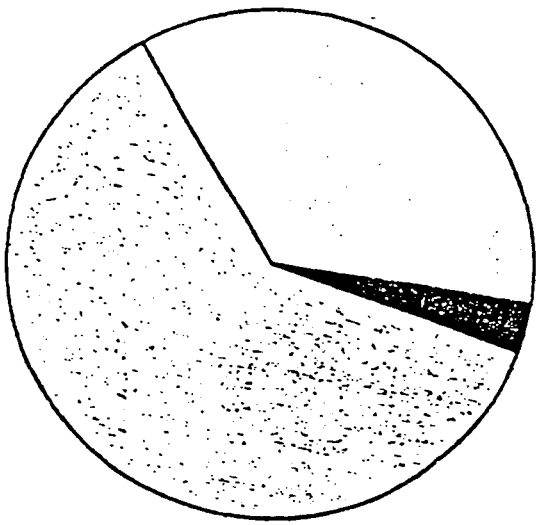
Mexican graduate education is concentrated at the Master's level. Master's level enrollment represents 61.3% of total graduate enrollment (See Figure 4). Proportionately, the private sector has more students at this level than the public, but doctoral and specialization programs are virtually the domain of the public sector. Graduate programs in the field of education represent 8.5% of all graduate programs, here again the Master's degree is predominant.

Specialization degrees surprisingly account for more than 30% of public graduate enrollment, mainly in the medical sciences. These programs are more superficial compared to the master's degree. A specialization degree may be completed within a year or less, while a master's degree takes an average of two years. There are very few well-developed

Figure 4

Distribution of Graduate Education

in Mexico by Degrees (1990)



TOTAL: 43,965 graduate students

SPECIALIZATION	26,946 students	- 61.3%
MASTER'S	15,675 students	- 35.7%
DOCTORATES	1,344 students	- 3.0%

Source: ANUIES (1990). Directory of graduate education. Mexico: ANUIES.

doctoral programs, so, this level is still marginal within Mexican graduate education (See Table 4).

Conceptualization of Mexican Graduate Education

Many countries have attempted to define the meaning of graduate education within their educational and social systems. However, in Mexico there are no common definitions and standards for this level of education. Several international conferences and comparative studies have attempted to define the nature and purpose of graduate education (i.e., Council of Graduate Schools, 1988; International Council for Educational Development, 1983; Kublitshko, 1986; Londoño, 1973; Thompson, 1976).

Graduate education itself has been defined broadly by the Organization for Economic Cooperation and Development (1972) as "education in research methods, professional practice, and further instruction in the subject of the student's first degree" (p. 3). The second part of this definition is not always true because some graduate students choose a field diferent from that in which they earned their first degree in order to expand their professional abilities or prepare for a second career.

More recently, the Council of Graduate Schools (CGS), a group of American and Canadian colleges and universities, stated that the purpose of graduate education is to prepare scholars who can discover, integrate, and apply knowledge, as well as communicate and disseminate that knowledge. It

Table 4

Graduate Enrollment by States and Degrees

S t a t e	SPEC.	MASTER'S	DOCT.	Total
Aguascalientes (AGS)	90	14	-	104
Baja California (BCN)	216	359	3	578
Baja California (BCS)	-	156	-	156
Campeche (CAMP)	64	71	-	135
Coahuila (COAH)	232	956	-	1,188
Colima (COL)	31	120	4	155
Chiapas (CHIS)	-	96	-	96
Chihuahua (CHIH)	241	720	6	967
Distrito Federal (DF)	8,230	9,783	1,098	19,111
Durango (DGO)	172	141	-	313
Guanajuato (GTO)	217	1,015	13	1,245
Guerrero (GRO)	-	159	20	179
Hidalgo (HGO)	111	-	-	111
Jalisco (JAL)	2,131	1,362	11	3,504
Mexico (ED.MEX)	1,447	2,056	30	3,533
Michoacan (MICH)	73	225	3	301
Morelos (MOR)	5	288	-	293
Nayarit (NAY)	-	341	-	341
Nuevo Leon (NL)	564	4,799	111	5,474
Oaxaca (OAX)	80	189	-	269
Puebla (PUE)	203	576	18	797
Queretaro (QRO)	59	587	-	646
Quintana Roo (QR)	-	-	-	-
San Luis Potosi (SLP)	247	202	11	480
Sinaloa (SIN)	150	233	-	383
Sonora (SON)	59	802	2	856
Tabasco (TAB)	131	99	-	230
Tamaulipas (TAMPS)	274	258	6	538
Tlaxcala (TLAX)	-	200	-	200
Veracruz (VER)	259	484	-	743
Yucatan (YUC)	361	365	8	734
Zacatecas (ZAC)	35	288	-	323
T o t a l	15,675	26,946	1,344	43,965
%	35.7	61.3	3.0	100.0

Source: ANUIES (1990). Directory of graduate education in Mexico. Mexico: ANUIES.
Codes: SPEC - Specialization DOCT - Doctorate

further adds that graduate study should function to develop and refine students' capacities "to make significant original contributions to knowledge, ...to understand and evaluate critically the literature of the field and to apply appropriate principles and procedures to the recognition, evaluation, interpretation and understanding of issues and problems at the frontiers of knowledge" (CGS, 1990, p. 1).

In the United States the National Board on Graduate Education (1975) has identified three basic purposes of graduate education as: 1) "the education and development of skilled individuals, 2) the production of knowledge, and 3) the preservation and transmission of knowledge" (p. x). Other sources define additional purposes of graduate education as "continued technological advancement and the production of advanced manpower" (Education Commission of the States, 1975, p. 11). The Association of Graduate Schools (1976) similarly defined the central tasks of graduate education as:

> educating men and women to the highest intellectual level, preserving and extending [...] the cultural heritage and developing knowledge, and joining the search for solutions to contemporary national problems. (p. 5)

These definitions reflect the influence of both the German and English educational systems. From Germany, American universities have borrowed the philosophical and operational concepts of Lehrfreiheit, or "freedom to teach", and Lernfreiheit, the "freedom to learn." Since the beginning

of graduate programs in the United States, institutions of higher learning have promoted "the worship of free scientific research... (and) disinterested pursuit of truth through original investigations" (Brubacher & Rudy, 1976, p. 174). American graduate education also maintains practical and professional aims.

Likewise, the Association of Institutions of Higher Education (-ANUIES-, 1991), which is the organization which supervises and evaluates higher education in Mexico, stated that the purpose of graduate education is

> to prepare highly trained personnel who will continue to advance the national and universal culture for the development of new scientific knowledge, innovative technologies, and the humanities, in order to contribute to the continuous transformation of the educational, productive and service sectors, according to the national needs. (p. 5)

The concept of graduate education in Mexico may include all the definitions cited above. However, the organization of graduate studies usually resembles the structure of the European continental model, especially that imported from the University of Paris. Most graduate programs are located within university departments of "faculties" by disciplines (Arredondo & Santoyo, 1985, p. 16). Mexican graduate education is equivalent to both graduate and professional education in the United States.

Mayhew and Ford (1974) posited that graduate education served at least five broad functions: to prepare individuals for research and scholarship in a specialized field, to prepare university teachers, to produce learned individuals with values and beliefs shaped by a humanistic culture, and to serve as a substitute for work or military duty (custodial function). Similarly, Alvarez, Topete and Cassigoli (1987), in analyzing the development of graduate education in Mexico, pointed out that graduate education has responded to the needs of preparing researchers, educating professors particularly for higher education, training administrators and educational leaders, and facilitating continuing education in different fields (p. 20).

Although in the early days of graduate education, the degrees of "magister" and "doctor" were a true recognition of outstanding academic achievement, the requirements for these degrees were not clearly defined. Currently, most educational systems identify different degrees with certain requirements. Therefore, graduate education in Mexico includes the degrees of master's, doctorate, and specialization, even the conceptualization of these degrees is still under discussion. The most recent definition of each degree reads as follows:

1) Specialization is a degree that provides the individual an opportunity to develop more in depth the study of specific problems in a certain field or profession.

2) The master's degree prepares personnel to participate in the development of research in a field of study, applying or implementing different theories or technologies for the solution of practical social problems.

3) A doctorate should prepare outstanding researchers to be capable of generating new scientific knowledge or to guide the formation of other researchers. (CONPES, 1991, p. 15-20)

Each option in Mexican graduate education does not need to be studied sequentially. The master's degree and the doctoral degrees are oriented toward scientific investigation. The only difference between the two degrees is that the former provides more methodological preparation (Garritz, 1986), whereas a doctoral program emphasizes experimental or creative research projects.

While graduate education is linked to the main functions of universities, teaching, research and cultural diffusion, research is considered the cornerstone of this level of education. Important philosophical principles include the promotion of critical thinking and interdisciplinary study (Arredondo & Santoyo, 1985). Pedagogical means used to promote research in graduate education include: the analysis of different schools of thought in the field, interaction between faculty and graduate students, internships, working with modern systems of information, experimentation in

laboratories, and assignments to projects in conjunction with well known researchers.

When considering educational models that prevail in the American and Mexican systems of higher education, it is evident that graduate education plays an important role within these systems. However, if one compares principles that should give direction to graduate education with its status, it is obvious that several concerns emerge.

In recent years much criticism of graduate education refers to some kind of "imbalance". Imbalance may exist between the relative emphasis placed on graduate and undergraduate education within an institution. Criticism may refer to the relative value society places on pragmatic goals as opposed to truly scholarly pursuits. It frequently refers to the disparities among disciplines or areas of study. Most commonly, there are concerns about the lack of financial support available for graduate education.

In Mexico the main issues perceived in graduate education are related to the uncertain functions that graduate education serves. Several authors criticized that the fact while most graduate programs were designed to promote research, in fact most graduate students did little or no research (Arredondo & Santoyo, 1985; Garritz, 1990; Malo, 1981).

As Mexican graduate programs expanded, some institutions lowered their admission requirements and some people contended that the quality of graduate education declined seriously.

Many institutions have mounted graduate programs without sufficient financial or staff resources. Even though the federal government has provided important subsidies to support graduate studies, there is still no control over the outcomes achieved by the students or by the graduate programs. These reasons have led government agencies to enhance evaluation procedures (IX General Asembly of ANUIES, July, 1990). In Mexico, the challenge for the coming decades will be to maintain the quality of graduate programs and be faithful to the purpose and functions of graduate education.

The Status of Mexican Graduate Programs in Education

Historical development. The development of graduate programs in the field of education in Mexico is the result of both recent conditions and the historical development of the educational system. The first graduate program in education was established by the National University of Mexico (UNAM) in 1955, and there were no others until 1971 (Ezpeleta, 1982). The most rapid growth of these programs occurred between 1975 and 1985. During these years institutions of higher education created 27 programs with the intention of training university teachers (See Figure 5). Within the areas of humanities and social sciences, education has been the most rapidly expanding field, responding to the demands of professionalization placed on universities by the society.

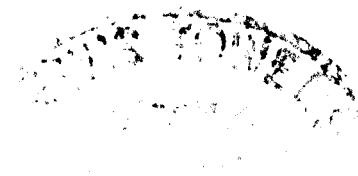
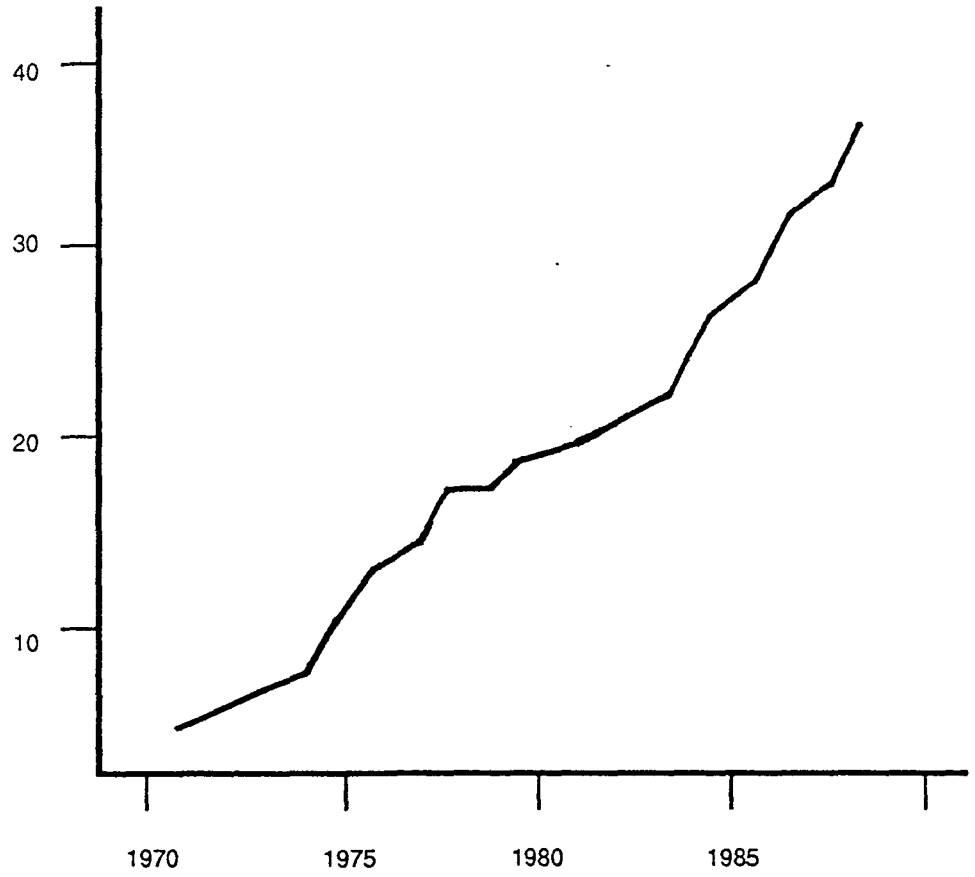


Figure 5

Growth of Graduate Programs in Education in Mexico (1970-1989)



Source: Arredondo, M. (1989). Alcances del posgrado en educación en el país [Perspectives of the graduate programs in education in the country] (Special issue). Ciencia y Tecnología, p. 112.

In the past there was little provision for training teachers for higher education. People entering teaching at this level usually had only professional training in the specific field in which they wanted to teach. However, this situation is changing. More and more educational agencies and universities have started faculty development programs. For instance, in the 1970s ANUIES established a national program to train teachers of higher education, under which university staff members took special courses in teaching methods. Thus, most researchers of this topic (Arredondo, 1987; Diaz Barriga, 1988; Ezpeleta, 1982) consider professionalization of faculty the most important reason for the growing number of graduate programs in education.

Currently, the directory of ANUIES (1990) reports that 56 institutions of higher education offer 103 graduate programs in education in almost 80% of the states in the country; 22% correspond to specializations, 76% to master's programs, and 2% to doctorates. An examination of the institutions listed by ANUIES indicates inequality in their geographic distribution. Almost 30% of them (18) are in the metropolitan area, but only 7.5% (4) are in the south of Mexico.

As Table 5 shows below most of those institutions (89%) only offer master's degrees. Eight institutions offer two different degrees and five offer specializations exclusively (For more detailed information See Appendix A).

Table 5

Institutions and Degrees of

Mexican Graduate Programs in Education

Type of Institutions	Spec. I.	Spec. PR.	Master's I.	Master's PR.	Doct. I.	Doct. PR.	Total I.	Total PR.
Public Univ.	6	6	20	27	1	1	27	34
Private Univ.	3	3	12	13	1	1	16	17
Normal System	2	14	11	38	-	-	13	52
Total	11	23	43	78	2	2	56	103
%	21.9		75.7		1.9		100.0	

Source: ANUIES (1990). Directory of higher education in Mexico. Mexico: ANUIES.

I - Institutions
Pr - Programs
Spec. - specialization degree
Doct. - doctorate degree

It is important to clarify that in Mexico teacher training is not essentially linked to graduate education. Teacher education has been a profession mostly controlled by the federal government through the Normal system. Diverse institutions offer teacher training programs for different levels of education. Normal schools provide four-year training for pre-school, primary, or secondary levels. In addition, the Higher Normal Schools offer graduate programs with multiple specialties. Furthermore, it was not until 1986 that Normal education was considered part of the system of higher education.

The graduate programs offered by the Normal schools are very different in nature, requirements, and orientation than the graduate programs held in universities. This fact was

important in focusing this study only on master's programs in education sponsored by institutions of higher education.

Several studies provide information about institutions of higher education offering graduate programs in education. In 1979, Ezpeleta (1982) identified 21 master's programs in education, while Arredondo et al. (1988) evaluated 30 in 1987. The population for the present study includes 40 existing graduate programs sponsored by institutions of higher education listed by ANUIES in 1990 (Table 6).

Purpose. Generally, the purpose of Mexican master's programs in education is to prepare public and private school administrators, counselors, and other professional educators to serve the needs of the educational system, as well as to prepare educational professionals for service in non-school settings such as government offices, educational agencies or industries. The latter agencies mainly recruit individuals with expertise in human development, educational planning, and research at different levels.

The proliferation of agencies that provide social and educational services to non-traditional populations has required the preparation of new types of educators who may design, plan, conduct, and evaluate educational projects.

Table 6

Master's Programs in Education

Sponsored by Mexican Universities (1990)

INSTITUTIONS	PROGRAMS	SC	INIT
School of Educ.Sciences, UABJN	1. Master in Higher Education	Pu	1988
Fac. of Ed. Sciences, UAC	2. Master in Educ. Science	Pu	1973
Norwest Aut. University, UANE	3. Master in Education	Pr	1980
Aut. Univ. Laguna, UAL	4. Master in Education	Pr	1985
Fac. Pedagogy, UACOL	5. Master in Education	Pu	1981
Fac. Letters & Philosophy, UACH	6. Master in Higher Education	Pu	1983
Dept. of Educ. Research CINVESTAV/DIE	7. Master in Ed. Research	Pu	1975
	8. Master in Ed. Mathematics	Pu	1975
Higher School of Economics, IPN	9. Master in Ed. Dev. and Adm.	Pu	1976
	10. Master in Adm. of Higher Education	Pu	1984
Iberoamericana University, UIA	11. Master in Research and Ed. Development	Pr	1977
Intercontinental University, UI	12. Master in Special Education	Pr	1986
La Salle University, ULS	13. Master in Higher Education	Pr	1975
National Univ. of Mexico, UNAM	14. Master in Pedagogy	Pu	1955
Professional School ENEP-ZAR	15. Master in Education	Pu	1985

INSTITUTIONS	PROGRAMS	SC	INIT
Inst. for Research in Educ., UAGTO	16. Master in Ed. Research	Pu	1978
	17. Master in Innovation in Education	Pu	1978
Aut. Univ. of Guerrero, UAGRO	18. Master in Educ. Mathematics	Pu	1988
Inst. for Advanced Studies, ITESO	19. Master in Education	Pr	1985
Aut. Univ. of Guadalajara, UAG	20. Master in Education	Pu	1974
Atemajac University, UA	21. Master in Education	Pr	1987
Professional School ENEP-AR	22. Master in Higher Education	Pu	1980
Aut. Univ. of the State of Mexico, UAMEX	23. Master in Higher Education	Pu	1984
Inst. of Ed. Sciences, UAMOR	24. Master in Ed. Research	Pu	1985
	25. Master in Ed. Planning	Pu	1985
Inst. of Technology & Advanced Studies /Monterrey, ITSM	26. Master in Innovation in Education	Pr	1986
Fac. of Philosophy, UANL	27. Master in Higher Education	Pu	1976
	28. Master in Human Resources Dev. for Education	Pu	1978
Regiomontana University, UR	29. Master in Higher Education	Pr	1976
	30. Master in Ed. Psychology	Pr	1989
University of Monterrey, UDEM	31. Master in Educ. Sciences	Pr	1972
Iberoamericana Univ., UIA-PUE	32. Master in Higher Education	Pr	1971
Univ. of Americas, UA-PUE	33. Master in Ed. Administration	Pr	1987

INSTITUTIONS	PROGRAMS	SC	INIT
Interdisc. Center for Research in Technical Educ., CIIDET	34. Master in Ed. Research	Pu	1976
Aut. Univ. of Queretaro, UAQ	35. Master in Ed. Sciences	Pu	1977
Aut. Univ. of Sinaloa, UAS	36. Master in Higher Education	Pu	1975
Aut. Univ. of Tlaxcala, UAT	37. Master in Ed. Administration	Pu	1989
	38. Master in Higher Education	Pu	1989
	39. Master in Counseling	Pu	1989
Aut. Univ. of Yucatan, UAY	40. Master in Higher Education	Pu	1982

Source: ANUIES (1990). Directory of graduate education in Mexico. Mexico: ANUIES.

Sc. - Sector
Init. - Year initiated
Pu - Public
Pr - Private

Note: The acronims correspond to the names of institutions in spanish.These needs have led to different specialties in graduate programs in education such as adult education, educational planning, or educational technology.

Graduate programs in education are also concerned with preparing their graduates with innovative ways of planning, implementing, and defining policies in all, or significant parts, of the educational system. Therefore, some graduate programs intend primarily to serve practitioners who can function in leadership roles in a broad array of settings. This preparation is useful also for persons in mid- and senior-level administrative positions in higher education.

Types of programs. There is a great variety in the orientation and academic characteristics of these programs. Ezpeleta (1982) developed a typology dividing them into general, specialized, and those focused on higher education. Another classification used by government agencies has been professional versus academic programs.

The latest study of the status of Mexican graduate programs in education was done by the National Council of Science and Technology (CONACYT) during 1987-89. This evaluation found that "there are three types of programs according to their dominant goals: 1) some attempt to train researchers, 2) others focus on teaching and the analysis of Mexican and Latin American educational reality, and 3) the last group provides training in special areas such as educational planning, administration, adult education or counseling" (p. 120). This classification is used in the current research.

Enrollment. The total enrollment for all graduate programs in education is 4,162 students. This population is still small, since it represents only 9.4 percent of the population registered in Mexican graduate education. The majority of these graduate students are enrolled at the master's level (85.7%). However, two-thirds of this population is within the Normal school system. As Table 7 shows almost 14% of the total enrollment corresponds to the population of specialization programs, and only 19 students (0.4%) are reported as doctoral students.

Table 7

Distribution of the Population of Graduate Programs in Education by Degrees

Degrees	Students	%	Institutions	%
SPECIALIZATION	575	13.8	11	17,5
MASTER'S	3,568	85.7	50	79.4
DOCTORATE	19	0.5	2	3.1
	4,162	100.0	63	100.0

Source: ANUIES (1990). Directory of higher education in Mexico. Mexico: ANUIES.

Enrollments for the master's programs studied ranged from 3 to 135 students. The average is 35.8 students. Enrollment is almost evenly split between men and women. Of the 1,449 students for whom such information was provided 49% are women

and 51% are men. The student ratio per faculty for these programs is 3.8 (See Appendix B).

There is a predominant pattern of part-time graduate study in the field of education, whereby graduate status is achieved through the selection of a discrete set of courses, rather than a full-time graduate experience. Graduate students are usually employed full-time and engage in graduate work on a part-time convenience schedule. Only one program requires full-time study. As Clark and Fantini (1979) describe for American education students, most of their counterparts in Mexico are, "working people, mature, self-directed, and their economic status requires that they either continue to work or receive substantial funding during the period of graduate study" (p. 6).

Students choose to attend graduate programs in education for a variety of reasons. As other researchers have found, "many students need a degree to be able to do what they want to do or to be able to attain the positions and earnings they would like to have" (Esquivel, 1991, p. 19). These pragmatic reasons are usually combined with a commitment and a strong interest in a particular aspect of education. Some wish to learn skills that will enable them to help others, or to meet job requirements, or to gain technical skills. Despite this diversity, studies have shown that most students attend graduate programs to increase their salaries and to continue their intellectual growth (Arredondo, 1987).

Curriculum. The Mexican graduate programs in education usually have a structured curriculum which tends to be highly specialized and professionalized. However, some programs fail to develop a distinctive purpose. Generally speaking, one can observe that the curriculum of each graduate program in education is shaped by the characteristics of the particular university in which it operates and by the main purpose of the program.

Almost all programs require students to take a core curriculum and some prescribed courses in educational theory and foundations, i.e., History and Philosophy of Education. In fact, if students come from an undergraduate specialty other than education, they may fulfill specific prerequisites prior to their graduate coursework. Some programs are heavily concentrated in a specific subject matter and provide a minimum coverage of basic knowledge of the field. The more developed programs provide the opportunity to take a limited number of elective courses in areas outside of education.

Not surprisingly, the standard components of Mexican graduate programs in education are between 80 to 100 credits and a thesis. A number of credits is frequently assigned to the presentation of the thesis project. Students must fulfill certain research requirements during that stage.

These programs generally are placed in departments connected with the social sciences. They often have an academic structure similar to that of undergraduate programs.

professors are inclined to give extensive formal classroom instruction along with individual tutoring. Even though many faculty encourage early involvement in research projects and require familiarity with research techniques and methodologies, these graduate programs tend to overemphasize coursework.

Faculty. Using data provided by ANUIES, 400 faculty members serve in graduate programs in education. Thus, there is an average of 3.6 students per faculty. These data also show that 30.4% are full-time, 4.8% half-time, and 64.8% work part-time.

Past evaluations have demonstrated that faculty have heavy departmental teaching and advising loads and they have spent no more than one third of their time in research and writing. Also, these research studies have noted that these programs have improved the qualifications of faculty over the years (Arredondo, 1987; Ezpeleta, 1982; Klublitschko, 1976).

It is evident that in Mexico a great diversity of scholars are interested in educational issues. Therefore, it is an advantage that faculty in these graduate programs come from diverse backgrounds and expertise in the various social sciences. Also, part-time practitioners, whose primary employment is elsewhere, profit from their association with these programs and also provide practical experience to graduate students.

Issues. As was stated in the beginning of this section, the expansion of graduate programs in education has created certain disarray. Many small institutions introduced graduate programs in education for which they lacked financial or staff resources. The faculty main concerns include admissions criteria and the lack of financial support, not to mention limited resources for research activities. Even though all are aware that among the facilities necessary for graduate work a good research library is indispensable, very few institutions have specialized libraries.

Probably the most important challenge for these graduate programs is to improve their graduation rates. Many students can get a position in educational agencies or higher education institutions after completing only their coursework, even before their formal graduation. Some of them complete thesis requirements many years later, while others never complete the thesis. The national graduation average shows that for each 100 students who enroll in these programs, only 15 fulfill all requirements for graduation (Arredondo, 1987).

Another existing problem is the lack of differentiation between graduate degrees in the field. This has led to innumerable conflicts among purposes and ultimately to a reduction in standards for all graduate degrees. This situation is also reflected in the lack of clarity in program objectives. Graduate programs in education tend to be generic in order to maintain enrollment. Many programs often fail to

distinguish between the needs of students, whose primary objective is to be practitioners or administrators, and those whose goals are directed toward research. Artificial dualism between research and teaching training has also created conceptual problems in program development.

Overall, the status of Mexican graduate programs in education is not, and has not been, very high. However, it is commonly accepted that it is a field which has a place in the university structure. The current conditions of the development of these programs require relationships with individuals and agencies outside the boundaries of the academy and the current schooling system. Obviously, differences among graduate programs do exist, and it is important to analyze the factors influencing their outcomes and quality. This study conducts that analysis.

CHAPTER III

REVIEW OF THE LITERATURE

The literature devoted to graduate education is significant. The literature available in English reveals there is research in almost all aspects of graduate education. However, the bulk of the research related to graduate education is relatively recent. According to the results of systematic reviews of American literature on the topic (Jones, 1987; Katz & Hartnett, 1976; Malaney, 1990; National Board on Graduate Education, 1976), many publications are focused on the characteristics and performance of graduate students. Studies predicting success in graduate education have analyzed predictors such as standardized test scores, grades and other academic measures. Few studies deal with factors that affect the quality of graduate education, and none deal with the impact of graduate education on social reality.

Given the short history of graduate education in Mexico, there is a scarcity of pertinent research about this level of education. What literature exists has been published mainly as reports of national organizations such as ANUIES or CONACYT, or journal articles regarding the more important issues and problems affecting different fields of study. Mexican graduate education has profited from Latin American

studies sponsored by international organizations such as CREALC/UNESCO (Ibarrola, 1986; Klubitschko, 1986).

The literature review for this study has three foci:

a) First, the review of the literature about the assessment of program quality demonstrates the soundness of the methodology used. The researcher assumes that a valid analysis of the quality of graduate education implies multiple indicators. Since there is a lack of systematic assessment outcomes in the Mexican higher education reality, this study seeks to identify the different perceptions of the constituencies about the quality of their graduate programs.

b) Second, the approach of this study was clarified by examining what different authors say about the role of research in graduate education.

c) Third, the "Neo-structuralist" theory is used to explain the conceptualization of the process by which knowledge is produced in the context of modernization of developing countries like Mexico.

This Chapter presents the review of the literature on these three aspects. It explains why educational research has been continuously evolving within the modernization processes that affect the Mexican higher education system.

The Assessment of Program Quality

The concept of quality has multiple dimensions and different meanings. The dictionary of the Royal Academy of the Spanish Language says that "quality refers to something that is essential or worthy" (In Arredondo, 1983, p. 44); however, Arredondo (1983) points out that it is necessary to ask "who is questioning quality, for what purposes and what is his/her own perspective" (p. 45). The concept of quality takes different approaches depending on the theoretical frame used. For example, Levin claims that concerns about quality in education are very different when considered from a humanistic point of view than when considered from the perspective of economic or sociological theories (Alvarez Tostado, 1991). In education, quality often implies a quest for constant improvement, technical competence, excellence in action, the attainment of human growth (Rogers, 1981), and is related to the educational purposes fostered or attained (Carabaña & Torreblanca, in Alvarez Tostado, 1991).

Quality and excellence are two terms essentially interchangeable; both carry a dimension of style, not just an outstanding accomplishment and imply the highest standards and an unwillingness to settle for anything less than that which can be achieved. However, important differences between the two terms may be that excellence is used in connection with the acts of individuals, while quality is a characteristic placed on collectivities. Both concepts are also associated

with degrees of merit and worth. Lincoln and Guba (1979) have argued that merit represents an intrinsic context-free value, independent of any requirements of applicability or use. In other words, worth is an intrinsic context-value concept.

Excellence connotes an absolutely superior standard of attaintment not bound by time or context. The criteria for merit are met, but not necessarily, those for worth. The concept of quality embodies elements of both merit and worth; that means that a high, but not necessarily superior level of attainment is required and it is also worthy for those who take part in the experience.

Standards and needs vary according to individuals and situations, hence the definition of quality necessarily varies. George Kuh (1981) points out that quality is a relative term. Something is perceived to be of high quality if it meets certain standards, or if it better fulfills some specific individual or social needs. This idea has been emphasized by experts such as Carnoy, Coombs, Lereña, and Levin who have analyzed the problem of quality of education in Third World countries. Regarding this subjective meaning of quality, Diez Hochleitner states that "quality in education is related to the value system of the main actors in the educational process, the students, the teachers, including the perceptions of the society itself" (In Alvarez Tostado, 1991, p. 27).

In comparing quality to other terms that are frequently employed as its synonyms, such as accountability, efficiency, and effectiveness, one can say that "accountability" implies that a program is adequate, meets minimum standards and achieves its goals, while quality suggests complete goal fulfillment. In the same sense, "efficiency" carries an economic overtone, implying that the program accomplishes its purpose with low cost, but when one wants to examine quality, one should include more than efficiency, focusing more on the process. "Adequacy" suggests a level of sufficiency for certain persons in a specific context or setting and embodies the elements of worth, but not necessarily of merit (McCarthy, 1981).

Most researchers have agreed that quality is a multi-dimensional concept that eludes a concrete operational definition. Quality is also inextricably tied to such issues as equality of access and choice. "Only by understanding how quality has been assessed can we know how and in what context it should be measured and which interventions should have improvement" (Lawrence & Green, 1980, p. 3).

Quality is judged every day in the comparison of institutions (Astin, 1980; Young, 1976). Lawrence and Green (1980) suggested that quality should be referenced to stated departmental, program, or institutional goals and objectives. Thus, there is almost a common agreement that quality should "be argued in the light of purposes that are supposed to be

served" (Keeton, 1974, p. 1), but there may still be disagreement as to the best ways to pursue or measure it.

The assessment of quality in programs of higher education "has almost always been related to characteristics of the faculty responsible for the implementation of the curriculum. Others consider facilities, support, the curriculum, and student attributes as dimensions of quality" (Conrad & Blakcburn, 1988, p. 283). A program of high quality is presumed to have the facilities necessary for its success, a clear definition of its curriculum and sufficient numbers of students. In addition, some individuals identify less quantifiable attributes of quality: leadership, spirit, morale, clarity of purpose, and a healthy organizational climate.

For many people a quality program cannot be reduced to a set of quantitative indicators, and it is more a collection of certain characteristics. Several writers affirm that quality in education demands the convergence of many elements, but neither a single element nor the combination of all of them guarantee quality outcomes. Diez Hochleitner and Delval affirm that "all indicators [used to measure quality] influence it, yet they are not decisive" (In Alvarez Tostado, 1991, p. 27).

Most approaches to the assessment of quality have been quantitative, using examination scores, faculty characteristics, and so on. However, qualitative approaches

represent an equally valid paradigm for assessing quality. An eclectic or holistic perspective in estimating quality which encompasses elements of both quantitative and qualitative approaches is considered valuable.

According to Morgan and Mitchell (1982) there are at least **six distinct approaches** to defining quality in education: 1) linking educational excellence with political and economic outputs (Heyneman, 1986); 2) focusing on rationalization of the educational process and regulation or control over its components in order to enhance educational productivity; 3) recognizing cultural values, contextual constraints, opportunities and improvements in performance (Pescador Osuna, 1983); 4) identifying the ability of teachers to instill high expectations in students and the importance of school characteristics and classroom climate (Cohen, 1981; Edmonds, 1982; Rutter, 1979); 5) considering the curriculum as a crucial component in the educational processes; or 6) combining slices of all approaches by judging how well institutions fulfill some prescribed objectives. These perspectives are not mutually exclusive.

In their book Planning Effectively for Educational Quality, Berquist and Armstrong (1986) state that "higher education has tended to look at quantitative indicators to identify and assess what is meant by high quality" (p. 1). Such criteria often answer the questions "how many" and "how much." These quantitative measures provide descriptions that

provide a profile or outline, but they do not explain what actually occurs within the institution with regard to the process of education.

Output-oriented measures of quality typically focus on "the characteristics of students as they graduate from the institution, or on their level of success as they enter various phases of their careers" (p. 3). While these measures often give a sense of the relative status of a particular institution, they provide very little useful information regarding the true quality of the programs being offered.

The quality of an educational program can be adequately assessed only if one can determine the extent to which the program has directly contributed to the desired outcomes. This is called the value-added definition of quality. To the extent that the institution has added value to students' characteristics (skills and career outcomes) specifies the ways in which the institution has contributed to that value, it can be described as offering educational quality.

A comprehensive definition of educational quality must encompass all these dimensions. Thus, criteria for a quality of educational programs could include the following characteristics:

1) Attractive: It does something that brings people to it.

2) Beneficial: It does something that is helpful to the individual and the community involved in it.

3)	Congruent:	It does what it says it will do.
4)	Distinctive:	It is responsive to the unique characteristics of the institution and its people, and thus, is unlike most other programs.
5)	Effective:	It does very well what it does, and can demonstrate its effectiveness to others.
6)	Functional:	It provides learners with attributes needed to perform successfully in today's society.
7)	Growth producing:	It enhances growth in a number of important directions of learning. (p. 7)

Attempts to define "quality" and to determine what types of indicators should be used have always existed. Several studies have been conducted to evaluate the quality of graduate programs in the United States (Cartter, 1966; Hughe, 1925, 1934; Keniston, 1959; Webster, 1986). The more recent literature reveals that there are **four perspectives** for assessing program quality (Conrad & Wilson, 1985, p. 50-54).

Reputational Studies. The view of quality is derived from the connoisseurship model of evaluation and assumes that experts in the field make the best judgments on the criterion. In essence, it reflects a belief that the optimal way to assess quality is to seek a consensual and informed opinion.

The main strength of this method lies in the fact that the raters are those who supposedly know best what quality is. It is also an intuitive appeal to ratings, reflecting what most people believe is true (Webster, 1981).

Reputational rankings are criticized because raters are not likely to know much about the instructional program. The lack of visibility of many programs and the "halo effects" are other limitations. In other words, reputational studies have mainly included top institutions which have been ranked high because these institutions are held in high regard (Webster, 1981).

Reputational studies have long dominated research on program quality (Cartter, 1966; Jones, Lindsay, 1982; Roose & Anderson, 1970). Their most salient characteristic is the emphasis placed on peer evaluation. In general, most studies follow a similar procedure: the researcher selects one or more criteria to serve as a basis for evaluation, employs a panel of experts to rate the programs in terms of those criteria, and then combines individual responses in order to generate a ranking of programs.

Comparison of the rankings of graduate programs across all the studies reveals a consistent pattern of findings; reputational assessments have consistently identified the same graduate programs at the top of the rankings. Astin and Solomon (1981) admit that their reputational study is only preliminary, given the small samples of departments and institutions. They found that diversifying rating criteria can lead to the identification of a quality programs that would otherwise be overlooked.

Methodological critics of reputational studies argue that many raters are not sufficiently well informed to make judgments about the quality of programs at other institutions. Therefore, these studies only describe relative measures based on the institutions' reputation. The environment outside of academe is rarely considered.

Resources Perspective. Another particular view of quality emphasizes the human, financial, and physical resources that go into a program. High quality exists where these resources (bright students, excellent faculty, adequate budgets, strong research support, and adequate facilities) are plentiful. The extent to which these resources are available is measured in various ways, including student scores, grant support, and volumes in the library.

The advantages of using these measures are that the data are available at most institutions that reflect what exists today and comparisons can be made across institutions. Nevertheless, there is little evidence that more resources equate with increased student learning (Astin, 1980). This view places a false ceiling on the amount of quality that can exist in higher education by asserting that such resources are finite.

Researchers use the following procedure: they select criteria on an a priori basis, develop an index of those indicators and rate programs based on that index. However, due to the lack of agreement among researchers regarding

appropriate indicators, a wide range of criteria and indicators has been used to assess and rank graduate programs. In the majority of cases, multiple criteria and multiple indicators have been used.

There is a clear correspondence between objective and reputational rankings, although the absolute ranks of particular programs usually vary modestly. In the search for measures of program quality, researchers may be well advised to seek quality indicators that assess adequacy as well as frequency or volume. The indicators for objective assessments of quality need to be improved.

Points of criticism have been that most studies reflect the researchers' biases in the selection of indicators or were heavily based on the single criterion of faculty research productivity. Most of the indicators used to assess quality are useful only for ranking schools at the very top and many researchers have failed to isolate the independent effect of individual correlations among variables. However, studies based on objective indicators have made a contribution to evaluating program quality in employing a multidimensional approach.

Outcomes View. Another way to assess quality is to emphasize results; in other words, what the investment of resources produces. The attention is focused on the quality of the product. Typical indicators associated with this view are faculty productivity, students' accomplishments following

graduation, employers' satisfaction with program graduates, and institutional contributions to the solution of local, state or national problems.

This perspective has a number of advantages. The emphasis is on what is happening to those who are or have been part of a program. The focus is on outcome measures which are relevant for all institutions (Webster, 1981).

Value-added View. This approach focuses on program impact. True quality resides "in the institution's ability to affect its students favorably, to make a positive difference in their intellectual and personal development" (Astin, 1980. p. 4). This approach takes into account the quality of students at their entrance to college. Its limitations are time and money. Studies require extensive record-keeping for large numbers of students. It is difficult to reach consensus on what students should learn and how this learning would be measured. It is not easy to determine what one program's contribution is to a student's learning or development. The effects of other variables are difficult to control.

In Mexico, systematic studies of the quality of higher education programs have not been attempted. Institutional practices for program review do exist and these employ some of the approaches described above. Nevertheless, given the diversity of institutions and types of programs in Mexican higher education, the writer agrees with Diez Hochleitner that "it is not only very difficult to measure quality, but it is

unfair to compare diverse institutions within various contexts or historical circumstances" (In Alvarez Tostado, 1986, p. 26). Therefore, this study only attempts to evaluate what the programs studied do, taking into account what they set out to do according to the opinions of their constituencies (administrators, faculty, students and alumni).

Based on the literature reviewed, one may conclude that there are practical and theoretical needs to expand studies in assessment of program quality in order to develop a theory about quality and to identify factors which determine the development of graduate education. For instance, increasing attention must be paid to the environment in which a program resides. Furthermore, given the current concern over quality in education, future research designs should improve the study of program quality.

The Role of Research in Graduate Education

It is virtually impossible to imagine universities today that do not conduct research, and it is easy to forget that the notion of research is intrinsically related to the development of graduate education. An essential goal of graduate education is competence in research and scholarship. Research is concerned with the university function to preserve and advance knowledge. Furthermore, the academic structure of universities provides the framework for pursuing research activities. Nevertheless, there is no universal agreement

about the definition of research within higher education (Sanchez Puentes, 1988). "Research is a term used in a variety of ways by the different constituencies in higher education" (Linsay, 1989, p. 31).

Several studies (Becher, 1987; Biglan, 1973; Geiger, 1985) have demonstrated that different fields have different understandings of the term research, how it should be conducted, and what its relationship to other areas of academic work should be. The notion of research is most often biased toward the meaning of scientific research in the natural sciences and quantitative research methods tend to be privileged. Differences are also found in preferences regarding the type of research conducted; the number of sources of influence on research goals; the form of reporting research results; and the degree of collaboration among faculty and students (Biglan, 1973). Different values, beliefs, and patterns of work exist in the subject areas. However, Carter (1980) points out that research covers a wide range of activities such as construction and testing of theories, observing and chronicling, experimentation, development, criticizing and elucidating models, and consulting or advising.

In this broad sense educational research is defined as "investigation or experimentation aimed at the discovery and interpretation of educational facts, revision of accepted

theories or laws, in the light of new facts or practical application of such theories or laws" (Knowles, 1977, p. 4305). Research in education has several objectives. Its first purpose is to apply educational knowledge to particular problems. The second is to increase educational knowledge. The third is to prepare products or materials for their direct use in learning processes. Therefore, "a tension exists in educational research between responding to the immediate needs of practitioners and building a cumulative body of knowledge about the educational process" (p. 4307).

It is important to recognize that educational research draws from several disciplines. It includes those activities based directly on the findings and methodologies of the social and behavioral sciences oriented towards the improvement of education (Deighton, 1971). Therefore, research in the field of education is characterized by diverse approaches, because its main impetus comes from problems defined in various disciplinary contexts.

Although there is a well-established distinction between basic research and applied research, "the boundaries between pure and applied research are constantly being lost, and distinctions once valid break down" (Walters, 1965, p. 66). In addition, dichotomies between the acquisition of knowledge and professional skills make it difficult to articulate theory and practice. Similarly, discussions arise as to whether evaluation studies and systematic data collection activities

are to be considered part of research. In fact there is research that provides information to decision-makers and is characterized in terms of its problem-solving or practical focus.

Although knowledge in the field of education continues to increase, the demand for further research may contribute to the improvement of its quality. Institutions and nations must identify priorities because the time and resources available for educational research are limited. The question is who participates in this research and for whom it is done.

Educational research has been possible in most cases through funds administered by governmental and private organizations or through the regular support of universities. Thus, it is important to know what kind of projects are funded and how financial support could determine what is studied. Important factors that may influence the development of educational research are the impact of technology, and the emergence of new ideas or paradigms derived from other disciplines.

There are many conditions which affect the role of research in graduate education. The first is the fact that publications are the principal index of faculty scholarship. Institutional reward systems are based essentially on "measurable criteria" and research is a means of departmental visibility. Critics contend that the "publish or perish" tradition faced by faculty members is the main reason for the

imbalances in graduate education (Ben-David, 1977; Dawkins, 1987; Friedrich & Michalak, 1983; Kerr, 1972). It influences most of the activities of faculty and indirectly these interests are incorporated into graduate programs.

Second, the literature on American graduate education is heavy with criticism of the imbalances that exist within the various programs. Their requirements often encourage more research than teaching preparation (Heiss, 1970; Katz & Harnett, 1976). Inferences are made that preparation for research is actually preparation against teaching or against other specific needs. It is evident that in both countries, in the United States and Mexico, some graduate programs in the field of education give primary attention to the preparation of researchers, some lean more toward the preparation of teachers, others emphasize the preparation of practicing professionals, while others emphasize personal enrichment or preparation for further studies.

Third, an important debate exists about the actual nexus between teaching and research. Historically, the function of research has clearly evolved in close relationship with the function of teaching. Since the last century scholars embodied the Humboldtian idea of "lecturing directly from the material of an academic research" (Turner, 1971, p. 148) and that the unity of research and teaching assumed a new meaning. Faculty no longer conducted research privately; rather, teachers and advanced students have been involved in more

organized research activities. Institutions have provided time to faculty in order that they may engage in their own research. Since then, research in university settings has tended to be a personal enterprise. Faculty obtained funds and other resources for research from the government or industry. But the assumption that all research had to be individual did not fit the actual demands of research.

At the graduate level, "teaching and research are not merely interrelated but partly merged" (Lindsay & Neumann, 1988, p. 39). The output of a student's research and the research training process have common elements. However, differing views exist about the articulation between teaching and research. Some authors (i.e., Beinayme, 1986; Larsen, 1973; Rugarcia, 1989) are skeptical about whether it even exists. They claim that most justifications of its existence are based on conventional ideas but there is a lack of empirical evidence. Reviews of studies of the performance of faculty show that there is no significant association between scholarly accomplishment or research productivity and teaching proficiency (Feldman, 1987). Rugarcia, based on his academic experience, claims that "the problem is not to choose between teaching or research, rather to define both clearly, assess their value within higher education and to achieve more efficient outcomes" (p. 41).

Conversely, other scholars think that the involvement of faculty in both teaching and research is a fruitful pattern

(Cyert & Knapp, 1984; White, 1982). Certainly, the correlation between teaching and research is influenced by what faculty in different subject areas understand about it as well as their work preferences. This fact implies that each professor should be, as Bertrand Russell proposes, a researcher who has a good knowledge of his/her field.

Shortcomings in the research training process of graduate students seem to lie in methodological aspects, such as in teaching them how to identify research questions. Polanyi (1958) argues that a "false ideal of research is often presented to graduate students as a thoroughly reasonable, logical and orderly enterprise; whereas, in reality it is sometimes intuitive and unpredictable" (In Heiss, 1970, p. 213).

Other problems that affect research training of graduate students are connected with the advising system. For instance, some studies show that there is a lack of balance in the amount of assistance sought or received on the dissertation. Sponsors and research committees vary in the way they view their role in assisting the candidates. Frequently they believe that students are more or less on their own.

Most students view their advisers as sources of information and support. Others value them as an audience on whom to test the soundness of their research ideas through their critical viewpoints. Graduate students also complain

that they are given too much theory and not enough exposure to the thinking and skills that will be required of them in practice. When the guidance and direction are unavailable or of poor quality, the quality of graduate education suffers.

Assistantships or internships are the primary vehicle through which graduate students often obtain research preparation. It is not unusual for graduate students to assist professors with their research, with the purpose of gaining experience and contacts in the field. As several authors such as Walter, Mayhew, and Jenkings contend, graduate students acquire the rules of research from their professors.

Graduate students generally agree that these experiences constitute the opportunity to develop research knowledge and skills under faculty supervision, and to work with other researchers. Research activities apparently affect students more positively than do duties associated with instruction (Berelson, 1965; Katz & Harnett, 1976; Walters, 1965). Students would like more responsibility, research assignments which coincide with their interests and more consideration as participants in research projects (Clark, 1976). Research findings have also demonstrated that "graduate students have a positive attitude toward research" (Malaney, 1989, p. 429), but frequently their training and teaching is subordinated to faculty research goals (Knowles, 1977).

Sanford (1962) observes that graduate students are not always prepared to think innovatively because "prescriptive

requirements often cut off the edge of curiosity" (p. 115). They express the need for constraints and guidance, yet at the same time the desire for independence. It seems to be a tension between academic requirements and individual initiative.

Conditions that may facilitate the articulation of research and teaching in graduate programs include greater attention and recognition from professors; regular exchange of ideas; developing the capacity to work with others; cultivation of the imagination; adequate sequence in learning processes; a broad knowledge base; and reasonably secure financial support (Katz & Harnett, 1976, p. 120-121).

In summary, this review reveals that the role of research in graduate education is subjected to constant changes. Even the notion of research within the academic structure presupposes a connection between teaching and research. However, this relationship sometimes is in conflict. Particularly, previous research demonstrates that research activities among faculty and graduate students is often conditioned by disciplinary and practical boundaries.

The Production of Knowledge and Research in Developing Countries

Production of knowledge must in some way account for a whole range of external and internal situations within which human action is concerned. Human knowledge does not occur in

a vacuum. It is organized in a particular way and takes place within a particular societal and cultural context. It is appropriate, therefore, to investigate the processes by which knowledge is formulated, applied, and disseminated. "The extent of mutual determination of culture, social structures, and production of knowledge can explain the problem of the order-maintaining as opposed to the order-transforming functions of culture" (Munch, 1989, p. 37).

According to the "neo-structuralist" school of thought (Eisenstadt, 1989; Haberman, 1980; Luckmann, 1985; Peterson, 1979), one can affirm that people act by virtue of their capacity to confront reality with meaningful action. All human actions and their products are cultural phenomena. Thus, culture takes place in society. A "representative culture includes those beliefs, images, understandings, ideas, ideologies, etc., which influence social action either because they are being actively shared, or because they are being passively acknowledged as valid, right, good or the like" (Haferkamp, 1989, p. 23).

Culture in modern societies is dynamic and constantly new. Partial interpretations of reality force people to keep up with the steady flow of cultural production. Thus, the modern pluralism is an effect of the continual expansion of knowledge and distribution of ideas. Modernization also embraces a considerable range of aspects of social and human development which are expressed by scientific and

technological revolution, the advancement of knowledge, and the adoption of "modern" values.

However, societies that experience external pressures for modernization combine it with traditional patterns and resistance to social change. Because of this, developing societies face a sense of uncertainty about their social and cultural identity. As mechanisms of integration, political movements and bureaucratization become critical. However, political parties and leaders often tend to be autocratic, and decision-making processes do not follow rational principles.

There are several social factors that influence the production of knowledge in particular ways in developing societies. Primarily, the instability of the economy of such countries is crucial. For instance, as it was noted in Chapter II, in Mexico changes in the social system have had a significant impact on the research conducted within universities. As the country suffered an economic crisis during the last decade, research also came into crisis. Garcia-Colin (1990) points out that "there has been a leveling off of research activities, brain drain, and demoralization of the scientific community" (p. 28).

Secondly, factors conditioning social change also shape the production of knowledge. In fact, changes in social values rarely occur without intellectual articulators and spokespersons who may express latent and widespread ideas or may invent and propagate new ones. By this process knowledge

and innovation are spread throughout the social system. Consequently, intellectuals play a special role in the modernization process. However, in developing countries there are many competing interests among groups and political leaders which make a steady propagation of new ideas difficult.

Third, social interaction also aims to propagate and legitimate the representative culture. This view implies the formation or reformation of social groups, institutions, and movements by the impact of ideas (Weber, 1977). "Modern culture reveals both the influence of intellectuals and the interpretation of the reality by the society" (Eisenstadt, 1989, p. 30). Sometimes there are certain conflicts with the decisions of top policy-makers and the influence of ideologies. These processes are very difficult to identify clearly in developing countries due to the conflicting forces affecting the society. For instance, it is evident that research is also stimulated by external foundations and international organizations such as UNESCO and OEA, rather than a response to grass roots initiatives. Hirsh (1985) states that people often prefer "to import research results rather than to develop original research projects in the country" (p. 104). Thus, the research agendas are frequently those of the more technoligically developed countries.

In spite of it, the role of social researchers is to locate the origins of the dominant ideas, trace the lines and

networks of their distribution, study the links between representative culture and political organizations, social institutions, groups and associations. Brunner (1986) argues that there is an "implicit and only semi-connected knowledge of the world from which, through negotiation, people arrive at satisfactory ways of acting in given contexts" (p. 65). From this point of view, it becomes evident that in developing countries the preparation of researchers, particularly in the field of education, is important.

Finally, one can say that a major activity associated with research is the dissemination of knowledge. This may even require the creation of mechanisms for information within the communities, institutions, or organizations which are the targets for new knowledge. Mason and Byan (1967) emphasized the importance of links between research and development noting that research sometimes suggests the development of new techniques or processes and that development usually suggests new research problems. Policy-makers need information in order to make informed decisions and supply relevant data and analysis.

However, in developing countries it is evident that research does not have always direct influence on policy-making or there are further conflicts among contending policy-makers. The problem is that sometimes research information does not reach the right people, since policy and research often develop independently. Very few people pay regular

attention to research. People take stands on many other grounds, such as their ideology or personal interests.

Therefore, political and economic pressures determine the development of research in those countries. For instance, in Mexico educational research blossomed during the decade of the 1970s, but was later questioned by the same organizations that had previously supported it. Several authors discussed its utility and the lack of response to national needs (Latapi, 1977; Vielle, 1976). They argued that research was poor, irrelevant, overly abstract or not timely. Therefore, research that has been developed by government agencies, private institutions or individual researchers has evolved toward more practical or local issues. Recently more projects in the micro level have been predominant (Herrero, 1991).

Consequently, it is important to recognize the relationship between the development of research and the complex processes influencing the production of knowledge in developing societies. The review of the literature on this topic demonstrates that research is a social phenomenon that is influenced by diverse factors and historical circumstances. Based on this perspective this study analyzes how the role of research in graduate education has evolved over time.

CHAPTER IV

METHODOLOGY

This research examines the evolving role of research in Mexican graduate programs in the field of education. It describes and analyzes how faculty, students, and alumni perceive the development of research within their graduate programs, what strategies they employ for research training, and their research goals under specific and diverse conditions. This chapter includes an overview of the dissertation's research design, the selection of subjects and programs, a description of the instruments, and the procedures for data collection and analysis.

Overview of the Research Design

The nature of the research problem requires an emphasis on qualitative research methodology. The Constant Comparative Method (Glaser, 1967) is used because it allows studying similarities and differences between groups or programs. Systematic coding and analysis provide the possibility to examine the relationship among the variables affecting research in the programs selected. Furthermore, the comparative method facilitates an understanding of the relationship between theory and practice during the research

process.

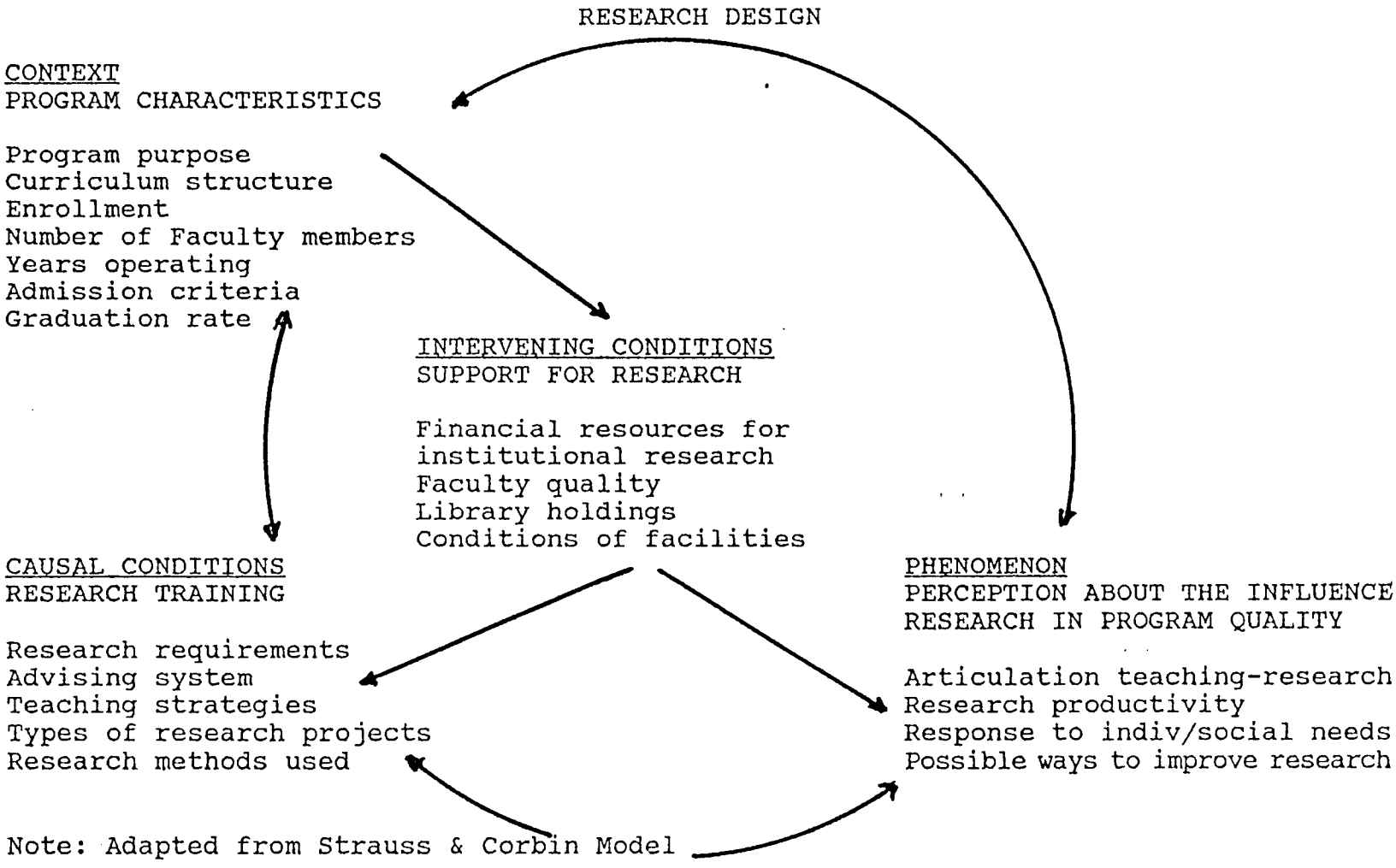
Following this methodology the researcher delimited the scope of the study through the identification of basic properties or categories for the research. The connection between these categories was defined by adapting Strauss and Corbin's Paradigm model (1990; See Figure 6). These categories were broken down into variables that guided the design of the instruments.

Four categories were included: institutional and program characteristics, support for research, research training, and the perception about the influence of research in program quality.

The **institutional and program characteristics** are the properties of each institution and program studied. These conditions constitute the context in which each program operates. Variables under this category are: program purpose, size (enrollment and numbers of full and part-time faculty), curriculum characteristics, years of operation for the program studied, admission criteria, and graduation rates.

The **support for research** is identified as an intervening condition. This is understood as conditions under which it is possible to train students for research. Characteristics such as financial resources available for institutional research, faculty quality, student-faculty ratio, library holdings, and conditions of physical facilities are considered under this category.

Figure 6



Note: Adapted from Strauss & Corbin Model

Conditions within which the **research training** takes place are included in the causal category. This is defined as the type of research skills and knowledge acquired by graduate students in order that they become proficient in designing and implementing research projects, including the difficulties that have been overcome in doing that. Variables under these causal conditions are: research requirements in the program, methods used in research training, advising system, types of ongoing research projects, and difficulties in research activities.

The **perception about the influence of research in program quality** is the phenomenon studied. This category defines how faculty, students, and alumni assess the level of efficiency at which the program achieves its goals, the ways used for articulating teaching and research, and the quality of research activities and outcomes. Variables related to this category are: articulation between teaching and research, faculty-student interaction in research activities, responsiveness to personal, local, and/or national needs, possibilities for improving research, and the quality of research products (theses).

Selection of Programs and Population

This is a multi-site study. In order to avoid the sampling limitation when only one institution is used, as well as to develop an adequate sample size, six graduate programs in education were selected as units for this study. Following

the guidelines of theoretical sampling, different programs were selected on the basis of their theoretical relevance (Strauss 1990, p. 176).

In the case of this particular research, that criterion was determined by stratifying the programs according to their characteristics. The sampling procedure considered three attributes: dominant orientation (type of program), educational sector, and location (See Figure 7). This sampling technique was used in order to ensure representation of different kinds of programs. Four are public and two are private. Half of them are located in the Capital and the rest in the provinces. The cases were selected considering the viability of access to those institutions, including at least one or two of each cell in Figure 7. The sample included:

a) Three "research-based" programs (sponsored by the Department of Educational Research -CINVESTAV/IPN- and Iberoamericana University -UIA-, in Mexico City; as well as the Interdisciplinary Center for Research in Technical Education -CIIDET- in Queretaro, Qro. Mexico).

b) Two "teaching-based" programs (from Autonomous University of Tlaxcala -UAT-, in Tlaxcala, Tlax., and the University of Monterrey -UDEM-, in Monterrey, N.L., Mexico).

c) One "administration-based" program (Superior School of Economics and Administration -ESCA/IPN- in Mexico City, D.F.).

Due to time constraints and resources available for this study, individuals who provided information were:

Figure 7

Stratification of the Mexican Master's Programs in Education

	CAPITAL	PROVINCE	n
PUBLIC	Research 7 Teaching 8, 15 Administration 9, 10, 14, 22	Research 16, 24, 34 Teaching 2, 17, 18, 39 Administration 1, 5, 6, 20, 23, 25, 27, 28, 35, 36, 37, 38, 40	27
PRIVATE	Research 11 Teaching 12 Administration 13	Reasearch 21 Teaching 4, 19, 26, 30, 31 Administration 3, 29, 32, 33	13
	10 Programs	30 Programs	40

Source: ANUIES (1990). Directory of graduate education in Mexico. Mexico: ANUIES.

Note: The numbers correspond to those that appear in the list of Mexican Master's Programs in Education in Table 6. The programs studied are underlined.

a) Administrators (key informants) - The sample involved all people who were coordinating each program. Usually, there is a chairperson for each program. If the institution was large, the department chair was also interviewed. This group provided information through in-depth interviews.

b) Faculty - The majority of full-time and part-time faculty members of each program answered an open-ended questionnaire.

c) Students - The researcher asked for 50% of the current enrollment of each program as a minimal sample of this population. Eighty students answered a survey similar to the faculty questionnaire.

d) Alumni - Persons who had obtained their Master's degree in each program during the last five years were identified. Fifty two graduates were contacted and answered a survey equivalent to the student survey (See Table 8).

Instruments

As was noted above, the data were drawn from a variety of sources to ensure a comparative data base, combining quantitative and qualitative information. In-depth interviews were conducted with administrators of each program. Since it has been reported that students and faculty are considered to be "accurate" in evaluating their graduate programs (Clark,1988; Walters, 1965), they were a valuable resource for

Table 8

Population Included in the Study

INST.	FACULTY		STUDENTS		GRADUATES		ADMINISTR.	
	N	S	N	S	N*	S	N	S
CIIDET	12	5	19**	12	10	9	2	1
DIE	20	5	26	8	10	12	2	2
ESCA	8	3	37	12	10	8	2	2
UAT	14	4	57	22	10	3+	1	1
UDEM	8	2	15	9	10	8	1	1
UIA	12	6	34	17	10	12	2	2
TOTAL	80***	25	156	80	60	52	10	9
	100.0	31%	100.0	51%	100.0	87%	100.0	90%

Source: SESIC/ANUIES (1991). Directory of the Mexican Higher Education System. Mexico: SEP.

N - Total population
S - Sample
INST - Institution
NOTE:
* The number of graduates included in the study was arbitrarily selected, 10 for each program.
** Students from CIIDET were only from one group, even there were other groups in four sites working with the program.
*** It was not possible to apply questionnaires to part-time faculty in any institution.
+ The program in UAT has had no more graduates.

obtaining such information. An open-ended questionnaire for faculty and a student survey were designed in order to study their perceptions as given in the research problem. A survey was also conducted with alumni to investigate if they were actually involved in educational research projects as a result of their master's level training.

The items in all instruments were derived from the study's design, selecting every variable that could be addressed by each group of the sample (See Table 9). In the final version, the questionnaire and the two surveys consisted of an introduction for instructions, and between 20 to 25 questions.

The areas covered in the semi-structured instruments included: general information (sex, program, institution, work experience, etc.); opinions regarding research training and support for institutional research; the evaluation of pertinent characteristics of the programs; and an assessment about the influence of research in the quality of the programs. A final section of the questionnaires asked respondents to indicate their recommendations and general appraisal of their graduate programs. The purpose of these open-ended questions was to allow the respondents to include additional comments (Full copies of the instruments are attached in Appendix C).

The alumni survey was designed to parallel the student survey wherever appropriate, in order to obtain two different

Table 9 Sources of Data Collection

CATEGORIES	VARIABLES	FAC.	ST.	AL.	AD	D
PROGRAM CHARACTERISTICS	Program purpose		11	8	1	X
	Curriculum model				2	X
	Size (enrollment & number of FT/PT Fac.)					X
	History of its development					X
	Admission criteria				4	X
	Graduation rate					X
RESEARCH TRAINING STRATEGIES	Research requirements	18b	15h 18	12g	5 6	X
	Methods used in research training	16 -	12 14 15d	9 11	8	
	Advising system	18a	15g	12f		
	Number/type of research projects				7	X
	Difficulties in research training	20			12	
SUPPORT FOR RESEARCH	Financial resources for Inst. research	12 18c 19			13 14	X
	Faculty quality	4 11				
	Library holdings	18d	15c	12d	10	
	Facilities available	18c	16			
PERCEPTION ABOUT THE INFLUENCE OF RESEARCH IN PROGRAM QUALITY	Articulation teaching/research	14 15	13 15a 15c 15f	12a,b c,e,h	9 11 16	
	Quality of research outcomes	21	17 19		7 15	X
	Responsiveness to sp. needs	13	10 20	7-13	3	
	Possib. improving research	22 24	23	15	18	
	General assessment of the program	25	22	14	17 19	
	General information	1,2, 3	1-9	1-6,9		

FAC-Faculty ST-Student AL-Alumni AD-Administrators D-Documents

viewpoints about the same aspects of their graduate programs. In addition, alumni were asked to evaluate their thesis experiences and particular attention was given to information about their employment status, work settings, and the nature of actual work activities. Other topics emphasized in the graduate survey were current scholarly activities, research grants, affiliations to professional associations and research training received after their degree was conferred.

The faculty questionnaire also paralleled in structure the instruments for students and alumni. Faculty members were also asked to provide a brief but comprehensive view of the importance of research within their graduate programs and to report their perceptions about the quality of the research outcomes accomplished.

The instruments designed were submitted to knowledgeable individuals and their comments and suggestions were incorporated in the final version. According to the methodological recommendations of Patton (1990, p. 15) word meanings were determined by conducting a pilot study. Appropriate reliability checks suggested a need to reword questions or replace one word with another. Particularly, attention was given to the accurate translation of the instruments into Spanish. Some questions were modified to address major issues not identified earlier.

The reliability of the instruments was enhanced in two ways: the sequencing of the questions and their wording. The

sequence of the questions followed a logical order, dealing first general concepts or facts, and later focusing on specific questions about research training and the meaning of research in graduate education. This sequencing provided cues for further observations on strategies and results of research.

Procedures for Data Collection

As this research employed separate instruments, the procedures to collect the information are discussed below. It provides a context for further discussion of the reliability of the research process.

Information about each program was sought from five sources: interviews with administrators, a faculty questionnaire, student and alumni surveys, and various academic documents provided by each institution. The researcher negotiated with competent authorities the mechanisms for accessing information about each program. The appropriate administrative offices at each institution which handled the registration and academic procedures were contacted.

During the first stage of the research process an extensive range of qualitative data were obtained through in-depth interviews with key informants. The purpose of these interviews was to allow the researcher to collect the administrators' perspective about their programs. Questions covered their feelings, thoughts, and intentions with regard

to research in their programs. The respondents were asked to answer twenty questions.

In this study interviews fulfilled several functions. They introduced the researcher to the sites selected. The interviews were tape-recorded and transcribed in the respondents' own words. In this sense, interviews provided nondirective prompts to elicit information. The open-ended questions also acted as a guide for gathering similar information across sites.

This procedure ascertained how key informants evaluate their programs and how they develop research training in those programs. The researcher entered the context as learner, not claiming to know before-hand what was salient. This approach was necessary to understand the views of the participants and to identify patterns in the realities studied. Therefore, what was needed was a highly adaptable but valid and reliable instrument to discover what was important at each site.

After considerable revision, the faculty questionnaires and the student and graduate surveys were administered in November 1992. The researcher spent two to four days in each institution in order to have the opportunity to contact all individuals selected in the sample. However, the restricted use of student information prevented follow-up to those individuals who could not respond to their questionnaires when the researcher administered them at each institution.

Another difficulty arose locating current addresses of graduates. Some information was obtained by school records. Names of all graduates from the past five years were collected from the Registrar Office in each institution. Addresses were obtained from alumni directories. Additionally, various faculty members and students were able to provide some addresses.

In addition to the data collected by the instruments, primary and secondary materials about each selected program were gathered. These sources included catalogs, institutional mission statements, description of the curricula, and the list of theses presented during the last five years. Other items of information were requested of the departmental offices, based on indicators included in the study's design. This information included the number of students and faculty members, admission data, faculty research involvement, degrees granted, and so forth. In some cases it was difficult to gather the needed information, some programs did not keep complete records or do not conduct follow-ups with their alumni.

The data collection methods comprised an overall triangulation strategy as a means of insuring a degree of reliability and validity (Jick, 1983; Mathison, 1988; Smith & Kleine, 1986), and included triangulation by methods, data and theory.

Data Analysis Procedures

The process for data analysis was inductive. The analysis began almost at the beginning of data collection as the researcher constantly reflected on the meaning of the data and the original research questions. As the study progressed more time was spent analyzing data, reducing the amount of information to a smaller set of categories, themes or propositions. To understand how adequate the original framework was, and where it needed to be revised, memoing was used. As Miles and Huberman (1984) state memos are "the theorizing write-up of ideas about codes and their relationships" (p. 69).

Next, each piece of data was coded according to the category into which it fell. Coding data was an ongoing process that occurred simultaneously with the quantitative analysis. Specific codes were written in the margins of the transcribed interviews. Coding was useful in this case because once the information was coded, clusters, patterns and categories were more easily identified (Miles & Huberman, 1984, Ch. III).

The data obtained were systematically coded and the analysis then allowed comparison of the responses. Similar programs in their orientation were contrasted. As the data began to make conceptual sense, the researcher checked the previous definitions of the research design and wrote "analytic memos" (Glaser, 1978) about "the meaning of the

category and its cause and effects as well as the conditions under which category exists" (Smith 1987, p. 271). The researcher then made a further elaboration of the data.

Another way to summarize data was through the use of matrices or summary formats (Miles & Huberman, 1984, pp. 211-213). In creating these matrices the researcher identified concepts, themes, or elements which assisted the researcher in data comparison. Matrices are especially useful in cross-site analysis because they display data in a format which allows comparisons and assists the researcher in developing warranted generalizations. Matrices can further "compress" information, making it easier for the researcher to systematize large amounts of data. The summary tables based on the matrices first were descriptive, then inferential, and as the research progressed, the matrices facilitated in-depth analysis.

Again, triangulation was a useful strategy in analyzing multiple sources, methods, and groups. Thus, the data from interviews wwere corroborated with other data obtained by student surveys and by analysis of relevant documents.

Another way to validate the results was to compare then across the sites involved. If the findings were similar, then limited generalizations could be attempted concerning the research questions. Likewise, differences among sites were used as a further impetus to investigate their sources. Such differences cannot be ignored, inasmuch as "negative findings" provide potentially useful information as well as areas for

future research. While the procedures and methods outlined above cannot completely ensure the "truthfulness" of the findings, they do constitute at least the necessary conditions for conducting credible research within this context. Chapter VI presents the analysis of the data and the major findings of the study.

CHAPTER V

GENERAL DESCRIPTION OF THE PROGRAMS SELECTED

This chapter provides a narrative of the characteristics of programs selected for this study. It includes aspects such as background, population, curriculum, infrastructure and research activities. A detail description of the programs studied can be found in Appendix D.

Background. The study encompasses information gathered in six Mexican institutions: the Interdisciplinary Center for Research in Technical Education (CIIDET)[1], the Department of Educational Research (DIE/IPN), the Higher School of Economics and Administration (ESCA/IPN), the Autonomous University of Tlaxcala (UAT), the Iberoamericana University (UIA), and the University of Monterrey (UDEM). The first four institutions are public and the last two are private; half are in Mexico City and half are located througout the country.

The Interdisciplinary Center of Research and Teaching in Technical Education (CIIDET) is a coeducational public university, under the jurisdiction of the Ministry of Education through the General Office of Technical Education

[1]From this point on the programs studied will be cited by eir initials.

(DGETI). CIIDET offers graduate programs in the educational sciences with an emphasis on educational research and teaching in higher education. This center was created by President Echeverria in 1976 with a mandate to service the subsystem of Technical Education[2].

CIIDET is located in Queretaro, a city of about 3 million people, approximately two and half hours by car, north of Mexico City (See Appendix E). Queretaro is one of the most important historical sites in the Republic of Mexico since it was there that the independence movement began. CIIDET facilities include four buildings located in front of the Technological Institute of Queretaro.

CIIDET is organized into three main divisions: research, teaching and extension. For 12 years it offered a master's degree in educational sciences with an emphasis on research, and also from 1983 to 1986 a cohort of doctoral students was formed emphasizing research in educational administration. However, the organization of this institution has suffered dramatic changes and the researcher found that currently CIIDET is only operating a specialization program wich emphasizes teaching in higher education. This situation will be discussed later in this Chapter.

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[2]Technical education as offered in the Technological ıstitutes at the undergraduate and graduate levels includes ıgineering in all its branches, tourist administration, business lministration, petroleum technology, metallurgy and computer :iences. Currently the subsystem of Technical Education includes Technological Institutes and 5 Research Centers for :chnological development.

The Department of Educational Research (DIE) is also an institution centered on educational research. This institution is part of a decentralized "Research Center for Advanced Studies" (CINVESTAV) which is under the jurisdiction of the National Polytechnic Institute[3] DIE was created in 1971 as a response to the multiple educational needs emerging from the expansion of the national system of education. Particularly, the original purpose of DIE was "to promote and to disseminate educational research" (DIE, 1987, p. 1).

Therefore, due to the intention of promoting certain curricular changes in basic education during its first years of existence, DIE's researchers designed national textbooks known as "free texts" ("textos gratuitos") for elementary education and participated in a popular education project in a poor neighborhood of Mexico City.

In 1975, the master's program in education was created. Since then students and faculty at DIE have focused their research activities on educational problems mainly related to psycho-social factors in education and the learning-teaching process. During the last decade DIE has consolidated five areas of research: 1) social, political and cultural

[3]The National Polytechnic Institute is one of the two biggest institutions of higher education in Mexico. Since its inception (1937), this institution has had some programs for advanced studies. Formally in 1961, graduate education was institutionalized in areas such as biology, administration, nuclear and industrial engineering and medicine. Currently IPN offers 15 doctorates, 64 master's programs, and 27 specializations in 13 campuses (IPN, 1991, p. XVII)

processes in education, 2) teaching in science and mathematics, 3) psycho-linguistics, 4) curricular and faculty development, and 5) history of education and policy analysis.

The Higher School of Economics and Administration (ESCA) is another institution also under the jurisdiction of the National Polytechnic Institute. ESCA is one of the largest campuses of this Institute[4]. This school began offering graduate programs in 1962, but it was not until 1974 that the master's program in education was created. The program was called "Master's in Administration of Human Resources." It was sponsored by the Organization of American States (OAS) which provided scholarships for several students from all over Latin America and the Caribbean region. The main objective of this program was to prepare for the administration and development of human resources in educational institutions. However, the OAS's sponsorship ended in 1982 when, the master's program became centered in educational administration. The current program was restructured in 1987 under the name of "Master's in Administration and Educational Development" (MADE).

The Autonomous University of Tlaxcala (UAT) is one of the youngest public universities in Mexico. It was created in 1976 and has two campuses in the capital of the state of Tlaxcala. This is a small state which has had a great

[4]ESCA serves more than 13,000 students in the undergraduate level and has four graduate programs with 380 students registered (ANUIES, 1990, p. 112).

economic dependence on two major cities in the center of the country (Mexico City and Puebla). Thus, education in Tlaxcala is less developed than in other states of the country. However, by 1991 the enrollment in UAT had grown to 6418 students, with 6% (371) of its population studying graduate programs.

The Department of Educational Sciences at UAT was created in 1978, through a merging process with the Higher Normal School of this state. The master's program was initiated in 1985 with the idea of enhancing teaching within the institution. The program was restructured in 1988 broadening its scope with the creation of three specialties: teaching in higher education, vocational counseling and educational administration.

The Iberoamericana University (UIA) is a Jesuit, Catholic, independent and urban university. It was founded as the "Cultural Center for University Studies" in 1943 by members of the Society of Jesus. This institution is one of the largest Mexican private universities with a recognized reputation. More than 15,000 students are studying on five campuses which form the Iberoamericana system. The largest one is located in Mexico city with more than 13,000 students. Other campuses are located at Leon, Torreon, Tijuana and Puebla.

UIA created a master's program in education in 1977 with the purpose of preparing specialists able to work in both the

private and public sector, especially in educational programs that may serve the least privileged social groups.

The University of Monterrey (UDEM) is a young university created in 1970 by a small group of people including industrial leaders, outstanding scholars of the region, and representatives from the Catholic church. The university was created to "increase the educational standards of the state" with a humanistic perspective. The institutional mission statement reads: "this institution recognizes the human being as origin, center and ultimate aim of the culture, which is a process of humanization" (UDEM, 1992). Given that Monterrey is the second most important city of the Mexican Republic, the educational needs of the northeast region have grown during the last twenty years. Therefore, this institution of higher education responds by preparing human resources from this region of the country with three graduate programs. These programs enrolled 212 students in 1989-90 in the areas of administration and education (ANUIES, 1990, p. 180).

The Division of Educational Sciences at UDEM currently includes an undergraduate program, three specialties, and a master's program. The master's program, in particular, was created in 1976 to promote the actualization of professors within the university, with emphasis on teaching in higher education and educational psychology. Four years later the curriculum was revised and focused on educational planning and development. This curricular plan operated until 1988, when

three specializations were created and linked with a further revision of the master's program.

Population. Reporting on the current student population of the programs studied, two of them --CIIDET and UAT-- have a high enrollment due to the nature of the two programs (with 95 and 57 students respectively); the other three programs have a regular size that ranges from 25 to 35 students (ESCA, DIE and UIA). UDEM has the smallest group of students enrolled (15) (See Table 10). In addition, UDEM reported 36 students registered in specialties.

As can be noted above, the student body of these programs has been more or less stable, with the exception of CIIDET. In 1988, this institution suspended the master's program due to the lack of demand and only took care of students already enrolled in previous semesters. Actually, the numbers from CIIDET that appear in Table 10 for the last two school-years correspond to students in the Specialization program. It is also important to observe that for three semesters UIA did not admit new students because of several faculty changes, and UIA decided that it was necessary to review the program objectives.

Table 10

Enrollment of the Programs Studied (1985-1992)

YEAR	CIIDET				D I E				ESCA				U A T				U I A				UDEM			
	I	M	F	T	I	M	F	T	I	M	F	T	I	M	F	T	I	M	F	T	I	M	F	T
85-86	77	89	48	137	27	33	17	50	11	33	18	51	0	0	0	0	20	17	10	27	5	2	15	17
86-87	0	39	12	53	0	14	17	31	6	27	12	39	53	39	14	53	19	20	23	43	13	4	21	25
87-88	11	6	5	11	18	9	20	29	13	42	15	57	53	39	14	53	10	23	23	46	4	7	12	19
88-89	13	10	12	22	0	6	14	20	19	15	8	23	51	43	18	51	11	18	22	40	5	8	12	20
89-90	14	15	11	26	18	6	27	33	10	27	13	40	48	21	27	48	10	21	30	51	3	6	10	16
90-91	17	17	13	*30	0	3	16	19	5	22	15	37	43	21	22	43	0	19	25	34	3	4	9	13
91-92	0	53	42	*82	25	10	33	44	15	28	15	41	57	22	35	57	20	16	28	44	2	5	10	15

CODES:
I - Number of students initiating
M - Males
F - Females
T - Total
(*) Correspond to the Specialization program

Given the comments made by all administrators interviewed for this study, one can say that most of the students of these programs are already active in the field of education. In fact, there is a general agreement with Dr. Alvarez who stated: "in the best cases students dedicate half-time to their studies" (Interview 4). Even though some students receive scholarships at three of these institutions (DIE, UAT and UIA), they often need to seek additional resources because they receive only small stipends.

Frequently, students who have studied in these Master's programs have been from different states of the country because in the past there were few graduate programs in education. This was pointed out specifically by administrators of DIE and UIA, which are the institutions that have had a more heterogeneous student population. Indeed, they have had some foreign students from Latin American countries such as Venezuela, Chile, and Colombia.

However, as was stated in Chapter II (p. 30), one major difficulty experienced by these programs is a low rate of graduation. This situation is reflected by the numbers of graduates from 1985 to 1991 that the programs reported. The data appears as follows:

Table 11 Graduates of the Programs Studied

	CIIDET	DIE	ESCA	UAT	UIA	UDEM
1985	38*	12	1	-	1	17*
1986	10	7	2	-	1	-
1987	9	3	1	-	1	5
1988	-	7	4	-	5	-
1989	4	5	4	-	2	-
1990	13**	7	3	-	5	2
1991	82**	1	2	3	2	3
TOTAL	23	42	17	3	17	10

Source: Information gathered during the research process.
* These students were not required to present a thesis.
** These numbers correspond to the Specialization program.

Faculty. According to the information gathered during the researcher's site visits, these six programs comprise a total of 78 faculty members involved in teaching and/or research. Fifty-five percent of them are full-time professors. However, analyzing Table 11 one can note that more than two-thirds of these faculty work in CIIDET or DIE. Almost 30% of the professors teach only one subject, and therefore have part-time status. In addition, all faculty members must dedicate at least one-third of their time to research. Every division or department that offers these programs is headed by a dean or chairperson.

In regard to the distribution of professors by gender, the situation reported by these institutions parallels to what prevails in most of the existing programs in the field. In

other words, even though males predominate, the proportion of females usually ranges from 30% to 45%. More detailed information about the faculty of these programs is shown below:

Table 12

Faculty Involved in the Programs Studied (1991-1992)

Institution	GENDER			STATUS			
	M	F	T	FT	1/2T	PT	T
CIIDET	7	3	10	9	-	1	10
DIE	6	14	20	20	-	-	20
ESCA	8	3	11	4	4	3	11
UAT	8	6	14	1	-	13	14
UIA	8	4	12	7	2	3	12
UDEM	7	4	11	2	6	3	11
TOTAL	44	34	78	43	12	23	78
%	56.4	43.6	100.0	55	15	29	100.0

Source: ANUIES (1990). Directory of graduate education in Mexico. Mexico: ANUIES.

Codes:
M - Male
F - Female
T - Total
FT - Full time
1/2T - Half time (18 hs/week)
PT - Part time

The preparation of faculty in the programs studied includes 13 doctoral degrees, 13 with master's, and 7 only hold an undergraduate degree (See Appendix D). Most faculty members who have earned their doctoral degrees have studied in foreign countries such as the United States, France, Belgium, Italy, or Spain. Generally speaking, one can say that most of

the professors involved in these programs are well prepared and some of them have a high reputation in the field, especially some professors from of DIE and UIA.

Faculty ranks depend upon their academic degrees, experience and seniority within each institution. Faculty members are entitled to a full year's sabbatical every six years at half salary or six months at full pay. Occasionally, these institutions grant leaves of absence for faculty working on advanced degrees.

Curriculum. Master's students must complete at least 50 credit hours of class work and a thesis or a research report which, in most programs is equivalent to a certain number of credits. Within the course work almost all programs allow students to select some elective courses that usually correspond with the area of specialty chosen by the student. Table 13 shows that the content of the curriculum at the programs studied has some similarities. For instance, subjects taught as part of the core curriculum can be classified as basic, instrumental and specialized courses. However, only ESCA, UAT, and UDEM offer specialties.

A substantial difference exists between DIE's curriculum and that of the other programs studied. DIE has a distinctive structure that corresponds closely with the conceptualization of research discussed later in this study. The best way to describe this programs' curriculum is to provide the

Table 13 Comparison of the Core Curriculum of the Graduate Programs Studied

	CIIDET	DIE**	ESCA	UAT	UIA	UDEM*
Theories in Education and Social Sciences		x	x	x	x	x
Knowledge and Learning Theories/processes	x	x	x	Prq.	x	(2)
Philosophy of Education				x	x	x
Analysis of the Mexican Educational System				Prq.	x	(2)
Educational Psychology				x		
Sociology/Economics in Education			x	x		
Analysis of Ed. Policies in Mexico	x			x	x	(2)
Historical Analysis of Education in Mexico		x				(2)
Analysis of Educational Problems in Mexico		x			x	
Teaching Methods in Higher Education	x					
Educational Planning			x		x	
Evaluation in Education	x		x			x
						(2)
Research Methodology		(2)	(2)	x	(2)	
Epistemology		x			x	x
Statistics in Education				x	x	(2)
Thesis Seminar(s)		(6)	(2)		(2)	
Non Formal Education/Adult Education					x	
Curricular Planning and Development	x	x				
Educational Administration			x			
Education and Mass Media Technology						x
Seminar on Planning Educ. Projects						x
Organization and Governance in Ed. Inst.		x	x			x
Comparative Education				x		
Education, Science and Tech. Development	x					
Group Dynamics	x					x
Seminar on Professional Actualization	(2)					
Teaching Methods (by disciplines)	(2)					
Seminar(s) on Selected Topics		(2)				
Residence/internship	x					
SPECIALTIES						
Educational Administration			x	x		x
Teaching in Higher Education				x		
Counseling				x		
Planning and Development of Educ. Projects			x			x
Special Education						x
Computer Sciences and Education						
						70
Number of Credits in the Core Curr.	22		52	80	52	12
Number of Credits Electives/Specialties			20	12	28	
Number of Credits for Thesis	6		16	20	20	82
Total	28		88	110	100	

Prq. - prerequisite (*) The courses at this institution are organized in quarters.
(**) 50% of its courswork consists on research practice and this program has no credit system.

description that Dr. Weiss, the director of the Department, gave:

> DIE's curriculum includes general and specialized courses. But the coursework only comprises half of the plan of study for the master's program. The other half is the insertion of the student into a research project from the beginning of the program. The idea is to insert them into a project in which they would develop a sub-project onwards as a thesis (Interview 3).

If one compares the number of courses related directly to research training, DIE and UIA's programs require more research courses. This is consistent with the orientation of those programs towards the preparation of researchers.

By contrast, it is interesting to observe the content of the program offered by CIIDET as Specialization in Teaching. This program is equivalent to half of the credits required for a master's degree.

Administrative procedures. Major differences are found in the organization of the programs studied. First of all, each institution determines for itself the calendar, schedules and requisites. Therefore, some programs are more structured with a certain sequence than others (i.e. UAT vs. ESCA or UIA). The school-year is divided into semesters in three institutions (ESCA, UAT and UIA) while UDEM has quarters. Again, DIE's calendar is freely organized, and CIIDET plans

the courses according to the site possibilities. There is a two-week Christmas vacation and a two-week Spring break.

Furthermore, the type of students served by these programs defines in some way the time in which classes are held. For instance, UAT and CIIDET organize their schedules on a weekend basis (Thursday and Friday in the evening, and Saturdays in the morning). Similarly, ESCA, UIA and UDEM have classes predominantly in the evening, because, as administrators stated during the interviews, most of the graduate students registered in these programs are part-timers.

However, concerning administrative procedures, the information gathered for this study demonstrates that almost all programs follow the same procedures. For example, students applying for admission must present proof of completion of their undergraduate degree (Licenciatura) in any field, with at least an 8.0 average[5]. In addition, all applicants must sit for and pass entrance examinations. Table 14 shows in detail all the procedures each institution requires for admission. One can observe that while this process consists of the fulfillment of certain administrative requirements, at the same time, it depends very much on the criteria set by professors who evaluate the examinations and interview the candidates.

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[5]This grade could be translated in the American evaluation system to a "B".

Table 14

Comparison of Admission Procedures

P R O C E D U R E S	CIDET	DIE	ESCA	UAT	UIA	UDEM
To hold an undergraduate degree	(X)	X	(X)	(X)	(X)	X
Previous experience in educ. settings on						
teaching	X	X				X
research		X			X	
Certain grade (8.0) point average on a 10 grade scale during their undergraduate study		X	X		X	X
To fill application form(s)	X	X	X	X	X	X
To submit transcripts and curriculum vitae		X	X	X	X	X
Letters of recommendation or nomination	X	X			X	
Entrance exam(s)						
Mathematics			X		X	
Foreign language comprehension		X	X		X	
Essay/critique of an educ. article		X	X		X	
Writing sample						X
Psychological test				X		
Personal statement regarding reasons for studying the program (educational objectives)	X	X			X	X
Interview(s)	X	X	X	X	X	
Prerequisite course(s)			X	X		

(X)Exceptions are made to candidates who do not have their licentiate diploma yet.

The evaluation system established in all graduate programs studied is based on a decimal system, in which 10.0 is the maximum and 7.0 is the minimum passing grade. Students must maintain, at least, an 8.0 average, and they must attend at least 70% of their classes in each course. Failure to pass two courses disqualifies a graduate student from continuing in these programs.

Academic services and material resources. There are evident differences in the amount of bibliographical materials available. Library holdings range from 2,000 to 30,000 books and from 10 to 150 subscriptions to specialized periodicals. Institutions with greater library resources are those who have focused their graduate programs on research (DIE, UIA, and CIIDET).

CIIDET, DIE, and UIA have more infrastructure to support research activities. For instance, CIIDET has microfiche facilities and the British Thesis Index. UDEM's library is equipped with a SECOBI terminal. Additionally, UIA is connected to ERIC and other databases on compact discs, which provide access to data banks in the U.S.

Academic computing services recently started in most of the institutions studied. They have few personal computer units. However, computers provide some support for research, administration, and teaching activities. CIIDET also has an audio-visual center that includes a color television

production facility. This center prepares audiovisual materials for institutions of higher education.

Research activities. All the institutions studied claim that they are making significant efforts to promote research as part of their graduate programs. However, given the identity of each institution and the amount of resources available, obviously there are differences among them.

This study has examined in detail research activities in these programs. For now, it is important to state that research has consisted primarily of the research that individual faculty conduct, or of the theses presented by students as a requirement for their master's degree.

Institutions with more background in research are, in order of importance: DIE, UIA and CIIDET. For instance, DIE reports 110 publications throughout its history, and CIIDET recounts during the 16 years of its existence that 37 research projects and 5 books have been published. UIA does not have many publications in the field of education, but has the support of a research center called "Center for Educational Studies" ("Centro de Estudios Educativos" -CEE-) which is probably the most specialized research center in the country. Some students from the master's program at UIA have the opportunity of conducting their research practice in this center and of receiving advice from researchers there.

Another strategy that facilitates research activities is that four of the programs studied (DIE, ESCA, UIA, UDEM) have implemented a special research program, often called "Institutional Plan for Educational Research." Of course, the consolidation of these activities depends on several factors which will be discussed later. Moreover, all institutions disseminate and exchange ideas through short workshops, lectures, and consulting services to other educational institutions.

As would be expected, in most of the cases the availability of financial resources for research determines research productivity. Therefore, it is important to clarify that funding for research projects is generally provided by government agencies, international organizations, or contracting institutions. Some standards for additional support to graduate programs have been established by governmental agencies such as CONACYT. At the moment, institutions that have been favored by this type of support are DIE and UAT exclusively, due to the lack of research productivity in the other institutions.

CHAPTER VI

DATA ANALYSES

This chapter is divided into three sections. The first provides a brief overview of the procedures used in analyzing the data collected. The second section provides an analysis of the information gathered from the surveys. The third section compares and contrasts the results, discussing the concepts that emerge from opinions of participants in the study, the strategies that each institution has implemented to promote research, and the main difficulties and concerns that were expressed.

Procedures Used in Data Analyses

Methods of analysis in this study were determined largely by the data collection procedures and by sources of the data. The survey instruments completed by faculty, students and alumni provided quantitative data plus responses to several open-ended questions. In contrast, the interviews of program administrators provided broad qualitative information about the programs studied. The data were coded, processed and analyzed combining both manual and computer procedures. The qualitative data were analyzed by coding the data into

categories, summarizing the more relevant information into matrices, and identifying concepts and strategies used for research training.

The analyses were guided by the research questions identified in Chapter I (p. 6) and address all variables that appear in the design for this investigation. Therefore, the results presented have six foci: 1) program purpose, 2) academic and research requirements, 3) integration of teaching and research, 4) research practice, 5) resources available, and 6) perceptions about the importance of research. The results are presented first by groups and secondly by institutions.

The procedures used to gather data were fairly effective and most people who were part of the sample willingly participated in the study. The distribution and collection of research instruments were handled by the researcher. At each site selected administrative staff and two graduate assistants facilitated making contacts with people who were not on campus. It would not have been possible to carry out the study without the assistance and collaboration of these staff members at the participating institutions.

In general, the number of people who participated coincides with the sample design. According to the number of participants in each group, one can say that the aggregated responses reasonably and accurately represented the population

involved in the programs studied, with exception of the sample of the graduates[1].

In several ways the information has been triangulated mainly by comparing responses among groups and institutions. Some survey items asked for a ranking of specific aspects such as "program purpose", "competencies acquired", and "program satisfaction". These items were computed to form scale scores. Those scores provide indicators that tend to be more reliable than summaries of individual item responses. The composition and interpretation of each scale will be discussed as the results of the study are reported.

Profile of Respondents

The total number of individuals participating in this study was 166: 25 faculty members, 80 graduate students, 52 alumni and the 9 administrators of the six graduate programs selected for this study. The profile across programs for each group is quite similar.

Fifty percent of the student respondents were under 40 years of age and 70% were female. The distribution by gender is similar to the current population of students registered in the graduate programs (See Table 15). Most of the respondents (76%) reported that they usually take four or more courses per

[1]Administrative offices were asked to supply the names and addresses of all master's degree recipients from 1980 to 1992. A few programs could supply the information only for one or two of these years. Most did not have addresses. Thus, technically the survey was not distributed to a representative sample of graduates.

Table 15

Students Respondent Characteristics

INST.	GENDER		STATUS		WORK EXPERIENCE					TYPE WORK				TOT
	F	M	FT	PT	-2	3/5	6/10	11/20	+	T	A	R	O	
CIDET	7	5	2	10	1	0	9	2	0	12	0	0	0	12
DIE	7	1	8	0	1	1	5	1	0	1	0	1	0	8
ESCA	7	5	5	7	2	1	2	5	2	8	1	0	3	12
UAT	13	9	8	14	0	3	11	8	0	14	6	2	0	22
UIA	14	3	5	12	3	6	3	4	1	9	0	3	4	17
UDEM	8	1	2	6	2	2	3	1	1	6	2	0	1	9
TOTAL	56	24	30	49	9	13	33	21	4	50	9	6	8	80
%	70	30	38	62	11	16	41	26	5	69	12	8	11	100

Codes:
F - Female M - Male
FT - Full time PT - Part time
T - Teaching A - Administration
R - Research O - Other (teaching and administration)
TOT- Total

term and 60% said that they had already started their thesis proposal. Almost half of this group began their graduate program in this academic year. This situation limited their responses to some items included in the survey.

The majority were part-time students (62%) who reported that they have full-time employment. Several items on the survey dealt with the students' professional background in order to identify links between their work and studies. The data reveal that 64% of them worked in teaching positions, 14% in administration, and 5% in educational research and worked predominantly in the public sector (66%).

In contrast, respondents who were graduates were 60% female and 40% male. Almost 80% of them held full-time positions related to the field, predominantly in public institutions (65%) and in teaching activities (57%). However, 22% were administrators and 16% reported they were working as researchers. In fact, some of these participants (22-42%) were currently employed at the institution that granted their master's degree. Thus, there is a difference between the current employment of students with what alumni reported, because more alumni reported to be working on research.

In order to ascertain some of the graduates' professional activities, a question was included on the survey. The three activities most frequently identified were: reading educational books or journals (88%), teaching courses in

higher education (75%), and attending conferences or lectures (73%). Activities related to educational research were marked only by 40% of the respondents. This corresponds to an observation of one administrator who assessed that "the majority of graduates do not work in educational research but in educational development" (Interview 3).

Due to the small number of people who recently obtained their graduate degree at each institution, the sample of alumni for this study included only 21 people (50% of the sample) who were close to defending their thesis[2]. Most of those who were already graduated received their degree during the last two years (87%). These graduates were people who continued to stay in contact with their respective institutions; time constraints for this study were an obstacle in locating a greater proportion of alumni from former classes (See Table 16).

Of the 25 faculty members who participated in this study, 44% were female and 56% male. This distribution is similar to the total faculty population registered by ANUIES in graduate programs in education (See Appendix B). The work status of 64% was full-time professors; 20% of them worked more than 18 hours per week (which is considered in Mexico "half-time" status); and 16% were only working part-time.

[2]In Mexico when students finish their coursework they are considered alumni.

Table 16

Alumni Respondent Characteristics

INST.	GENDER		GRAD. DATE			TYPE OF WORK				WORK EXPERIENCE*				SECTOR		TOTAL
	F	M	1Y	2/3Y	+3	T	A	R	O	1/2	3-5	5-10	+	PU	PR	
CIIDET	4	5	2	6	0	5	2	0	2	3	1	2	3	9	0	9
DIE	10	2	3	0	3	2	2	7	1	7	3	1	1	12	0	12
ESCA	3	5	4	1	0	6	2	0	0	0	2	1	5	8	0	8
UAT	2	1	3	0	0	1	1	1	0	1	0	1	1	3	0	3
UIA	9	3	3	1	0	7	4	0	0	8	3	0	0	2	10	12
UDEM	3	5	4	0	1	8	0	0	0	1	4	2	1	-	8	8
TOTAL	31	21	19	8	4	29	11	3	3	20	13	7	11	34	18	52
%	60	40	61	26	13	57	22	16	6	39	25	14	22	65	35	100.0

Codes:
INSTITUTION Inst.
GENDER F - Female M - Male
GRAD. DATE Graduation Date
TYPE OF WORK T - Teaching A - Administration R - Research O - Other
SECTOR PU - Public PR - Private
(*) Numbers correspond to years of experience

In order to identify characteristics of faculty members the questionnaire included several items dealing with variables such as academic preparation and professional experience in the field. A synthesis of the data on these items follows.

Twenty-eight percent of the faculty respondents (7) held a Ph.D. degree, 60% (15) a master's degree, and 12% (3) only an undergraduate degree. Four faculty members were currently studying or writing their master's thesis and 68% obtained their highest academic degree after 1980. Fifty-six percent did not belong to any professional association. Conversely, many faculty responded that they had received academic awards or promotions in the last five years (60%).

Related to their academic activities, two-thirds of the group have taught less than 10 years in graduate education. A similar situation occurs in regard to the number of years employed at the current institution. Most faculty (80%) teach only one or two courses per semester. A summary of these data is provided in Table 17.

The faculty respondent data correspond with the characteristics of many faculty in Mexican graduate programs. Most faculty members have obtained their academic preparation recently and do not have a very stable labor situation within the universities. because many of them work only part-time.

Table 17

Faculty Respondent Characteristics

INST.	GENDER		PREPARATION			WORK STATUS			TOTAL
	F	M	LIC	M	PhD	FT	1/2	PT	
CIIDET	1	4	0	4	1	4	1	0	5
DIE	4	1	1	3	1	5	0	0	5
ESCA	1	2	1	1	1	2	1	0	3
UAT	2	2	0	3	1	0	3	1	4
UIA	1	5	1	3	2	4	1	1	6
UDEM	2	0	0	1	1	1	0	1	2
TOTAL	11	14	3	15	7	16	6	3	25
%	44	56	12	60	28	64	24	12	100.0

Codes:
INST - Institution
F - Female M - Male
LIC - Licenciate M - Master's degree D - Doctorate
FT - Full-time 1/2 - Half-time (18 hs/sem) PT - Part-time

However, some of these professors have received incentives, because frequently they have good reputations. In fact, this was the situation reported by administrators of both DIE and UIA. One reported that "professors have a high academic level" (Interview 8).

An important part of the data collection was the information elicited from nine administrators. Each one chairs, in one way or another, the graduate program at his/her institution. Even though specific information about their background was not requested, from the interviews the researcher found that all were experienced and highly prepared. Four of them held a doctoral degree and the rest had completed studies at the master's level. Six were males and three were females.

During the site visits it was easy to observe that these administrators are key faculty members who are highly committed to their own programs. They centralize many responsibilities in regard to the academic activities of the graduate programs. Frank discussions with all of them helped the researcher to understand the peculiar characteristics of each program and their suggestions were highly valuable.

Survey Results

Student responses. One of the goals of this study was to identify the purposes of the graduate programs studied. Students and graduates were asked to rate the degree of

importance their program currently assigned to each of five different purposes: preparing researchers, teachers, or other professionals in the field of education, to prepare for future study, or to provide personal enrichment. Each purpose was rated on a three-point scale from "much" to "little" importance. The answer to this question is significant because, in part, this study seeks to clarify some effects of the differences among programs with diverse purposes.

Student opinions about the purpose of their programs reveals that many believe their programs give primary attention to the personal enrichment and to the preparation of researchers. This opinion differs with the objectives declared by four of the programs studied.

In contrast, students have diverse personal reasons when they decide to undertake graduate education. Fifty-nine percent responded that the primary reason for enrolling in their graduate programs was to maintain their present position. A second reason offered was to advance financially, and a third was to facilitate a career change. Only one person specified that he/she wanted to be prepared as a researcher.

Students reported that they were well acquainted with the research requirements of their graduate program, but almost 20% thought that these were not well defined. At the same time, it seems that they begin the formulation of their thesis

proposal early in their programs because 60% said that they had already begun it.

Regarding the integration between teaching and research, it seems that there are three aspects that support this integration. First, 85% reported that sufficient opportunities exist for interaction with faculty. Second, 68% of the student respondents agree that faculty provide them support when they design their own research projects. Third, 67% thought that teaching methods facilitate the acquisition of research skills. However, a small group (19%) reported that the advising system is not adequate. Very few reported working with faculty on research projects and 87% said that they were not.

In analyzing eight variables regarding the degree of agreement with the preparation that they receive for research, one can conclude that the student evaluation is positive overall. Respondents rated the eight aspects using a scale of five points ranging from strong agreement (5) to strong disagreement (1). Variables which obtained an average of 4.0 or higher included relationships with faculty and advisors. The one variable that obtained the lowest average (3.6) relates to library holdings (See Table 18).

However, there are several negative student opinions which are important to consider. The major difficulties that students found in doing research are lack of time, methodological gaps and scarcity of bibliographical sources.

Table 18

Students Agreement with Research Training

ASPECT	1	2	3	4	5	MEAN
FAC. SUPPORT	4	7	8	32	21	3.9
FAC/ST COMM.	2	5	5	30	38	4.2
FAC/ST INTERACTION	3	6	9	31	30	4.0
RESEARCH SKILLS	3	5	11	36	16	4.0
LIBRARY	4	20	8	22	20	3.6
TEACHING METHODS	5	10	9	34	20	3.7
ADVISING	4	9	9	32	18	3.9
RESEARCH REQUIREMENTS	3	12	13	30	15	3.7

Note: Numbers within the Table correspond to percentages. See Student Survey, question 15 for the exact wording of each aspect (Appendix C).

Abbreviations:
FAC - Faculty
ST - Students
COMM - Communication

Values:
1 - Strongly disagree
2 - Disagree
3 - Ambivalent
4 - Agree
5 - Strongly agree

Half of the students reported that they use the library at their institution at least one or two hours a week, but 26% do that only when they need to prepare papers. In fact, many said that they need to buy personal books or to consult other libraries in order to fulfill the academic requirements of their programs.

According to student perceptions, the graduate programs are preparing them to conduct research in their professional field, mainly because they receive the basic knowledge they need through coursework. Therefore, it is evident that students consider this preparation important. To improve it, they suggested more practice, better quality teaching, and a more practical approach in their learning experiences. Most of them can anticipate that earning a master's degree will either improve their current work status or prepare them for a new position.

Alumni responses. Eighty-three percent of the graduates indicated that the primary reason for enrolling in their graduate programs was to improve their professional development. Secondly, 52% reported a personal interest in a particular program. In contrast with student responses, graduates did not place much importance in getting a higher income as a result of their graduate studies. Six alumni (11.5%) intended to be prepared as researchers, but one-fourth

of the group wanted preparation that could be useful for teaching in higher education.

However, graduates reported that their programs placed primary emphasis on personal development and secondly on the preparation of researchers. Only CIIDET's graduates had a clear idea that their program is focused on teaching.

Generally, graduates expressed satisfaction with the research requirements (60% agree or strongly agree). They also reported that they had enough support from faculty during the development of their thesis project. This seems to be in contradiction with the difficulties reported by several administrators in regard to the completion of theses.

Regarding alumni perceptions of their research training, 67% noted that it was not adequate enough for their professional needs. They required additional training in aspects such as specific research techniques, computer skills or statistical analysis. Thirty-six percent learned how to do research by participating in research projects or evaluating educational programs. However, a similar percentage of graduates indicated that the basic knowledge studied during their program gave them a wide vision of educational problems of the country. Therefore, the critical skills developed through the analysis of educational problems were the most valuable skills learned.

Just as students reported, the alumni rated the same indicators for agreement with their research training.

Overall, alumni agreement with those aspects is positive, since the score for this question was 3.7 points, a little bit lower than the mean obtained on the same scale by the student survey. Most alumni agree that they had good communication with faculty and with the teaching methods facilitated to analyze educational research (77% and 71% of the responses respectively).

The two variables in that question which were rated lower include the acquisition of research skills and the library holdings (See Table 19). These ratings are consistent with several opinions in the open-ended questions where graduates insisted on the need for more research practice, more specific training in technical matters such as statistical analysis, and frequent opportunities for advice. These results regarding research training are also reflected in alumni recommendations which will be analyzed later in this Chapter.

Faculty responses. This study seeks to understand faculty perceptions on how their programs respond to student expectations, particularly in reference to research training. In general, the majority of faculty members perceive that their programs are responding positively based on the manifestations of satisfaction that students have expressed to them and the results of the academic work that faculty have observed.

Table 19

Alumni Agreement with Research Training

ASPECT	1	2	3	4	5	MEAN
FAC. SUPPORT	2	2	3	22	23	4.1
FAC/ST COMM.	2	6	4	17	23	4.0
FAC/ST INTERACTION	1	5	7	13	25	4.1
RESEARCH SKILLS	8	9	6	15	13	3.3
LIBRARY	4	7	12	19	10	3.4
TEACHING METHODS	2	8	5	21	16	3.7
ADVISING	4	7	9	17	14	3.6
RESEARCH REQUIREMENTS	2	5	9	12	22	3.9

Note: Numbers within the Table correspond to percentages. See Graduate Survey, question 12 for the exact wording of each aspect (Appendix C).

Abbreviations:
FAC - Faculty
ST - Students
COMM - Communication

Values:
1 - Strongly disagree
2 - Disagree
3 - Ambivalent
4 - Agree
5 - Strongly agree

Only 16% of the faculty reported that their programs respond partially to the student needs because part of the preparation offered is very general and students have very different needs and expectations. Two negative opinions from faculty inclued that they would like to achieve higher quality and more efficiency in academic activities.

These opinions contrast with the lack of information that some faculty members have about the impact that research training has on the professional careers of their graduates. Only 14% knew if graduates of their programs have had good professional experiences. Few faculty stated that graduates tend to continue doing research at their institutions or have high positions in the field. Thirty-six percent said that only sometimes do graduate studies make a difference in the professional careers of alumni.

In regard to their academic programs, faculty were asked to rate their degree of satisfaction with research facilities on five variables: advising system, research requirements, financial resources that support research activities, library sources and computer services (See Table 20). Between 60% to 70% of faculty reported they were either partially or not at all satisfied with these resources because they are limited in availability, organization and number. The differences in these opinions among faculty are due to the fact that some programs such as DIE and UIA have a better infrastructure. These opinions explain why faculty responded that an

Table 20

Faculty Satisfaction with Research Facilities

ASPECT	YES	PARTLY	NO	N/R
ADVISING SYSTEM	13	8	3	1
RESEARCH REQUIREMENTS	8	12	3	2
FINANCIAL RESOURCES	7	5	10	3
LIBRARY HOLDINGS	11	10	3	1
COMPUTER SERVICES	7	10	7	1

appropriate balance between research and teaching is difficult to achieve. In fact, 46% reported that there is no such balance.

Survey questions centered on research training included the importance of research within the curriculum, difficulties for research training, and additional needs of the students. Fifty-two percent said that students sometimes have difficulties in research activities. Seventy-seven percent thought that students needed additional training in educational research.

Almost all faculty respondents (84%) thought that research is important. Seventy-six percent pointed out that research is a fundamental component of the curriculum because it enriches and motivates students in their learning activities. Some faculty members reported that they provide a basic knowledge of research methodologies that students can apply later in their professional life. Faculty who stated that research is only partially important reported that because they have not seen that research results are not known and few people really dedicate time and effort to it.

Faculty respondents suggested that research is more important in those programs that are focused on the preparation of researchers, but not all the programs studied focus on research preparation.

Comparison and Discussion of Surveys Results across Groups

Five variables were included in more than one of the surveys designed for this study. They include program purpose, satisfaction with research preparation, competencies developed, research practice, and additional needs for research training. This section reviews the results across various groups.

In comparing the data on the variable "program purpose," one can note purposes chosen by participants differ from the emphasis that each program formally declares because respondents distributed their answers among all five items proposed (See Table 21). People who were involved in programs which claim to be centered on training researchers (DIE and UIA) had more clarity about the major emphasis posed on research and much less emphasis on other purposes.

On the basis of the results described earlier, it was expected that some of the programs selected for this study would emphasize the goal of preparing teachers or professionals for specific areas such as administration and planning in education. However, the opinions of students and graduates in regard to their programs' purpose did not show a clear perception of these objectives.

Furthermore, students and graduates also agree that preparation in research is an expected outcome of their programs. This demonstrates that it is a general conviction among everybody who is involved in these types of programs

Table 21

Respondents Opinions about Program Emphasis

EMPHASIS	STUDENTS				GRADUATES			
	L	C	E	MEAN	L	C	E	MEAN
RESEARCH	19	36	44	2.2	23	42	33	2.1
TEACHING	22	41	26	2.0	42	21	23	1.8
PROFESSIONAL PREPARATION	21	54	22	2.0	27	38	22	1.9
FURTHER STUDY	24	42	26	2.0	21	44	19	2.0
PERSONAL DEVELOPMENT	2	36	51	2.5	15	29	48	2.4

Note: Numbers within the Table correspond to the percentage of people who ranked in the first place each category.

Codes:
L - Little importance
C - Considerable importance
E - Extreme

that graduate education should provide this preparation in oneway or another. As was noted before, the exception is CIIDET's program, which is making specific efforts to prepare teachers for the Technological Institutes and is less research-oriented.

Though it is impossible to know for certain why these data do not agree with the purposes declared by each program (See Appendix D), several explanations can be suggested: 1) all these purposes are encompassed in the graduate programs studied; 2) there is not enough clarity among students and graduates about their programs' objectives probably due to lack of information; and 3) the question included in the surveys could be unclear or misinterpreted by respondents. It is clear that not enough clarity exists about the purpose of these programs among students and alumni. This situation can be connected also with different expectations about the effect of graduate education in Mexico.

A second variable that can be compared was "agreement with support for research training." This question included eight indicators focused primarily on aspects that may have effects on student research training. As was shown in Tables 18 and 19, these items obtained similar scores on the student and alumni surveys (means of 3.8 and 3.7 on a scale of 5.0).

The lowest average among the individual items was obtained on the student survey with respect to library holdings and on the graduates survey about the acquisition of

research skills. This difference is significant because it reflects diverse perspectives for the two groups. Students are more aware of the limited resources that exist within their institutions because they have recent experiences of needing them. However, graduates have a more general view of what they got from their programs. They can appreciate that certain research skills are important for their professional work. Therefore, the weight of those responses is colored by their immediate needs. According to other opinions obtained in this study, one can say that both aspects reveal a weakness in most of the programs studied.

However, the overall results on this variable can be interpreted as positive, particularly in regard to the relationships between faculty and graduate students. One of the interviewed administrators stated that "advising may facilitate research preparation to the extent that students take time to interact with their mentors and faculty members are open to offer systematic advice which may permit interchanging opinions and experiences" (Interview 7).

The third variable to be compared refers to the competencies or skills that students, graduates and faculty perceive are developed as a result of their research activities within the graduate program. Table 22 shows that there is high agreement between the three groups. The majority of respondents rated abilities needed for designing research projects first. Other skills that were chosen by a

Table 22

Student, Alumni & Faculty Perceptions of

Research Skills Developed by Students

COMPETENCIES	STUDENTS	ALUMNI	FACULTY
WRITING SKILLS	2.1	2.8	3.0
ANALYSIS OF RESEARCH	3.3	2.4	2.8
DOCUMENTARY RESEARCH	2.0	2.2	2.5
STATISTICAL ANALYSIS	1.1	0.7	---*
ANALYSIS OF CASE STUDIES	2.9	2.1	2.6
DESIGNING R. PROJECTS	3.6	3.2	4.1

Note: Numbers correspond to the average point obtained from the sum of rankings for each item.
Participants ranked in order of importance using a scale of 1 = least to 6 = first.

R - Research
(*) This item was not included in faculty questionnaire.

considerable number of respondents were: the ability to analyze current research projects (second for students and third for graduates and faculty); writing skills (second for graduates and faculty); and the ability for doing case studies (third for students).

These data reveal that skills developed for research are primarily tied to the formulation of student theses. The importance of the thesis process and difficulties that administrators and faculty reported will be discussed later.

Another observation is that skills for statistical analysis were consistently rated very low by all students and graduates. Again, this finding reflects some weaknesses that frequently are experienced by graduate students and faculty as well.

The acquisition of research skills has much to do with the possibility for research practice. Included in the surveys for faculty and students was a question dealing with whether or not they worked together on research projects. Fifty-six percent of faculty affirmed they do so, while 84% of students denied it.

This apparent contradiction may have an explanation. Based on several comments, one can understand that there is no such contradiction insofar that faculty and administrators recognized that few opportunities exist at each institution for internships or residencies in which students could be incorporated into research projects conducted by faculty.

Moreover, these practices are not in place in all programs studied. Only administrators of three of those programs (DIE, ESCA, UIA) reported to offer these opportunities to their students.

"Additional needs for research training" is the last variable compared in this section which was asked both of faculty and graduates. They agree in the need for diverse and more profound preparation for research in order to respond to demands of professional work settings. The proportion of respondents who recognize this need is similar (77% for faculty and 67% for graduates).

However, the type of specific preparation that they suggested is different in nature. In general, comments from faculty are more focused on the importance of research practice, while graduates focused more on the acquisition of technical knowledge such as strategies for statistical analysis, computer skills, and the study of new methodologies that may be applied to specific educational problems or programs.

General Evaluation

In order to obtain a wide range of opinions about the strengths, weaknesses of the programs and alternatives to improve research, the last three questions in the surveys were open-ended. Comparing briefly the opinions among the three groups it is evident that responses that show more consensus

Table 23

General Program Evaluation

ASPECTS	STUDENTS f	%	GRADUATES f	%	FACULTY f	%	TOTAL f	%
POSITIVE								
The program approach	19	25	15	30	2	11	36	25
Research activities	18	24	14	28	2	11	34	24
Faculty are highly prepared/support	9	12	6	12	6	33	21	15
Applicable to prof. activities	13	17	5	10	2	11	20	14
Development of critical skills	5	6	4	8	3	17	9	6
Adequate content	5	6	2	4	-	-	7	5
Organization/location	2	3	3	6	2	11	7	5
Enough infrastructure/resources	2	3	1	2	1	6	4	3
Solid preparation	-	-	-	-	3	17	3	2
Positive learning experiences	2	3	-	-	-	-	2	1
NEGATIVE								
Not enough time	18	29	6	13	-	-	24	19
Deficiencies in teaching/advice	6	9	8	17	4	27	18	14
Superficial prep. in research	4	6	12	25	-	-	16	13
Not very practical	4	6	6	13	2	13	12	9
Lack of students interaction	7	11	3	6	-	-	10	8
Lack of research practice	2	3	5	10	2	13	9	7
Excessive academic work	5	8	2	4	-	-	7	5
Scarce resources, no incentives	5	8	-	-	2	13	7	5
Inadequate administrative proc.	4	6	-	-	1	7	5	4
Dev. thesis during the coursework	-	-	6	13	-	-	6	5
Limit institutional res. support	4	6	-	-	1	7	5	4
Not enough access to information Lack	4	6	-	-	-	-	4	3
of integration/unity	-	-	-	-	2	13	2	2
Few faculty members	-	-	-	-	1	7	1	1

ASPECTS	STUDENTS		GRADUATES		FACULTY		TOTAL	
	f	%	f	%	f	%	f	%
RECOMMENDATIONS								
More research practice	20	28	25	44	-(*)	-	45	29
Definition of research areas	4	6	12	21	4	16	20	13
Improvement of teaching	12	17	6	10	2	8	20	13
More time/number of courses	8	11	3	5	3	12	14	9
Fostering writing skills	-	-	2	4	3	12	8	5
More practical approach	7	10	-	-	-	-	7	5
More clear and strict admission c.	4	6	2	4	-	-	6	4
Integration of acad. activities	3	5	1	2	2	8	6	4
Interchange/diffusion	2	3	2	4	2	8	6	4
Less heavy acad. work/flexibility	5	7	-	-	-	-	5	3
To have more full-time students	-	-	-	-	5	20	5	3
More financial support/incentives	3	5	-	-	1	4	4	3
Educ. materials/equipment	3	5	-	-	-	-	3	2
Dev. thesis during the coursework	-	-	3	5	-	-	3	2
Changes in advising	-	-	-	-	2	8	2	1

f = frequencies

(*) 48% of faculty members responded in another question that more research practice is important.

The same last three questions were included in the interviews with administrators. A synopsis of their opinions is shown in Table 24. However, a brief observation of this chart reveals that they are concerned with different issues depending on specific situations of their programs. In spite of this, several times three aspects were pointed out: the need of more research practice, the need of increased economic resources to support research activities, and the problem of low graduation rates. Also all the concerns expressed across the interviews were summarized in Table 25. There, the same kind of problems arose.

In short, the findings from the surveys are consistent with the characteristics of each group and there are some coincidences with administrators opinions. The next section will analyze in detail the information provided by the administrators.

Table 24

Administrators General Evaluation of the Programs Studied

POSITIVE ASPECTS	NEGATIVE ASPECTS	RECOMMENDATIONS
CIIDET - Preparation of reflexive people.	Great distances. There is not a consistent opinion about the program among professors. Not enough personnel to attend all institutions.	To serve no more than five sites per year. More clear guidelines for the Residence requirement. To include a research course as part of the coursework.
DIE - Alumni get good positions after finishing the program. This is the best program to train researchers in education. It has had many facilities. The program does not includes content necessary for educational development.	Students do not finish in two years. Not all complete their thesis. Unequal treatment for approving theses. Less applicants from the Provinces.	Constant evaluation and communication Fac./Students. Interchange with other institutions or research teams. To open a doctoral program To keep students working in the institution while they are completing their theses.
ESCA - There is a faculty team doing research.	The graduate program in education is not a priority in the IPN. There are few resources to support research.	Continue negotiating external financial resources. Insist in the importance of research and graduate education. More freedom to faculty in administering program resources.

POSITIVE ASPECTS	NEGATIVE ASPECTS	RECOMMENDATIONS
UAT - This is a regional program. The staff has stable labor conditions and is heterogeneous. There is enough support for personal development.	There is not enough research activities. Need to enhance the quality of the program.	To reinforce research within certain areas. Broadcasting Fac.& St. work.
UIA - Now there is more clarity about the program's objectives. Faculty members are highly prepared. It has been defined a research program/areas. Relationship with a prestige research center (CEE).	Some professors have not enough preparation for research. High tuition and fees. There is not enough practical training in research. Not enough incentives for students' research work.	Full-time faculty & students. More research practice.
UDEM - Students acquire a wide vision at the same time that they are prepared in a specific area.	Very low graduation rates. There is not a well established research program. Students have not enough time for their studies.	Higher standards. Encourage qualitative research. Create open alternatives to serve a more diverse population.

Table 25

Administrators Concerns

TYPES OF DIFFICULTIES EXPRESSED	NUMBER OF THE INTERVIEW									TOTAL
	1	2	3	4	5	6	7	8	9	
- STUDENTS DO NOT COMPLETE THEIR RESEARCH PROJECTS ON THE TIME EXPECTED. VERY LOW GRADUATION RATES				X	X	X	X	X	X	6
- LACK OF STUDENTS' TIME.		X	X	X	X			X	X	6
- NOT ENOUGH INSTITUTIONAL/FINANCIAL SUPPORT FOR RESEARCH				X	X	X		X	X	5
- UNEQUAL DISTRIBUTION OF ACADEMIC RESPONSIBILITIES AMONG FACULTY MEMBERS. DISPARITY IN THEIR PREPARATION AND INTERESTS					X	X	X	X	X	5
- WEAKNESSES IN TEACHING RESEARCH COURSES	X				X		X	X		4
- NOT ENOUGH LINKAGES WITH THE RESEARCH PROGRAM					X	X		X	X	4
- DIFFICULTY WITH ADMINISTRATIVE PROCESSES		X		X	X		X			4
- DEFICIENCIES IN TEACHING. NOT ENOUGH INTEGRATION WITHIN THE ACADEMIC COURSES		X			X	X				3
- IRREGULARITIES IN ADVISING		X					X		X	3
- LACK OF RESEARCH PRACTICE						X	X	X		3
- NEED TO DEFINING RESEARCH AREAS						X		X	X	3
- NOT ADEQUATE USE OF THE LIBRARY								X		1
- VERY LITTLE SUPPORT BY COMPUTER SERVICES							X			1

Interview Results

This section reports mainly the rich information gathered by the interviews of graduate programs administrators. It has been categorized in six areas: program orientation, research and academic requirements, strategies for the integration of teaching and research, research practice, resources which support research activities, and the importance of research. In order to maintain a certain degree of confidentiality the interviews are quoted by numbers and not by names. Institutions are identified whenever the information is typical of a specific site and program (See Appendix F. Directory of Institutions and Persons Interviewed).

Orientation of programs studied. According to the information provided by administrators, only two programs primarily focus on the preparation of researchers (DIE and UIA), but they also reported that their programs deal with the preparation in educational planning and development. Administrators of both institutions recognized that, since their programs were created, research was the main objective. However, there are several differences in their curriculum structure and their goals, as can be noted from what was declared:

> At DIE - The principal objective is to train researchers in the field of education. This is what distinguishes our program from others. A secondary objective is to prepare people with a certain criteria in planning and educational development in all its many facets... We have a

> curriculum in which, on one hand, we have general courses, and on the other, more specialized courses. The coursework only comprises half of the plan of study for the master's program. The other half is the insertion of students in a research project from the beginning of the program. (I. 3)
>
> AT UIA - The program has a fundamental orientation towards the formation of researchers. We do not presume to form researchers who will conduct basic research. Rather alumni of this program will be intermediaries between the real researcher and the people who do educational planning. In other words, the abilities acquired here will be useful for planning and research. Therefore, graduates must have a close-knit relationship with the educational practice. (I. 8)

Conversely, the programs of three institutions studied (CIIDET, UAT and UDEM) are more centered on teaching preparation. Their orientation is more developmental and directed towards "the professionalization" of higher education personnel[3]. The way administrators articulate their objectives may differ, but the purposes are similar:

> At CIIDET - The program primarily attempts to help professors to reflect about the problems of practical teaching around theoretical areas and methodological techniques. (I. 1)
>
> At UAT - The program seeks to train people according to the principles of the critical theory in education, but also tries to provide technical tools for the students... Up to the moment this program has been focused more in preparing teachers. (I. 6)
>
> AT UDEM - Our program intends to form professionals for the area of education. We are seeking to contribute to the improvement of the quality of

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[3]The term "professionalization" is understood in this study as the process of becoming professional. It is used to mean that many faculty members in Mexico have need to undertake higher levels of preparation and professional development in order to legitimize their professional practice.

> education, forming professionals who will know all the fundamental principles of the sciences of education with a global focus through research methods. The program provides training in certain areas of education such as teaching and administration. (I. 9)

The sixth program, at ESCA, is more eclectic because it takes a similar approach to UIA's program, but at the same time, it is centered in specific areas such as administration, educational planning, and the linkages between science and technological development. One of its administrators described the program's objectives in the following terms:

> The principal objective of our graduate program in education is to prepare higher and intermediate administrators and educational leaders mainly for post-secondary institutions and educational agencies. There is also a further objective related to the administration of academic projects or scientific and technological research. (I. 4)

Analyzing the objectives of all the programs studied one can conclude that some programs have a more generalist perspective (DIE, UIA, CIIDET), while others tend to prepare in more specialized areas (ESCA, UAT, UDEM); in fact, these programs defined these areas as specialties from which students can choose. Furthermore, the orientation of each program did not completely correspond with the published classification from CONACYT. This means that the more formal objectives of graduate programs stated by institutions of higher education are not always equivalent to what people involved in those programs report.

Programs that differed the most from what was expected were CIIDET and UDEM. The first program, as was explained in the last Chapter, has evolved as a specialization program from a former master's program, and now serves a very specific population from the Technological Institutes. Therefore, the program is very much focused on teaching, rather than research, which was the objective of the former master's program. The second program at UDEM has been presented in the past as having strong focus on research. However, the actual student population determines that this institution is responding to more specific needs.

Changes found in the orientation of these programs reveal that currently their development is influenced by specific demands from the population they serve. The researcher agrees with the observation made by UDEM's administrator: "all [Mexican] universities need to prepare their personnel for different positions in higher education. Thus, most of them have graduate programs to foster this objective" (I. 9). At the same time, it was interesting that one of the administrators of ESCA commented:

> Sometimes I have the feeling that students take graduate education as a form of legitimizing their professional practice. By studying in a graduate program they try to improve their professional status. (I. 5)

This comment confirms the actual function of graduate education in Mexico. Professionalization is a phenomenon that is permeating many academic endeavors.

Research and academic requirements. Assuming that educational and research processes require clear goals and admission criteria, the researcher sought from the beginning of the study to analyze to what extent the admission criteria and academic standards established for each graduate program influence the program outcomes. In fact, one of the administrators of UIA agreed on this when he said: "if you do not establish certain criteria, it is impossible to obtain what you want to get" (I. 7).

Therefore, it is important to clarify that all the programs investigated had specific criteria for selecting future graduate students. Candidates should be licentiate degree holders in part due to external pressures, but also because later if they have not completed their previous degree, it jeopardizes the continuity of graduate work. Besides, it is a guarantee that almost always they have completed a thesis. However, some programs such as ESCA, DIE and UDEM are flexible on this requirement. In some cases they admit students without an undergraduate degree and later these students should complete this requirement.

Another criterion for candidates applying for master's work is experience in education, either in teaching or research. One administrator explained this saying: "We are interested in knowing if the students understand why they are here" (I. 2), and her counterpart insisted:

> We wanted experienced people, not only teachers. In the case of teachers we

> required previous participation in some educational projects, for example, people who have designed a new curriculum. (I. 3)

However, as a program has more restrictive criteria for admissions the more weight administrators give to the compatibility of the student interests with the research areas defined by faculty members. This was the case of DIE's criteria. The head of the Department explained:

> The fundamental criteria revolve around the research projects. We require that candidates could demonstrate a certain degree of familiarity with the literature related to the research project in which they intend to be incorporated. These criteria in part are good. They facilitate the work, in the sense that one works with people who already have an idea of the research topic. These criteria ensure that students are motivated and committed to research. (I. 3)

In regard to academic standards, administrators made clear that students have to comply with all obligations of the master's degree and not just with the requirements for research because "research is tied very much to what they learn throughout the whole coursework" (I. 2). Generally, students should maintain a grade point average of at least 8.0, equivalent to a "B" in the American system. This is a very strict requirement, because in most programs there is also a norm which establishes that if students fail two courses (even one in the case of CIIDET's program), they would be disqualified from their graduate program.

However, "sometimes these norms are not applied in practice" (I. 5). Three administrators expressed the need to

elaborate more specific criteria that may regulate student rights to continue in the program (I. 5, 7, 9). Another difficulty is that standards are apparently better defined for research than for the evaluation of theoretical courses (I. 8). An opinion that summarizes the perception of administrators in this matter is the following:

> I think we need to be more precise about the academic standards which students should comply with. Only at the end of the program do we achieve some kind of control with the thesis. If the theses do not respond to the standards required for the degree, then simply the students are not qualified to defend them. (I. 4)

Surprisingly, the two programs less focused on research are the ones that have established a certain limited time for presenting the thesis. Both CIIDET and UAT require that students finish their theses no later than a year after completing the coursework. In the case of CIIDET, if students slow down they can request an extension in order to graduate. But at UAT, graduates who are delayed in presenting their theses have no option to graduate, unless they return and take a semester in regular classes.

Therefore, the information with respect to academic requirements reveals that administrative procedures are similar, but the curricular demands of the programs are not always consistent with existing regulations. Then, the academic requirements established have not been always strictly applied.

More specific requirements that regulate research activities include the guidelines and criteria for the approval of thesis projects. Usually, there are different phases in the process of preparing and writing the thesis. For instance, at DIE it consists of specific steps that students may follow:

> In the first phase, students are simply around to observe what is happening in the projects in which they are assigned. During this phase students read previous works and relevant literature on the topic so that they can begin to write and speak about it. Within the first six months, we assume that students know the topic well enough to articulate an appropriate thesis proposal when they complete four semesters of study. Their proposals are reviewed by an advisor and one other professor. Then the thesis is developed. The criteria set by the director of the thesis are very important. When the director has doubts, an ad-hoc committee is formed. (I. 2)

Precisely, most administrators said that they have been making efforts to formalize guidelines on the matter of thesis requirements. What they have articulated up to now deals with a formal protocol (I. 1, 2, 5, 7, 9). By this, they identify specific elements that should be included in a research project. This protocol allows them to evaluate each research project. Additionally, a common practice is that a three-person committee reviews the proposals.

Two differences were found in the approval process among the institutions. One is that DIE includes an external reader as part of the thesis committee, which is, according to the administrators' opinions, another control of quality. The second difference is that ESCA adds an extra pre-exam called

"Exam for Adjustments" ("Examen de Adecuación"). In this pre-exam the committee has one last chance to raise questions and objections regarding any aspect of the thesis, but in practice it makes the completion of the thesis project very difficult.

Most of the comments concerning the thesis requirements reveal that professors expect the theses to have the quality that an academic project should have. Only two interviewees remarked about certain criteria such as "internal consistency" (I. 1) or "originality." (I. 3).

However, an important finding was that the thesis process depends very much on the type of project and methodology. One person clarified this when she asserted:

> Not completing the thesis work has much to do with the demands that this requires. These demands take different forms for different people. There are some professors who require more and others less. This is very hard. Some students are discouraged, while others with less merits pass. Demands are very heterogeneous. (I. 2)

The idea of an external reader responds not only to the need for "legitimizing to some extent" the research done, but also reflects a reason which has gained importance, that specialists are not always found within each institution.

Strategies for integrating teaching and research. The curriculum structure and some teaching strategies in all six programs are geared toward the integration of teaching and research. As was described in Chapter V, the content of these programs is similar, particularly with respect to the function attributed to the research methodology courses. This became

clear when all the administrators explained how they handle these courses. A general concern was expressed about how students taking these courses are helped in designing their thesis projects.

The organization and objectives of these courses are almost identical in ESCA, UAT, and UIA. Thus, the explanation given by one of the administrators from ESCA is an example of what professors expect to be accomplished by the study of those subjects:

> There are four central courses which seek to integrate the experience of the students. Research Methodology I is a course oriented towards the formulation of a research project that should make sense. Research Methodology II is oriented towards the design of research instruments within which students plan to obtain information... Once the two methodology courses have been completed the students take two seminars called Departmental seminars... The function of the Departmental Seminar is to support the development of the students' theses, by discussing their projects with their fellow students and professors. (I. 4)

Therefore, these courses are the main curricular components related to research training. Another interviewee stated that "these seminars intend to initiate students into research very early on, so when the time comes and students should choose elective courses [or a specialty], they will be able to select the most pertinent for their own research goals" (I. 7). Formally, what has been proposed is that at the beginning students identify their research problem, later they develop a technical design, and at the end they analyze the information gathered for their thesis. Ideally, "[within

the coursework] students should complete a research proposal as soon as possible" (I. 8).

Nevertheless, these curricular objectives apparently have been very difficult to accomplish. One person mentioned that "things are often half way done and students frequently do not round up their design" (I. 5). Consequently, these courses tend to provide content on epistemology and research methodologies, but many times consist more in a revision of research theories than a practical strategy for designing a research project.

Driven by the same concerns, faculty from DIE reported that some time ago they changed the curriculum, giving to the research methodology course another function. This was explained by the head of the Department:

> We decided to put some of the courses in the fourth and fifth quarters and to insert students from the very beginning in a research project. We kept the course on methodology, but at the end of the first year with the idea that after the students would become acquainted with the methodology of their project. They would then get a wider vision, not only of the methodology that they will use, but also of other methodologies. Therefore, this course is no longer a course designed to teach a specific methodology but a general view of different methodologies... Generally speaking, we have now found that when students complete their coursework, they have their field work done and have begun the analysis. That is as far as we have gotten. (I. 3)

The development of the research methodology course at DIE is also divided into two parts. During the first part students analyze different lines of thought, and question the research methodology that they are using in their projects.

The second part is more specialized. Students are divided by groups in order to conduct a closer examination of a specific research methodology. This is equivalent to taking two complementary courses.

The challenge that these programs have for research training is to find strategies by which students can formulate their own research projects. One can say that up to now there is no definite solution to this problem.

According to the opinions of administrators, the types of skills that become important for research training include: critical thinking and writing skills. Administrators referred to critical thinking as the ability to analyze educational problems. This seems to be one of the main goals in several programs, since five of the people interviewed mention it (CIIDET, ESCA, UAT, UIA, UDEM). In particular, CIIDET's administrator said: "Critical thinking skills imply to prepare reflective personnel who may be following principles of the critical theory"[4]. The results of this preparation tend to emphasize socio-political aspects such as the relationship between education and labor policies or faculty rights.

The writing skills are reported to be deficient in many of the students from these programs. One administrator said:

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[4]The Critical Pedagogy employs various theoretical and practical means for sharing, giving, or redistributing power to students... Its goal is to give them the analytical skills they need to choose their own positions" (Ellsworth, 1989, p. 297).

"we are tired of battling with students' inability to write decently, but a minimum of writing skills are required" (I. 3). In coping with this problem, three programs (DIE, ESCA, and UIA) have established a writing sample as a requisite for entrance. Administrators asserted that they give attention to this aspect when students write essays in all courses. However, the problem seems to be more serious during the thesis stage.

An explanation for this difficulty came from a comment from CIIDET's administrator:

> You need to take in consideration that in the past few years not everybody had the requirement of completing a thesis as part of their undergraduate degree. In the Specialization students are able to complete a research project, and this is an accomplishment itself. Students frequently have difficulties in writing, but in doing that they will develop writing skills. (I. 1)

Another characteristic that is common in a variety of the programs studied is that they promote research training among their students through individual and collective work. This was emphasized by administrators from DIE, ESCA and UIA. It seems that they value very much the opportunities of working in teams. Literally, they illustrated this by saying:

> We have much interchange. For example, in a seminar on methodology the professor may invite another professor to give some sessions... (I. 2). A main achievement of the program is that professors have been integrated as a team (I. 4). The idea is that students should work both individually and as members of teams, always with the guidance of one of the professors (I. 7).

However, the interaction between faculty and students often is limited by the fact that most students are part-timers. Due to this condition, faculties encounter more difficulties in guiding the student research than in academic activities, which is reflected in the following excerpt:

> The greatest difficulty is that all students generally hold full-time jobs. Therefore, they cannot dedicate enough time to their graduate studies. Thus, if we do not use all the time available during their coursework, later on they engage in other activities and easily they forget the thesis... We should recognize that adult students, active in their professional fields, are people that cannot participate in very structured and formal programs. They only dedicate no more than three or four hours a day to their graduate studies. (I. 9)

Probably this is the greatest difficulty that is felt by all participants in this study. This factor affects the success of many efforts and program activities.

The above consideration also influences how the advising system works in these graduate programs. The interviewees spoke out about two types of problems. First, students are irregular in seeking advice and have diverse expectations. Second, the distribution of academic work among professors is unequal.

Administrators responded that "advice is effective to the extent that students keep themselves in contact with their advisors" (I. 7). This is exemplified by the following comment:

> Sometimes when graduates are pressured at work to obtain their master's degree, they come, present something, and disappear again. They begin to tire

> and much time is lost. We have begun to consider a rule by which on expiration of a certain period of time a student is no longer entitled for advising and it is up to the thesis director to decide whether or not to continue. (I. 3)

However, other difficulties arise with the advising system. The heterogeneity of the student population often causes them to have very particular interests and some professors cannot follow them carefully. That is why one administrator assessed: "there are some professors without enough ability for tutoring; then, the advice is concentrated in two or three professors" (I. 5).

To counteract those limitations some programs have taken specific strategies such as project presentations (DIE, ESCA, UAT, and UIA), the organization of specific seminars (DIE), or restricting the selection of students depending on faculty research areas. Two excerpts illustrate very well the reasons for these strategies.

With regard to group advising, an administrator explained:

> Sometimes with some professors problems may arise in regard to thesis advising. To resolve this to some extent, we have project presentations held during the second year. In the beginning, this was collectively done with all the students, but this has never worked. Now we do it by areas. (I. 3)

Another administrator referred to the need for a good definition of research areas:

> The problem resides frequently in how the advising system works. I mean, students sometimes find difficulties with their advisors. To distinguish the scientific work from teaching responsibilities is not always easy. I have to distribute my work and to identify how students can participate in a

> research project, setting "clear rules for the game." Students may work in such a way that while they do their thesis, they also contribute to the research lines in which professors are working. Furthermore, I do not think that we should direct all types of theses because we do not have experience in all areas. What we can do is to offer our experience in certain areas of expertise and to share the infrastructure that we have. (I. 5)

There are some faculty who give advice through seminars and others who rely on individual contact with each student. But nothing formal is established at any of the institutions selected. The advising system at CIIDET is different and responds to specific conditions:

> The advisors introduce students with their projects and leave. They assign tasks and students return them by mail. Here, we review the work but students are at their sites. It is very difficult to advise by distance. We have been forced to develop ways to advise by writing and this is very complicated, because we have to annotate clearly the commentaries, suggestions and criticism. Many times we have to suggest that they consult a new bibliography or take concrete steps to continue with their research. These comings and goings make things very difficult. However, one of the advisors is always local. Otherwise students will be working very much alone and they can easily become disillusioned. (I. 1)

Whatever strategies are in place, one can say that advising is an important program component. Therefore, it is important to state that the concept underlying advising is that advisors work as tutors. They have the specific mission of facilitating the thesis process for each student. As was expressed by one of the most experienced professors interviewed: "when students come to ask for help with their research project, professors are teaching students how to do

research. This is an individual guidance or assessment" (I. 7).

Overall, the testimonies show that advising graduate students depends much on one's personal style. All participants in this study reported that the interaction between faculty and students relies on personal factors and time constraints. Also, it is evident that there are no institutional criteria for evaluation of advising activities. Students have the right to question how things are going, and the same is true for advisors. Moreover, there are different ideas about how advice should be given and about its meaning.

Given the results reported above, one can conclude that all those interviewed claim that they achieve the integration between teaching and research by different means. However, the structure and operation of the curriculum reveal that research activities of students tend to be attained at the end of coursework in most of the cases.

Research practice. Many factors come to play in determining research practice. Among the most important are: areas of research encompassed, institutional support, resources available for graduate students, research methods used, and the influence of external or social factors. The administrators reported that they perceive all these factors as affecting their programs.

Beginning with the research areas defined within each graduate program, the data gathered demonstrated that this is a common concern among the administrators, as well as among faculty members. This opinion was already cited as something that influences the advising system of each program (I. 7). The prevalent criterion is that "professors' involvement in research is a fundamental condition for any graduate program" (I. 4).

Several times this topic came up during the interviews. Therefore, it is interesting the way that administrators reword this need:

> An element that secures the link between teaching and research is that all professors without exception do research. They normally teach using their research experiences rather than using books exclusively. We are interested that students may have advanced experiences rather than simply review literature. (I. 4)

> Here many faculty members do their own research and share that in their courses. We take the academic approaches that are congruent with what we are doing in research. (I. 3)

> The professors have had to define their research areas. This is also very positive because it already provides us some parameters in accepting people into the program. (I. 8)

> We expect that professors will develop research in certain areas in the near future. However, some of them object including students in their research projects because they consider that it is a way of imposing their own agendas. (I. 9)

The faculty who have more clarity about the areas of research they address are at DIE. Other programs which already have this criterion in place are ESCA and UIA.

Administrators from the other programs insisted that they could identify some areas in which professors and students tend to do research, but they really have not established that as a criterion for their organization. Apparently, these research areas have been very broad, such as evaluative procedures, education and the work market, adult education, administration, or learning-teaching processes. (For more information on this point See Appendix G).

The research areas have often been defined by the influence of an institutional program in educational research. This is the case of ESCA, UIA and UDEM. The comments of their respective administrators reflect the importance of these institutional programs:

> ESCA - The department has a research program which has its own objectives. The spirit of team work that exists among professors has helped considerably to build this research program. Now we have four ongoing research projects. (I. 4 & 5)
>
> UIA - Our graduate program includes linkages with an institutional research program as well as opportunities to work alongside researchers in the Center for Educational Research... These are two resources that support the master's program. (I. 7 & 8)
>
> The institutional research program is part of the activities promoted at the graduate level. The university is supporting very much the integration of teaching and research. (I. 9)

At UIA the institutional research program has better organization and was planned with a wider perspective. In fact, UIA is the only institution that formally offers from 3

to 5 internships per semester to graduate students. As one of the program's administrator explained:

> The program for residents provides some students the opportunity of participating in institutional research projects. This program is financed by the university budget. It consists in the payment of tuition and registration fees, plus an additional stipend for maintenance, besides some services similar to those given to the university personnel, such as cafeteria coupons and parking. (I. 8)

> We subsidize people who have very few resources. We help them because they were very interesting candidates due to their background (their type of work and social vision). Some students have participated with us in studies about the impact of college education. We have absorbed approximately 10 people in different phases of this project. We have two students working right now, and we will have three next semester. (I. 7)

The ESCA and UDEM's research programs are supported by authorities of each institution, but research depends more on the faculty initiative. The way in which the institutional research program is organized determines in large part the possibility of incorporating students in ongoing research projects.

The advantages of an internship for the student research training were very well addressed by some administrators, as the following excerpt shows:

> The best way to improve the students' research is to associate them with the research done by professors. Students should have better interaction with researchers. No system has been found to form researchers without the interaction with other researchers. Therefore, it is not sufficient that students take theoretical courses, rather they should get experience by working on research projects conducted by experienced researchers. (I. 4)

Even in institutions where research is not strong now, the desire for a research program is present. For example, CIIDET's administrators assured that they manage "a program that deals with the promotion and recovering of research" (I. 1). In this way they hope to support more formal research in the future.

Another factor that influences the research practice of graduate students is the variety of methodologies that predominate at each institution. This variety is important because its abscense reduces the possibilities for topics taken by graduate students.

Although "there is some of everything" (I. 8), it was not a big surprise that all interviewees recognized the predominance of quantitative research. The individual who articulated this most clearly was the director of DIE. He said:

> We employed a whole range of methods, including clinical and experimental analysis. In addition we have the ethnographic and historical methods. However, we do emphasize empirical work with a broad notion of what empirical research means. Many investigations imply real field work. But for me, empirical work implies what one encounters within a written culture. In historiography the writings are empiric sources. (I. 3)

Another administrator commented: "the program emphasizes what is called 'empirical or positivistic research'; but lately, we have introduced in some way the study of qualitative methods" (I. 8).

Finally, administrators identified other external factors which are impacting research within the graduate programs. For instance, at UIA the incorporation of new personnel and the creation of the Office of Research and Graduate Education have assisted in great part the development of the program. At a national level some policies have controlled the distribution of financial resources. Through these policies some graduate programs have been favored with special support from CONACYT. Also the National System for the Development of Researchers has been implemented[5].

At other times, more personal and other unforseen factors come to play an important role. One of the administrators from ESCA reported the following:

> The academic performance of graduate students depends on several factors such as their marital status or work responsibilities. For example, women have more difficulties due to the fact that they should take care of their children. But in the majority of cases the possibilities of students' time are related to their institutional support. (I. 5)

Another administrator contended that:

> There are many other factors such as who is a friend of whom, or which is the cheapest material. There are aspects which influence research within each program and institution which are totally incidental, unexpected, and outside of what is anticipated. (I. 2)

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[5]This system is a governmental program that promotes research by giving special recognition to outstanding researchers. These individuals are ranked into categories and receive a complementary amount of money each month.

In short, many circumstances influence the priorities for research in each institution, at the same time that student possibilities for doing research differ too. This explains in part why many aspects in the programs studied are continuously evolving.

The impact of those factors is reflected in the type of research produced by professors and students within their academic work. The scope of this study is limited to the analysis of how research has been incorporated into academic activities; thus, only the research experiences of graduate students were reviewed.

Initially, almost all programs did not have areas of focus. Therefore, graduate students "could present any topic that came to their mind" (I. 8). Comparing this fact with the 101 titles of theses reported by these programs, it is clear that theses have had very broad approaches.

The information about theses was classified by dates, educational levels, subject areas, and methodologies (See Appendix G). The results are shown in Table 26. In summarizing the data, most of the theses are focused on basic education and higher education. Theses on these two levels comprise about two-thirds of the total. Probably these areas of research reflect the work settings of graduates. However, the topics are quite varied.

In regard to the methodologies used, it is evident that most of the research projects are descriptive and evaluative

Table 26 Classification of Theses

INST.	DATE		ED. LEVEL						TOPICS						METHODOLOGY						TOT
	80-85	86-92	B	M	H	A	I	S/P	A	B	C	D	E	F	D	EV	HI	P	EX	ET	
DIE	32	28	28	6	12	3	0	11	15	14	11	12	6	2	6	11	4	20	10	9	60
ESCA	3	4	0	4	3	0	0	0	0	1	2	2	2	0	5	1	0	0	1	0	7
UAT	0	3	0	0	3	0	0	0	1	0	0	2	0	0	2	1	0	0	0	0	3
UIA	7	16	5	3	6	4	3	2	3	9	3	5	3	0	4	9	2	5	2	1	23
UDEM	0	8	1	1	6	-	-	-	0	1	2	2	2	1	3	4	0	0	1	0	8
TOTAL	42	59	34	14	30	7	3	13	19	25	18	23	13	3	20	26	6	25	14	10	101

Note: From ESCA and UDEM the list of theses was not complete and there was no information available from CIIDET.

Codes:

INST - Institution
80-85 - From 1980 to 1985
86-92 - From 1986 to 1992

ED. LEVEL - Educational level
B - Basic education
M - Middle education
H - Higher education
S/PH - Social and philosophical studies

METHODOLOGY
D - Descriptive studies
EV- Evaluative research
HI- Historical studies
P - Policy analysis
EX- Experimental research
ET- Ethnographic studies

TOPICS
A - Philosophy and history of education
B - Sociology of education
C - Psycho-pedagogical issues
D - Curriculum
E - School organization and administration
F - Educational technology
G - Adult Education

studies or analyses of educational policies. In fact, as was pointed out by four administrators (I. 1, 4, 7, and 8), few studies include sophisticated statistical procedures. One administrator explicitly commented:

> The thesis topics are related to particular institutions in which students are involved. Each one is trying "to guide the water to their own interests" proposing concrete problems which affect their own institutions. This is valid because we are trying to do applicable things. But it also causes a lack of cohesion with the central goals of the research program. (I. 7)

Projects that occur more frequently are those which have something to do with planning and evaluation. Many studies focus more on the implementation or evaluation of educational programs than on experimental research. Administrator's perceptions can be exemplified by the following opinion:

> I believe that we continue to be too ambitious, not only the thesis directors, but also the students themselves. Some projects are too broad. We have achieved success in the sense that they no longer embark on great topics that intend to solve all the country's educational problems. The theses are much more specialized now, but I still think that some of these theses are more suited to a doctoral level than to a master's level. (I. 3)

The dispersion of research topics was qualified by one administrator as "an historical mistake because before [they] did not have research areas defined" (I. 8); however, the researcher, based on the information available in this study, thinks that it has depended more on the fact that the options and guidelines given to students have been so general that "actually many things can fit on them" (I. 1).

Finally, it is important to report that almost all administrators remarked that certain tensions exist between theory and practice. In other words, there is a conviction about the importance of research practice along with a good theoretical foundation for all students. This balance has not always been maintained as one of the administrators from DIE related:

> The courses always "eat" part of the project time. They invade less when the projects are well structured and where there is a heavy load of shared work between faculty and students, but not all projects are like that. It also depends on the relationship between the project and the students' interests. The amount of time dedicated to research activities is governed by the demands of each project. Thus, if a project is not demanding then the courses take the time. (I. 3)

In solving this problem some programs have introduced a diversity of "practical" courses such as the analysis of educational projects and the application of SPSS statistical software. Their goals are that students become familiar with what is done in educational research at the same time that they acquire expertise managing technical tools. Some of them think that "it is very different to read about research methodologies, than to put it in action" (I. 8).

Of course, how each administrator viewed research training relied on his/her assumptions about research. In this regard the following excerpt is very meaningful:

> There are many things which cannot be learned in a course. They can only be learned through research. I understand for the most part that research is an art, something that is learned in doing alongside

> the teacher. So the formation that we provide for research assumes that teaching a research method or techniques is the task of each professor in his or her project. (I. 3)

It is important to identify what strategies are most appropriate for research training. Of course, this requires flexibility in order to maintain the balance between theory and practice.

Resources available to support research activities. The data show that economic constraints have been the greatest obstacle in fostering research within the graduate programs. At the institutional level, financial resources for research are not often considered within the existing budget that supports the academic activities. Therefore, fiscal resources for research at each institution have been marginal.

Professors complained about this situation saying:

> In 90-91 our projects received support from CONACYT and IPN... However, this last year the resources were reduced by half. It seems to me that our projects were not highly valued. The support has definitely been limited. We could say "mediocre." An institution as big as IPN should have a research program in education. (I. 4)

> Sometimes the government provides funds for our research projects, but other times it does not happen. So, financial support for research is not often timely and sufficient. (ET, 9)

Some students cannot work on their research projects because they are often engaged in other activities that are incompatible with their studies. Many of them do not finish their thesis in the time expected due to the fact that after

completing their coursework, they have to return to work. "They do not have scholarships anymore. [Furthermore] the scholarships are sufficient when a person is living alone, but in other way, it is very difficult" (I. 2). These economic problems are more evident in the private programs studied due to the higher cost of tuition in these institutions.

Graduate students do not receive any special financial support for their research work. Support is often dependent on whether faculty provide resources as part of their research projects.

Generally speaking, all administrators agreed that it is necessary to look for external support for research, because the institutional budget is always insufficient. For instance, ESCA's administrators stated that they "will be making more serious efforts to negotiate the resources [they] need for research from governmental agencies and the private sector" (I. 4, 5). At times, institutions such as DIE and UIA have kept some students working as auxiliaries in ongoing research so that they could complete their theses.

Most of the support for infrastructure and supplies comes from the annual operating budget at each institution. With respect to resources that may facilitate research, such as library holdings and computer services, there was little agreement among administrators. Some of them perceive that there are few books in their libraries which are not always available for faculty and students (I. 4, 5, 8). However,

others thought that their libraries are not too bad (I. 1, 2, 3, 7). This latter group said that students can consult specialized libraries in Mexico City. To solve some deficiencies CIIDET's faculty have developed educational materials such as anthologies to support students' academic work.

Administrators were more concerned with the use of material resources than the availability of those resources. In particular, one of the administrators from UIA specified:

> When students arrive to the program, they do not know how to use the library. I think they have three limitations: lack of computing knowledge, lack of domain of foreign languages, and lack of knowledge about the organization of the library. (I. 8)

From the data analyzed in this section, one can say that most institutions studied have an infrastructure which may supports research activities in some way. However, comparing these resources with the amount of information needed and the existing educational technology, these programs have minimal resources. The only exception is DIE's program.

Importance of research. Much of the data already analyzed provides an understanding of the role of research in the programs studied. However, in the interview guide three specific questions were included that dealt with the perceptions of administrators about the importance of research within their graduate programs. From the ideas shared by all

interviewees, this section presents how they see the role of research in graduate education, whether or not they associate the quality of their program with the research developed by their students, and if they believe their programs respond to student expectations, particularly in regard to research training.

With respect to the first aspect, all administrators agree that research is important in graduate education. Some eloquently insisted on the need to foster research training among students. Two excerpts from the interviews are illustrative:

> I believe that preparation for the field of education requires developing a certain level of research skills. Although one does not work directly as researcher, it is important to learn research methodologies as a tool for whatever area one is in. For example, if you are a teacher, research is important not only related to your teaching practice, but to update your own professional work. If one has an interest in publishing in the field of education, research is important for selecting appropriate information, or using the adequate technology. There are many ways to bring this about. Research is fundamental for the improvement of whatever we are already doing. (I. 2)

> Research is essential, not only for graduate education but for our own life. Research in this program is like an "axis". It helps to validate knowledge; in this way teachers do not only repeat concepts, rather they intend to prove and validate their own professional activities. It is a way also to look for innovation. Therefore, any educator should do research on a daily basis. (I.9)

From these excerpts it is easy to see that these administrators understand research in a broad sense.

Consequently, this means that students should be knowledgeable about basic analytical research techniques. Students are not expected to use "fine forms of analysis at the master's level" (I. 4) and "professors do not expect hypotheses should be proved because [some of those] programs do not pretend exclusively to train in research" (I. 1).

Given the above ideas, one can say that research is understood more as a tool than as a fundamental goal of these programs with the exception of the two programs directly focused on the preparation of researchers (DIE and UIA). Therefore, it is easy to understand that, within these graduate programs students are expected through their research projects to apply whatever they learn during their graduate program. By doing research, students will look for applications or certain knowledge, always "widening border lines and actualizing their own preparation" (I. 9). In this sense, an opinion of one UIA administrator is very interesting:

> Knowledge in education is not something mechanical, but it assumes different levels of parallel growth. Not always something that has been completed generates new knowledge. So, it is necessary to make knowledge more applicable, more concrete, more related to real social conditions. (I. 7)

In contradiction to the importance given to research by all administrators, some also raised some doubts and restrictions. First, one reported that a debate exists about whether it is a good idea or not to have students involved in research on a master's level. He explained:

> Sometimes professors discuss if students at the beginning of their graduate programs know the type of research project they can do. I believe that this also can be a criterion to identify good candidates during the admission process. If students arriving at graduate level do not know what they want to do, then they would be students of little interest to the program. (I. 4)

However, apparently all do agree that graduate students should be able to discuss research and to know how it is done. In other words, graduate students should become at least research consumers.

Another objection was made in regard to the meaning of the thesis. In discussing difficulties reported in advising graduate students, an administrator explicitly stated:

> I have the impression that the thesis has become a kind of "false ritual" that is not productive. The function of the thesis should be that students can demonstrate a certain domain in their field. However, sometimes the thesis is reduced to fulfill a rigid scheme with very strict requirements and the committees are often "picky"... Advisors do not always work adequately. Sometimes they simply refuse the proposals or give a hard time to students during their thesis process without providing enough support for their work. (I. 5)

Whether or not this opinion can be generalized for all programs, this perception is consistent with difficulties reported by administrators of different programs.

A third consideration that several interviewees raised was that the importance of research depends much on the orientation of a specific program. Research should be more or less emphasized in accordance with the purpose of each program. But this opens a discussion about the nature of every graduate program in the field. Some administrators (I.

3, 7, 8) estimated that there are graduate programs which can be classified as "research programs", while others are more "professionalized programs." Using this differentiation some administrators revealed their opinions about how much research should be central in these graduate programs. One interviewee said:

> I feel the need to evaluate the role of research on the graduate level. Frankly, some programs could eliminate it instead of pretending that they do research. Perhaps there is a need to know how to read and interpret research but not necessarily to undertake it; in other words, to be acquainted with certain research techniques and no more. Because graduates work not necessarily in educational research, but in educational planning and development, we should ask ourselves to what extent research is relevant for them. (I. 3)

Thus, it is clear that some programs are more centered on teaching, or on the preparation of administrators and planners. According to the opinion of UAT's administrator, these programs "cannot provide only a theoretical framework, rather they should also teach practical techniques" (I. 6). One component that may provide instrumental knowledge would be research training. Students of those programs will acquire a wide vision about educational problems at the same time that they will be prepared in specific areas (I. 9). Conversely, other programs should be strictly oriented toward research.

In regard to the relationship between research and the quality of a graduate program, most of the administrators opined positively. They offered remarks that may help to understand that connection.

First of all, two administrators defined how they understood "quality":

> I understand quality as the achievement of educational objectives, the response to real needs, and compatible values. Now, as a result of the globalization of the economy, quality and competitiveness are inescapable. (I. 4)

> You can say that a graduate program has quality when the program accomplishes its objectives, if it also uses in an effective way its resources, and if it is relevant; in other words, it is important that graduate programs respond to the students' and social needs. (I. 5)

Both professors above agreed that research is one component which may contribute to achieving these conditions for "quality." Another important clarification was made by one of DIE's administrators, who said: "I do not believe there is a cause-effect relationship between research and the quality of a graduate program, but one does affect the other in great measure" (I. 2). In addition, UDEM's administrator explained:

> If a graduate program have achievements on research, it will be able to easily demonstrate the quality of its results. I think research is like a "motor" which make more dynamic the educational processes. It will be useful to update knowledge, to apply methodologies, to widen scientific lines and theories. (I. 9)

Finally, all administrators asserted that, in general, their programs are responding to student expectations. Therefore, they felt that their efforts to improve teaching and research are worthy. Alternatives for program change are very diverse, as can be noted in the suggestions listed at the end of the first part of this Chapter. These options respond

to specific needs of each program. Administrators named several indicators of the successful impact of their programs. Among others, the most important are: their graduates continue developing research projects (I. 1, 5, 7), and most graduates occupy important positions and form strong groups in their respective institutions (I. 2).

In summary, given all the opinions cited above, one can conclude that administrators considered that research is important for their graduate programs, but, at the same time, it is a result of the full development of these programs. That is why one of them cautioned when he said: "I believe that one cannot 'jump' from one phase to another. Research must be promoted, and it should not be taken for granted, as some programs do" (I. 9).

CHAPTER VII

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

This study investigated the role of research in Mexican graduate programs in the field of education. The purpose of this research was to examine perceptions of administrators, faculty, students and graduates from six graduate programs about the importance of research training within their academic work. In analyzing their opinions, the study explored how research training contributes to the quality of these programs.

The conceptual foundation for this research was provided by the literature review on three topics: 1) approaches used for assessment of academic program quality, 2) the role of research in higher education, and 3) factors that influence the production of knowledge in the context of developing countries such as Mexico. This theoretical framework serves as a foundation for understanding why educational research is continuously evolving in Mexican graduate education within the modernization processes that affect the higher education system.

After describing the development of Mexican graduate education within its appropriate historical and social context, the researcher described in Chapter II the status of graduate programs in the field of education.

Given the nature of the research problem, the research methodology emphasized a qualitative approach which was grounded on the Constant Comparative Method (Glaser, 1967) and the Strauss and Corbin model (1990). This was a multi-site case study within which the researcher conducted interviews with nine administrators, and provided surveys to 25 faculty members, 80 students, and 52 graduates. Thus, a total of 166 individuals participated in this study. The programs were selected according to their dominant orientation, educational sector, and location. The data were analyzed combining manual and computer procedures.

The results are presented in response to research questions in six categories: program purpose, academic and research requirements, integration of teaching and research, research practice, resources that support research activities, and perceptions about the importance of research. The interview and survey data are reported by groups and by institutions.

According to the information provided by all respondents, it is clear that only two of the programs studied are focused on the preparation of researchers; the other four programs are more directed toward the professionalization of higher

education personnel. This finding was slightly different than what was expected, because one program is no longer focused on research (CIIDET) and now is exclusively centered on teaching preparation.

In fact, the program purpose of preparing highly trained educational leaders reinforces the personal objectives that students have when they begin their graduate studies. Students and graduates ranked advancing their professional careers first as the reason for entering a graduate program. Changes reported in the programs' primary orientation are influenced by the specific needs of the population that these programs serve. However, administrators from all programs claim that their curriculum includes, in one way or another, research training.

The above contrasts with the opinions of students and graduates who said that their programs give primary attention to personal development and other purposes. Thus, the overall perception among respondents is that the programs studied encompass almost all purposes that any graduate program in education can take. What seems to be essential is that the differences in curriculum structure and educational strategies chosen determine the emphasis of each program.

In analyzing the academic requirements mandated by these programs the data provided by respondents and in formal existing guidelines reveal that all programs studied have similar requirements. For instance, there were many

similarities in admission procedures, the academic standards established or the approval process for thesis projects. However, some students (20%) mentioned that the research requirements are not always clearly stated and four administrators (44%) expressed the need for more specific guidelines.

In general, the data demonstrate that all programs intend to integrate teaching with research. This is true to the extent that the curricula include research courses and advising which tries to reinforce research training. In fact, there is agreement among survey respondents that the ability to design research projects is the most important competency emphasized in the academic work.

Nevertheless, several difficulties in providing research training were stated by the various groups. Faculty, students and graduates reported low satisfaction with library holdings and expressed a need for more research practice. Graduates insisted that additional knowledge, such as techniques for statistical analysis, is needed. Furthermore, the structure and operation of the curriculum in most cases reveal that research activities tend to occur independently from the coursework. In some cases, it seems that research learning has occurred but in an accidental manner.

Regarding the types of research produced by students as part of their graduate programs, it was confirmed that the thesis continues to be the major research project conducted by

graduate students. The analysis of thesis titles shows that many of them have been focused on basic education or higher education (both areas represent 63% of the total number of theses). Another characteristic is that students tend to propose simple methodologies, because most of their research consists of descriptive and evaluative studies, or analysis of educational policies (70% are in these three groups). Administrators reported that the diversity of research topics of theses cause problems in advising students.

Findings from the interviews revealed that certain conditions are necessary to provide research opportunities for students. For example, some programs have established residencies or internships; in others, professors incorporate students into their own research projects; and the existence of an institutional research program facilitates the stimulation of research in certain areas. In most of the cases studied the definition of research areas appears to be important, so that their students might limit their research projects to these areas.

The research developed within the graduate programs follows a wide variety of methodologies and is influenced by unpredictable factors such as personal situations, governmental policies, or the economic support available. Consequently, the quality and time invested by students for research vary. At the same time, institutional research support differs from one program to another.

Nevertheless, one of the most striking results is that graduation rates for all programs are very low. This problem was pointed out especially by administrators who explained that students cannot dedicate time to their theses after they complete the coursework, because they hold full-time jobs. In this regard some programs are making efforts to encourage the development of the thesis projects as early as possible.

Obviously, this problem is derived from the lack of financial resources that almost all programs reported. Generally, institutional budgets do not include enough resources for research activities. In particular, students very seldom receive any support for their research work. In spite of that, a positive finding was that most institutions have an infrastructure which supports research activities. This usually consists of a modest library and a few computers which are available to faculty and students. However, these resources are minimal in comparison with what these programs ideally might need. The only institution that reported having enough resources was DIE.

After a careful examination of the opinions shared about the importance of research to graduate education, it become clear that almost everybody agrees that research is important. For example, students and graduates believe their graduate programs are preparing them to conduct research in their professional field and are providing them with basic research knowledge which they might apply later. Also, 84% of faculty

respondents remarked that research is important because it acts as a motivator for academic work and is fundamental for any educator. These faculty data contrast with the fact that 67% of graduates said that the research training provided was not sufficient for their professional needs.

However, some administrators expressed some concerns: 1) there is debate about whether or not graduate students should be involved in research at the master's level; it seems that they need at least to become research consumers; 2) the thesis does not always become a meaningful experience; and 3) the emphasis on research should depend on the program orientation.

In regard to the relationship between research and the quality of a graduate program most of the administrators opined positively. Apparently faculty and administrators could not bring themselves to denigrate the importance of preparing for research, even when their programs in fact give little attention to this goal.

Conclusions

From the findings summarized above and presented in Chapter VI, three main conclusions can be drawn. First, the conceptualization of research that prevails in many comments made by participants of this study is very broad. Research is considered a tool or a means for constant actualization. It seems that participants in this study gave importance to

research because they believe research has an important role in the preparation of professional educators. They further believe that it is through research experience that an educator may discover, integrate, comunicate and apply knowledge. Of course, not all programs are organized in the same way or share exactly the same vision. Therefore, a great range of diversity will continue to exist in Mexican graduate programs in education. One program might be more concerned with practice (the application of knowledge) and another with research (the discovery of knowledge); but all should attempt to integrate and communicate knowledge.

Second, research is an essential component of graduate education, but not an end in itself. This study demonstrates that research training is something that is influenced by many factors within each academic program. The cases studied illustrate that more research is possible when a graduate program has a considerable degree of maturity and research is its main focus. Thus, research training requires certain conditions and cannot be taken for granted.

Third, from the complex picture of the processes that attempt to intergrate teaching with research in the graduate programs studied, it becomes evident that there is no cause-effect relationship between research and the quality of these graduate programs. Each program should be consistent with its own purpose. As was suggested, research training should be kept as part of the curriculum, even though other academic

activities respond to practical needs for professional preparation. But, in any case, the integration of teaching and research should remain central in graduate education.

Suggestions for Future Research

The need for research on the educational issues analyzed in this study seems to be unlimited and the demand for further research which might contribute to a better understanding of the nature of graduate education remains. Here, two kinds of recommendations will be proposed: 1) those which can be applied to the Mexican graduate education, and 2) possible topics for future research.

Given the status of Mexican graduate education, obviously governmental agencies will attempt to continue launching national policies that may regulate its development. Therefore, there will be practical and theoretical needs to expand methods of program assessment. This presupposes improving ways in which it may be possible to collect more accurate information such as program characteristics, facilities, student profiles, and research support.

At the same time, a common concern among the administrators of the programs studied was that Mexican graduate programs in education now need to look for new forms of organization and educational strategies that might contribute to higher levels of efficiency and quality. Some efforts could probably be directed to institutionalized reward

structures that may promote research among faculty and students.

Another recommendation for Mexican graduate programs is to continue searching for the establishment of a better balance between teaching and research responsibilities among faculty. This recommendation cannot be taken without the definition of more clear academic standards and an atmosphere of collegial responsibility in each academic community. Something that can contribute to the balance between teaching and research is to reinforce institutional research programs that may help to confine graduate students' research within manageable limits.

In general, the results of this study reveal that it is necessary to increase efforts toward a better definition of what is meant by "research" within graduate education. Some oversimplified formulations may narrow its meaning. At the same time, greater support resources for research are needed, therefore, it could be helpful to analyze ways to use the existing resources and to identify viable alternatives to increase the economic support for research in graduate programs. Finally, research is needed to clarify more precisely the connections between research policies and research outcomes, knowing that the relationship between the academic work of graduate students and the on-going research developed by each institution may have mutual benefits. Regardless of all these possibilities, the researcher is

convinced that a broader understanding of the meaning of quality in assessing the status of graduate programs is needed.

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APPENDICES

APPENDIX A

MEXICAN INSTITUTIONS OFFERING GRADUATE PROGRAMS IN EDUCATION

STATE	INSTITUTION	SP.	MASTER'S	DOCT
AGS	1. Autonomous University	X		
BC	2. Autonomous University	X	X	
	3. Higher Normal School		X	
COAH	4. Higher Normal School		X(5)	
	5. Autonomous University		X	
	6. U.A.N.E.	X	X	
	7. U.A. Laguna		X	
COL	8. Autonomous University		X	
CHIH	9. Autonomous University		X	
DF	10. CINVESTAV/IPN		X(2)	
	11. Higher Normal School			X*
	12. I.L.C.E.		X	
	13. Nat. Inst. Publ.Adm.		X	
	14. Nat. Polytechnic/ESCA		X(2)	
	15. Iberoamericana Univ.		X	
	16. Intercontinental U.		X	
	17. La Salle Univ.		X	
	18. U.N.A.M.		X	X
	19. E.N.E.P. (Zaragoza)		X	
	20. U.P.N.	X(5)	X(4)	
	21. Univ. of Americas(DF)		X(2)	
GTO	22. Inst.for Grad.Studies		X	
	23. Autonomous Univ.		X(2)	
GRO	24. Autonomous Univ.		X	
JAL	25. I.T.S.O.		X	
	26. Autonomous Univ.		X	X
	27. Atemajac University		X	
MEX	28. E.N.E.P. (Aragon)		X	
	29. Higher Normal School		X(4)	

STATE	INSTITUTION	SP.	MASTER'S	DOCT
	30. Higher Inst. Ed.Sc.	X(9)	X	
	31. Autonomous Univ.	X	X	
MICH	32. Inst. of Ed. Sciences		X	
MOR	33. Autonomous Univ.		X(2)	
NAY	34. Higher Normal School		X(2)	
NL	35. Higher Normal School		X(8)	
	36. Educ. Sciences School		X(2)	
	37. I.T.S.M.		X	
	38. Autonomous Univ.		X(2)	
	39. Regiomontana Univ.		X(2)	
	40. U.D.E.M.		X	
OAX	41. Autonomous Univ.		X*	
PUE	42. Iztaccihuatl Center	X		
	43. Inst.for Teach.Tr.	X		
	44. Iberoamericana U.		X	
	45. U. of Americas		X	
QRO	46. C.I.I.D.E.T.		X	
	47. Higher Normal School		X*	X*
	48. Autonomous Univ.		X	
SLP	49. Autonomous Univ.	X		
SIN	50. Autonomous Univ.		X	
TAMPS	51. Higher Normal School		X	
TLAX	52. Autonomous Univ.		X(3)	
YUC	53. Higher Normal School		X	
	54. Autonomous Univ.	X	X	
ZAC	55. Higher Normal School		X	
	56. Autonomous Univ.	X		
TOTAL	56 Programs	23	80	2

Source: ANUIES (1990). Directory of Mexican graduate education. Mexico: ANUIES.

APPENDIX B

DEMOGRAPHICS OF MASTER'S PROGRAMS IN EDUCATION SPONSORED BY MEXICAN UNIVERSITIES (1990)

INST	MASTER'S PROGRAMS	STUDENTS F	M	T	FAC	SC	L	D
UABJN	1. Higher Education	7	17	24	16	Pu	P	A
UAC	2. Educ. Sciences	12	10	22	7	Pu	P	T
UANE	3. Education	17	7	24	12	Pr	P	A
UAL	4. Education	3	-	3	10	Pr	P	T
UACOL	5. Education	12	22	34	4	Pu	P	A
UACH	6. Higher Education	11	18	29	5	Pu	P	A
CINVES	7. Ed. Res.	16	3	19	20	Pu	C	R
TAV/ DIE	Mathematics	11	59	70		Pu	C	T
ESCA	9. MADE	15	22	37	8	Pu	C	A
/IPN	10. Adm. Higher Ed.	9	17	26		Pu	C	A
UIA	11. Research Ed.Dev.	19	25	44	12	Pr	C	R
UI	12. Special Education	17	3	20	5	Pr	C	T
ULS	13. Higher Education	60	75	135	20	Pr	C	A
UNAM	14. Pedagogy	54	20	74	20	Pu	C	A
ENEP-ZAR	15.Education	29	20	49	13	Pu	C	T
UAGTO	16. Ed. Res.	28	18	46	8	Pu	P	R
	17.Innov. in Education	1	11	12		Pu	P	T
UAGRO	18. Ed. Mathematics	4	71	75	13	Pu	P	T
ITESO	19.Education	68	39	107	8	Pr	P	T
UAG	20.Education	7	11	18	12	Pu	P	A
UA	21.Education	0	15	15	12	Pr	P	R
ENEP-AR	22. Higher Education	11	9	20	5	Pu	C	T
UAMEX	23. Higher Education	13	17	30	19	Pu	P	A

INST	MASTER'S PROGRAMS	STUDENTS F	M	T	FAC	SC	L	D
UAMOR	24. Ed. Res.	18	14	32	16	Pu	P	R
	25. Ed. Plan.	4	4	8		Pu	P	A
ITSM	26. Innov.in Education	66	58	124	33	Pr	P	T
UANL	27. H.Ed.	35	20	55	25	Pu	P	A
	28. Human Resources	36	9	45		Pu	P	A
UR	29. H. Ed.	17	1	18	36	Pr	P	A
	30. Ed.Psch.	6	1	7		Pr	P	T
UDEM	31. Educ. Sciences	9	4	13	8	Pr	P	T
UIA-PUE	32. Higher Education	2	11	13	7	Pr	P	T
UA-PUE	33. Ed. Adm.	4	5	9	6	Pr	P	A
CIIDET	34. Ed. Res.	13	17	30	10	Pu	P	R
UAQ	35. Ed. Sciences	12	16	28	9	Pu	P	A
UAS	36. H. Ed.	11	18	29	4	Pu	P	A
UAT	37. Ed. Adm.	9	17	26	14	Pu	P	A
	38. H. Ed.	9	6	15		Pu	P	A
	39. Ed.Couns (Core)	8	6	14		Pu	P	A
		21	22	43				
UAY	40. H. Ed.	2	5	7	3	Pu	P	A
32	40	706	743	1449	400			

Source: ANUIES (1990). Directory of graduate education in Mexico. Mexico: ANUIES.

F - Female (48.7%)
M - Male (51.3%)
T - Total

Note: The initials correspond to institutional names (p. 38-9)

SC - Sector
Pu - Public (27)
Pr - Private (13)

L - Location
C - Capital (10)
P - Province (30)

D - Dominant Orientation
R - Research (6)
A - Administration (22)
T - Teaching (12)

APPENDIX C

RESEARCH INSTRUMENTS

STUDENT SURVEY

This survey is part of a study about the role of research to selected Mexican Master's programs in the field of education. The information that you will provide regarding your graduate program will be very valuable. Your responses on this survey will be kept confidential. There is no need to place your name on the survey. Your participation in this investigation is greatly appreciated.

1. Institution _____

   Name of the graduate program in education

   _____

2. Gender

   _____ Female _____ Male

3. Age _____ Years

4. Are you employed?

   _____ Yes, full-time
   _____ Yes, part-time
   _____ Not employed

5. If you are currently employed, please indicate the type of work and your work setting.

A) _____ B) _____

Type of work (teaching, administration,etc.) Work sector (public, private)

6. When did you begin your current academic program?

   Semester _____ Year_____

7. Prior to enrolling in the Master's program, how many years of work experience in educational settings did you have?

   _____ Years

   ( ) You have never work in the field of education.

8. Indicate your <u>current</u> enrollment status

   ___ Part-time
   ___ Full-time

9. How many courses do you usually take per semester?

___ One ___ Two ___Three ___ More

10. What were your reasons for enrolling in the graduate program? (List them in terms of importance, using 1=first, 2=second, etc.)

____ To develop personally/professionally
____ To maintain present position
____ To advance my career at present institution/organization
____ To advance financially
____ To facilitate a career change
____ Other (specify)_____

11. Some graduate programs give primary attention to the preparation of researchers, some lean more toward the preparation of teachers, others emphasize the preparation of practicing professionals, while others emphasize personal enrichment or preparation for further study. How much importance do you think your program gave to these different purposes or functions?

Degree of importance: None (0) Little (1)
Considerable (2) Extreme (3)

	0	1	2	3
a. Preparing researchers	___	___	___	___
b. Preparing teachers	___	___	___	___
c. Preparing practicing professionals	___	___	___	___
d. Preparing for further study	___	___	___	___
e. Personal enrichment	___	___	___	___

12. Do you feel that your current academic program is preparing you to conduct research in your professional field following graduation?

Yes ___ No ___

Why?

_____

13. Have you worked with faculty on a research project as part of your graduate program?

_____ No
_____ Yes, (please specify type of research)

_____

14. What type of the following academic activities do you expect to develop or improve that may facilitate your research training? (Please rank them in order of importance: first=1, second=2, etc.)

_____ Writing assignments
_____ Analyzing current research projects
_____ Doing documentary research
_____ Interpreting statistical data
_____ Analyzing case studies
_____ Designing your own research project
_____ Other (be specific) _____

15. To what extent do you agree with the following statements about your graduate program at your institution. (Please CIRCLE one letter according this scale: SD Strongly disagree, D Disagree, AMB Ambivalent, A Agree, SA Strongly agree, NA Not applicable)

a. Faculty help graduate students in designing research projects or their thesis. SD D AMB A SA NA

b. There is good communication between faculty and students regarding academic and research matters SD D AMB A SA NA

c. There are sufficient opportunities for student-faculty interaction SD D AMB A SA NA

d. This graduate program prepare me with research skills SD D AMB A SA NA

e. The library holdings are adequate for research activities SD D AMB A SA NA

f. The teaching methods used facilitate to acquire research skills SD D AMB A SA NA

g. The advising system is adequate SD D AMB A SA NA

h. The research requirements are well defined SD D AMB A SA NA

For those items above which you disagree or strongly disagree, please explain:

_____

_____

16. How often do you use the library at your institution?

___ Daily
___ At least one or two hours a week
___ Not very frequent, only to prepare papers
___ Rarely
___ I have never been in the library
___ I use other libraries

Other documentary sources that you use for your studies are:

_____

_____

17. Considering the professional work that you will do after graduation, please indicate the extent to which you will be involved in the following functions/activities.

0 Never, 1 Rarely, 2 Sometimes, 3 Regularly

____ Participating in research projects
____ Creating effective approaches to solve educational problems
____ To gather information
____ To present papers at conferences
____ To teach various courses/workshops
____ To develop new policies
____ To submit articles for publication
____ To organize seminars or conferences
____ To serve as an academic advisor
____ To work as an administrator
____ Other functions/activities, specify _____

18. Have you had any difficulties in meeting the research requirements of your program? If yes, why?

_____

_____

19. Have you already started your thesis proposal?

_____ Yes, what will your topic be?

_____

_____ No, you have not started.

20. What do you anticipate to be the main effect of earning a Master's on your employment status?

____ No change, the degree is not related to my employment
____ To improve my qualifications for my current employment
____ To have training for a new position
____ Other, be specific _____

22. List below the one major strength and/or the major weakness of your graduate program.

Major strength	Major weakness
_____	_____
_____	_____

23. Based on your experience as a graduate student, what recommendations would you make for improving research in your graduate program?

_____

_____

_____

Thank you for your participation in this study.

Please return this questionnaire to

M.C. Maria de la Luz Romay
Loyola University of Chicago
1040 W. Granville, Chicago, IL, 60660

or Mail address in Mexico City:
Amores 1065-3 Col. del Valle
Mexico, D.F. 03100

SURVEY OF PROGRAM GRADUATES (1987-1992)

This survey is part of a study about the role of research in selected Mexican Master's programs in the field of education. The information that you will provide regarding your program will be very valuable. Your responses on this survey will be kept confidential. There is no need to place your name on the survey. Your participation in this investigation is greatly appreciated.

1. Institution _____

   Name of the Master's program in education from which you graduated at this institution

   _____

2. Gender: _____Female _____ Male

3. Date degree conferred: _____/_____
   Mo. Year

4. What is your current employment status?

   ___ Employed full-time in a position related to your graduate studies
   ___ Employed full-time in unrelated position
   ___ Employed part-time in a position related to your graduate studies
   ___ Employed part-time in unrelated position
   ___ Not employed at all.

5. What is your current professional position?

Employment setting	Title	# Years working there

6. Have you been involved in any of the following professional activities after you finished your graduate program? (Please, check all that apply)

___ Conducting research projects
___ Attending conferences or lectures
___ Reading books or journals in your field of study
___ Presenting papers at seminars or conferences
___ Teaching graduate/undergraduate courses
___ Serving on boards or educational committees
___ Other (specify) _____

7. Why did you decide to obtain a Master's degree in education? (Please rank in order your top three reasons: First= 1; Second = 2; Third = 3)

____ Necessary for promotion
____ To improve your professional training
____ Personal interest in the course work of this graduate program
____ To get a higher income
____ Employer recommended/sponsored
____ Did not find a satisfactory job after obtaining an undergraduate degree
____ Other, please specify _____

8. Some graduate programs give primary attention to the preparation of researchers, some lean more toward the preparation of teachers, others emphasize the preparation of practicing professionals, while others emphasize personal enrichment or preparation for further study. How much importance do you think your program gave to these different purposes or functions?

Degree of importance: None (0), Little (1), Considerable (2), Extreme (3)

	0	1	2	3
a. Preparing researchers	___	___	___	___
b. Preparing teachers	___	___	___	___
c. Preparing practicing professionals	___	___	___	___
d. Preparing for further study	___	___	___	___
e. Personal enrichment	___	___	___	___

9. What type of the following academic activities facilitated your research training during your graduate studies? (Please rank them in order of importance: first=1, second= 2, etc.)

____ Writing assignments
____ Analyzing research projects
____ Doing documentary research
____ Interpreting statistical data
____ Analyzing case studies
____ Designing your own research project
____ Other (be specific) _____

10. Have you received additional research training after your graduation?

____ No
____ Yes If so, please specify

_____

11. Have you needed in your professional work specific research training which was <u>not</u> provided in your program?

____ No
____ Yes If so, please explain below

_____

12. To what extent do you agree with the following statements about your graduate program at your institution. (Please CIRCLE one letter according this scale: SD Strongly disagree, D Disagree, AMB Ambivalent, A Agree, SA Strongly agree, NA Not applicable)

a. There is good communication between faculty and students regarding academic and research matters SD D AMB A SA NA

b. There are sufficient opportunities for student-faculty interaction SD D AMB A SA NA

c. This graduate program prepared me with research skills SD D AMB A SA NA

d. The University library holdings are adequate for research activities SD D AMB A SA NA

e. The teaching methods used facilitate learning to conduct and analyze educational research SD D AMB A SA NA

f. The advising system is adequate SD D AMB A SA NA

g. The research requirements are well defined SD D AMB A SA NA

h. Students have enough support from faculty during their thesis process SD D AMB A SA NA

For those items above which you disagree or strongly disagree, please explain:

_____

_____

_____

13. What aspect of your graduate education at your institution has been particularly helpful in your current job?

_____

_____

14. List below the one major strength and the major weakness of your program?

Major strength	Major weakness
_____	_____
_____	_____

15. Based upon your experiences since graduation, what recommendations would you make concerning the preparation of students for research activities in your program?

_____

_____

_____

_____

Thank you for your participation in this study.

Please return this questionnaire to

M.C. Maria de la Luz Romay
Loyola University of Chicago
1040 W. Granville, Chicago, IL, 60660

or Mail address in Mexico City:
Amores 1065-3, Col. del Valle
Mexico, D.F. 03100

FACULTY OPEN-ENDED QUESTIONNAIRE

This questionnaire is part of a study about the role of research in selected Mexican Master's programs in the field of education. The information that you will provide regarding your program will be very valuable for this study. Your responses will be kept confidential. There is no need to place your name on the questionnaire. Your participation in this investigation is greatly appreciated.

1. Institution _____

Name of the graduate program in education

_____

2. Gender _____ Female _____ Male

3. Current employment status

Work position at your institution _____

_____ Full-time professor

_____ Part-time professor, Indicate hours/sem. _____

4. Years working in this institution _____

5. Years of work experience in graduate education _____

6. What is your highest academic degree obtained?

	Area or discipline	Date conferred
_____ B. A.	_____	_____
_____ Master's degree	_____	_____
_____ Doctoral degree	_____	_____

What was your thesis/dissertation topic? _____

7. Are you currently studying?

_____ Yes, if so please specify _____
field degree

_____ You are writing your thesis/dissertation.

Specify the topic _____

_____ No, you are not currently studying.

8. What subjects are you teaching regularly in the Master's program in education?

_____

_____

9. What are your research interests currently?

_____

10. What of the following activities are part of your responsibilities in this institution?

(Check all that apply)	% for each activity
___ Teaching in graduate programs	_____
___ Teaching undergraduate education	_____
___ Conducting research projects	_____
___ Presenting lectures/papers at conferences or workshops	_____
___ Serving on academic committees	_____
___ Writing for publication	_____
___ Involved in community services	_____
___ Other (specify)_____	_____

11. To what professional associations do you belong?

_____

_____

12. List any incentives, scholarships, or academic awards/ promotions you have received in the last five years.

_____

_____

13. Do you think that your program is responding to the students' expectations? Explain your answer.

_____

_____

14. What is your opinion about the importance of research in Master's programs in education? Do you think that research influences the quality of your program? Be specific.

_____

_____

15. In your opinion, is there a good balance between teaching and research in the curriculum of your program? If so, how?

_____

_____

16. For the following types of academic activities which prepare your students for research? (Please rank in order of their importance: first-1, second-2, etc.)

_____ Writing assignments
_____ Analyzing current research projects
_____ Doing documentary research
_____ Analyzing case studies
_____ Designing their own research projects
_____ Other (specify) _____

17. Do you work with students on research projects? If so, name some of that work.

_____

_____

18. Are you satisfied with the following academic aspects that may influence research in your graduate program?

	Yes	Partly	No
Advising system	___	___	___
Students research requirements	___	___	___
Financial resources to support research	___	___	___
Library holdings	___	___	___
Computer services	___	___	___

Please, explain your answers:

_____

19. What kind of resources exist to support research activities at your institution? What proportion of the budget is assigned to research in the department/ institution?

20. In your opinion, what are the most important difficulties that students usually have in research activities during their graduate work?

21. Do graduates of your program have good professional experiences as a result of their research training in the program? If so, give an example and explain what factors have contributed to these positive results.

22. Do you think graduate students need additional training to achieve a better performance in educational research in their professional settings?

23. Based on your experience as a professor in the Master's program, what do you think is necessary to improve the research training for students in this graduate program?

24. What would you recommend in order to improve the research outcomes of your graduate program?

25. List below the one major strength and the major weakness of your graduate program in education.

Major strength	Major weakness
_____	_____
_____	_____

Thank you for your participation in this study.

Please return this questionnaire to

M.C. Maria de la Luz Romay
Loyola University of Chicago
1040 W. Granville
Chicago, IL 60660

or Mail address in Mexico City:
Amores 1065-3, Col. del Valle
Mexico, D. F. 03100

IN-DEPTH INTERVIEW GUIDE

NAME OF INSTITUTION _____

DEPARTMENT_____

NAME OF THE PROGRAM _____

TITLE OF PERSON ANSWERING QUESTIONS _____

1. What is the purpose of the graduate program in education offered by your institution?

2. What are the main characteristics of your program? (i.e., classification of courses, number of credits, options, prerequisites, admission criteria, courses related to research methods)

3. Do you believe that the program's curriculum is adequately responding to the students' expectations?

4. What criteria have been employed in admitting students into your program? In your opinion, are these criteria satisfactory? Does the academic performance of your students reflect the effective application of the admissions criteria?

5. Have you established any academic standards that your students need to meet?

6. What are the research requirements that your students must fulfill prior to their graduation?

7. What kind of research projects have your students developed during the last three years? What do you think of their quality? How do you assess quality?

8. What methods or techniques are you using to teach research skills to your graduate students?

9. Do you integrate teaching and research in your program? If so, how?

10. Are the library holdings adequate to support the instruction and research of your program?

11. Do the students work with faculty on research projects? If so, name and explain some ways that they have collaborated.

12. Have you had any difficulties in guiding the research developed by your students? If so, what have been the problems and how did you solve them?

13. Does this institution provide support for research activities? If so, please give an example or enunciate any deficiency that you have observed.

14. What resources do you have to support research work of your graduate students? Do you think they are sufficient?

15. What procedures do this institution have to approve research projects proposed by faculty? Who participate in these decisions?

16. What is your opinion about the importance of research in graduate education? Be specific.

17. Do you think that research influences the quality of your program? If so, how?

18. Would you like to improve the research developed by your students in the future? If so, how?

19. What do you believe are your program's special strengths and weaknesses?

20. Additional comments.

APPENDIX D

PROGRAM CHARACTERISTICS

PROGRAM #1

NAME: Specialization in Teaching in Higher Education

INSTITUTION: Interdisciplinary Center for Research in Technical Education (CIIDET)

LOCATION: Queretaro, Qro.

SECTOR: Public

DATE OF CREATION: 1988

PROFILES (1992-93):

No. Students: 95	F 28	M 67	Full-time 0	Part-time 95
Faculty: 18	Full-time 7		Half-time 1	Part-time 10
Preparation:	Doctorate 1		Master's 15	Licentiate 2

PROGRAM PURPOSE:

The program primarily attempts to help faculty to reflect about the problems of practical teaching.

CURRICULUM COMPONENTS:

The program includes four areas:

a) Foundations (Theories in Education, Analysis of Educational Policies, Technical Education System, and Theories of Learning.
b) Structural (Curriculum Development and Teaching/learning techniques.
c) Operational (Two Seminars in Professional Actualization).
d) Evaluative (Theory and Practice in Educational Evaluation and Residence in a Technological Institution).

TEACHING/RESEARCH STRATEGIES:

The program is offered to teachers of the 68 Technological Institutes all over the country. It is taught at each site approximately in 1 1/2 year, usually in a three day basis (thursday, friday and saturday). CIIDET's faculty teach the required courses and some seminars can be taught by faculty members from the same institution or local community.

The advising during the development of the thesis is held by distance.

ONGOING RESEARCH PROJECTS/AREAS:

There have been predominantly projects focused on evaluation, drop out rates, within technical education, however, the program does not establish any specific areas of concentration for research. In addition, CIIDET currently handle a program that deals with the promotion and recovering of research.

EXISTING FACILITIES FOR RESEARCH ACTIVITIES:

The National Council for Technical Education (COSNET) provides the financial resources for this program. In addition, the institution assume some cost such as salaries for internal faculty, and graduation expenses.

CIIDET has an specialized library on technical education. So, students visit the institution once during their program in order to search for materials needed for their theses.

RESEARCHER COMMENTS:

For 12 years CIIDET offered a master's degree in educational and research sciences which included more than 500 students. From those students who finished their coursework, only 120 were graduated.

Up to now the Specialization program has been offered in 17 sites, attending 310 students. From this population 126 have already graduated.

PROGRAM #2

NAME: Master's in Educational Research

INSTITUTION: Department of Educational Research (DIE)

LOCATION: Mexico, D.F

SECTOR: Public. This institution is under the Research Center for Advanced Studies (CINVESTAV/IPN)

DATE OF CREATION: 1975

PROFILES (1992-93):
No. Students: 26 F 19 M 7 Full-time 15 Part-time 11

Faculty: 20 Full-time 20 Half-time 0 Part-time 0
Preparation: Doctorate 5 Master's 13 Licentiate 2

PROGRAM PURPOSE:
The principal objective of the master's program is to form researchers. Since its, this has been its objective.

CURRICULUM COMPONENTS:
The curriculum was organized with a strong emphasis on research practice through what is called "insertion into research projects". The insertion in a project involves approximately 50% of the time of the students. However, the students have to comply with all of the obligations of the master's degree because their research is tied very much to what they learn throughout the whole coursework.

TEACHING/RESEARCH STRATEGIES:
Some professors provide advice to the students through seminars. Others set up seminars between students and their research assistants to have interchange among them. There are other professors who rely advising on the individual contact with each student. A very personal relationship between professors and students develops because the groups are small.

ONGOING RESEARCH PROJECTS/AREAS:
They select the number of students that can be taken as part of the ongoing research projects. DIE has focused research activities on psycho-social educational problems and the learning and teaching process. The five research areas by which the center is organized are: socio-cultural processes in education (including policy analysis), teaching in mathematics, psycho-linguistics, curricular development, and history of education.

EXISTING FACILITIES FOR RESEARCH ACTIVITIES:

The library has 20,000 books. It is considered one of the most specialized in the country. CINVESTAV provide to DIE's faculty access to Binet electronic mail. The library has plans also to install a modem.

RESEARCHER COMMENTS:

The admission of students is very much related to the compatibility of students and the research projects within which they will be engaged. The program is subordinate to the research done there.

PROGRAM #3

NAME: Master's in Administration and Educational Development

INSTITUTION: Higher School of Economics (ESCA/IPN)

LOCATION: Mexico, D.F.

SECTOR: Public

DATE OF CREATION: 1976

PROFILES (1992-93):

No. Students:	37	F 8	M 29	Full-time 0		Part-time 37	
Faculty:	8	Full-time 3		Half-time 2		Part-time 3	
Preparation:		Doctorate 1		Master's 6		Licentiate 1	

PROGRAM PURPOSE:

The main purpose of MADE program is the formation of highly trained human resources to perform in administrative positions and to work for the development of higher education institutions.

CURRICULUM COMPONENTS:

The program has a four blocks or areas: educational foundations, the relationship between education and the social context, administration of education, and subjects related to three different specialties. Students may be interested in designing and evaluation of programs, strategic planning, or the administration of science and technology.

TEACHING/RESEARCH STRATEGIES:

Research methodology I and II are subjects which require the formulation of a research project. After the second course in Research Methodology students should be able to make a research proposal.

ONGOING RESEARCH PROJECTS/AREAS:

There is a research program associated with the graduate program. Two professors have attempted to integrate graduate students into their research projects.

EXISTING FACILITIES FOR RESEARCH ACTIVITIES:

In the IPN there is an office in charge of graduate education and scientific research. This office defines general policies that determine the amount of financial support. Therefore, faculty register their projects there, or apply to CONACYT. Also the private sector is now also interested in financing some projects regarding the relationship between higher education and the work sector.

The library holdings at ESCA are scarce and not well organized. However, there is a computer laboratory that is open to faculty and students.

RESEARCHER COMMENTS:

There have had serious problems with desertion, the last semester 50% of new students withdrew.

PROGRAM #4

NAME: Master's in Education

INSTITUTION: Autonomous University of Tlaxcala (UAT)

LOCATION: Tlaxcala, Tlax.

SECTOR: Public

DATE OF CREATION: 1989

PROFILES (1992-93):

No. Students:	57	F 31	M 26	Full-time 0		Part-time 57	
Faculty:	14	Full-time 6		Half-time 0		Part-time	8
Preparation:		Doctorate 5		Master's	8	Licentiate	1

PROGRAM PURPOSE:

The program seeks to train professionals who acquire basic knowledge in education at the same time that technical tools.

CURRICULUM COMPONENTS:

There is a Prerequisite stage which includes four courses. Students are not formally registered in the master's program until they pass these courses. The purpose of this prerequisite is to give students a common language since them come from different academic areas. Then, students take the core courses and during the second year they choose a specialty.

There are three specialties: teaching in higher education, administration and vocational counseling.

TEACHING/RESEARCH STRATEGIES:

A research course is geared toward research training. There, students should develop a project that may correspond to their thesis project, although not necessarily.

ONGOING RESEARCH PROJECTS/AREAS:

Few professors invite graduate students to collaborate at certain times into their research projects, however, few have enough time to be involved in these activities.

Another activity that promote research is a week for the presentation of "A sample of students activities" which is organized yearly by the department. Then different types of research work are presented.

This program has not defined research areas and the research that faculty have conducted has been sporadic.

EXISTING FACILITIES FOR RESEARCH ACTIVITIES:

More than half of the students obtained scholarships from CONACYT. In addition, some financial resources were used to increase library holdings and computer facilities. However, the existing facilities are minimal.

RESEARCHER COMMENTS:

In 1988 the program was restructured and became one of the few master's programs in education that have obtained support from CONACYT in the last two years.

PROGRAM #5

NAME: Master's in Research and Educational Development

INSTITUTION: Iberoamericana University (UIA)

LOCATION: Mexico, D.F.

SECTOR: Private

DATE OF CREATION: 1977

PROFILES (1992-93):

No. Students:	34	F 21	M 13	Full-time	9	Part-time	3
Faculty:	12	Full-time 7		Half-time	2	Part-time	3
Preparation:		Doctorate 4		Master's	7	Licentiate	1

PROGRAM PURPOSE:

This program has a fundamental orientation towards the preparation of professionals who would be the necessary link between researchers and those who make decisions and are responsible for using the research.

CURRICULUM COMPONENTS:

The curriculum has epistemological, methodological and technical components. It encompass 100 credits divided into required (55%) and elective (45%) courses. It includes two research seminars which intend to initiate students in designing their research projects.

TEACHING/RESEARCH STRATEGIES:

Students work in their own research projects at the same time that are taking courses. Through advice faculty teach students how to do research.

ONGOING RESEARCH PROJECTS/AREAS:

There are two sources that support research: the institutional research program created in 1990 and the linkage with the Center for Educational Research (CEE). Faculty members are investing time and efforts to conduct research projects. The most important projects dealt with the impact of college education and the history of Mexican education.

EXISTING FACILITIES FOR RESEARCH ACTIVITIES:

The institution has provided five scholarships to students that act as interns within the institutional research program. The cost of tuition is high, so few students can assume it by personal funds.

RESEARCHER COMMENTS:

Only two faculty members are focused on research, the rest of the group dedicate most of their time to teaching. The program have been under revision during the last two years and two semesters the admission was suspended.

PROGRAM #6

NAME: Master's in Educational Sciences

INSTITUTION: University of Monterrey

LOCATION: Monterrey, N. L.

SECTOR: Private

DATE OF CREATION: 1972

PROFILES (1992-1993):
No. Students: 15 F 11 M 4 Full-time 0 Part-time 15

Faculty: 12 Full-time 6 Half-time 2 Part-time 4
Preparation: Doctorate 2 Master's 6 Licentiate 0

PROGRAM PURPOSE:
The main objectives of the program are: to prepare professionals who will be able to conduct educational research projects and to promote a humanistic and personalized education.

CURRICULUM COMPONENTS:
The program operates with the quarter system. It includes six required courses (core curriculum) and specialized courses. Students chops among three specialties: teaching in higher education, special education, and computer sciences and education.

TEACHING/RESEARCH STRATEGIES:
Students can study first stage the area of specialization and later continue to obtain their master's degree. If they take exclusively the specialization they can get only a diploma, which supposes one year of study in this level.
According the program guidelines it is recommended to students to look for external advisors.

ONGOING RESEARCH PROJECTS/AREAS:
The areas in which students may present their thesis are very broad: adult education, evaluation, administration and learning-teaching processes. However, the institution currently is making efforts to promote research through an institutional research office. But there are no opportunities for graduate students to be involved in ongoing research projects.

EXISTING FACILITIES FOR RESEARCH ACTIVITIES:

The departmental budget only cover the academic activities. Part of the infrastructure of the university has resources useful for research activities such as 4270 books in social sciences and 158 magazines kept in the library, the existence of SECOBI data bank, and the computer laboratories.

RESEARCHER COMMENTS:

The department has approximately 80 students all together in the two graduate levels. Predominantly it is attending the demand of preparing faculty for college education.

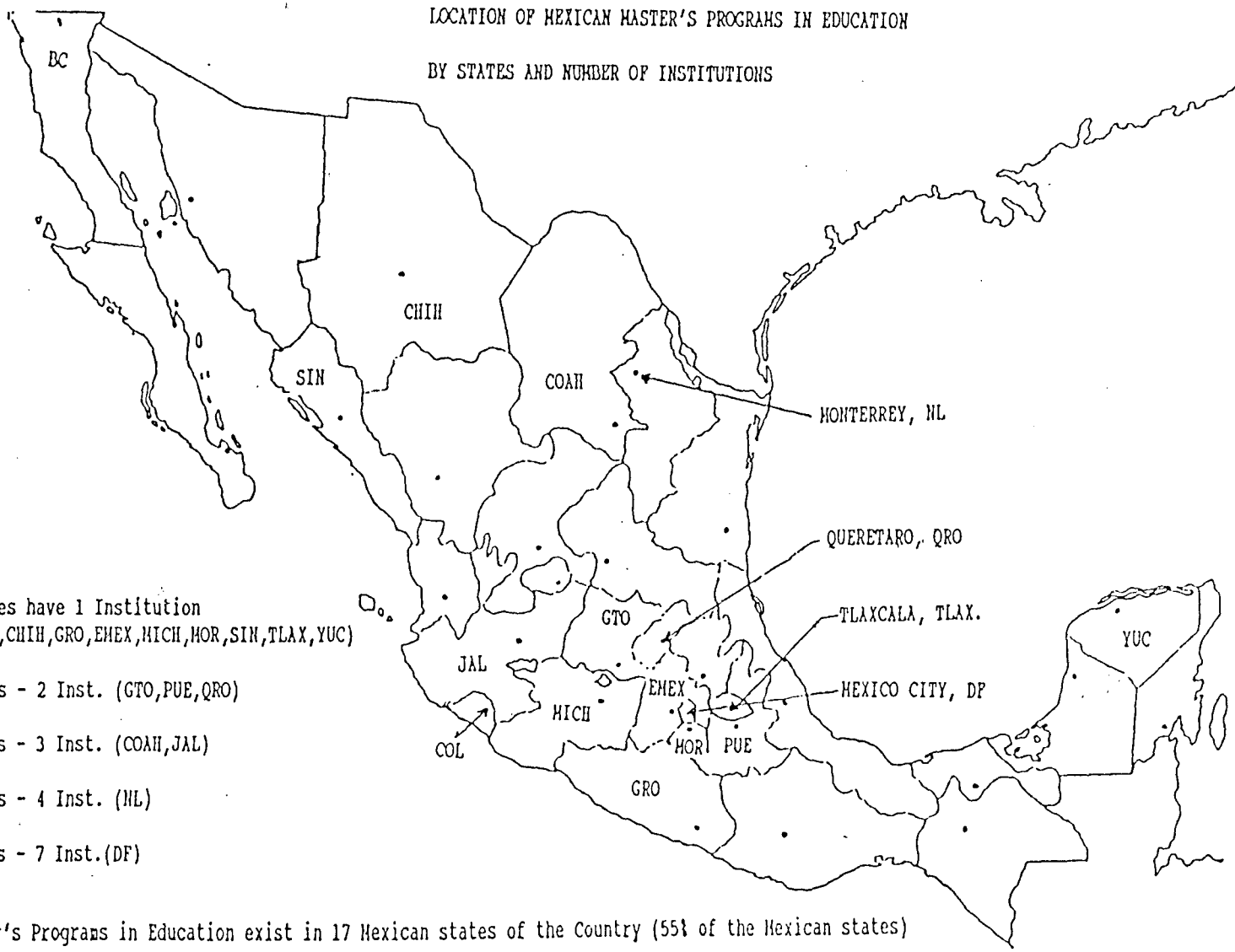
Administrators complained about the low graduation rates during the last three years.

APPENDIX E

LOCATION OF THE GRADUATE PROGRAMS SELECTED

LOCATION OF MEXICAN MASTER'S PROGRAMS IN EDUCATION

BY STATES AND NUMBER OF INSTITUTIONS



CODES:

- 10 States have 1 Institution
  (BC,COL,CHIH,GRO,EMEX,MICH,MOR,SIN,TLAX,YUC)
- 3 states - 2 Inst. (GTO,PUE,QRO)
- 2 states - 3 Inst. (COAH,JAL)
- 1 states - 4 Inst. (NL)
- 1 states - 7 Inst.(DF)

Master's Programs in Education exist in 17 Mexican states of the Country (55% of the Mexican states)

APPENDIX F

DIRECTORY OF INSTITUTIONS PARTICIPATING IN THIS STUDY

NAME OF THE INSTITUTIONS	ADMINISTRATORS INTERVIEWED
INTERDISCIPLINARY CENTER OF RESEARCH AND TEACHING IN TECHNICAL EDUCATION (CIIDET) Av. Universitad Ote. No. 282 76000 Querétaro, Qro. Phone: (42) 16-3858 16-3540 FAX	1. Mtra. Cristina Mejía
DEPARTMENT OF EDUCATIONAL RESEARCH (DIE/CINVESTAV/IPN) San Borja 932-938 Col. del Valle 03100 Mexico, D.F. Phone: (5) 575-0214 & 575-0220	2. Dra. Rosa Nidia Buenfil 3. Dr. Eduardo Weiss
HIGHER SCHOOL OF ECONOMICS AND ADMINISTRATION (ESCA/IPN) Carpio No. 471 Edif. G Col. Sto. Tomas Deleg. Hidalgo 11340 Mexico, D.F. Phone: (5) 341-4233 ext.28 & 341-4449	4. Dr. Isaías Alvarez 5. Mtro. Carlos Topete
AUTONOMOUS UNIVERSITY OF TLAXCALA (UAT) Department of Education Carretera Ocotlán s/n 90100 Tlaxcala, Tlax. Phone: (246) 2-4453 & 2-1167 (FAX)	6. Mtro. Rafael Reyes
IBEROAMERICANA UNIVERSITY (UIA) Department of Human Development and Education Prol. Paseo de la Reforma 880 Col. Lomas Sta. Fe 01210 Mexico, D.F. Phone: (5) 570-5622 & 726-90-48	7. Dr. Carlos Munoz I. 8. Mtra. Maura Rubio
UNIVERSITY OF MONTERREY (UDEM) Av. Ignacio Morones Prieto No. 4500 Pte. San Pedro Garza Garcia 66238 Monterrey, N.L. Phone: (83) 38-5050, 38-5820 & 38-5619 (FAX)	9. Mtro. Fernando Iturribaria

APPENDIX G

LIST OF THESES[1]

[1]The theses titles were categorized by levels, topics and methodologies. Therefore, the initials that appear after each title represent this classification. For codes information See Table 26.

Iberoamericana University

Education within the social development of Paraguay
L-A, T-B, M-D 1977

External accreditation of teaching in clinical subjects of medicine careers L-H, T-C, M-EV 1978

Personal characteristics (profile) of teachers of pre-school level in rural communities of Mexico L-B, T-C, M-D 1982

Contradictions in the formation of teachers of elementary education L-B, T-B, M-P 1983

Symbolic processes in Mexican children 5-7 years old) of Mexico City L-B, T-C, M-EX 1984

Ideological Leaders ("caciques"): The case of bilingual teachers in Chiapas L-H, T-B, M-ET 1984

Psycho-linguistic effects of bilingual education in Mexican children L-B, T-C, M-EX 1985

Dominant models of vocational counseling in Mexico
L-M, T-D, M-EV 1986

Traditions for the evaluation of programs of Adult Education L-A, T-D, M-EV 1987

The development of higher education in Baja California: 1975-1986 L-H, T-E, M-D 1988

Levels of participation in programs of Adult Education
L-A, T-D, M-EV 1988

Involvement of women in construction work: A training model
L-A, T-B, M-D 1988

Perspectives in planning small universities: A case study of the Northeast campus of Iberoamericana University
L-H, T-E, M-EV 1988

Vasconcelos and the creation of Libraries in Mexico
L-I, T-A, M-HI 1988

Impact of authoritarian relationships between teachers and students in elementary education L-B, T-B, M-ET 1989

Follow-up of graduates from a master's program in education: A case study L-H, T-B, M-EV 1989

Teaching in Physics in UNAM's Preparatories: A case study
L-M, T-D, M-EV 1990

Methodological proposal for a critical approach in educational programs within Mexican museums L-I, T-D, M-D 1990

Decentralization policies set by the government during the period of 1982-88 L-S, T-A, M-HI 1990

Market for graduates of Economics and Sociology of the Autonomous University of Sonora L-H, T-B, M-EV 1990

The academic planning: The case of the College of Bachelors L-H, T-E, M-EV 1990

Articulation between education and work in Cuba: The transformation of civic values L-M, T-B, M-D 1991

Impact of implementation of the Vasco de Quiroga's system of education in the 20th century L-A, T-A, M-HI 1991

Educational Research Department

Three types of evaluation techniques and their previous understanding L-M, T-D, M-EV 1978

The national system of Adult education: status and perspectives L-A, T-A, M-HI 1979

Interaction between teachers and students oriented to reinforce the socialization process L-H, T-B, M-EV 1979

The coursework or natural sciences in basic middle education (1926-75) L-M, T-D, M-EV 1979

Possible expectation of students' performance with high and low average points in elemental schools L-B, T-C, M-EX 1979

Progress, development and crisis: educational projects of U.S. in Latin America L-S, T-A, M-P 1979

Memorization of concepts of natural sciences acquired by experimental activities in elemental schools L-B, C-C, M-EX 1980

Capitalism and schooling in Mexico (1940-70) L-S. T-A, M-P 1981

The cultural and educational plan of the Mexican Government Reforms of normal education during the period 1970-76 L-S, T-A, M-HI 1982

Pre-school education as a stage of socialization L-B, T-B, M-D 1982

Relationship between the preparation of human resources and social needs: foundation for the development of different professional studies L-H, T-B, M-EV 1983

Teaching, research and diffusion of ecological issues taken by programs of Chapingo University L-H, T-A, M-P 1983

The marxist debate: reductionism between social class and education L-S, T-A, M-HI 1983

An historical study of private education in Mexico L-S, T-A, M-HI 1983

Conceptualization and procedures on evaluation in elemental education L-B, T-D, M-EV 1984

The structure of the required free texts for adult learners L-A, T-D, M-EV 1984

Analysis of educational policies through the analysis of the educational budget of the country L-S, T-A, M-P 1984

The modernization process of an elementary school of San Pedro Tultepec L-B, T-A, M-D 1984

Programs for faculty development in Mexico (1971-19): proposal of CISE and CNME L-H, T-D, M-D 1984

Equal and free opportunities for elemental education L-B, T-B, M-P 1985

Unionism and teachers: relationships and daily processes L-H, T-B, M-P 1985

The emotional and perceptual development of children in their pre-school and family experiences L-B, T-C, M-EX 1985

The meaning of teaching experience L-B, T-B, M-ET 1985

Reality and ideal of the College of Sciences and Humanities curriculum L-M, T-D, M-D 1985

Students as learners and the production of knowledge in elemental education L-B, T-B, M-ET 1985

Children interaction as factor of cognitive development L-B, T-C, M-EX 1985

University, self-government and modernity. Comparative study of programs for Architecture L-H, T-E, M-EV 1985

CONALEP an alternative to serve isolated communities in Mexico L-M, T-A, M-D 1986

A methodological alternative for teaching sciences L-M, T-D, M-EV 1986

Building the daily work of teaching L-H, T-B, M-ET 1986

Literacy without letters: what does an illiterate person think? L-A, T-B, M-ET 1986

Transition from the pre-phonetic to the phonetic periods in the reading and writing learning L-B, T-C, M-EX 1986

Development of an institution of elemental education L-B, T-E, M-D 1986

Teaching strategies in natural sciences in the first year of high school L-M, T-D, M-EV 1987

Teaching and learning of fractions in elementary schools L-B, T-B, M-EX 1987

Rationale of three curricular discourses (Taba, Tyler and Durkheim) L-S, T-A, M-EV 1987

Authoritarian modernization and academic crisis: the status of professors in UNAM L-H, T-B, M-P 1988

Ideology as part of teacher preparation L-H, T-A, M-P 1988

Educational failure and active teaching methods. A methodological study L-B, T-C, M-EV 1988

Social relationships and freedom of teachers of elementary school L-B, T-B, M-P 1988

The graphic representation of the substraction L-B, T-D, M-EX 1988

The linguistic development through written activities in elemental schools L-B, T-C, M-EX 1988

General characteristics of the expansion of the educational system of Mexico (1950-1980) L-S, T-E, M-HI 1988

Evaluation in elemental schools L-B, T-D, M-EV 1988

The creation of the National University of Pedagogy: Is it a new teachers discourse? L-H, T-A, M-P 1988

Legitimating the learning processes in education: rituals, norms and legitimate knowledge. The case of agricultural education L-B, T-B, M-ET 1988

Impact of political conflicts in UNAM (1986-87) L-H, T-A, M-P 1989

The origins of technical education: an alternative for popular classes (1932-1938) L-M, T-B, M-HI 1989

The need of understanding, explaining and discussing in experimental activities of elementary schools L-B, T-B, M-ET 1989

Socialist education in Aguascalientes (1934-40)
L-S, T-A, M-HI 1989

Norms and values within the interaction between teachers and students of the College of Sciences and Humanities
L-M, T-B, M-ET 1989

Teaching natural sciences: re-discovering its meaning
L-B, T-D, M-EV 1989

The curriculum in the Autonomous University of Sinaloa: a case for hegemony L-H, T-D, M-EV 1990

The socialization process of students in Chapingo university: the way that they assume their professional role
L-H, T-B, M-EV 1990

Transition from the traditional to the modern model of university L-H, T-E, M-P 1990

Education and active work during childhood and adolescence: An education for life L-B, T-D, M-EX 1990

Differences in the phonetic periods of writing and reading learning L-B, T-C, M-EX 1990

The technical knowledge in agricultural schools
L-H, T-C, M-D 1990

Socialist education and the distribution of land in Coahuila.
LS, T-A, M-HI 1990

The Higher Institute for Agricultural Education of Celaya: A case study L-H, T-E, M-D 1991

<u>Autonomous University of Tlaxcala</u>

Theory and discourse of the qualitative evaluation in Normal Schools L-H, T-D, M-EV 1992

Origin and development of graduate education in UAT
L-H, T-A, M-HI 1992

Teaching processes in the Law School: Proposal for a curricular change L-H, T-D, M-EV 1992

University of Monterrey

Academic performance Gonzalitos Preparatory graduates during their professional studies L-M, T-C, M-EV 1987

A teaching model for statistics in social sciences L-H, T-F, M-EX 1989

Evaluation of Advising system of ITESM L-H, T-D, M-EV 1990

Visual and verbal learning useful for programming skills L-H, T-C, M-EX 1990

Evaluation of the advising system of ITSM, (Monterrey campus) L-H, T-D, M-EV 1992

Elaboration of notes for teaching physics L-M, T-D, M-D 1992

implementation of the core curriculum in UDEM L-H, T-D, M-EV 1992

Profile of graduates of Bachelor in Economics in 1982 L-H, T-B, M-EV 1992

Higher School of Economics and Administration

New ways to study the transference of knowledge process in middle education L-M, T-C, M-EX 1980

Technical and educational role of the principalship in high schools L-M, T-B, M-EX 1982

School administration as a tool for internal organization (efficiency) L-H, T-E, M-D 1982

Research as part of teacher education L-H, T-D, M-EV 1983

Reflections about teaching of history in Preparatory level L-M, T-D, M-D 1985

A proposal for the organization of Language Laboratory L-M, T-F, M-D 1985

Deficiencies in writing skills founded in applicants to higher education L-H, T-C, M-EV 1986

APPROVAL SHEET

The dissertation submitted by María de la Luz Romay has been read and approved by the following committee:

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The final copies have been examined by the director of the dissertation and the signature which appears below verifies the fact that any necessary changes have been incorporated and that the dissertation is now given final approval by the Committee with reference to content and form.

The dissertation is therefore accepted in partial fulfillment of the requirements for the degree of Ph. D.

April 15, 1993
Date

Terry E. Williams
Director's Signature