

MEXICO'S INTERCULTURAL UNIVERSITIES AND THE DIGITAL DIVIDE



Marion Lloyd

IISUE-UNAM



16th International Conference on Higher Education Reforms:

The Digital Society and Higher Education

Department of Educational Research, Cinvestav, Mexico City

Sept. 12, 2019

THE DIGITAL DIVIDE IN MEXICO

- Term “digital divide” first used by the US Department of Commerce in the mid-90s.
- Initially, concept of gap between those with and without access to TICs.
- Later, expanded to analyze multiple aspects of access, use and appropriation, such as praxiological (capacities), axiological (values), political, etc.
- 2016: Mexico ranked 92nd in the world in access, use and abilities with TICs and 19th in Latin America (ITU, 2016)
- 2013: Amendment to article 6 of the Constitution, which emphasized right of the entire population to access TICs. Government established National Digital Strategy: goal to increase Inet access to 92%.
- 2014: Federal Telecommunications Law required government to implement a “policy of universal digital inclusion”.
- Government strategies: Red Escolar (1996), Centros Comunitarios Digitales (2002); “Encliclomedia (2003); Programa de Inclusión y Alfabetización Digital (2014), @prende (2016), etc.

Source: Gómez Navarro, 2019. *Uso de las tecnologías de la información y la comunicación por universitarios mayas en un contexto de brecha digital en México.*



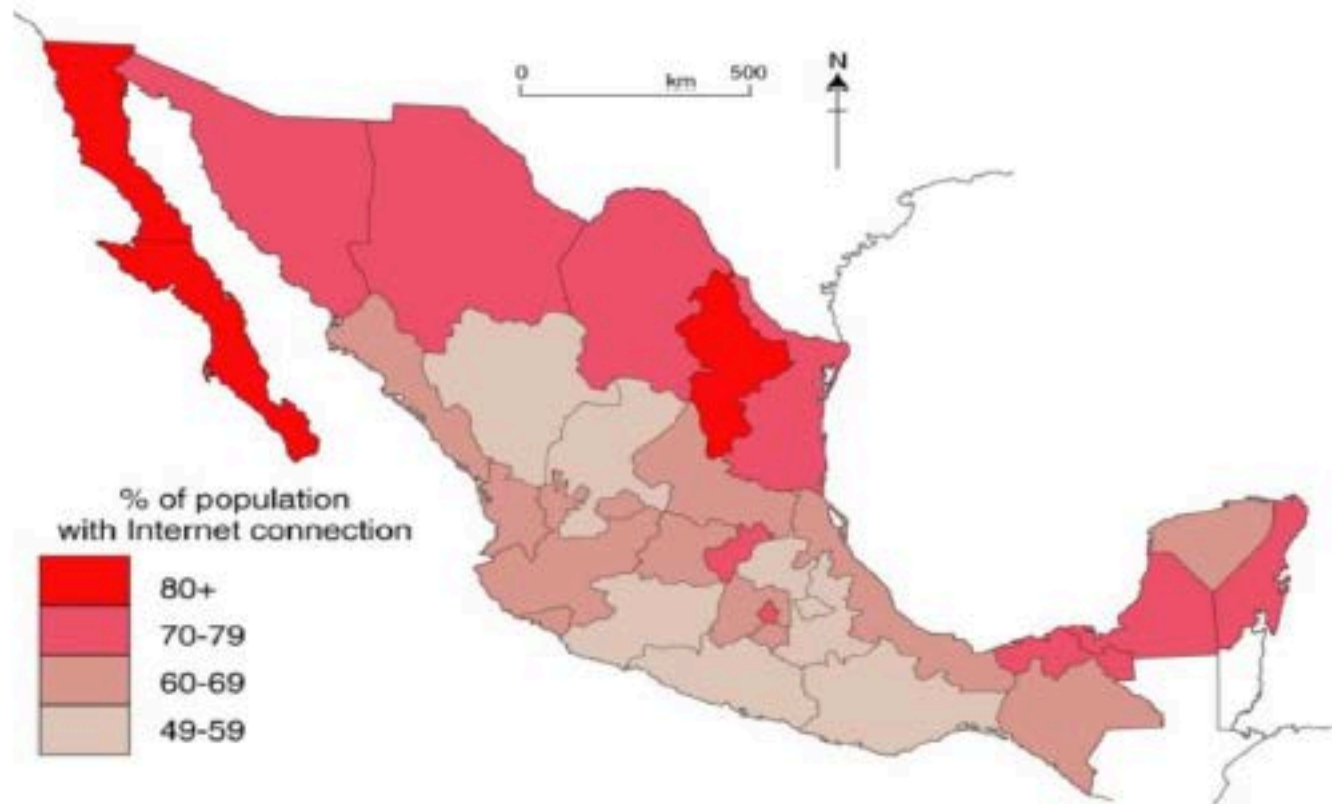
USE OF TICs IN MEXICO

- 71.3 million Inet users, 64% of the population
- 86% of users live in urban areas
- 14% in rural áreas, where only 4% have Internet at home

Access and use of TICs	2015	2016	2017	2018
% of homes with computer	45	46	45	45
% of homes with Internet connection	39	47	51	53
Computer users as % of population over 6 years	51	47	45	45
Internet users as % of population over 6 years	57	60	64	66
% of all computer users that employ them as tool for school	51	52	47	47



DIGITAL DIVIDE BY STATE



Cyber-connectivity in Mexico, 2015. Data: GCE 2015. Cartography: Geo-Mexico



MEXICO'S INDIGENOUS POPULATION BY STATE

Etnicidad

¿Cuánta población se autorreconoce indígena?



Encuesta Intercensal INEGI (2015). Principales Resultados.

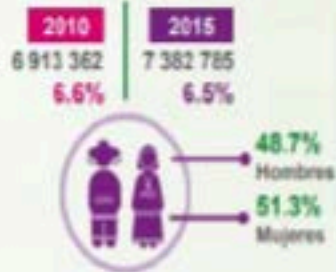
https://www.inegi.org.mx/contenidos/programas/intercensal/2015/doc/eic_2015_presentacion.pdf



% OF MEXICANS THAT SPEAK AN INDIGENOUS LANGUAGE

Etnicidad

¿Cuánta población habla lengua indígena?

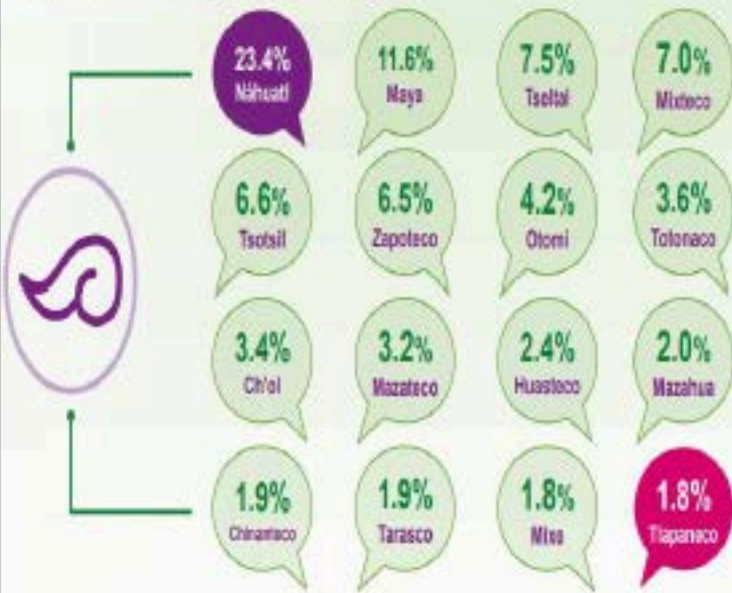


Municipios con mayor porcentaje de población hablante de lengua indígena

Santiago El Pinat, Chiapas	99.9	Tehuipango, Veracruz	99.6
San Juan Cancuc, Chiapas	99.8	Chamula, Chiapas	99.5
Chalchihuitán, Chiapas	99.6	Aldama, Chiapas	99.5
Mitontic, Chiapas	99.6	Cochoapa el Grande, Guerrero	99.5

Etnicidad

¿Cuáles son las lenguas indígenas que más se hablan?



EDUCATION LEVELS AMONG INDIGENOUS LANGUAGE SPEAKERS

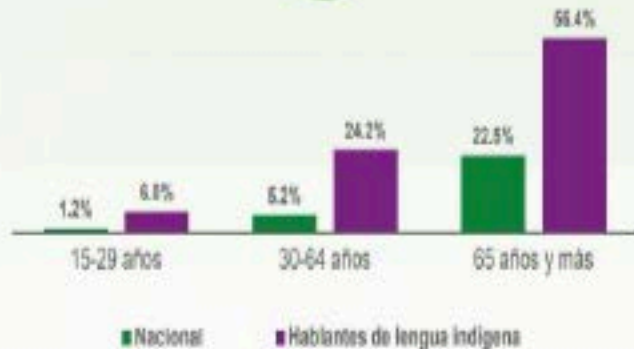
Etnicidad

¿Cuál es el promedio de escolaridad de la población hablante de lengua indígena?



Etnicidad

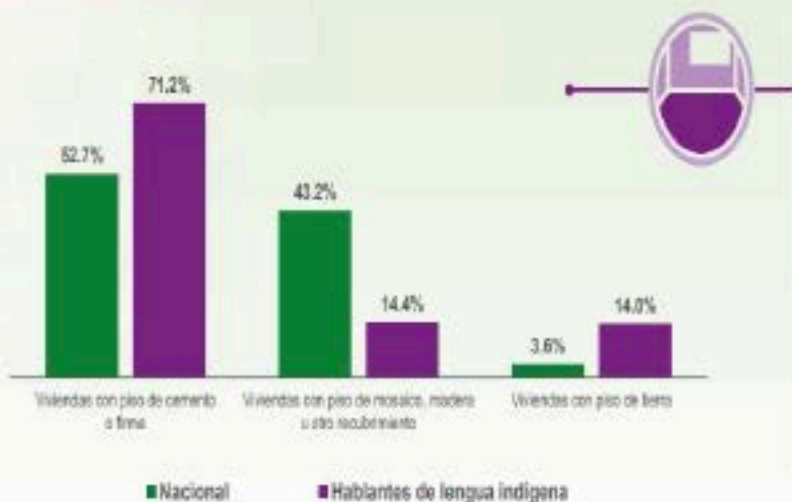
¿Cuál es el porcentaje de analfabetismo de la población de 15 años y más que habla lengua indígena?



HUMAN DEVELOPMENT INDICATORS

Etnicidad

14 de cada 100 viviendas de la población que habla una lengua indígena tiene piso de tierra, mientras que para el país es de 4 de cada 100



Nota: La distribución potencial no suma 100%, porque no se grafica el valor del no especificado.

Etnicidad

¿Cuál es la cobertura de agua entubada al interior de las viviendas de la población hablante de lengua indígena?



DIGITAL DIVIDE: INDIGENOUS VS. NON-INDIGENOUS

Etnicidad

Tecnologías de la información y de la comunicación en viviendas de hablantes de lengua indígena comparada con la del país



MEXICO'S INTERCULTURAL UNIVERSITIES

- 2001: First indigenous university opens in Sinaloa: Universidad Autónoma Indígena de México.
- 2000: 1.5% indigenous students in universities.
- 2001: Fox government creates the General Coordinator for Intercultural and Bilingual Education (CGEIB)
- 2003: Universidad Intercultural del Estado de México inaugurated as first federally supported IU.
- 2006: CGEIB publishes curricular model for intercultural universities. Emphasis on TICs: computer center in each IU.
- 2014: Programa Especial de Educación Intercultural (2014-2018). Focus on TICs
- 2019: 11 IU recognized by the SEP, with 15,000 students.



CHALLENGES TO DIGITAL LITERACY AT INTERCULTURAL UNIVERSITIES

- **Very low Internet access in areas with indigenous universities: from 0-7% (Gómez Navarro, 2019).**
- **CGEIB diagnosis: “disadvantages in access to TICs... deficient previous education and the impossibility of accessing information and technologies due to important deficiencies in socioeducational development” (Casillas y Santini, 2006).**
- **Emphasis on smart phones, Internet cafés as alternatives to Internet connectivity at home.**
- **Emerging field of studies on TICs at indigenous universities:**
 - **Bustillos & Ramírez (2016). Universidad Autónoma Intercultural de México (Sinaloa) and Universidad Intercultural del Estado de Puebla.**
 - **Gómez Navarro (2019): Universidad Intercultural Maya de Quintana Roo**



Cibercafé en una colonia ejidal de la zona rural de Ciudad Obregón, Sonora.

Fuente: Proyecto “Internet y desarrollo regional en el Noroeste de México”, CONICYT.



UNIVERSIDAD AUTÓNOMA INDÍGENA DE MÉXICO (UAIM)

- Main campus: Mochicahui, Sinaloa, 2 other campuses nearby.
- First indigenous university, opened 2001, federal recognition 2005.
- More than 15 ethnic groups, from Mexico and other parts of Latin America.
- 17% speak indigenous languages
- “Student-centered learning” meant “facilitators in lieu of professors,” heavy focus on computer learning.
- 5,533 students, including more than 200 graduate students.
- 11 undergraduate programs, 15 graduate programs, including a MA in computer science (12 students)

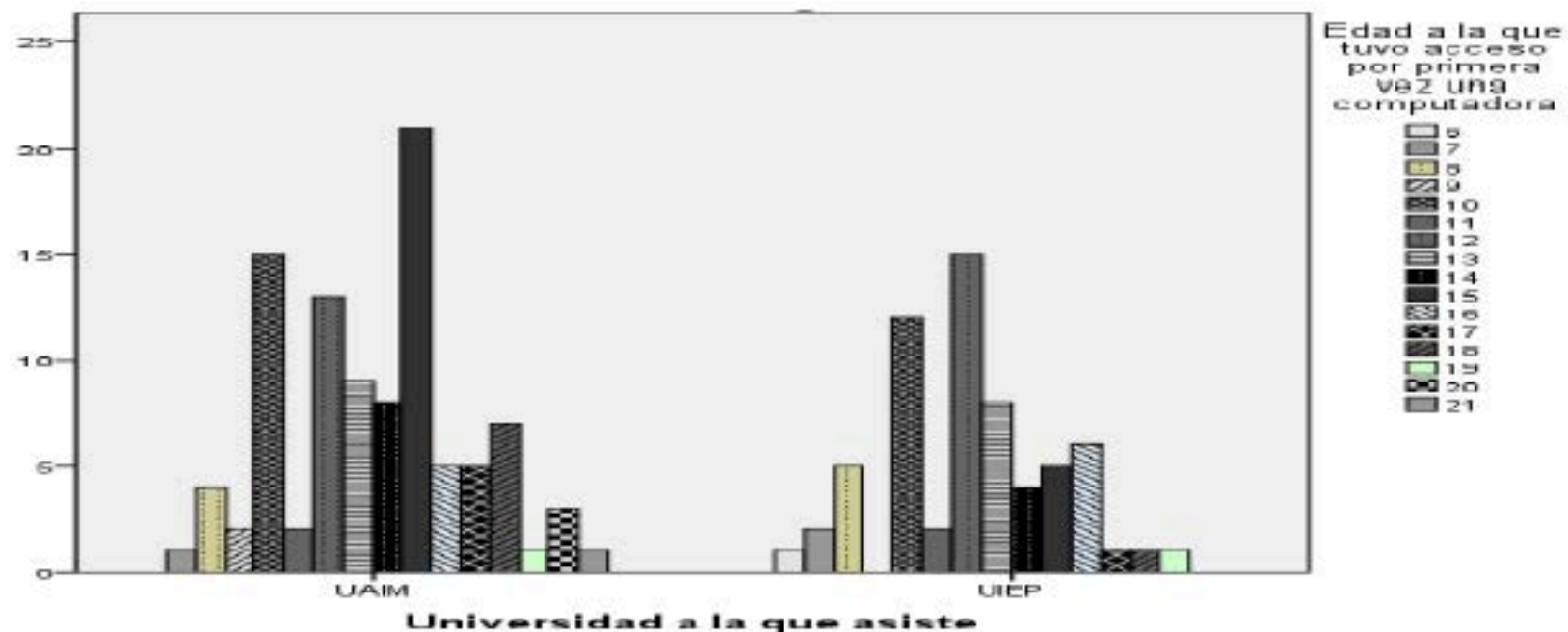


UNIVERSIDAD INTERCULTURAL DEL ESTADO DE PUEBLA (UIEP)

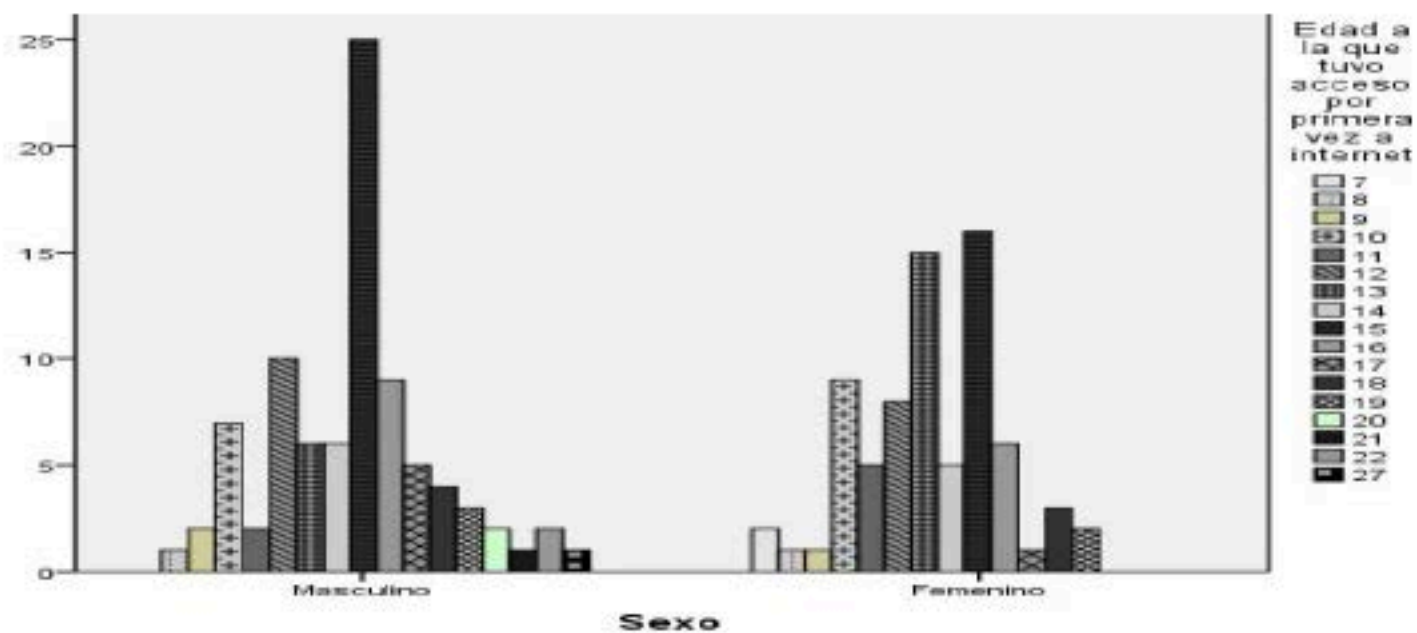
- Opened 2005, en Huehuetla, Puebla
- 2018: 855 students, all undergraduate
- 7 programs, closing alligned with CGEIB model: including Language and Culture, Law with an Intercultural Focus, Sustainable Development, Nursing, Alternative Tourism, Community Forestry.
- Population: Totonacas, Nahuas, Populucas
- 75% speak an indigenous language



AGE OF FIRST ACCESS TO A COMPUTER



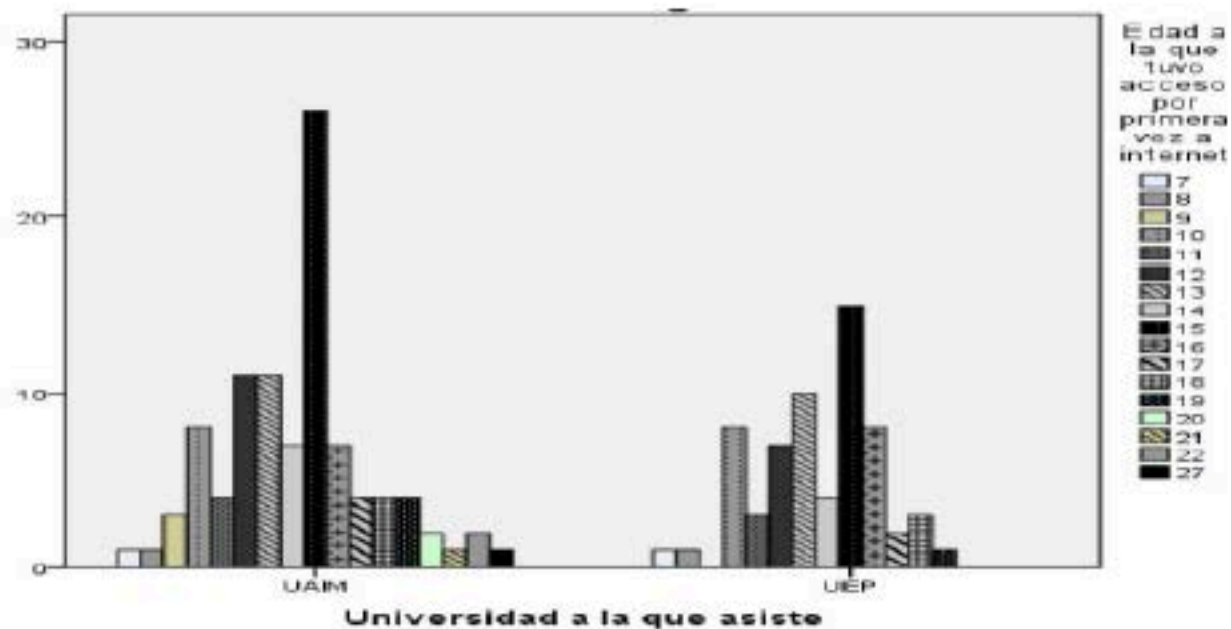
FIRST ACCESS TO INTERNET, MALE-FEMALE



Source: Bustillos y Ramírez (2016)



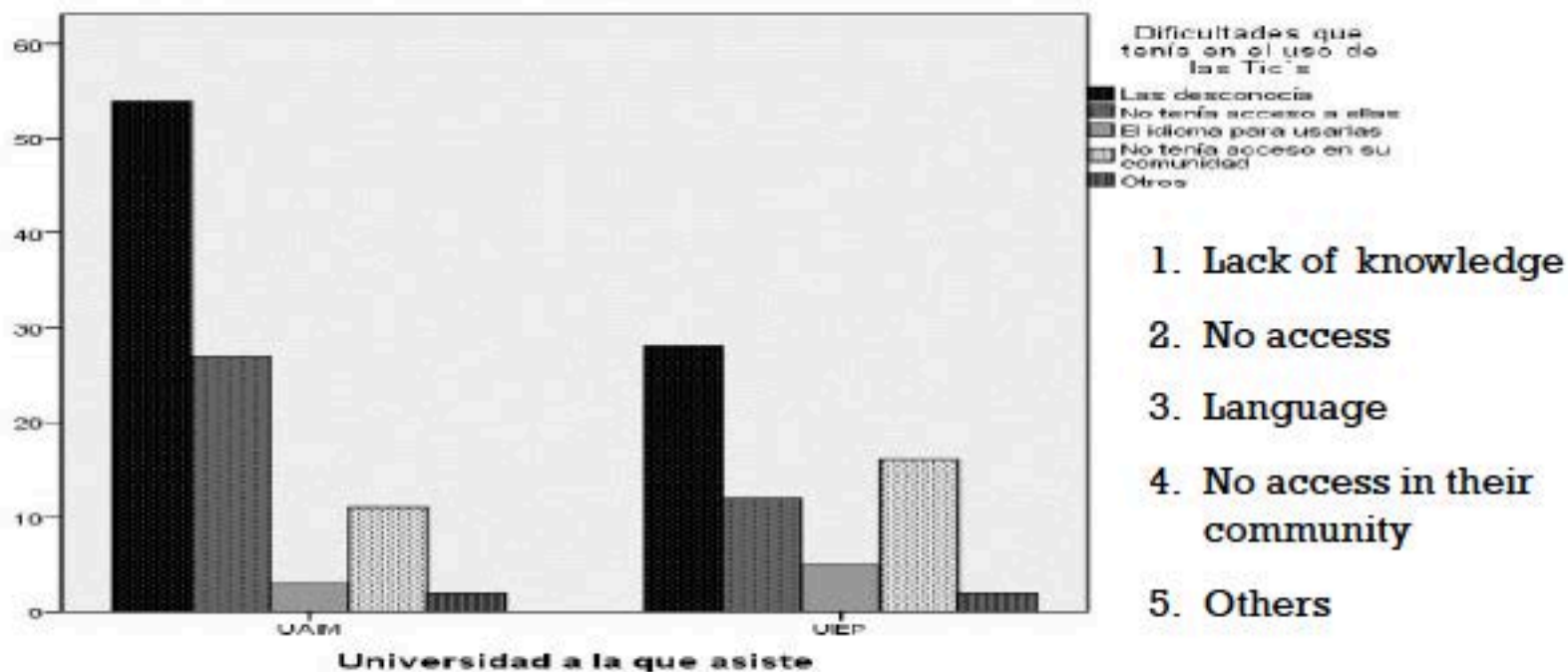
FIRST ACCESS TO INTERNET, BY UNIVERSITY



Source: Bustillos y Ramírez (2016)



DIFFICULTIES IN USE OF TICS



Source: Bustillos y Ramírez (2016)



UNIVERSIDAD INTERCULTURAL MAYA DE QUINTANA ROO (UIMQR)

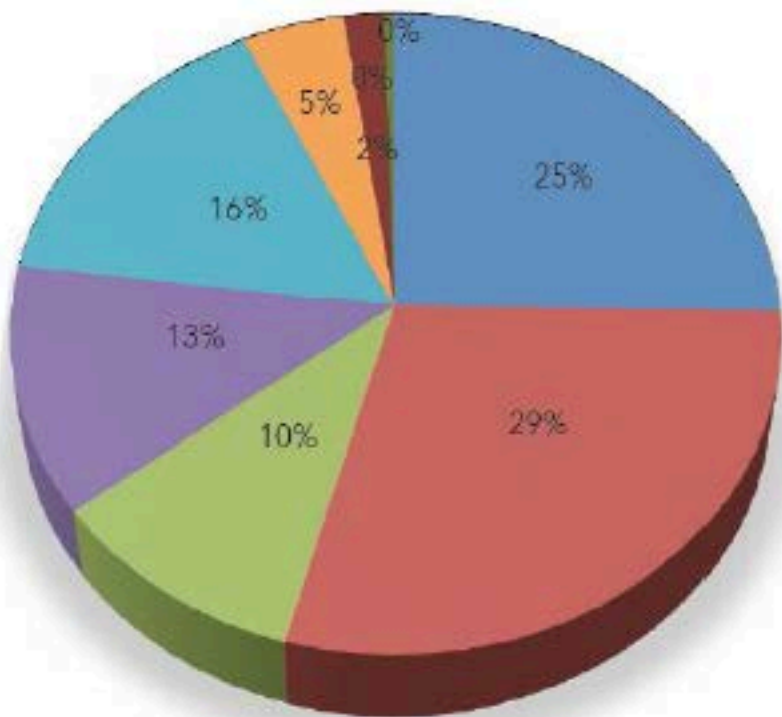


- **Founded 2006 in José María Morelos, Q. R.**
- **828 students in 2017-2018, including 29 MA students**
- **8 undergraduate programs, including Engineering in TICs and Business Tourism**
- **Specialty and MA in Intercultural Education**
- **37% of students Maya speakers**
- **Municipality with 4.4% Inet connection in homes**
- **University with Inet of 10 megas**



WHERE THEY LEARNED COMPUTER SKILLS

- On their own
- With family members, friends or neighbors
- In elementary school computer class
- Middle school computer class
- High school computer class
- UIMQroo computer class
- Private courses outside school
- Free courses outside school
- At work



COMPUTER LITERACY AT UIMQROO

- 154 questionnaires applied to 1st-semester students, 46% Maya-speakers
- Results:
 - 58% own computer
 - 18% Inet at home; lack of \$ (83%)
 - Means of access: 49% Smart phone; 34% laptop; 17% desktop
 - Site of access: 28% university; 24% cybercafé; 19% home; 17% family or friend's house; 13% public or private sites
 - Problems: poor quality Inet (82%); Saturation of network (45%); Lack of infraestructura (27%)
 - Frecuency: 46% 1-5 hours/week; 16% 6-10; 8% 11-15; 7% 16-20; 8% >21
 - Digital abilities: Windows (62%), Power Point (59%), search engines (50%), spread sheets (51%)



CONCLUSIONS

- **Low level of TIC literacy in Mexico, even compared with rest of Latin America.**
- **Digital divide between north and south, and rural and urban areas persists in Mexico. But most acute between indigenous and non-indigenous populations.**
- **Government strategies insufficient, particularly with regard to connectivity in rural areas.**
- **Intercultural Universities represent promising step, but need more funding and support.**
- **Need for new strategies, such as use of MOOCs.**



REFERENCES

- Bustillos Ibarra, O. S., y Ramírez Valverde, B. (2016). *Las Tecnologías de la Información y Comunicación en universidades interculturales: UAİM-UIEP*. Ponencia para Congreso XIII Congreso Nacional de Investigación Educativa, Chihuahua, México.
- Gómez Navarro, D. A., et al. (2018). La brecha digital: una revisión conceptual y aportaciones metodológicas para su estudio en México. *Entre Ciencias o Diálogos en la Sociedad de Conocimiento*, 6, 1-33.
- Gómez Navarro, D. A. (2019). Uso de las tecnologías de la información y la comunicación por universitarios mayas en un contexto de brecha digital en México. *Región y Sociedad*, 31, 1-25.

