

Meeting:

Indigenous Rarámuris as University Students: Challenges for Information Literacy

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94 — The importance of information literacy for multicultural populations: needs, strategies, programs, and the role of libraries — Information Literacy Section with Library Services to Multicultural Populations and the Special Interest Group on Indigenous Matters

Abstract:

Our article describes the experience developing programs for Mexican indigenous students to support their admission and retention as university students. We present an analysis of national perspectives, focusing specifically on the efforts made by The Autonomous University of Chihuahua (UACH), Mexico, with indigenous Rarámuris local project through the Support Program for Indigenous Students (PAEI). In addition to providing benefits related to economics, sport activities, and physical, nutritional and psychological health, PAEI employees concrete actions linked to information literacy, such as academic support, extracurricular advising, tutoring, use of information technology, study techniques, and reading, writing, and learning models. Statistics presented not only document the progress achieved through PAEI, they identify the challenges to be faced.

Introduction

In the search for a more plural higher education, and after multiples lags in the subject, the initiative to establish actions strategies, through which make possible traditionally marginalized population, as is the case of indigenous people, to access it has arisen in Mexico. Therefore, the National Association of Universities and Institutions of Higher Education (ANUIES) with financial support from private foundations (Ford Foundation specifically), proposes the creation, at a national level, of the Support Program for Indigenous Students in Higher Education Institutions (PAEIIES). PAEIIES allows state universities to implement, voluntarily, their own program according to specific regional needs, especially related to the population ratio of ethnic groups, which varies significantly in different states of the country.

The initial proposal is to facilitate academic support of students from indigenous populations who attempt to or are already enrolled in higher education institutions. This will result in a strengthening of the academic resources of these higher education institutions that are part of the Program in order to fulfill the needs of the indigenous students. Therefore, their possibilities for a better academic development will increase. This development will also not reduce the possibilities of students from non indigenous populations to have access to academic and economic resources.

PAEI focuses especially on the Rarámuris or Tarahumaras, even though students of other ethnic groups are not refused acceptance in the program. Since there is no organization dedicated to address with this type of situation, data on indigenous involvement is not available, although it is felt that students from these communities have .minimal participation in higher education

PAEI offers a group of benefits dedicated to UACH's indigenous students, such as management and enrollment in scholarship and economical benefits and cultural and sports activities intended to reinforce aspects of physical, nutritional and psychological health. Two PAEI proposals are directly related with the information literacy: academic support (extracurricular advising, workshops, seminars and conferences that contribute to improving academics) and tutoring (teacher support from admission until graduation). Group training programs focused on the student's preparation for the admission test and included offering learning support courses in the management of information technologies; techniques of study; reading, writing, and learning models; and mathematical reasoning.

The Information Science School of UACH, through the Academic Body of Library and Information Sciences, developed an alternate proposal of information literacy for indigenous populations to complement the educational package offered by the PAEI. The Information Science School demanded that academic libraries be recognized for the role they must have in the process of developing information literacy abilities. This role is at the central academic core of designing and implementing information competencies diagnostic reflective of the population involved. This design derives from concrete alternatives, allowing the integration of learning communities, built on a background of the use and management of physical and electronic information. Finally, it briefly discusses some of the ethical dilemmas facing the implementation of this kind of initiative.

Mexican Vision for Indigenous Inclusion in Higher Education

Historically, since the period of the Conquest of Mexico, indigenous or native peoples were extremely neglected in all economic, political and social aspects of society. This took them to extreme poverty, thus initiating generations with little or no access to better jobs and education, even today, indigenous is used daily as a pejorative term.

Despite the progress that has been seen in Mexico on matters of equity, vulnerable groups, especially indigenous people, continue to face difficulties—and even discrimination—that slows their access to higher education (INALI, 2009). Low indices of students participation from these sectors is seen not only in admission to higher education but also in retention and completion of academic programs. This situation is clearly not solely a result of marked cultural differences but also a stem from the economic and geographical conditions of this population.

Mexico is a country with an indigenous population which, according to national census data, exceeds six million people. This population is largely located in 12 of the 32 states; the remaining states have indigenous populations but in smaller numbers.

It is worth mentioning that while these data correspond to those groups of people who have retained the manners, customs, and traditions of their ethnic groups, the real indigenous population is estimated to exceed 10 million. The difference in census figures is really only a difference between those who acknowledge being indigenous and those lifestyles and identities are more akin to the dominant population (INEGI, 2011).

While Mexican law guarantees that all members of the population have the right to basic education, this principle is not fulfilled in reality. It is conceivable that this phenomenon is more evident in higher education. The government is unable to fulfill these rights on an equal basis due to the social conditions of vulnerable groups. Such concerns led the Ford Foundation to finance a support project to cover higher educational needs of indigenous populations. The Foundation looked to institutions of public higher education within the ANUIES, the organizational body that not only has the most members but is also the group that dictates a series of standards on the quality of higher education in Mexico (ANUIES, Ford Foundation, 2010).

In 2001, the Ford Foundation program was integrated with the PAEIIES program. The overall objective of this new integrated program is to strengthen the academic resources of institutions of higher education program participants to meet the needs of enrolled indigenous students, thus increasing their chances of good academic performance from admission, to retention, and, finally to successful graduation.

This initiative for inclusion of indigenous populations in higher education includes the following action (ANUIES, 2006):

- 1. The PAEIIES invites states where the indigenous population was greater than 100,000 inhabitants to participate. This totals 12 of 32 states.
- 2. Within the participating states, the public higher education institutions should be affiliated with ANUIES, show commitment to participate, create an organizational structure supporting the program, and be willing to grant scholarships to indigenous students.
- 3. The higher education institutions accepted into PAEIIES should contribute to a training program. Involvement includes defining the overall program operation's criteria and identifying of minimum level of operation expected for each institution involved. In addition, commitment in PAEIIES requires that partner institutions develop a formal program of work specifying: objectives, activities, time, and impact indicators.

This initial call to participate was sent to 79 institutions of higher education that might potentially satisfy the start-up requirements. Of these 79 institutions, only 39 responded that they were interested in participating. This group was finally narrowed to a first group of six universities that stuck to the job requirements in both, available resources and adherence to the principles of project development. A second call resulted in incorporating five more institutions of higher education, all of which represented institutions in regions with the highest indigenous population density. For an additional two calls were made in 2010-2011, a total of 23 institutions of higher education were incorporated into the program. Final participating now included some states with small numbers of indigenous population, as is

the case of the State of Chihuahua that has an indigenous population of barely 100.000 people. These 23 institutions were located in 19 of 32 states.

While the involvement of institutions of higher education in supporting education of indigenous students has been gradual, the impact of PAEIIES has been significant. The work has been recognized by several international agencies. Other evidence is seen in the continuity and permanence of the program, the allocation of more resources to extend the services for those involved, and greater acceptance of higher education, by indigenous students. Public universities are more open to the possibility of intercultural perspectives. Such openness is seen as professors add contents that promote intercultural to course syllabi. A greater involvement of teachers as tutors has led to an improvement of student academic performance (Gómez Torres, 2011).

Some aspects of an organizational nature must be recognized as part of the process of incorporation of programs to support indigenous students within public higher education institutions. First, avoid the displacement of indigenous languages (National Institute of Indian Languages, Mexico or Instituto Nacional de Lenguas Indígenas, México, 2006), Moreover, organizational recognition of such programs in universities is often dependent upon the systematization of data on populations served and its various indicators for further analysis. Data on the admission, retention, and graduation of indigenous students should be collected to evaluation progress (ANUIES, 2010).

Rarámuris: Retrospective and Prospective Analysis

A brief analysis of the history of the indigenous presence in the State of Chihuahua, Mexico, should consider that the Rarámuris were the first inhabitants of the region; evidence points to their settlement in the Sierra Tarahumara about 15,000 years ago. The basis of their economic activities was primarily related to agriculture, hunting and gathering. Since there were several groups of peoples scattered geographically, their language generated different dialects, predominantly derived from Tarahumara or the language base used by Rarámuris.

The Spanish conquest of Mexico took place at 1521 and it was not until 1606 when Jesuit missionaries came in contact with indigenous people of the Sierra Tarahumara and settling down permanently at 1632. Initially, the Jesuit approached the indigenous Rarámuris with an initial purpose of evangelization.

In the twelfth and thirteenth centuries the inhabitants of New Spain invaded the region and stripped the indigenous people from their lands. Consequently, many Tarahumaras were paid them low wages and exploited with excessive working hours. As a result, the most rebellious of the Tarahumaras immigrated to the more remote parts where they would be protected and isolated by mountains. Their lifestyles became semi-nomadic. There is little written about many aspects of Tarahumara life including documentation of their history and their perceptions of their world. This content exists largely in the generation of legends among the Rarámuris. Similarly, there has not been a process of language documentation through primary data. To many, cultural aspects of Tarahumaras life and history are considered to be a succession of enigmas (Himmelmann, 2007).

Ever since then, the region inhabited by the Rarámuris is composed of indigenous and mixed blood peoples, both of who are always at a disadvantage before the circumstances of the

social environment. The Tarahumaras, especially, have little access to key services including the proper infrastructure for health and education. For the Rarámuris, the mixed blood population or non indigenous are named *chabochis*, an expression that means "man with cobwebs at the face". This implies a mixed blood person has a perspective of his life and culture that differs from the Rarámuris (Fundación Tarahumara José A. Llaguno, 2010).

According to the 2000 and 2010 Mexican sex and population and housing censuses and the 2005 count II population and housing data, the indigenous language speaking population in the State of Chihuahua currently numbers 104,014. This population is defined as those who speak Tarahumara in any of its forms or derivatives. This shows a population growth from 2000 to 2005 of 10.26% and from 2005 to 2010 of 9.90% (Table 1).

Year	Men	Women	Total
2000	43,269	40,817	84,086
2005	47,938	45,771	93,709
2010	52,579	51,435	104,014

Table 1. Indigenous population (Chiefly Rarámuris) in Chihuahua

Source: INEGI. Censo de población y Vivienda 2000, 2010. INEGI. II Conteo de población y vivienda 2005.

When considering their geographical locations, current Rarámuris inhabitants can be grouped into: (1) Sierra Tarahumara inhabitants who usually live in caves and makeshift homes or carry a semi-nomadic life and continue to wear traditional dress and customs; (2) Sierra Tarahumara inhabitants settled in urban and suburban centers of higher concentration of people who might live more sedentary lives but combine traditional practices with the lifestyle of the mixed blood peoples in the region; and (3) inhabitants who have migrated from the Sierra Tarahumara to settle, under different but often deplorable social and economic conditions in medium and large cities of the State of Chihuahua. While the Rarámuris are considered the native inhabitants of the region and historically have been neglected socially, it should be pointed that Chihuahua is characterized by having benefited in the nineteenth and twentieth centuries by the arrival of various ethnic and religious. These benefits included a vision of economic prosperity. For instance, members of the Church of Latter Day Saints (Mormon) arrived in 1876 and the Mennonites arrived in 1992 (Dominguez Mendoza, 2003). Both of these established religious groups and in have not been dependent on the national education system but have, instead, created their own although without incorporating regional cultures, including that of the Rarámuris (Arredondo, 1995). Sometimes it may seem that indigenous peoples had to give up their own traditions in exchange for opportunities for development. Thus, the vision of economic progress may be built upon a structure that punishes indigenous peoples for holding onto their traditional religious expressions that might be regarded as pagan by more established religious thought. This is an area of investigation that is which well worth a deeper analysis.

Support Program for Indigenous Students (PAEI): Experiences of the UACH



Figure 1. Program logo

The UACH started the PAEI program in 2010. Initially, this program had the fundamental objective of promoting the admission of indigenous students, especially Rarámuris to higher education. The main strategy was to approach those who showed interest in access to higher education and assist them in preparing for the National Examination for Admission (EXANI II) which prospective students are required to complete as part of the admission process to apply for undergraduate study.

The way to face this situation consisted of providing academic support through advising, workshops, seminars, and conferences related to the admission test., The structure of the exam includes items that demand the demonstration of competencies in solving problems of daily life through the

analysis of data for decision making.

Once identified, the group of indigenous students accepted for enrollment at the UACH, qualified for tutoring, scholarships, economical benefits, food grants, cultural activities, and a medical, nutritional and psychological evaluation. All these services represent support for student general welfare but in an objective way do not have a direct relationship with aspects of an academic nature.

Until 2010, indigenous students were not considered worthy of activities designed to support their continuance in higher education. PAEI introduced new tools to achieve higher rates of admission of these students in higher education, among these new tools included management of information technology, especially focused on the use of computer packages; study techniques; techniques for improving capacity in reading and writing; and learning models to gain more capacity for mathematical reasoning. These tools were especially designed to assist students in responding more effectively to the admissions test. To this date PAEI efforts have resulted in a record number of enrolled and continuing indigenous students: 87 students returned to student and 99 new candidates were under consideration for admission for the next school year. In previous years, only two or three indigenous students were enrolled.

The program aimed to provide every Indigenous student who attempted to enter higher education with academic support to prepare for the admission test and to help incorporate students into an academic environment. PAEI's general aim is to provide students with a comprehensive academic formation that leads to personal growth and development and professional education, equal opportunities, respecting their identity and ethnicity, through providing an intercultural context and social equity from their admission, retention, graduation, and continued affiliation as an alumnus of UACH.

The structures of the services offered were integrated into five broad categories:

- 1. ACADEMIC SUPPORT: extracurricular advising, workshops, seminars and conferences that contribute to academic improvement classes. Here, we consider both aspects related to the content of the academic programs, such as those related to the use and handling of information technologies and communications
- 2. TUTORING: Accompaniment of a teacher from each faculty from admission to graduation, especially by providing support in those areas that encourage the student's permanency.
- 3. MANAGEMENT AND ENTAILMENT: Activities designed to assist in obtaining scholarships, financial support, and food grants through links with the university departments or external agencies.
- 4. FORMATION ACTIVITIES: Through a catalog of cultural activities, the indigenous students may assist courses and activities that promote multiculturalism and sport as a way to complement the professional training.
- 5. INTEGRAL HEALTH CARNET: From the admission, students are provided with medical, nutritional and psychological evaluation, to track the students' overall health. This is mandatory for admission.

The services described above are voluntary (except the last). Any student can receive them by simply requests a service available through a tutor. However, greater emphasis is given to indigenous students. Since they are among the needlest of students their involvement projecting greater equity in the access to UACH's educational services

PAEI's success is seen in the institutionalization of the program through its formal integration into a department that serves the project. Other measures of success include the identification of formal data on participating subjects. Such data will assist in the determination of concrete actions of benefit to students and the identification of a number of elements that foster the growth of such initiatives. Equity results with the distribution of opportunities to access higher education to all people without distinction.

Rarámuris students at UACH

Due to the services and benefits offered through the program, the UACH joined PAEI in 2010. As a result, UACH identified 122 indigenous students: 116 Rarámuris and four Ódamis or north Tepehuanes, both groups from State of Chihuahua; one Mixe from Oaxaca State, and one Mixteco from the State of Morelos.

The studied population as a whole, these indigenous students is pursuing a variety of a careers, as reflected in their undergraduate programs. Table 2 shows that indigenous students are enrolled in 27 academic programs of UACH. The most frequent academic areas are Ecological Engineering, Bachelor of Physical Education, Bachelor of Business Administration, Bachelor of Nursing, and Civil Engineering.

Table 2. Distribution by professional careers

Careers	Frequency	%
Ecology BS	19	19.82
Bachelor of Physical Education	14	14.82
Bachelor of Business Administration	13	13.82
Bachelor of Nursing	13	13.82
Civil Engineering	10	10.82
Public Accountant	7	7.82
Zootechnician Engineer with major in production systems	6	6.82
Topographic Systems Engineering	4	4.82
Bachelor in Business Administration with major in		
Agrotechnology	4	4.82
Bachelor of Administrative Computer Systems	4	4.82
Forest Engineering	3	3.82
Computer Systems Engineering	3	3.82
Bachelor in Nutriology	3	3.82
Dental Surgeon	2	2.82
Geology Engineering	2	2.82
Agricultural Engineering	2	2.82
Bachelor of Dance	2	2.82
Bachelor of Laws	2	2.82
Bachelor in Philosophy	1	1.82
Bachelor of Communication Science	1	1.82
General Nursing	1	1.82
Mine Engineering	1	1.82
Bachelor in Financial Management	1	1.82
Bachelor of Theatre	1	1.82
Bachelor in Spanish Literature	1	1.82
Bachelor of Music	1	1.82
Bachelor of Agrotechnology Information Systems	1	1.82
TOTAL	122	100.00

Source: Autonomous University of Chihuahua, academic direction, Support Program for Indigenous Students (PAEI), semester January-June 2011

Using a more specific analysis on the 122 indigenous students participating in PAEI, also presents a wide distribution in relation to areas of knowledge of careers in which they are registered (table 3). The most popular areas are those related to engineering (36.82%) and health sciences (36.82%) with the lowest enrollment (6.82%) in the arts and humanities.

Table 3. Career Distribution by areas of knowledge

Knowledge area	Frequency	%
Heath Sciences	36	36.82
Engineering	36	36.82
Management	33	33.82
Agricultural Sciences	11	11.82
Arts and Humanities	6	6.82
TOTAL	122	100.00

The frequency distribution of the study population since the PAEI began in 2010 according to the academic semester attending can be seen in Table 4. It is important to note that from the start of the PAEI operation the indigenous student enrollment has shown substantial growth.

Table 4. Population distribution of indigenous students enrolled per semester

Semester	Frequency	%
1	40	32.79
2	29	23.77
3	11	9.02
4	20	16.39
5	7	5.74
6	7	5.74
7	0	0.00
8	4	3.28
9	4	3.28
TOTAL	122	100.00

There are some academic indicators of interest in the data about the indigenous population incorporated into PAEI during the January-June 2011 semester, The overall grade point average (GPA) was 7.31; the maximum score is 10 and the minimum accepted score is 6 (under Salazar Castillo (2005) and the national score averages range from 8.1 and 8.7. The lowest average score observed was 0.63 for students with high difficulty coping with academic situations and the highest score is 9.09.

According to the results, nine students had low average test levels, i.e. less than 6. These low scores contributed to a drop out rate of 8.19%. Ten out of 122 students dropped out permanently and two were temporary drop outs due to various nonacademic reasons. One encouraging note is that to from January to June 2011, four indigenous students will complete their career preparations--three in Ecological Engineering and one on Civil Engineering.

Role of Library and Information Literacy:

Best Practice's Proposal

Recounting services offered by PAIE to indigenous students, it can be say that those aspects related to the management and entailment, training activities and health care, have practically no relation to the formal processes of information literacy. However, the general aspects that have more to do with information literacy in this case are related to academic support and mentoring. These activities do not meet all the expectations associated with the acquisition of information abilities, especially because they were not created with that specific purpose and are under the responsibility of teachers, mentors and not with library staff.

Although services currently offered by PAEI shows a small link to information literacy, this is smaller when it comes to the use of the library. The proposal lies in the possibility not only to integrate indigenous students to the common model of information literacy of non-indigenous students, but in the possibility to distinguish it, even removing the elements of proposals of voluntary participation by virtually mandatory actions. When the student culture of Mexican universities does not differentiate between indigenous and non-indigenous students it is when it will be consider viable an information literacy program throughout the academic community.

It is to be acknowledged that PAEI's proposal devotes efforts to support indigenous students in preparing for the developmental process of the admission test to higher education. PAEI strengthens this aspect by including formal training in analyzing the type of item that uses this type of evaluation. It is well known that in the admission exams to higher education in Mexico have been taken as a reference the basic elements used by the PISA assessment (Programme for International Student Assessment) Organization for Economic Cooperation and Development (OECD). The best option is to help prepare the indigenous student, particularly in identifying adequate test responses through learning reactive processes (information retrieval, text interpretation and reflection, and evaluation thereof), contents (continuous and discontinuous text), and context or situation (for private, public, industrial and educational use). In short, the successful student in this examination acquires the ability to understand, use information and reflect from written texts, and shows most success in the way in facing this type of situations (INEE, 2005).

Once have been admitted as formal students of higher education,

The initial proposal of information literacy would be based on the application of a diagnostic model, through which we could identify the level of information abilities of the students. These levels would be accessed as information competences and the use of the information resources. This assessment tool would identify information competence not based on any value judgments. Students would need to demonstrate their ability to solve problems not only on paper but also through interaction with information technology and communications (Tarango, 2010).

Based on the results obtained and considering than in the case of the UACH the indigenous student populations are small, we will build a working information literacy model. Such a model takes as a reference the use of labor through learning communities, which, according Torres (2002), are human and territorial communities that assume an educational and cultural project, oriented to integrated local development. This local development is based not only on

the diagnosis of the shortcomings of the members, but in their strengths toward improvement and, thanks to an endogen effort, these strengths are based on cooperation and solidarity.

The results obtained should give rise to a formal information literacy program whose operations center will be the university library. The librarians and teachers will employ various approaches to develop a formative process in information literacy based on the students' study for their professional careers.

This proposal should include aspects related to: (1) library functions, services it offers, and ways to access available information resources; (2) knowledge of major works owned by the library and the identification of electronic sources related to the discipline that the indigenous student is studying; (3) access to web pages; (4) databases and eBooks; and (5) scientific journals. In this way, the information literacy approach links the information resources available within the library with the constant use of information technology and communications, with the flexibility of looking for the possibility to identify alternatives if required remedial aspects in the knowledge of the matter, such as aspects related to basic computer use.

The establishment of the constant relationship between the PAEI and the university library will become necessary. This relationship will include determining mechanisms to monitoring the results. Such monitoring will give special importance to determining psychological indicators relating to the students' attitudes toward specific activities, forms of adaptation to the environment, and impact indicators having to do with aspects of the indigenous students' academic performance reflected in grades, their retention in their areas of study, their likelihood to reach graduation, and their potential to continue academic pursuits.

The establishment of special programs for vulnerable populations, in this case related to Rarámuris indigenous students, can create controversy in the academic community and many ethical dilemmas arise regarding the best way to address the potential problem. First, basing services on perceived natural differences between students groups by race (in this case, indigenous and non-indigenous students) can be regarded as discriminatory. Second, there remains in Mexico a strong stigma to being connected with indigenous populations. An information literacy model might imply that indigenous students are called on to and "pretend" to stop being indigenous or give up their habits in order to more efficiently incorporate into the prevailing social activities. Finally, it should be clear that the prospect of any program would be linked to the possibility of providing the most opportunities to the subject's life, although these perspectives, in fact, are raised unilaterally by institutional leaders who generally belong to non-indigenous populations.

Conclusion

According to the analysis of data presented in the development of this work, greater social inclusion of indigenous populations in higher education has positive results. This is seen in the desire to meet the challenges of achieving increased enrollment, raising academic standards for students, promoting better efficiency in indexes and terminal graduation sufficient to promote subsequent incorporation into graduate programs, proper placement within the labor markets or developing a critical view of collaboration in the development of the communities of indigenous students participating in higher education.

The legitimatization of programs of this kind within the organizational structure of institutions of higher education should happen as a normal process of institutional activities. This approach is based on greater buy-in on the part of authorities, resulting in better support. Such indicators of social inclusion converting local phenomenon into aspect of national education policy.

The UACH experience in the inclusion of indigenous students in higher education has been an admirable effort. This initiative arose mainly for institutions or states that have indigenous populations of over 100,000 inhabitants. Since there are 19 more states in the country that actually do have or exceed this population and, have low enrollment of indigenous students in higher education the need for such a program will continue.

We can say that information literacy is in the second stage in the process of inclusion of indigenous students. The first stage is the institutionalization of permanent formal programs and to subsequently build a nexus with issues related to access, evaluation, and the use of information resources. The climax will be when the participation of indigenous students in information literacy is equal to that offered to non-indigenous students.

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