Where we come from
Where we're going

Human Agency Towards Digital Inclusion:
Implementing an International Study of Tech Help Networks

March 31, 2019 iConference/Maryland USA

First:

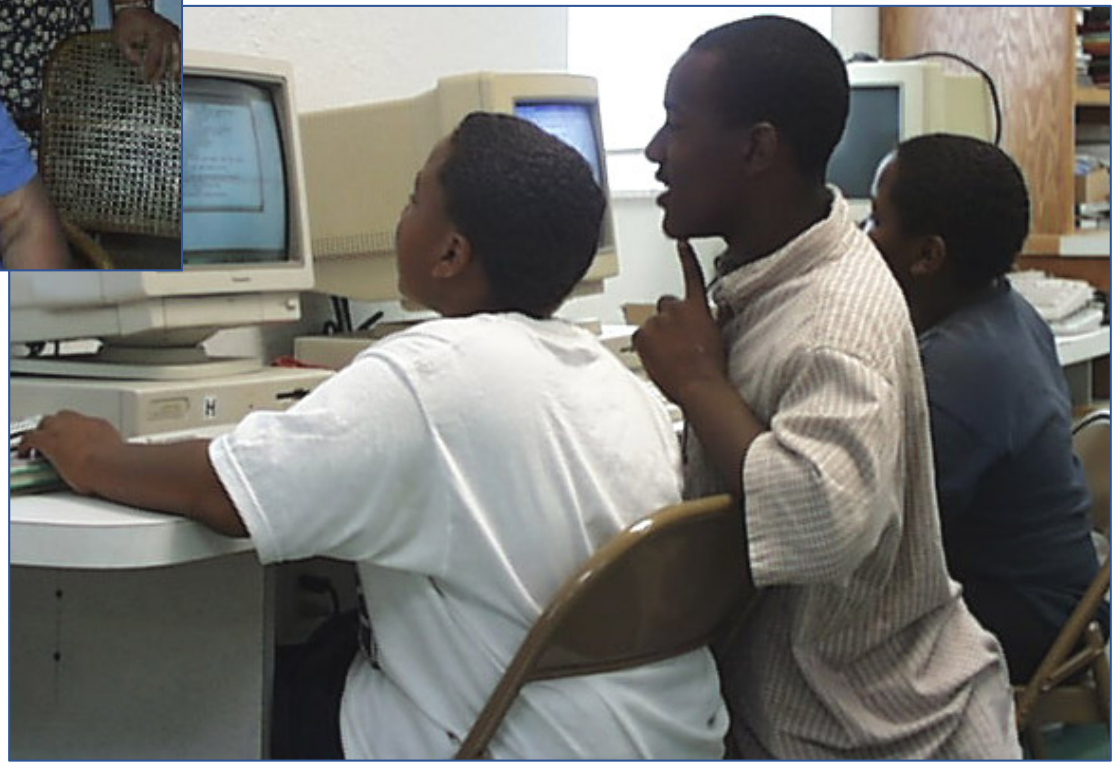
Kate Williams
Yan Hui
Noah Lenstra
Han Shenglong &
Abdul Alkalimat
tell some intellectual history to this project…

…and speak briefly on five aspects of this study

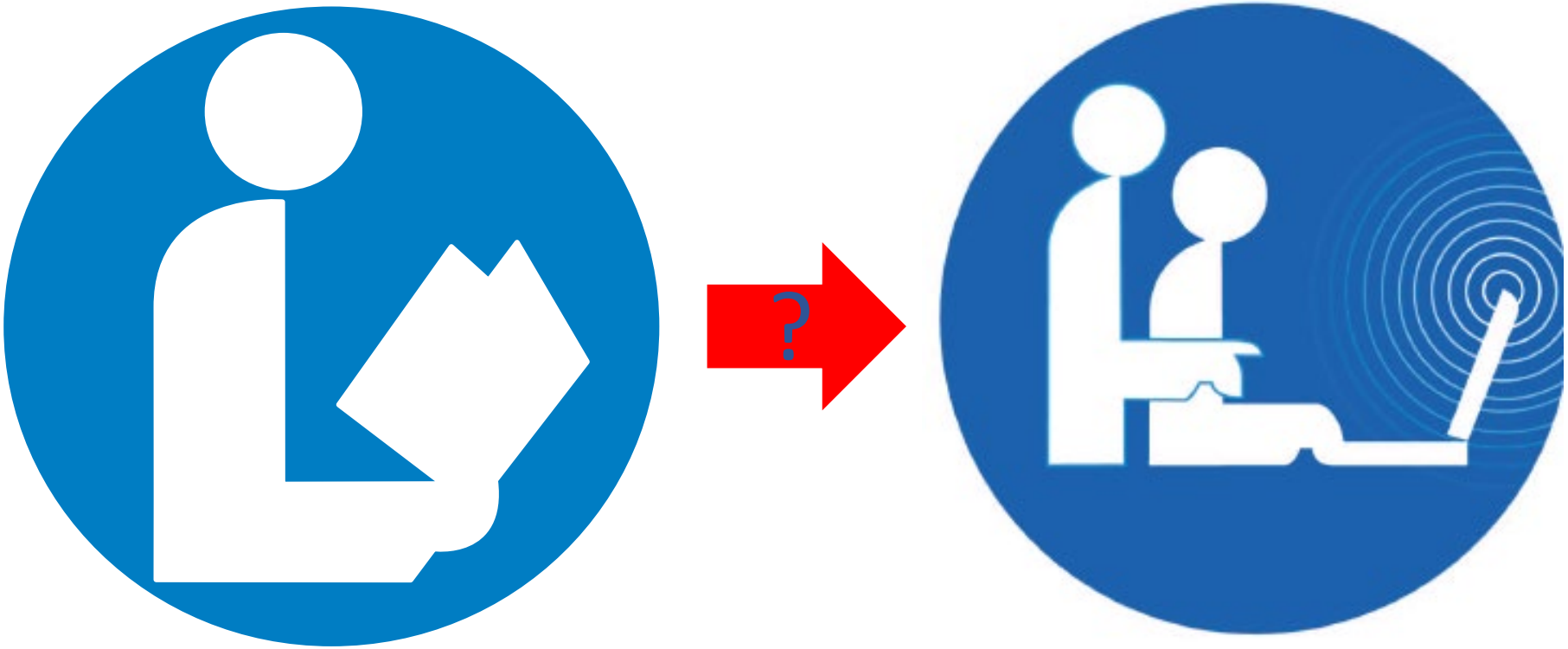
Then we review the draft field manual page by page

Then you spell out what role you want to play

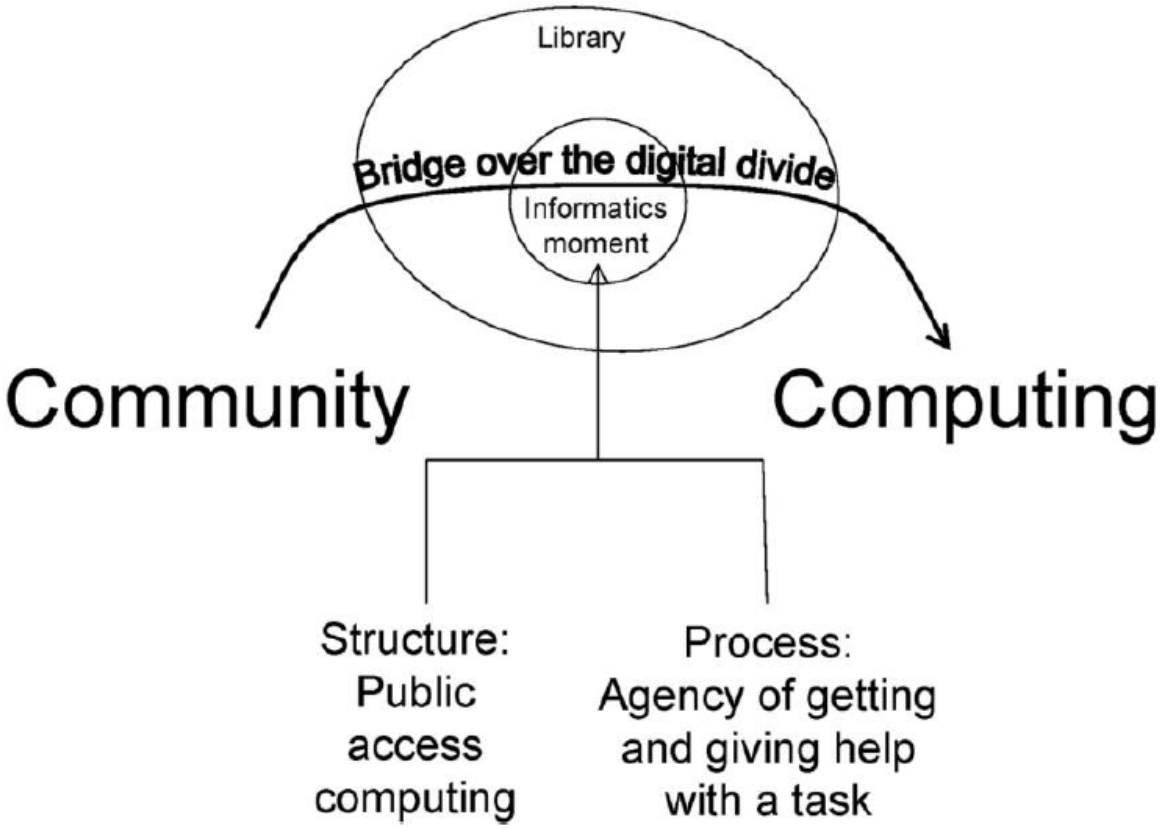
Murchison Community Center in Toledo, Ohio



1999: Public libraries became the public computing place in the US, and began to invent a new staff role



Their work was sorely needed…
& was the digital revolution in microcosm



Informatics Moment

Training library students for this new reality

Studying the informatics moment without the burden of grantseeking

US seniors not only get help with IT, they also help others

Have you helped others with tech?	Count	%
Yes	25	33%
No	51	67%

"If there is something we know, then we are glad to be able to share that knowledge"

What about other people?

Human Agency Towards Digital Inclusion:
Implementing an International Study of Tech Help Networks

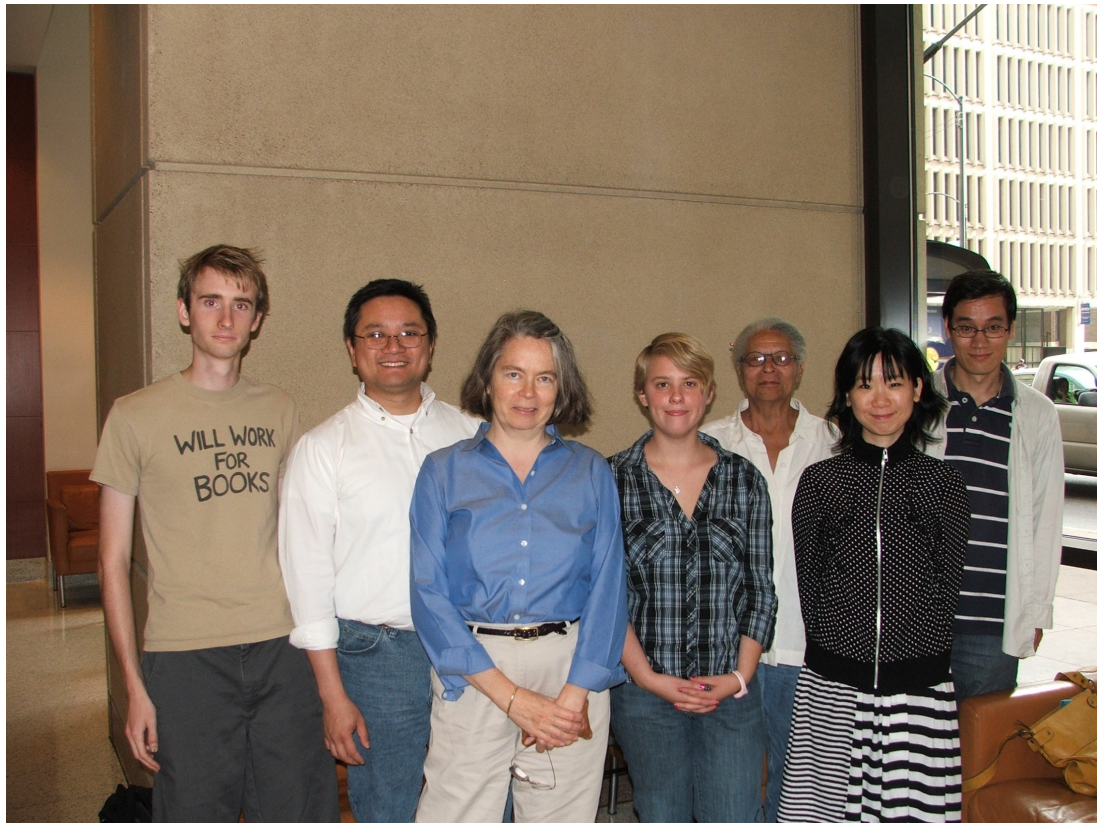
Method

1. We find interested colleagues (you)
2. Use a field manual to coordinate our work
3. We each recruit a site for access to people
4. Assign our students to give tech help and do interviews
5. We contextualize student data with descriptions of our sites and our countries
6. We share our data and publish

Scan my QR
Join my network
欢迎进入我的网络

Dr. Hui Yan

Associate Professor from Renmin University of China


WILL WORK
FOR
BOOKS


THE CHICAGO PUBLIC LIBRARY
chinatown branch


GREAT KIDS
Great KIDS Read
Chicago Public Library

Global measurements of ICT

	US	China	ITU	OECD
Uses	✓	✓	✓	✓
Connecting	✓	✓	✓	✓
Places	✓	✓	✓	✓
Ownership	✓		✓	
Attitude	✓	✓		
Devices	✓	✓	✓	✓
Frequency	✓	✓		✓
Identity		✓	✓	
Discourse		✓		

Field studies

Jan. 19-25, 2019
新疆伊宁
Yining, Xinjiang

Jan. 4-12, 2012
天祝藏族自治县
Tian Zhu, Gansu

Aug. 22-28, 2013
重庆一品镇
Yipin, Chongqing

Jan. 1.22-2.3, 2013
Jul. 23-27, 2016
贵州安顺和贵阳
Anshun & Guiyang, Guizhou

Oct. 28, 2009
北京房山沿村
Yancun, Beijing

Jul. 9-13, 2012
天津静海蔡公庄
Jinghai, Tianjin

Aug. 5-14, 2012
安徽东至县
Dongzhi, Anhui

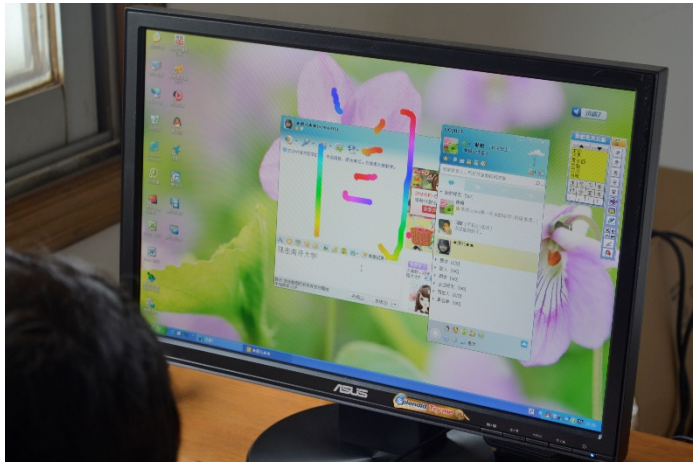
May. 12-27, 2012
湖南湘西土家族苗族自治州里耶
Liye, Hunan

Jan. 18-24, 2018
云南腾冲
Tengchong, Yunnan

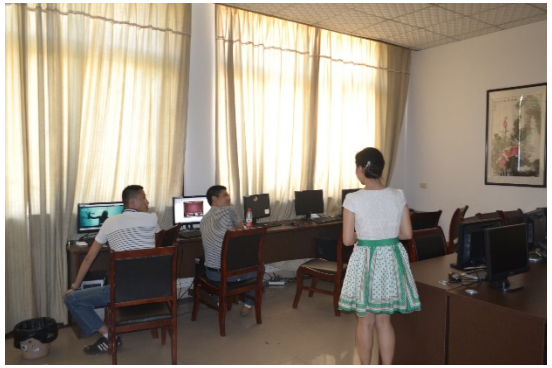
Tianzhu, Gansu

Jinghai, Tianjin

Dongzhi, Anhui



Yipin, Chongqing



Dingshu, Guizhou

2013 2016



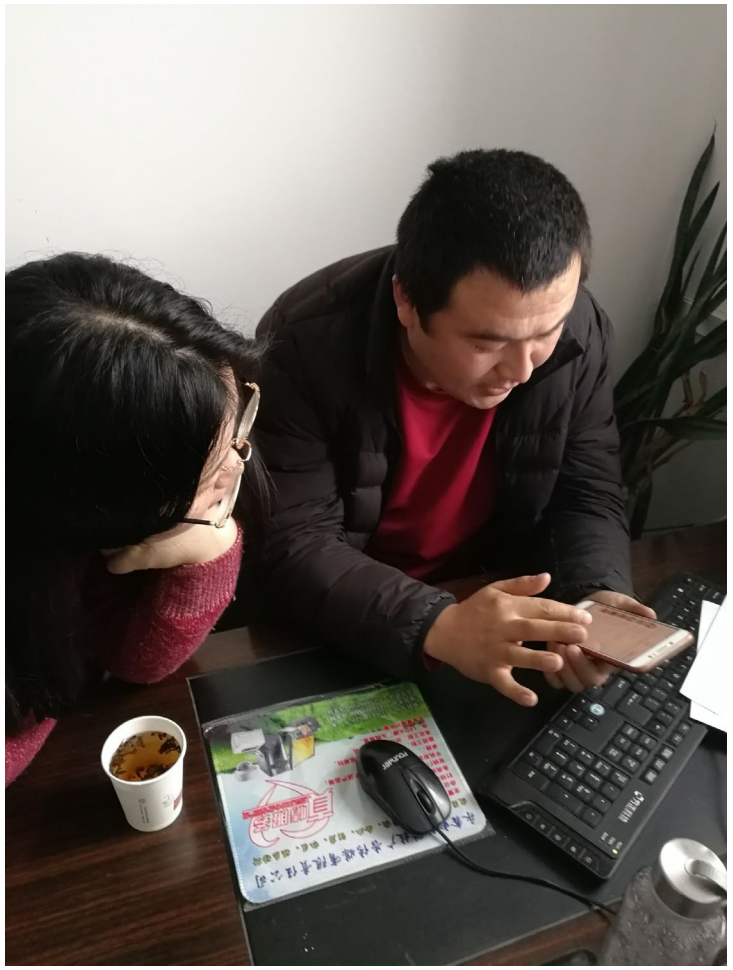


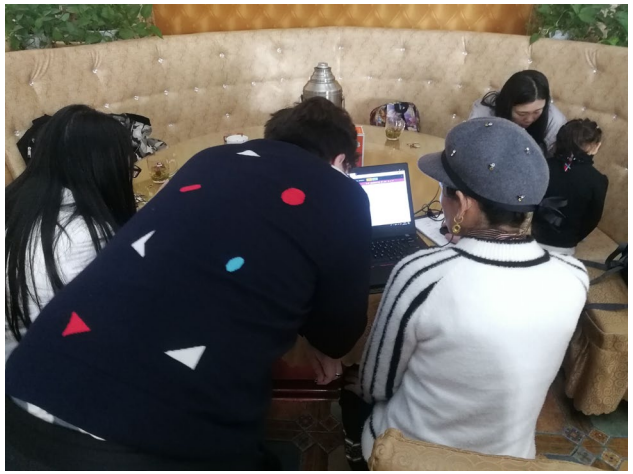




Tengchong, Yunnan

Yining, Xinjiang





Individual cases on map

34个案 新疆伊宁
Yining, Xinjiang

48个案 103个案
天祝藏族自治县
Tianzhu, Gansu

34个案 重庆一品镇
34个案 Yipin,Chongqing

12个案
40个案 贵州安顺和贵阳 Anshun & Guiyang, Guizhou

天津静海蔡公庄 **35个案**
Jinghai, Tianjin 49个案

安徽东至县 **19个案**
Dongzhi, Anhui 64个案

湖南湘西土家族苗族自治州 **16个案**
Liye, Hunan 49个案

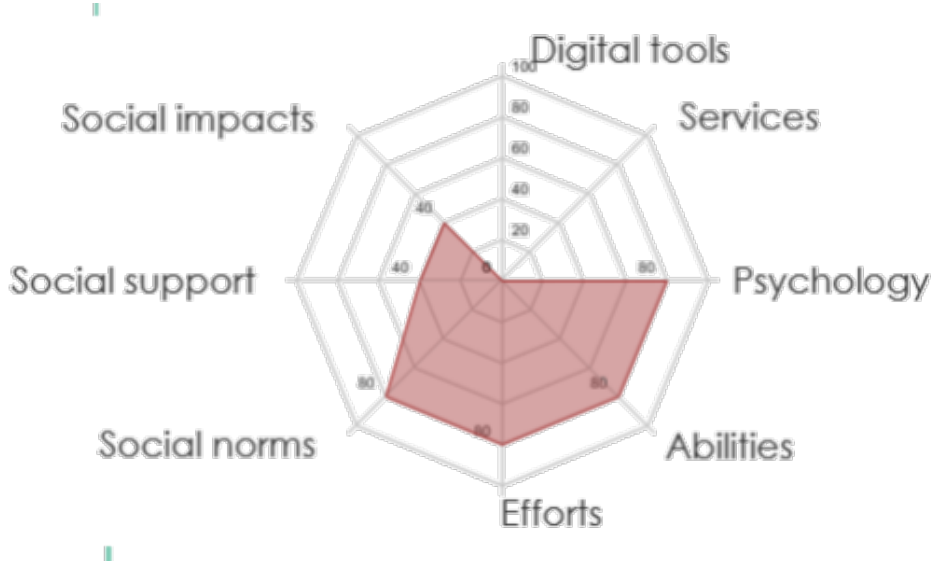
云南腾冲 **32个案**
Tengchong, Yunnan

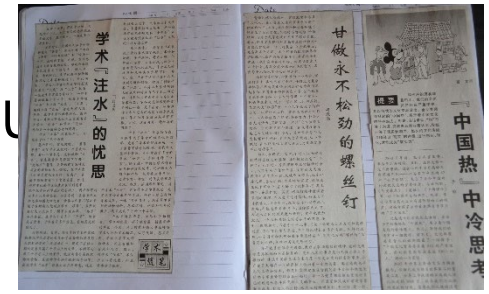
Digital poverty: Definition

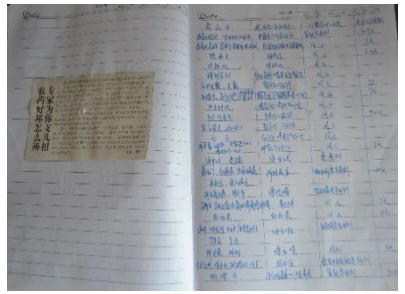
A multi-dimensional phenomena and status of individuals in digitalization.

Type I: The physically poor

- Key features
  - No digital tool ownership or access.
  - No connecting service.
  - Fair social support, psychological preparations.
  - Few efforts.
  - Modest abilities.
  - Seldom impacts on real life.
- Case: Hongda Village, Gansu
  - Scrapbook couple

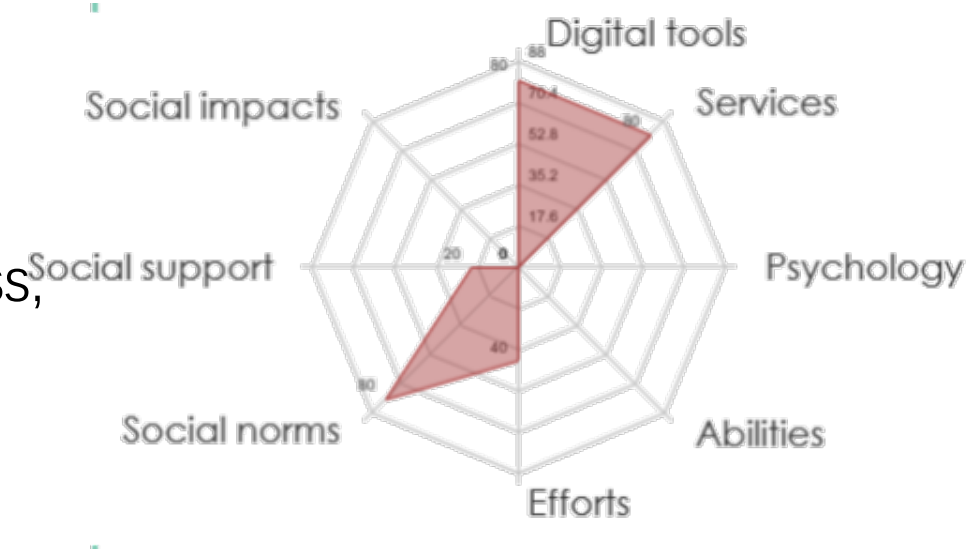






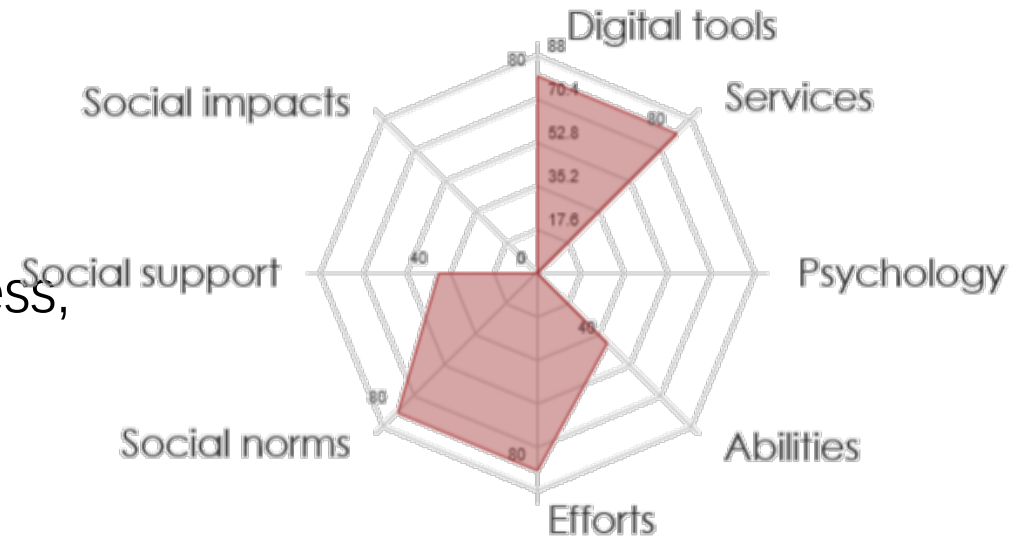
Type II: The digitally illiterate

- Key features
  - No psychological preparation.
  - No ability/literacy
  - Fair digital tool ownership or access, connecting service.
  - Few social support.
  - Low efforts.
  - No impact on real life.
- Case: Mifeng Village, Anhui
  - The retired accountant, Mr Wu, whose son and grandson are digital experts.



Type III: The psychologically vulnerable

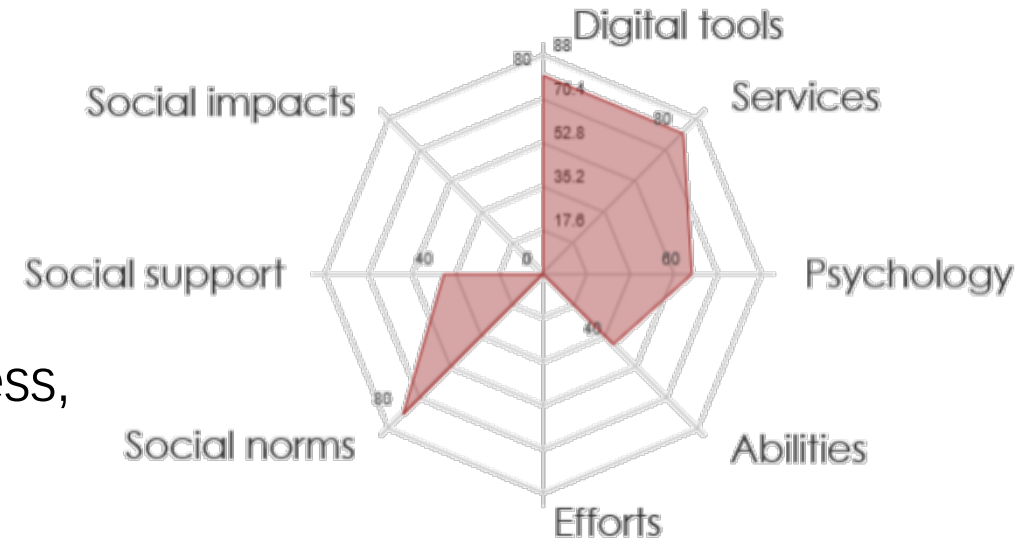
- Key features
  - No psychological preparation.
  - Some degree of skills
  - Fair digital tool ownership or access, connecting service.
  - Limited social support.
  - Many efforts.
  - No impact on real life.



- Case: Liye Town, Hunan
  - The 75-years-old senior who described himself as a falling tree.

Type IV: The digitally idle

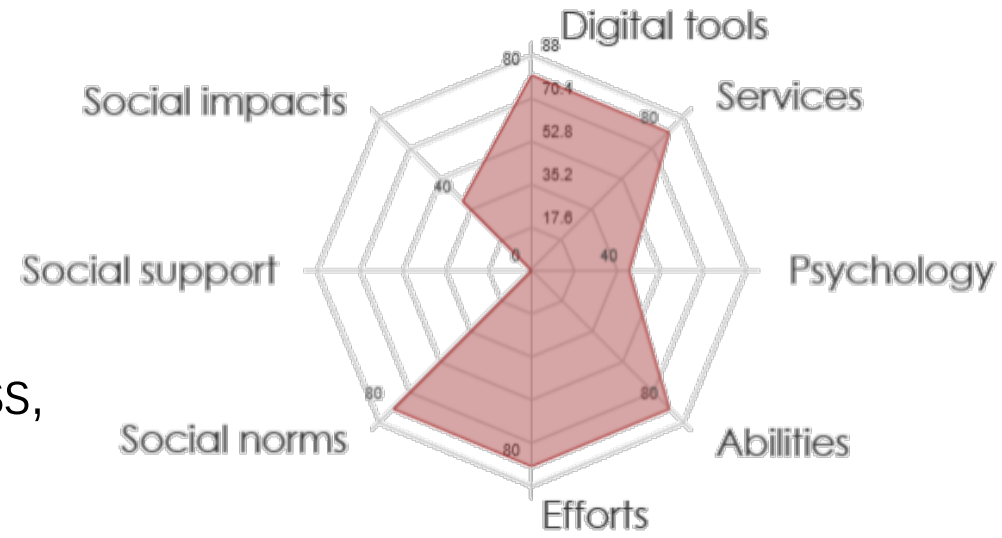
- Key features
  - No digital effort.
  - Few psychological preparations.
  - Limited skills and social support.
  - Fair digital tool ownership or access, connecting service.
  - No impact on real life.



- Case: Tuhe Village, Tianjin
  - The middle-aged lady, who is a mahjang fan, hated the running mouse on the computer screen and was interrupted by the boring activities.

Type V: The socially lonely

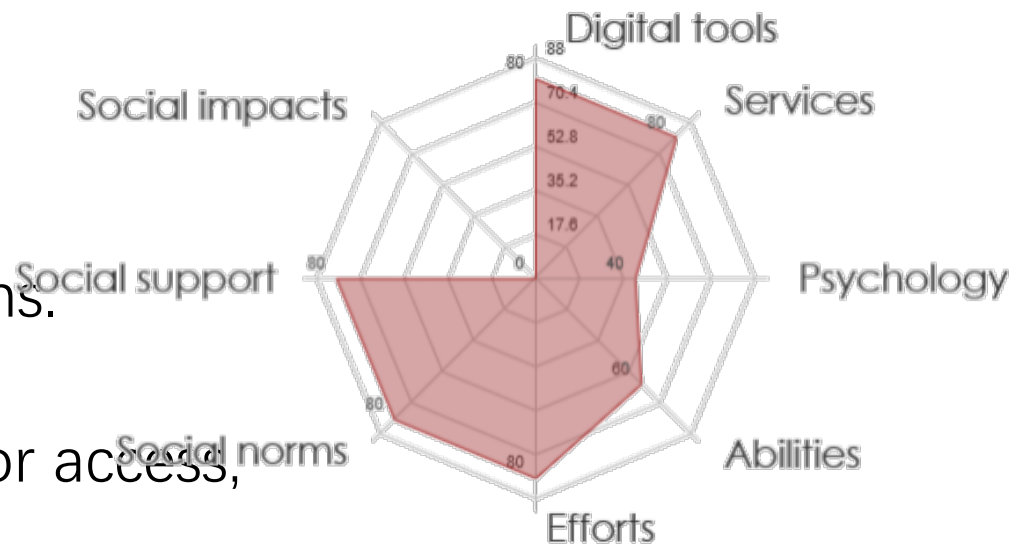
- Key features
  - No social support.
  - Some psychological preparations.
  - Modest skills.
  - Fair digital tool ownership or access, connecting service.
  - Few impacts on real life.



- Case: Yipin Town, Chongqing
  - The young guy living in city compared himself with those who grew up in villages and their challenges confronting with computers.

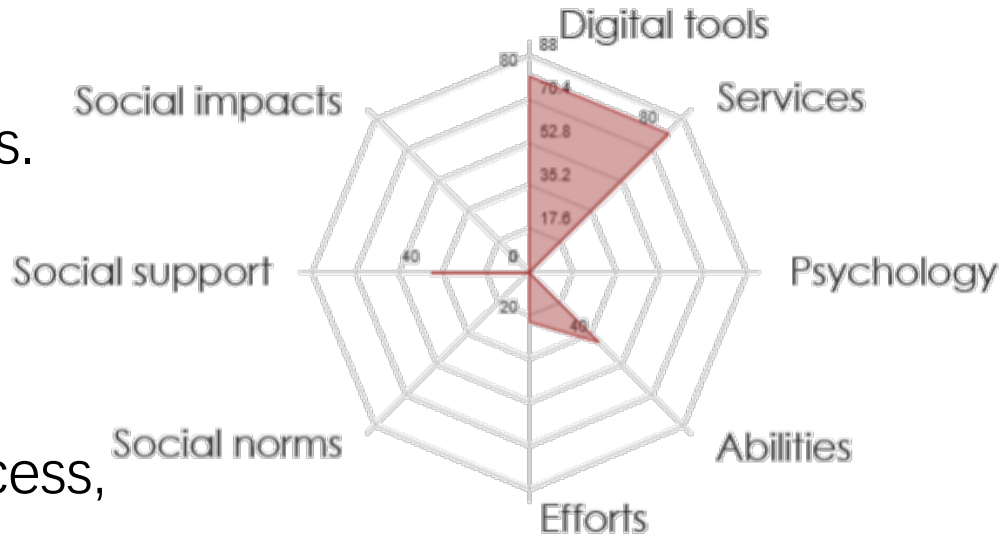
Type VI: Vain seekers

- Key features
  - No impact on real life.
  - Lots of digital efforts.
  - Some psychological preparations.
  - Strong skills and social support.
  - Enough digital tool ownership or access, connecting service.
- Case: Waijiao Village, Guizhou



Type VII: Digital resister

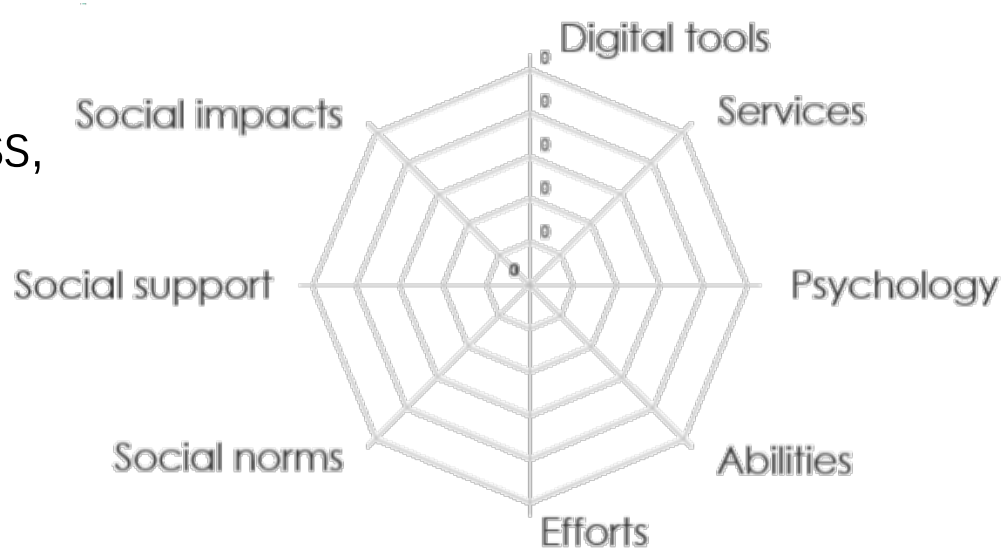
- Key features
  - Strictly constrained by social norms.
  - Seldom digital efforts.
  - No psychological preparation.
  - Low skills and social support.
  - Some digital tool ownership or access, connecting service.



- Case: Tuhe Village, Tianjin
  - The middle-aged mother, who complained that "Some (online) chats lead to the break of marriage", refused to learn social media software.

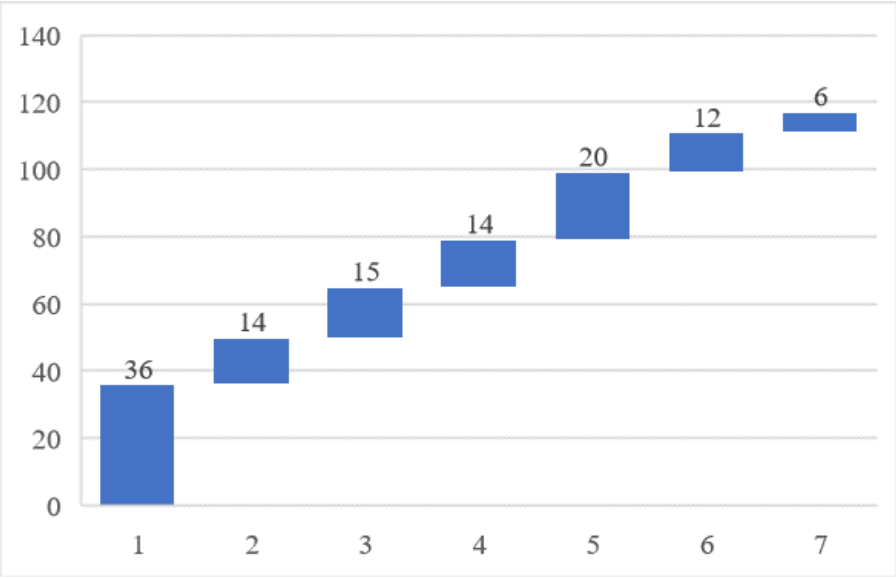
Type VIII: The digitally extremely poor

- Key features
  - No digital tool ownership or access, connecting service.
  - No psychological preparation.
  - No digital ability.
  - No digital effort.
  - No positive norm.
  - No social support.
  - No impact on real life.
- Case: Dingshu, Guizhou



Frequency of types and composite types

Type	physical	vulnerable	illiterate	idle	lonely	resistant	vain	extre. poor
Frequency	27	38	71	58	39	36	70	6



Quantity	Composite types of digital poverty
7	The digital extremely poor (6 persons)
6	Physical + vulnerable + illiterate + idle + lonely + vain = the nonresistant digital extremely poor (5 persons) Physical + vulnerable + illiterate + lonely + vain + resistant = the digital extremely poor without idleness (1 person) Physical + illiterate + idle + lonely + vain + resistant = the unvulnerable digital extremely poor (2 persons) Vulnerable + illiterate + idle + lonely + vain + resistant = the digital extremely poor with tools (4 persons)
5	Physical + vulnerable + illiterate + idle + vain = the nonresistant and unlonely digital poor (3 persons) Physical + illiterate + idle + lonely + vain = the unvulnerable and nonresistant digital poor (8 persons) Vulnerable + illiterate + idle + lonely + vain = the nonresistant digital poor with tools (4 persons) Vulnerable + illiterate + idle + resistant + vain = the unlonely digital poor with tools (1 person) Illiterate + idle + resistant + lonely + vain = the unvulnerable digital poor with tools (4 persons)
4	Physical + illiterate + lonely + vain = the unvulnerable, unlonely and nonresistant digital poor (1 person) Vulnerable + illiterate + idle + lonely = the nonresistant digital poor with tools and not in vain (1 person) Vulnerable + illiterate + idle + vain = the unlonely and nonresistant digital poor with tools (5 persons) Vulnerable + illiterate + resistant + vain = the unlonely digital poor with tools and without idleness (1 person) Illiterate + idle + resistant + lonely = the unvulnerable and influentially digital poor with tools (1 person) Illiterate + idle + lonely + vain = the unvulnerable and nonresistant digital poor with tools (3 persons) Illiterate + lonely + resistant + vain = the unvulnerable digital poor with tools and without idleness (2 persons)
3	Physical + illiterate + idle (1 person) Vulnerable + illiterate + lonely (3 persons) Vulnerable + illiterate + vain (2 persons) Illiterate + idle + lonely (1 person) Illiterate + idle + vain (4 persons) Illiterate + lonely + resistant (1 person) Illiterate + lonely + vain (2 persons) Illiterate + resistant + vain (1 person)
2	Vulnerable + illiterate (1 person), Illiterate + idle (1 person), Illiterate + vain (2 persons), Idle + lonely (3 persons) Lonely + resistant (4 persons) + Lonely + vain (3 persons)
1	Vulnerable (1 person), Illiterate (1 person), lonely (20 persons), Resistant (8 persons), Vain (6 persons)

Human agency towards digital inclusion:
Implementing an international study of tech help networks

Conceptualization

1. **Research question:** How do people access and provide help with digital technology?

2. **Independent variable:** People

3. **Dependent variable:** The informatics moment

Human agency towards digital inclusion:
Implementing an international study of tech help networks

Conceptualization

People

1. Country: Profile of economics, digital divide measures, digital divide policies [from national survey data, census data, OECD data, and researcher's knowledge of policies; one profile per country]
2. Setting: social, economic, and demographic profile of local community and organization granting us access [One profile per locale]

Human agency towards digital inclusion:
Implementing an international study of tech help networks

Conceptualization

People

3. Demographics: CLASS/SES i.e. work/retired/in school, occupation, income, education attained, AGE by decade, GENDER m/f, ETHNICITY, HOUSEHOLD i.e. solitary, partner, children, group home, LOCALE i.e. urban/rural
4. Informatics lifecourse: Individual's history with digital technologies: start-up, distinct phases of use, purpose(s) of use?
5. Ownership and use of digital technologies?
6. Places of use: home, work, school, other (specify)?

Human agency towards digital inclusion:
Implementing an international study of tech help networks

Conceptualization

Informatics moment:

1. Who helps you: demographics, nature of connection to them, why them?
2. Who do you help: demographics, nature of connection to them, why them?
3. Stories of informatics moments you have experienced
4. Enough help/not enough help?

Human agency towards digital inclusion:
Implementing an international study of tech help networks

Conceptualization

Sample:

- Convenience sample. Sample size determined by class size. Two interviews per researcher, done in pairs by on campus students, solo by distance students. Odd number of students in class can do interview in triplet or solo.

Community Informatics in an Aging Society

Dr. Noah Lenstra, Assistant Professor of Library and Information Studies

NoahLenstra.com / @NoahLenstra

UNC GREENSBORO
Department *of* Library *and* Information Studies

U.S. and World Population Aging

Percent of humanity that is…	in 1965	in 2015	in 2050	in 2100
…age 0-14	38%	26%	**21%**	18%
…age 60 or more	8%	12%	**21%**	28%

World population aging. (United Nations, 2013)

Percent of United States that is…	in 1960	in 2010	in 2050	in 2100
…age 0-18	36%	24%	**23%**	22%
…age 65 or more	10%	13%	**21%**	26%

U.S. population aging. (U.S. Census Bureau, 2010)

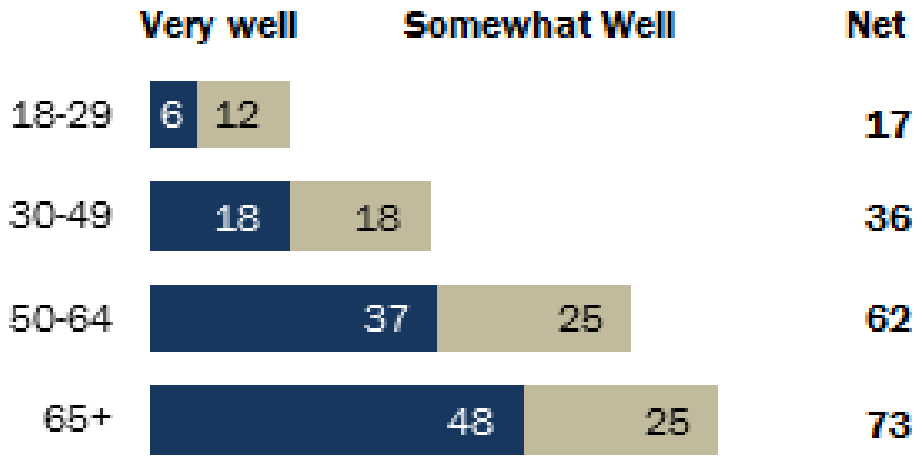
Starting Point: Older adults contribute to communities

Photographs Uploaded by "Facebook Archivist," Dec. 2009-Feb. 2010		
Type of Album	**# of images**	**% of images**
Events	3608	42%
Personal/Family	1587	18%
Funerals	1239	14%
Church	1181	14%
People	904	11%
History	72	1%
TOTAL	**8591**	100%

And with support they could do even more

Most seniors say they need help using new electronic devices

% of U.S. adults who say the statement, 'When I get a new electronic device, I usually need someone else to set it up or show me how to use it,' describes them very or somewhat well, by age



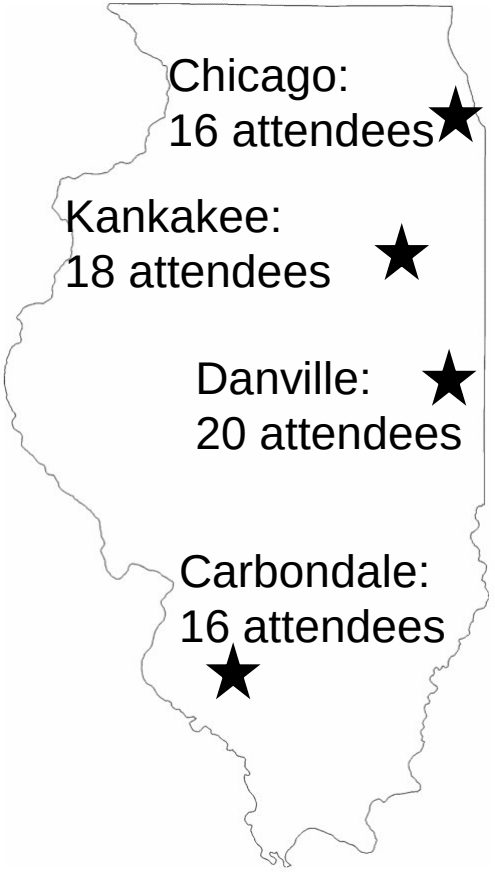
Note: NET category calculated prior to rounding.
Source: Survey conducted Oct. 13- Nov. 15, 2015.
"Tech Adoption Climbs Among Older Adults"

PEW RESEARCH CENTER

Legacy of Katherine Dunham in East St. Louis, Illinois

Studying Intergenerational Digital Heritage with eBlackCU.net

Confirming and extending trends across state of Illinois (and moving more into public libraries)



Studying digital literacy of older adults in libraries and senior centers

Foregrounding agency of older adults

	Institution started	Public Wi-Fi / Computers appeared	% African-American
Senior Center 1 (SC1)	**1976**	2014	8%
Senior Center 2 (SC2)	**1978**	2010	13%
Senior Center 3 (SC3)	**1978**	1997	**90%**
Public Library 1 (PL1)	**1970**	1994	**95%**
Public Library 2 (PL2)	1876	1988	28%
Public Library 3 (PL3)	1874	1984	33%

Digital Learning becomes an essential dimension of public librarianship

What Is Project Outcome?

We help public libraries understand and share the true impact of their services and programs with simple surveys and an easy-to-use process to measure and analyze outcomes. Project Outcome is a free toolkit offering libraries access to training, data analytics, and standardized surveys that measure outcomes in seven key library service areas:

Service Areas

Civic/Community Engagement

Services to inform, enrich, preserve, and promote community engagement, ranging from government issues to recreational activities. Examples include: Cultural Activities, Government Services, or Civic Engagement services and programs.

Digital Learning

Services to access technology, build technology-related skills and confidence, and make beneficial use of digital resources and services to meet patron needs. Examples include: Technology Usage Skills, Internet Education, or Computer Education services and programs.

2018

Pelham Bay Library @PelhamLibrary
#Bronx #seniors : remember @PelhamLibrary offers "Stay Well", an exercise class geared for adults 55+, every Tuesday @ 10:30 am! Brought to you by @NYCSeniors #wellness

From Movies to Meals: Senior Services and Spaces at Your Local Library

Class Details

Libraries often are the de facto senior centers of our growing - and aging - communities. The Marion Public Library embraces this role through program design, community feedback, and strategic partnerships. In addition to "traditional" library programming, the library works to meet the nutritional and social needs of seniors through twice-weekly congregate meals as well as a monthly mobile food pantry visit.

Current work - Technology in context, or the library as community center

Collecting Data – Procedures for Classes

Instructors and students are the researchers:

1) Identify field site where people welcome tech help

2) Schedule tech help sessions linked to interviews

3) Work in pairs to give tech help
and then do 20-30 min interview

4) Complete consent form with study participant

5) One person interview, the other enter answers verbatim into spreadsheet
[or done alone in the case of online students]

6) Partners send spreadsheets to organizers

Questionnaire

People

Who are you, where are you, what technology do you own/have access to, where do you use it, how have you used it over time (informatics lifecourse)?

Informatics moments

Who helps you with technology, who do you help, share a story of technology help, do you have enough help?

Data Collection goals

Convenience Samples

Sample size determined by class size.

Two interviews per researcher, done in pairs by on campus students, solo by distance students.

Odd number of students in class can do interview in triplet or solo.

Could also be extended up or down – could do more interviews per class or could become a larger independent study led by one or more students, including PhD students

Visiting UIUC

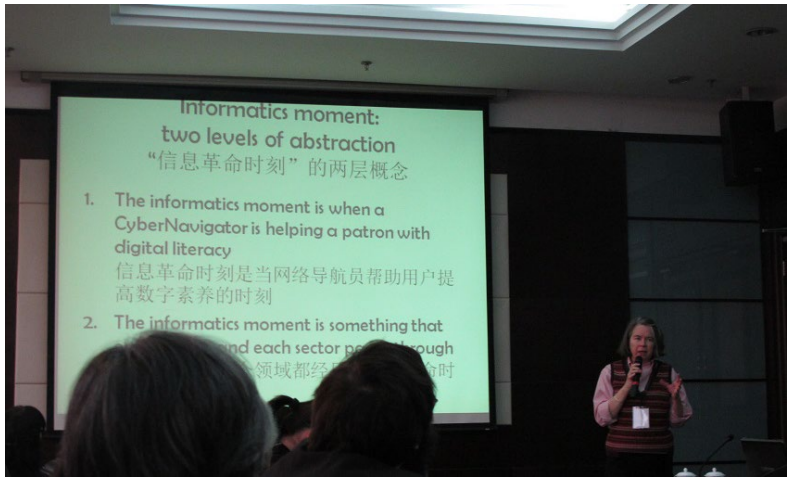
2008.7-2009.6

- Met with Kate
- Visited 47 states, mostly drove by myself, nearly 25,000 miles
- Road trips in the US make it easier for me to lead the field study

COINFO'10 Beijing, CI seminar

2010.11.27-29

- Met with Kate's team
- Presented my 5-year experience as an online game player, based on participant observation



First CI Summer School at Peking University

2011 Summer

- Sponsored by PKU Graduate School, organized by me.
- Taught by Professor Abdul Alkalimat, Professor Kate Williams, Professor Hui Yan.
- 38 students from 15 institutions in China. They are mostly graduate students and doctoral students, and a small number of senior undergraduate students and young scholars.
- Kate Williams, Abdul Alkalimat, Han Shenglong, and Hui Yan, editors. “Seeking Truth From Facts: Studies in Community Informatics.” Proceedings of the First Community Informatics Summer School in China. Beijing: Peking University Department of Information Management. 2011. 339 pages.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京大学社群信息学暑
School @ PKU 2011

2011 COMMUNITY INFORMATICS SUMMER SCHOOL @ PKU

2011.7.27 BEIJING

“Our future plans” in summer 2011

“This book and the archive of all our work is the basis for summation, analysis, and sharing. **The summer school is part of a process that must continue. We need community informatics to become a global movement to overcome the digital divide in every country, every community, every neighborhood where people are having a difficult time getting online, getting the information they need, and in providing information that in sum we all need if the world is to progress and become a desirable place for all of us to live in and prosper.** ”

– Kate Williams and Abdul Alkalimat

Joined Yan's field study in northwest China

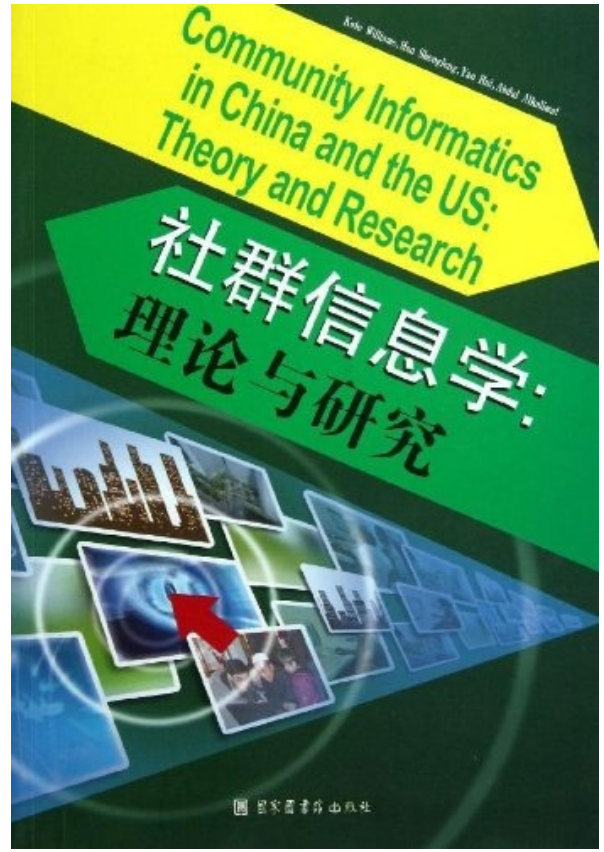
2012.1

- Tianzhu County, Gansu Province
- My first experience in the field

Second CI Summer School and a textbook

2012 Summer

- 66 students from 18 institutions in China.
- Kate Williams, Abdul Alkalimat, Han Shenglong, and Hui Yan, editors. “Seeking Truth From Facts: Studies in Community Informatics.” Proceedings of the Second Community Informatics Summer School in China. Beijing: Peking University Department of Information Management. 2012. 346 pages.
- Textbook “Community Informatics in China and the US: Theory and Research” published by National Library Press in China



First CI seminar in China at PKU

2017 Fall

- Sponsored by Department of Information Management@PKU
- Scholars and students from 8 China Universities participated, discussed on the development of CI in China
- Kate and Abdul attended via Skype, and Kate gave a 15-minute talk

My research

2012.5-2018.7

- The digital divide between China's urban and rural areas and its impact on urbanization process
- Sponsored by national fund for social sciences
- Finding: The shrinking of digital divide between urban and rural China doesn't necessarily boost the urbanization process. In some cases, we found evidence showing that people are moving or planning to move from city to country, which is, deurbanization.

2018.8 - now

- Poverty alleviation through E-commerce: will it work? and how?
- Initiated by a group of students in my class
- We've investigated five villages and the preliminary finding is that it is very hard for rural residents to be just empowered with ICT to get rid of poverty though E-commerce, they also need to be organized or helped by organizations from both public and private sectors.

Policies on the data set

Data submission

- Research partners use the field instruments (spread sheet template) provided by the organizers to collect data in the field, and submit the clean data in a month. The data should include the spread sheets, and recordings, photos, and transcribed and translated text if available. The data will then be uploaded onto the ftp space.

Policies on the data set

Data usage

1. The partners can

- Use the data produced by themselves freely.
- Use the data produced by others through application.

2. Non-partners can

- Use the data through application and authorization.

3. All related publications should cite the data set as “**GLOBAL TECH HELP NETWORKS data set**”.

DOCUMENTATION STANDARDS for the project

Name structure of each research data file

- Structure: abbreviation of partner's name + 4-digit serial number + 8-digit date
- Example: HSL-0001-20190910.xlsx stands for the first data fil done by Shenglong's team on September 10, 2019
- Note: there is a folder for each research data file to hold related audio/visual/text information if available

DOCUMENTATION STANDARDS for the project

Name structure of each index file

- Structure: abbreviation of partner's name + "INDEX"
- Example: HSL-INDEX.xlsx stands for the index file of Shenglong's data files

DOCUMENTATION STANDARDS for the project

Record structure of the index file

Filed name	Meaning
No.	Serial number
Filename	name of each research data file
Interviewer	name of the interviewer
Interviewee	name of the interviewee
Recorder	name of the audio recorder
Photographer	name of the visual recorder
Transcriptor	name of the audio-text transcriptor
Translator	name of the translator（if translation happens）
Location	location of the interview
Date	date of the interview
Start-time	starting time of the interview
End-time	ending time of the interview
Note	anything else related to the interview that needs to be filed