สวัสดี ค่ะ, Can You Hear Me Now?: An Exploration of Mobile Phone Usage in Rural Thailand

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Abstract

With global usage of mobile phones on the rise, the technology is being harnessed in new and exciting ways to benefit diverse populations. One such application is for educational purposes; not only in modern classrooms, but also in the urban slums and rural communities of developing nations. This study examines mobile phone penetration and usage in a small community in Northern Thailand. Over a 4-week period, a multidisciplinary research team conducted interviews with 18 participants. The data collected through this exploratory study indicated that a majority of the respondents (88.9%) have access to mobile technology. Of those respondents, only 12.5% designated that they are using their mobile devices for educational purposes. However, the qualitative data suggests otherwise; an idea that the research team explores further in this research paper.

Research Problem & Purpose

The millennium goal for the United Nations, in regards to education, was to achieve universal primary schooling by the conclusion of 2015. With the deadline fast approaching, it is imperative that global leaders explore non-traditional technological solutions in order to bridge the gap between the Western world and developing nations. In Southeast Asia alone, as of the beginning of this decade, there were over 18 million primary school-aged children who were not enrolled in formal education (Valk, Rasid, & Elder, 2010). The digital divide is wide, especially when engaging in a comparison of urban and rural communities.

While learners may not have access to an expensive desktop computer or a high-speed broadband internet connection, mobile technology usage is exploding; connecting people in a way that has never before been possible. In this particular geographic region, mobile penetration has doubled since the turn of the century. According to researchers, nearly 41 out of every 100

inhabitants has access to a mobile device (Valk, Rasid, & Elder, 2010). It is important to recognize, although Asia does include a large population living in prosperous industrialized nations, this technology growth is not limited to those of a privileged status. The prevalence of mobile technology reported amongst lower socioeconomic classes and rural inhabitants, has also been on the rise (Samrajiva & Zainudeen, 2008). The possibility of harnessing this technology to solve one of our most pressing global issues would be irresponsible to ignore.

This study set out to examine mobile phone penetration and usage in a small community in Northern Thailand. Before feasibility for the application of the technology for educational purposes can be determined, research needed to be conducted to explore accessibility. The team had many questions regarding who has access to mobile telecommunication devices and how that population is utilizing the technology. It should be noted that this particular study focused on a very small segment of the population and therefore, should not be used for generalization purposes. However, the data gathered provided the research team with the information they needed to begin to find solutions to some important real world issues.

Research Questions

The aim of this research study was to answer the following questions:

- What percentage of respondents have access to a mobile device?
- How are research participants utilizing mobile phone technology?
- Are inhabitants of rural Northern Thailand using mobile technology for educational purposes?

Literature Review

This study is not alone in its search for a solution to these imperative real world issues through the manipulation of placed digital resources. Researchers around the globe are seeking to

understand how and why people are using mobile technology in their day to day lives. Gender inequality, cultural and language barriers, socioeconomic issues and the digital divide have all been topics of exploration through the lens of small screen device usage.

In one such study conducted by Balasubramanian, Thamizoli, Umar, and Kanwar (2010), the researchers were able to explore gender issues in relation to technology usage in South Asia. Through the observation of a group of women in a small Indian village and their interaction with mobile devices as learning tools, the researchers studied gender dimensions and demonstrated how the phones can be used as tools of empowerment. This study is of particular interest to the research team due to the current human trafficking epidemic in Thailand. By providing educational opportunities for young girls and women in Northern Thailand, especially in the realm of language and reading, their ability to attain gainful employment is substantially increased. Educating those most susceptible to the trafficking cycle is the only effective way to end the corruption associated with prostitution and human slavery.

Linguistic considerations were of the utmost concern to the research team for this study, due the fact that some of the potential participants communicate in as many as four languages; Thai, English, Burmese and the local tribal dialect. Jantjies and Joy (2015) provided insight into the use of mobile technology in a multilingual environment; specifically within a South African context. The article explored the phenomenon of code-switching, which is the common practice of learners who speak multiple languages to frequently interchange the dialects to fit the needs of the situation. However, this South African study included technological intervention by providing a local classroom with mobile devices. Due to time limitations and budgetary constraints, the focus of the Thai research study was focused on technology already available within the community and how those resources are currently used.

Another approach that the current research has taken is to view this topic through a socioeconomic lens. In their article, Kim, Hagashi, Carillo, Gonzales, Makany, Lee, and Gárate (2010), look at the mobile technology itself and its pedagogical potential. Their study was conducted in two public primary schools near the Mexico-U.S. border in Baja California. The research methods were similar to the ones employed in this Thailand focused study. The researchers utilized a purposeful sampling method to collect a wealth of empirical and ethnographic data, successfully supporting their claim that disadvantaged rural students have more to gain from the integration of mobile technology than their neighboring affluent counterparts.

Although much of the current research is focused on urban slums, there are some researchers looking at rural communities. In the research conducted by Ntloedibe-Kuswani (2013), the focus is placed on a small village in Northern Africa. This dissertation is unique in that it explored the prospect of mobile learning in a remote community within a developing nation. Much of the previous research focused on rural communities within more prosperous, industrialized countries who were able to provide research teams with valuable resources, such as funding, current phone models, broadband internet, and wireless access. With the non-existent funding for the data collection associated with this Thailand focused study, the team found ways to be resourceful, much like the researcher in this African study.

Despite this study's focus on access and usage of mobile devices in Thailand, the endgame is to determine if harnessing the technology for educational purposes is viable endeavor. Eventually, the insight gained from this research will be used to design meaningful instruction for this rural community. Similarly, the primary focus of the Omidi Najafabadi, Mirdamadi, and Payandeh Najafabadi (2014) study was the instructional design model that

would be used in the creation of educational materials for mobile technology. As an instructional designer, it is of great relevance to explore not only how accessible the technology is, but also how its powers can be harnessed for the greater good of humanity.

Data Collection

In order to obtain data, a twenty point questionnaire (*see Appendix A*) was developed to investigate the mobile phone usage of inhabitants in the targeted community. Interviews were conducted by a local Thai research assistant; a decision that proved to be helpful in gaining access to a diverse population sample within the village, as well as, in navigating linguistic and cultural barriers.

Over the course of three weeks, the local research assistant was able to interview 18 respondents, using a volunteer sampling method. The survey was conducted using the local Thai dialect and the answers were translated into English for analysis by the U.S. based team. This raw qualitative data was transmitted via email and then input into a Google spreadsheet for examination.

While the team fell short of the targeted 25 responses, enough information was gathered to provide a general understanding of how much access the members of this particular Thai community have and how they are utilizing the technology in their day-to-day lives. The graphic representations (*Appendix B*) provide a snapshot of the data collected and help to synthesize the interview responses for better understanding.

Data Analysis

The data collection determined that an overwhelming majority (88.9%) of the respondents have access to mobile technology, with nearly as many (83.3%) owning their own device. Additionally, it was discovered that 81.3% of respondents have access to the internet via

their mobile device. Interview participants were asked to provide the make and model of their phone; allowing for researchers to ascertain that only 3 (18.8%) of the respondents were using feature type phones, while a majority (81.3%) had upgraded to smart phone technology. This data set is of importance to this research study because it demonstrates the widespread adoption of mobile technology and access to 3G internet, providing evidence that harnessing this technology for instructional purposes in the future would be a feasible endeavor.

Another important data set is the information collected regarding the sharing of mobile devices (*see Appendix B, Table VII*). Every interviewee reported sharing their phone with at least one other member of their social circle, demonstrating the use of mobile technology as a community building tool. Although most are sharing within their immediate family groups, many are allowing use by extended family, friends, neighbors, and coworkers. The implication of this data alone is astounding and opens the door to many possibilities. In future research, the team hopes to explore the extent of these relationships and how they can be utilized for learning purposes through a social constructivist paradigm.

Results/Findings

Although nearly all of the interviewees (87.5%) indicated that they are not using their mobile phones for educational purposes, when questioned regarding usage of individual phone features, many listed Google or other search engines amongst their favorite applications. Several participants also specified that they are utilizing mobile technology to improve their English language skills. This evidence of informal learning is paramount to this study and will serve as the basis for future research, as well as, the development of targeted instructional materials for a localized audience.

Implications/Conclusion

The series of interviews conducted and the corresponding qualitative data collected has provided the information necessary to complete the 16-week long research study. With widespread adoption of the technology, evidence of mobile phones being utilized as a leaning mechanism, and low median cost of 300 baht (approximately $10.00USD) per month, the research demonstrates feasibility of harnessing the technology for formal educational purposes. In addition, the process has provided a meaningful experience for the research team with many lessons learned.

Limitations

The data collection method alone presented its own challenge, given that it was not able to accurately represent the actual population. However, due to time constraints and distance limitations, a volunteer strategy was the most appropriate population sampling method available. The team was committed to being as purposeful as practical within the constraints of the selected technique. They employed strategies to minimize the variance between the interviewees and the remainder of the population. One of these strategies was to seek volunteers from various social circles within the community with the intent of attaining the most representative sampling possible.

Of course, the research team did encounter some hurdles along that way. With the narrow timeframe for data collection, there were not as many responses as expected. A majority of the interviewees identified as male (77.8%), with only 22.2% identifying as female. Ideally, there would have been a more even spread amongst the genders. Fortunately, the distribution through different age groups was more representative of the actual local population (*see Appendix B, Table II*). Language barriers caused significant issues for the team and required multiple

conversations regarding translation between the Thailand and U.S. based researchers. These etymological difficulties were compounded by a significant thirteen hour time difference, making conversations about the research extremely difficult. Despite the limitations, the research was an overall success, giving the team valuable insight into the mobile phone usage of the inhabitants of rural Northern Thailand.

Ethical Considerations

Conducting an ethical research study was of primary concern; therefore, the team employed a bottom-up approach to the study. Much like the researchers in a similar study administered in a remote region of Australia, the aim was to build on a partnership strategy with members of the local community to explore aspects of Thai culture and gain a deeper insight into their daily social practices (Auld, Snyder, & Henderson, 2012). Rather than sending an impersonal survey from a non-Indigenous researcher on the other side of the world, an international collaboration was formed. This allowed for respectful data collection and gave the U.S. based research team access that would normally not have bene granted without the support of the local community.

In addition, the names of individual respondents, the city where they reside, local dialect, and any other designation of their tribal classification have been redacted from this study to protect the identity of research participants. Acknowledgement forms were also administered to ensure informed consent and guarantee that respondents not only understood the purpose of the study, but also engaged with the researcher as willing participants.

Future Research

Emerging technologies, including mobile platforms, are changing the landscape of education both in the United States and throughout the world. Through this research study, insight was gained in respect to the usage of one such technology, however the value in the data is multifaceted. According to Laurillard (2008):

> Technology is never the whole solution. The recent history of technology in education always tells us that however good it is, it achieves little without the complementary human and organizational changes needed, and these are always more difficult. Using technology to improve education is not rocket science. It's much, much harder than that. Change in education is not a matter of a small number of extremely highly educated people moving a collection of obedient atoms from one place to another. It is about large numbers of partially trained people moving minds; millions of them. (p. 320)

The knowledge gained through this study opens the door for a myriad of potential future research endeavors. Now that it has been determined that there is sufficient access to mobile devices and 3G internet, research into possible educational applications can begin. Future research should also be conducted to explore the human and organizational structures associated with this community. Without the appropriate paradigm shifts within the adjacent and super systems, change will not be possible.

This particular research study explored explore a tiny corner of the world, in a very small way; however, the personal intrinsic value and the potential for this project to serve as the foundation of something much larger is an exciting prospect.

Conclusion

Overall, this research study was a success and provided great insight into the daily interactions of a remote population and their relationship with mobile technology. Although the qualitative analysis was thorough and eye-opening, the limited data could raise questions from skeptics as to the validity of the research endeavor. Hopefully, future researchers can utilize the findings from this study to build upon and produce stronger data that will be able to change current paradigms and will have positive implications on marginalized rural communities around the globe.

Appendix A

(1) What is your gender?

(2) What is your age?

(3) Do you have a mobile phone? If not, do you have access to a mobile phone?

(4) How long have you had a mobile phone?

(5) Where did you get the phone?

(6) What make and model phone do you have?

(7) Why did you get a mobile phone?

(8) What do you use the phone for?

(9) If you share the phone, who do you share it with?

(10) What language(s) do you use when you are using the phone?

(11) What kind of phone plan do you have?

(12) How much money do you spend on your phone every month?

(13) Do you have access the internet on your phone?

(14) What do you use the internet on your mobile phone for?

(15) How much time do you spend on the phone each week?

(16) How did you learn to use the phone?

(17) Have you used your phone for educational purposes?

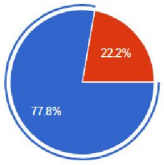
(18) If so, what have you learned through use of your mobile phone?

(19) What is your favorite feature of the phone?

(20) Are there any other comments you would like to add?

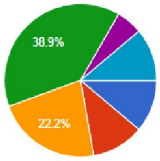
Appendix B

Table I: Gender



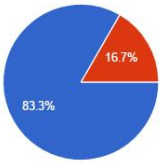
Male	**14**	77.8%
Female	**4**	22.2%

Table II: Age



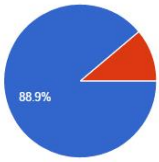
18-23	**2**	11.1%
24-29	**2**	11.1%
30-39	**4**	22.2%
40-49	**7**	38.9%
50-59	**1**	5.6%
60+	**2**	11.1%

Table III: Mobile Phone Ownership



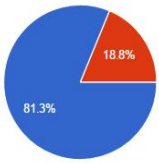
Yes	**15**	83.3%
No	**3**	16.7%

Table IV: Mobile Phone Access



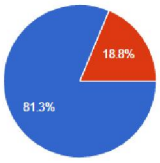
Yes	**16**	88.9%
No	**2**	11.1%

Table V: Mobile Phone Origin



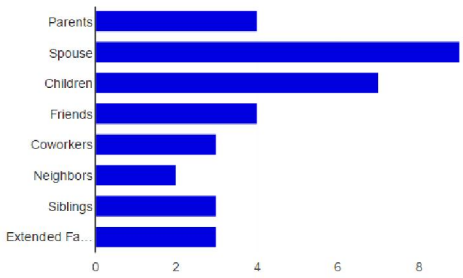
Bought	**13**	81.3%
Gift	**3**	18.8%

VI: Mobile Phone Type



Smart	13	81.3%
Feature Phone	3	18.8%

Table VII: Mobile Phone Sharing

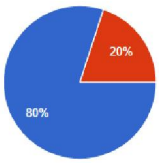


Parents	4	30.8%
Spouse	9	69.2%
Children	7	53.8%
Friends	4	30.8%
Coworkers	3	23.1%
Neighbors	2	15.4%
Siblings	3	23.1%
Extended Family	3	23.1%

Table VIII: Language

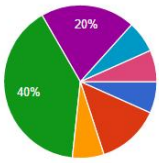
Thai	13	81.3%
English	7	43.8%
Local Dialect	16	100%

Table IX: Mobile Phone Plan Type



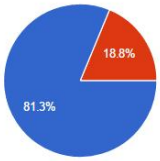
Prepaid	12	80%
Postpaid	3	20%

Table X: Monthly Spending



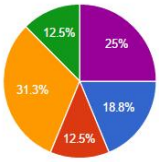
<100 baht	1	6.7%
100-199 baht	2	13.3%
200-299 baht	1	6.7%
300-399 baht	6	40%
400-499 baht	3	20%
500-599 baht	1	6.7%
600+ baht	1	6.7%

Table XI: Internet Access



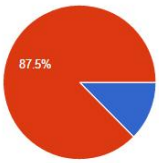
Yes	**13**	81.3%
No	**3**	18.8%

Table XII: Mobile Phone Usage



<1 hour	**3**	18.8%
1-2 hours	**2**	12.5%
2-5 hours	**5**	31.3%
6-9 hours	**2**	12.5%
10+ hours	**4**	25%

Table XIII: Educational Application



Yes	**2**	12.5%
No	**14**	87.5%

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