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4-1-2010

Augmentative Communication Technology for Adults in the Community with Developmental Disabilities

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Recommended Citation
Lawler, James P., "Augmentative Communication Technology for Adults in the Community with Developmental Disabilities" (2010). *Cornerstone 2 Reports : Community Outreach and Empowerment Through Service Learning and Volunteerism.* Paper 14.
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Thinkfinity Initiative for Innovative Teaching, Technology and Research

Project: ***Augmentative Communication Technology for Adults in the Community with Developmental Disabilities***

Cornerstone #2: Community Outreach and Empowerment

Principal Investigator: Dr. James P. Lawler, Seidenberg School of Computer Science and Information Systems

Date: 4/22/10

Final Report

A. Original Goals

Fund and initiate a program for furnishing high level speech synthesis technology for individuals with developmental and intellectual disabilities;

Initiate student team training of the individuals with disabilities at the Adult Day Care Services of AHRC New York City on specific ChatPC Silk Plus PDA tools;

Initiate student team training of the staff of AHRC New York City on specific ChatPC Silk Plus PDA tools, in order for the staff to be eventually self-sufficient in training the individuals on the tools;

Integrate research on higher level speech synthesis technologies of leading technology firms in the health care industry into the Community Empowerment through Information Systems and Technologies course for students, in order for the students to serve the individuals and the staff with state-of-the-art technologies; and

Measure the impact of the program through observations of communicative improvements of the individuals with disabilities in interactions with others and through observations of the staff, as collectively reflected in surveys throughout the semesters.

B. Progress Made Towards Original Goals on Project to Date

The program was initiated at AHRC New York City at 7 locations with the furnishing of ChatPC Silk speech synthesis tools, which were purchased through the $8,829 grant of the Thinkfinity Initiative;

The program was initiated at the 7 locations by 25 students who team-trained 12 individuals with developmental and intellectual disabilities on 3 ChatPC Silk Plus SNP70SSE470A, 476N and 480N PDA speech synthesis tools that were customized by the students;

The program was initiated at the 7 locations by the 25 students who team-trained 22 direct care and pathologist staff on the 3 ChatPC Silk specific speech synthesis tools;

The publication research on state-of-the-art speech synthesis tools of the technology firms in *American Journal of Occupational Therapy*, *Brain Injury and Technology*, *Journal of Technology in Human Services*, *Journal of Telemedicine and Telecare*, and *Journal of Visual Impairment and Blindness* was integrated by the students into the team-training of the direct care and pathologist staff; and

The overall program was evaluated favorably by both the 22 direct care and pathologist staff mentoring the individuals with disabilities and by the 25 students in improved interaction proficiency of the 12 individuals measured in the 12/30/09 – 4/5/10 period by the staff.

C. Activities Completed to Contributing to Meeting Goals

Project in the spring semester 2010 was completed at 7 locations of Adult Day Care Services of AHRC New York City with 12 individuals with developmental and intellectual disabilities with 3 loaned ChatPC Silk Plus speech synthesis tools from a central lending library of AHRC New York City;

Project in the spring semester was completed with 25 students who team-trained the 12 individuals with disabilities in formulation of messaging, in order for the individuals to be proficient with the 3 ChatPC Silk speech synthesis tools, such that the speech and sociality skills of the individuals were increased through the tools; and

Project in the spring semester was completed further with the 25 students who team-trained the 22 staff to be skilled in the speech synthesis tools, such that the self-sufficiency of the staff was increased through the training.

D. Activities Not Completed

All of the activities planned for the spring semester 2010 were completed by the students;

Activities for the fall semester 2010 under the budgeted grant will be planned for an equivalent number of individuals with disabilities and staff of Adult Day Care Services of AHRC New York City; and

Activities for the 2011-2012 semesters under the budgeted grant will be planned similarly.

E. Outcomes Received as a Result

The program was successful in delivering 3 21st century ChatPC Silk Plus speech synthesis tools to the key 7 locations of Adult Day Care Services of AHRC New York City;

The program was successful in empowering 12 individuals with developmental and intellectual disabilities in the proficiency of speech and in self-advocacy and sociality skills that were limited until the delivering of ChatPC Silk speech synthesis tools, and such skills were measured by observations and perception surveys of the individuals, parents, and direct care, pathologist and physician staff of Adult Day Care Services;

The program was successful in enabling the 12 individuals with disabilities to be trained on the ChatPC Silk speech synthesis tools by the 25 "mentor" students who were earlier trained on the tools by the instructor and by the technology firm;

The program was successful in enabling the 22 direct care and pathologist staff in the potential and in the self-sufficiency and support of the tools; and

The program was successful in furnishing a foundation for Adult Day Care Services of AHRC New York City and Pace University – Seidenberg School of Computer Science and Information Systems to support further individuals with disabilities and new staff with the tools through the 2012 semesters.

F. Project Impact on Students

The program impacted the 25 students positively in engagement journals and in mid-term and final reflection reports of the semester. The students reflected on the importance of personal relationship that was facilitated through the ChatPC Silk Plus speech synthesis tool training. There were several students who were applying to be interns at Adult Day Care Services of AHRC New York City in summer 2010 because of the program.

G. Project Impact on Faculty Members

The program is not currently impacting faculty in the Seidenberg School of Computer Science and Information Systems, but is furnishing a model success story to 5 of the faculty in service-learning who might be interested in pursuing such a story at other non-profit organizations partnered with the university.

(Investigator will be presenting the program at the Faculty Institute in May 2010.)

H. Unintended Outcomes Achieved

The only unintended outcome was the eagerness if not the enthusiasm of other individuals with developmental and intellectual disabilities not in the program in the spring semester 2010 to be included in the program in the fall semester 2010 or in later 2011 – 2012 semesters.

I. Outcomes Reflecting Benefit

The outcomes of the program do reflect the benefits that were the goals of the program in the spring semester 2010 and support further tool training of the individuals with disabilities by the staff of Adult Day Care Services of AHRC New York City if not by the students.

J. Project Furthering of Thinkfinity Cornerstone

The program was positive in the further outreach of the students in empowering the individuals with disabilities and the staff in superior technology, beyond what was furnished in the fundamental Community Empowerment through Information Systems and Technologies course.

K. Future Plans for Sustaining Project

As the program is already sustained in projects with the ChatPC Silk Plus speech synthesis tools with new individuals and new staff into the fall 2012 semester, my future plans for further sustaining the program is to expand the functionality of the technology into person-centered planning profiling tools, for individuals with developmental and intellectual disabilities who might be endowed to explore marketplace opportunities in society.

Dr. James P. Lawler, Seidenberg-IS-NY

April 22, 2010