Increasing the Use of Accessible Voting Systems

Dr. Diane Cordry Golden
Association of Assistive Technology Act Programs

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Background

- **ATAP – State AT Programs**

  - Association of Assistive Technology Act Programs

  - State AT Program Network – 56 state/territory funded programs who do device demonstrations as core activity

  - State AT Programs – cross disability, state-wide

  - Aware of significant underutilization of accessible voting systems and poll worker struggles to support use of access features

Recent Research

- **NCD 2012 Survey (N=900)**
  - **45% reported barriers involving voting machines**
  - **25% identified untrained poll personnel as barrier**
  - **http://www.ncd.gov/publications/2013/10242013**
- **Rutgers 2012 Survey**
  - **2000 w disabilities, 1022 w/o disabilities**
  - **Statistically significant - "difficulty understanding how to vote or use the voting equipment" (10% -1%)**
- **NFB 2012 Survey (N=537)**
  - **25% blind voters unable to use AVS (not set-up, poor instructions, no assistance from poll workers, etc.)**

Device Demonstrations

- **Demos are a core AT Program activity**

  - Hands on guided exploration of assistive technology (AT)

  - Provided by individual with expertise in use of the AT device and its access features

  - Consumer participant in demonstration becomes familiar with device and can use its access features

Research Hypotheses

• Demo/training will increase voter ability to use access features

• Demo/training will increase likelihood a voter will go to a polling place and use the AVS to vote (if they did not currently do so)

Demonstration Overview

• Demonstrations conducted in 6 states (IL, MO, ND, OK, MT and NJ)

• Four different AVS demonstrated

• AVS demonstrated was machine that participant voter would use at their polling place

• Demonstrations were done by AT specialists with experience in conducting AT demos and familiarity with the AVS

Demonstration Data Summary

- **506** total demos conducted

- Disability types: vision – 64%
  motor – 27%   intellectual – 16%
  hearing/speech/other – 8% to 4%

- Age: seniors – 47%
                middle aged – 36%
                young adults – 17%

- AT Use: 52% total; **less than 10%** with AT experience transferable to AVS (screen reader, screen enlargement, etc.)
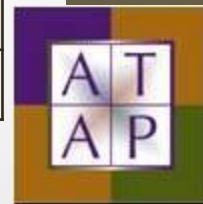
Demo Data by Access Feature

TABLE 1A						
Access Feature	%	Minutes to Independent		# Never Independent (% of access feature N)	Minutes Complete Ballot	
		Mean	Max		Mean	Max
Large Visual Display	44%	4.77	25	4.46%	10.49	35
Speech Output & Tactile Keypad Input	44%	4.50	25	16.12%	12.02	45
Synchronized Speech and Visual Display	11%	4.51	25	8.20%	11.61	45
Switch Input	1%	2.00	4	33.33%	16.33	35

Demonstration Time Required

TABLE 2A - Total						
Minutes to Independence	1 to 2 minutes	3 to 4 minutes	5 to 9 minutes	10 to 14 minutes	15 to 25 minutes	25+ never reached
N	168	89	117	53	31	48
Percent	33%	18%	23%	11%	6%	9%
	51%		34%		15%	

TABLE 2B – Age Breakout						
Minutes to Independence	1 to 2 minutes	3 to 4 minutes	5 to 9 minutes	10 to 14 minutes	15 to 25 minutes	25+ never reached
Senior	27%	24%	26%	9%	5%	9%
Middle Age	34%	11%	24%	14%	8%	9%
Youth	47%	14%	15%	8%	6%	10%

Pre/Post Rating Data

- **Self rating of comfort using the AVS on 1 to 10 scale before and after demo**

- **Pre-demo mean = 4.47 (not very comfortable)**

- **Post-demo mean = 8.02 (very comfortable); almost 4 point increase**

	Polling Place	Absentee	Both	Do Not Vote
Pre-Demo	80.04%	8.50%	4.15%	7.31%
Post-Demo	85.97%	7.71%	3.75%	2.57%
Change	+5.93%	-.79%	-.40%	-4.74%

What does the data tell us?

Demo/training is viable strategy to improve use of AVS.

AVS are not intuitive or "easy" for voters to learn.

Some voters require extended time to learn to use AVS

Cannot expect poll workers to provide demos during a busy election day to help voters learn to use AVS – need to provide opportunities to learn AVS outside of voting day.

Voters with disabilities take more time to complete their ballot using the AVS – thus expanded early voting is helpful.

Recommendations

❖ Make AVS demos widely available to ensure voters with disabilities can participate in a demo and become confident using access features

❖ Provide expanded voting opportunities
   ❖ Early voting before election day
   ❖ Extended time while voting

AVS Improvements Recommended by Demo Participants

1) Larger text display – AVS "large text" is not nearly large enough

2) Larger touchscreen strike areas and adjustable sensitivity

3) Improve audio navigation and general instructions

4) Improve switch input navigation

Large Text Research (N=94)

1) CCTV comparison to identify preferred size when AVS size was too small

2) Mean preferred text size = 17.46 mm (VVSG requires 6.3 to 9 mm as LP)

3) Only 12% preferred CCTV to AVS because of visual-motor coordination skill requirements

Challenges to Delivering Demos

1) Allowing AVS to be used for demos
   - Jurisdictions have to lend out
   - Vendors reluctant or refuse to sell
   - Demo ballot must be programmed (expense)
   - Could a "dummy-demo" unit be produced?
2) Enlist organizations to do demos
3) Staff time for one-on-one demo time
4) Expertise of demonstrator(s)

None of these issues is insurmountable – but does take time/effort to address

Contact Information:

Diane Cordry Golden, Ph.D.
diane.golden@ataporg.org
816.616.7668
http://ataporg.org/voting.html