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**Title**

Launching an international study of technology help networks

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**Abstract**

A workshop during the iSchools conference of March–April 2019 has recruited 28 scholars from 10 countries to study technology help sharing. Even though people around the world use technology, they still need help doing so. This project looks at the everyday ways people help each other with their technology, and thus make life and work possible. Scholars will use a common field manual and tool developed by the organizers to conduct short field studies with students in their courses or with their research groups.

The authors of this paper organized and participated in a workshop at the March 31–April 3 2019 iConference in Maryland, USA to begin a study of technology help. The research question was: How do people around the world get and give help with technology? The study aims to understand how people respond to digital inequality.

The authors came from 22 universities in 10 countries and spoke 11 languages. Projected study sites are in China, Czech Republic, Great Britain, India, Norway, Pakistan, the Philippines, the United States, and Trinidad and Tobago. The study will last three years.[[1]](#footnote-1)

The workshop began with a panel where the four organizers and one advisor explained the intellectual background to the study. Then two rounds of breakout groups discussed a draft field manual.

The research of the project will be published in peer-reviewed journals. The authors are aiming for a higher profile for the field of community informatics. This will lead to more support for and work in the field.

The field of community informatics first took shape in North America and Europe. Chinese scholars visiting the U.S. learned of the field and took steps to establish it in their home country. They published a bilingual textbook (Williams et al., 2012b) as well as literature reviews and empirical studies (two recent examples include Han et al., 2019; Yang, Sang, and Han, 2019).

To mature as a field, community informatics must gather together the work being done in individual countries. The current study coordinates research around the world to draw power from numbers and a variety of settings. The study promotes exchange between scholars in English-speaking countries and scholars in Asia and northern and eastern Europe.

**Theory**

Community informatics looks at “the interaction between local communities and information technologies” (Williams et al., 2012a). Our past work has shown that people continue to need help with technology, close to fifty years after the “personal computing revolution.”

Four concepts drive this. They are defined in table 1 below. The first is the informatics moment, when people seek help to complete work or life tasks using digital technology (Williams, 2012b). The second, the informatics lifecourse, consists of the pattern of informatics moments in a person’s life formed by job, household, and social support changes (Lenstra, 2016, 2019). The third, digital poverty, measures a person’s IT access, skills, content, and support (Wang and Yan, 2013; Yan, 2018). The fourth, social capital, reflects how much people rely on their informal social networks to access and share tech help (Williams, 2012a; Yan, in press). This is in part because many people cannot get formal IT help at school, work, or in the marketplace.

Table 1. Four Driving Concepts.

|  |  |
| --- | --- |
| Informatics Moment | The moment when a someone is seeking and getting help with digital technologies; also a phase in the transition of a society or a social sector to digital ways of life and work |
| Informatics Lifecourse | A person’s unique pattern of informatics moments over their lifetime, shaped by changes in their life and work as well as other factors |
| Digital Poverty | A measure of having less or no *access* to ICT, knowledge or *skills* to use it, ability to get or create *content* that is relevant, and people who *support* their ICT use |
| Social Capital | Material and other resources obtained through one's social networks rather than through formal institutions or the market |

Public libraries in the U.S., aware of this problem, have become places where people can get this help. According to the U.S. Public Library Association (2018), “digital learning” is one of seven key library services. The Public Library Association (2017) states that “through its digital literacy efforts, the Public Library Association supports its members to make their libraries digital literacy learning centers.” This new role builds on a long history of public libraries giving people free access to reading material, information, and public space (Vårheim et al., in press; Wiegand, 2015).

At the same time, a great deal of study and resources focusses on technology and algorithms that provide answers to people’s questions about technology. This includes work in human computer interaction, human factors in computing, human information interaction and retrieval, and even computational social science. But system help and recommendations have limits, some of which relate to problematic assumptions about people. We hope to help inform this work, even while affirming that many unique features of human help cannot be replaced by system support.

In China too, research and practice have tackled the issue of tech help. Work in progress by Han et al. (2019) suggests that China’s national program to reduce poverty through e-commerce, by providing information and communications technology (ICT) may be succeeding. However, skilled support is needed as well. This finding comes from studying policy documents and talking with local officials, residents, and other people in rural cooperatives and farms.

Related to this study is Yan’s action research project, funded by China’s National Office for Philosophy and Social Sciences. The research team is looking at the outcomes of efforts to bring people into the digital world. The team itself gives digital tools and technical help to various groups who are lacking both; the study conceptualizes people in communities as bonding social capital and the researchers as bridging social capital.

The team’s approach extends Yan’s past research on two key questions. First, some people in China’s rural areas still do not own, have access to, or use digital technology, even when help is given—why? Second, how can scholars describe and measure a person who has not shifted into digital ways of life and work (Yan, 2018)?

The two emeritus scholars advising the project urged those taking part to think on a macro level. The research team hopes to assemble theories to respond to this advice. Abdul Alkalimat from the United States said at the workshop:

The key question for this project is the fundamental question for all of social science and philosophy. The existence of society, Is it possible? Since we know it is, then there are the adverbial questions: One, when is it possible? Two, how is it possible? Three, where is it possible? Four, why is it possible?

The fundamental answer is that we need each other, and we help each other. At each stage our needs change and therefore our ways of helping have to change, always in search of life sustaining practices (food, clothing, shelter, health care, education, etc.). At this transformation of society from industrial to informational, our needs have changed and our forms of helping have to change.

So I encourage you to understand that this research project is a fundamental exploration of how, when, where, and why an informational society is possible. The answer is not in algorithms or smart machines, but in the people who make up society, and how they are helping each other become part of making this new technology part of sustaining life.

And Maosheng Lai sent this comment from China to those gathered:

Mutual assistance is a kind of good nature of human beings, and it is also a good informal institutional arrangement in the field of social assistance. On the way to the snowy mountain during the Long March, when a Red Army soldier ran out of food, others around him would share with him.

Nowadays in the information society, ICT has gradually become a necessity for everyone. Bridging the digital divide also requires a good role in the various community mutual aid mechanisms.

It is very meaningful work to investigate the mutual help experience of various types of people in the process of ICT access and use. It will play an important role in bridging the digital divide, enhancing the quality and competence of each member of society, and promoting global reach and cooperation, and furthermore the development of community informatics.

**Methods**

The operationalization of the research question, described in table 2 below, has guided the design of the fieldwork. The two variables are People and Informatics Moments. Data will be collected to learn about five or six aspects of each. The People variable will be examined at the macro (country), meso (locale), and micro (individual) level, whereas each Informatics Moment will be examined at the meso (place) and micro (individual) level.

Table 2. Operationalization of Variables

|  |  |
| --- | --- |
| **RQ: How do people access and provide help with digital technology?** | |
| **People (Independent variable)** | **Informatics Moment (dependent variable)** |
| MACRO: 1. Country: Profile of economics, digital divide measures, digital divide policies  MESO: 2. Setting: social, economic, and demographic profile of local community and organization granting access to study participants  MICRO: 3. Demographics: Class/SES, age, gender, ethnicity/nationality, household 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 | MESO: 1. Setting: places and social institutions that facilitate informatics moment.  MICRO: 2. Who helps you: demographics, nature of connection to them, why them 3. Who do you help: demographics, nature of connection to them, why them 4. Stories of informatics moments you have experienced 5. Enough help/not enough help |

The methodology of this study has two steps. The writing of profiles of each country and local setting based on existing literature and the researcher’s knowledge is the first. The second is to provide service—tech help—while collecting data through interviews. Students (in library and information science, information management, media and documentation studies, and comparable degree programs) will carry out one or more interview-and-help sessions as part of their coursework with one of the researchers. Students will thus learn basic social science field methods and also how to help others with digital technology, modeling citizenship in the digital age. These tasks are chief among those that professionals are asked to do at reference desks and elsewhere in our information institutions. Moreover, this aspect of our methodology turns the classroom, a site where students consume knowledge, into a site where they produce it.

The study design includes a common field handbook and a data collection instrument. The groups of people each scholar partner will study will vary widely in terms of age, gender, education, work, urban/rural, and country of residence. Interview questions will align with the local community norms. Workshop participants offered the following groups of people to be interviewed:

* students’ roommates and friends
* family members and their networks of friends
* people on campus (students, staff, faculty)
* public and national library staff and patrons (especially patrons who want to learn about digital resources)
* local museum staff
* primary school students and teachers
* people in urban and rural communities
* people in displaced communities, vulnerable sectors, and the working class (for instance, drivers, carpenters, helpers, farmers, fishermen, factory workers).

The study will follow the U.S. rules on protection of research subjects and has a data use policy that enables many parties to use the data to publish. Participating researchers can use the data they and their students produce. They can also use the data produced by others or by the entire team by applying to the project organizers. Those not taking part in the field study can apply to the project organizers to use the data. All use must cite this paper and indicate as data source the Global Tech Help Networks dataset.

The study will span three years. The organizers will recruit researchers and pilot the research design in the spring and summer of 2019. Participants will conduct fieldwork in the academic year of 2019–2020, and a preliminary report will be made at iConference 2020 in Borås, Sweden. Participants will spend the academic year of 2020–2021 on analysis, write-up, and further plans. At iConference 2021 and elsewhere we hope to see presentations and publications by individual researchers and by the entire team, facilitated by sharing of data according to project guidelines. Renmin University and Peking University will cover Chinese-English translation and any incidentals for annual gatherings. Partners will pay for their own travel, data collection, analysis, and any other translation. “Classroom as site of production” means that data can be collected during a semester by each researcher working with students in their courses. The authors invite others to learn more or join the project. Please contact one of the first four authors if you have questions.

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1. Support for the project includes travel support from several authors’ universities. The research is also supported by the Charles University program Progres Q15, “Life course, lifestyle and quality of life from the perspective of individual adaptation and the relationship of the actors and institutions.” [↑](#footnote-ref-1)