

Student Perceptions of the E-Tutor Program in Taiwan's Remote Areas

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Abstract: *This research project examined the outcomes of the Ministry of Education's E-Tutor Program for improving K-12 students' learning in Taiwan's remote areas. This study utilized the case study approach to analyze the impact of the E-Tutor program on the lives of former students. Former etutees who shared their perceptions of the E-Tutor program revealed tremendous opportunities from the E-Tutor Program, especially in the areas of academic performances, individualized learning, companionship, and a sense of community. The challenges were neighborhood security and network connectivity. Finally, the long-term impacts included career aspirations and sustainable community development. The findings can provide recommendations for policy makers and educators in designing new initiatives to promote educational equity.*

Keywords: educational equity, digital equity, digital justice, service learning, e-tutor

1. Introduction

Education equity is often understood through the lens of socio-economic status and race in the Western countries (Honda, 2013). OECD (2012) defined equity in education from two angles: equity as inclusion so that all students achieve a basic level of skills and equity as fairness so that gender, ethnic or family background will not hinder student educational success (p. 5). In Taiwan, the disparity between rural and urban school students could be observed from OECD's PISA scores (Sheu, 2012). Students in urban areas performed significantly better than students in rural areas, which could limit their options for colleges and careers for rural students. Taiwan's rural areas also have a higher concentration of aborigines and immigrants that are often minority groups with lower socio-economic status than the majority Han ethnic group (Chen, 2008). Race and socio-economic status are two contributing factors in Taiwan's educational disparity. In order to provide more equitable educational opportunities for students in remote areas, Taiwan's Ministry of Education established the E-Tutor Program in 2006. University student volunteers were recruited to provide one-to-one tutoring services through video-conferencing to middle and elementary school students in remote areas in Taiwan. Since its inception in 2006, the E-Tutor Program has gradually widened its scope from enhancing students' academic performance to service learning that balances academic support with companionship for young students (Ministry of Education, 2015). In order to understand the long-term impact of the E-Tutor program, the study was set out to (1) identify factors that contributed to the successful implementation of the E-Tutor Program; (2) examine factors that may inhibit the implementation of E-Tutor Program; and (3) determine the factors that contributed to the long term impact of the E-Tutor Program.

2. Literature Review

Education is seen as a key to reducing income inequality and improving long-term quality of life. OECD stands for Organization for Economic Cooperation and Development which is the international organization aiming at promoting

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“policies that will improve the economic and social well-being of people around the world” (OECD, 2015). According to the research by OECD (2008), those who are weak in academic performance tend not to continue learning in adult life which in turn may limit their choices in career. In the information age, technology is often utilized as a mean to reduce inequality in education. Promoting digital equity in education could be an effective approach to promote equitable education. Fulton and Sibley (2003) proposed the following four critical components for educational equity in the digital age: (1) access to hardware/software and connectivity, (2) access to excellent and culturally responsive content and the opportunity to contribute to the content, (3) access to educators who know effective technology integration, and (4) access to systems whose leaders support change through technology (p. 14-23). Although the critical components may vary in different international contexts, they do provide a holistic framework for dialogues on digital equity in different regions of the world.

Education inequality exists in many countries, even in the most affluent countries such as USA, Japan, and Singapore (OECD, 2012). Each country approaches the issue differently. In the case of Taiwan, the E-Tutor Program was created to solve the immediate concerns of lacking enough qualified teachers and instructional resources that can be personalized for individual students in remote areas. The E-Tutor Program has mobilized government agencies, university partners, and K-12 schools in remote areas of Taiwan to promote afterschool learning through a joint partnership between university students and K-8 students. University e-tutors provided not only academic support but also companionship for elementary and middle school students. In addition to “meeting” twice a week for ten weeks each semester through video-conferencing, e-tutors and their tutees met twice a year at various locations of their choices as a group through the arrangements of the partner universities. As the E-Tutor Program enters the milestone of the tenth anniversary, this study examined the impact of the program from multiple perspectives, including tutees, tutors, school teachers, and leaders.

3. Research Method

We applied the case study approach to scrutinize the opportunities and challenges of the E-Tutor initiatives. The case study method produces in-depth qualitative and quantitative examination of design, implementation, and evaluation of the E-Tutor Program. This approach can provide a holistic account of the phenomenon under investigation.

3.1. Participants and settings

The participants for this study were twelve former e-tutees who were students in universities and high schools during the time of the interview. Using the snowball sampling technique (Creswell, 2013), subjects from north, south, east of Taiwan, and remote islands were identified to ensure fair representation of e-tutees from different regions for the interviews. Data from additional interviews with former e-tutors, local school teachers, and school leaders will be analyzed at a later stage. According to Ministry of Education, there are more than 1,000 e-tutees entering the program every year (Ministry of Education, 2015). Efforts have been made to locate former e-tutees who participated in early stage of the E-Tutor Program so that long-term impact can be assessed. A combination of face-to-face, phone, and chat interviews were conducted between October 2015 to January 2016 to gain the perspectives of the participants.

3.2. Research questions

This study analyzed the perspectives of former e-tutees in order to answer the following research questions:

- (a) What are the opportunities and challenges faced by former e-tutees in the E-Tutor Program?
- (b) What are the long-term impacts of the E-Tutor Program on former e-tutees?

3.3. Data collection

Face-to-face and phone Interviews were recorded and transcribed. The transcripts were sent back to the e-tutees for verifications. Once the interviewees have confirmed the accuracy of the transcripts, open coding and axial coding (Charmaz, 2006) of the content were performed to retrieve major themes of the interviews by the lead researcher. Due

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to time constraint, intercoder reliability between two coders will be preformed and presented later.

4. Data Analysis and Discussion

The initial data analysis that was based on the perceptions of the former-etutees focused on the opportunities, challenges, and long-term impact of the E-Tutor Program. More in-depth analysis will be provided during the conference presentation.

4.1. Opportunities

Enhanced academic performances: The majority of the etutees indicated that their school grades have improved as a result of participating in the E-Tutor Program. One interviewee credited her tutors for inspiring her interests in English that she has transformed from flunking her English tests in middle school to now an English major in a junior college. The sessions with e-tutors helped the etutees to concentrate better on academic study.

Individualized learning: Each tutor was assigned to one tutee for the whole semester. The one-to-one learning opportunity allowed tutors to take time to assess tutees' academic abilities and develop personalized learning opportunities for the tutees. Students received reinforcements in weaker academic subjects at their own pace. Many tutees appreciated instruction that was tailored to their needs.

Companionship: All tutees showed no reservation in their fondness of the sessions with the tutors. Many tutees said that the tutoring sessions were the most anticipated event of each week. They looked forward to reviewing homework and sharing their weekly activities with the tutors.

Sense of community: Continuous support from former e-tutors, teachers, or partner universities have also played a key role in advancing etutees' lives. Interviewees stated that the opportunities to stay in touch with the network of people have formed a solid community for their spiritual and mental support.

4.2. Challenges

Neighborhood security: Many tutees lived in remote areas. They stayed at schools to receive tutoring services via videoconferencing. Transportation between the tutoring locations and their homes could be a challenge for the parents or teachers who accompanied the students in the classrooms.

Network connectivity: Since most tutees lived in remote areas in Taiwan, network outage often interrupted the connectivity of the video-conferencing. If the communication between local K-8 classrooms and the university partners was not established immediately, students could waste their time waiting for the restoration of the network. However, this might have been improved with recent reinforcement from network providers.

4.3. Long-term impacts

Career aspirations: Before joining the E-Tutor Program, most etutees admitted that they did not have ambition to continue study after middle schools or high schools. E-tutors have served as a role model and inspired the etutees to continue academic pursuit. Many etutees were at a loss when it came to choosing a university major for future careers. They sought advice from tutors even after the end of the E-Tutor program when facing major choices in life. Many etutees credited their tutors for providing excellent advice in choosing majors that will prepare them for the job market.

Sustainable community development: Those tutees who remained close contact with their tutors or partner university showed a sense of gratitude and a desire to give back to their communities just like the way the tutors have dedicated their energy to the tutees' communities. Many tutors joined tutees in person during summer or winter breaks to provide additional academic support. Tutees appreciated the effort of their tutors and feel a sense of responsibility to service their own communities as soon as they entered universities. Some of them became e-tutors to mentor young children. This cycle could lead to sustainable community development in which the tutees turn into tutors to assist new groups of children in their own community.

Based on the interview results, the E-Tutor Program has been a very successful initiative in promoting digital equity in which every student in need received personalized learning from enthusiastic tutors whom in turn discovered a

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sense of accomplishment through this learning opportunity.

5. Conclusions

The goal of education equity is to provide fair and just educational opportunities for all children without having to face the obstacles derived from conditions such as race and socio-economic status. The E-Tutor program has eliminated the barriers of race and family status by providing quality academic support and companionship to children in need. Many tutees emphasized the importance of companionship that guided them through various milestones in life. Through equal access to technological tools and digital content, tutees were able to receive quality support and mentoring which were essential parts of their growing up. Taiwan's E-Tutor Program can be a successful model of promoting digital equity for other countries.

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References

- Charmaz, K. (2006). *Constructing grounded theory: A practical guide through qualitative analysis*. London: Sage.
- Chen, C. L. (2008). The impact of income inequality on social welfare spending in Taiwan – county-level analysis. Unpublished MA Thesis. Retrieved from <http://nccur.lib.nccu.edu.tw/handle/140.119/38823>
- Creswell, John W. (2013). *Qualitative inquiry and research design: Choosing among five approaches* (3rd ed.). Thousand Oaks, CA: Sage.
- Fulton, K., & Sibley, R. (2003). Chapter 2: Barriers to equity. In G. Solomon, N. Allen, & P. Resta (Eds.). *Toward digital equity: Bridging the divide in education* (pp. 14-24). Boston, MA: Pearson Education Group.
- Honda, M. (2013). Educational equity: Where we are and where we need to be. *Asian American Policy Review*, 23, 11.
- Ministry of Education. (2015). *Introduction to E-Tutor Program*. Retrieved from https://etutor.moe.gov.tw/edu_index/introduction_list.php
- Maslow, A. H. (1943). A theory of human motivation. *Psychological Review*, 50(4), 370-96. Retrieved from <http://psychclassics.yorku.ca/Maslow/motivation.htm>
- OECD (2008). Ten steps to equity in education. Retrieved from <http://www.oecd.org/education/school/39989494.pdf>
- OECD. (2012). *Equity and quality in education: Supporting disadvantaged students and schools*. Paris: OECD. Retrieved from <http://asiasociety.org/files/oecd-0512report.pdf>
- OECD. (2015). The Organization for Economic Co-operation and Development (OECD). Retrieved from <http://www.oecd.org/about/>
- Sheu, T. M. (2012). Impact of educational resource on junior high school student achievement in Taiwan rural and non-rural area. Grant report to Taiwan's Ministry of Education. Retrieved from <https://srda.sinica.edu.tw/search/gensciitem/1398>
- Solomon, G., Allen, N. J., & Resta, P. (Eds.). (2003). *Toward digital equity: Bridging the divide in education*. Boston, MA: Pearson Education Group, Inc.