



THINK & LINK



Accessible Email for People with Cognitive Impairments

BACKGROUND

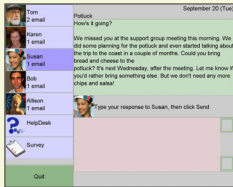
Electronic mail has provided unprecedented networking for business, educational and social purposes. However, this mainstream form of communication remains inaccessible to individuals with severe cognitive-communicative disabilities.

Think and Link is a five year project funded by the National Institute on Disability Rehabilitation Research (NIDRR) to develop and evaluate email tools accessible by adults with brain injury. Using a Participatory Action Research approach, we developed the Think and Link email interface useable by people with severe anterograde memory and/or executive function impairments.

Project Research Questions:

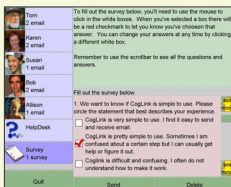
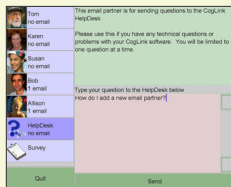
1. What are the individual and environmental factors that affect email use by persons with cognitive disabilities?
2. What supports/modifications to software/hardware are needed to permit independent use of email by this population?
3. Does the ability to send email to selected friends and family reduce feelings of isolation in persons with cognitive disabilities?
4. Are there other psychosocial or cognitive effects of sustained email use?
5. Does the evaluation of environmental factors and individual skills/behaviors provide sufficient information to identify needed supports?
6. How should manuals and software be designed to facilitate training of email users with cognitive disabilities by care-providers and practitioners?

THE EMAIL INTERFACE



- Customizable features such as color, layout, controls, and font
- Simplicity of language & design
- 1:1 correspondence between actions & controls
- All interface components are self paced, minimizing the possibility of mistakes

- Multimodal tech support including email and phone
- Special simplified pamphlets with written and pictorial directions
- Surveys are delivered via email for an easy user feedback mechanism
- Log data allows tech support to initiate contact when they think there is a problem



LONGITUDINAL EVALUATION

(Sohlberg, M.M., Fickas, S., Ehhardt, L. & Todis, B. The longitudinal effects of accessible email for individuals with severe cognitive impairments, *Aphasiology*, 2005, 19(7), 651-681)

A combination of qualitative and quantitative approaches was used to evaluate longitudinal effects of email use. The first cohort of research participants was evaluated using an email skills assessment, goal attainment scaling and neuropsychological testing. They were trained to use the email program. Weekly email statistic reports and activity logs were generated to measure frequency, efficiency, topic parameters and satisfaction related to using email.

Results showed that the initial participants became independent, satisfied emailers in their home environments and continued to engage in social email for 9 months post training. The weekly metrics and email logs showed progressive improvements in efficiency, complexity of written expression and range of topics discussed. All participants endorsed the social benefits of email and achieved the "most successful outcome" possible for several of their individually selected goals. This study is one of the first longitudinal reports on the use of assistive technology by people with severe cognitive impairments and demonstrates the potential of adapted email as a means of increasing social communication in this population.

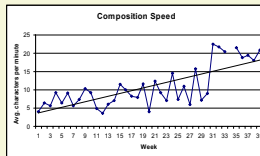


Figure 1. Average characters per minute

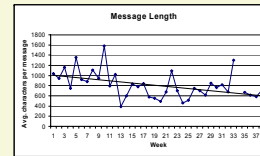


Figure 2. Average characters per message.

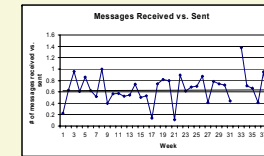


Figure 3. Number of messages received vs. messages sent.

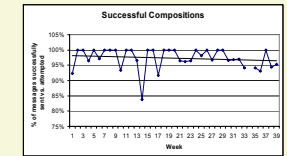


Figure 4. Percentage of messages successfully sent vs. message attempted.

COMMERCIALIZATION

Given the success of the beta testing, the Think and Link email program is moving toward commercialized dissemination. Purchase of the software includes a personalized package containing the software, manual, helper pamphlets, and ongoing technology support. The software will be distributed as *CogLink* and includes the following:

For more information about CogLink you can contact us at:

COGLINK
Computer And Information Science Dept.
1202 University of Oregon
Eugene, OR 97403

<http://www.coglink.com>

1-800-716-9695

- Customizable Email and Training programs with one-step startup
- Self-installing CDs and automatic updates requiring no user interaction
- Tech support available through online, email, and phone

