Empowerment Through the Use of an Auditory Communication Book – Sanna's Journey

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Lecturer:

Iina Heikurainen
Speech and language therapist
Ruskeasuo School
iina.heikurainen@ruskis.fi

Sanna year 2003

- 14 years old
- Severe cerebral palsy and visual challenges
- Communicated with yes and no answers, simple SGD's and large PCS symbols
- Mostly single-symbol messages
- Passive in her communication
- Communication aids did not meet her communication requirements

Changing channels

- No more symbols

- Use of auditory scanning as Sanna's main method of communication
  - partner assisted auditory scanning
  - communication books with auditory scanning

- Speech therapist started to design a new communication book based only on auditory scanning

Through trial and error

- Goal was to meet Sanna's communication requirements and develop her skills further
- Huge help from Gayle Porter
  - PODD-ideology
  - auditory material
- First auditory communication book was developed
  - pragmatic starters
  - categorization
  - word classes mostly separated
  - → better but still lacking

Read out loud the following list from top to bottom.
Read each word / sentence exactly as written.
I will shake my head "no" or nod my head "Yes" to indicate the word I want to say. Turn to the page number on the right to hear more of my message.

1

I've got more to say	go to 7
quick chat	go to 2
something's wrong	go to 3
opinion words	go to 5
Let's go somewhere	go to 12
I'm asking a question	go to 6
I want something	go to 11

An example of Gayle Porter's Auditory Scanning PODD.

Final result – AACi's Ears

- Based on Gayle Porter's PODD Communication Books
- Pragmatically organized
  - pragmatic starters
  - large vocabulary
  - categories
  - organization promotes multi-word messages
  - grammatical markers
- Based solely on auditory scanning – no symbols

Pragmatic starters

1	Starting page
2	Quick messages/comments
3	Something wrong
4	Health, bodyparts...
5	Question
6	Opinion
7	News-pages
8	Categories
9	Time
10	Special days
11	Places
12	Free time
13	Food and drink
14	Clothes
15	Home
16	Traveling
17	People
18	Verbs
19	Descriptive
20	School
21	Animals
22	Nature
23	Beauty and hygiene
24	Numbers and letters
25	Things

Starting page

I want to tell you something	Ask 7 / 8
Quick message or comment	p. 2
Something's wrong	p. 3
I'm asking a question	Ask 5 / 8
I've got an opinion	p. 6
I want something	Ask 8 / 12
Let's go somewhere	Ask 8 / 11
I would like to...	p. 8
I want to show you something	p. 7d
I've got a secret	p. 8
I've got an idea	p. 8
Read this page from the start	

Multi-word utterances and grammatics

Clothes

People	yes	possessive	it
		I / me	mother
no		you	sales person
		he / she	*someone else s. 17*

Verbs	yes	negative form (not)	put on
		past tense	take off
no		be	change
		have (to)	try
		want (to)	borrow
		buy	like
		get	*another verb s. 18*

Descriptives	yes	beautiful	different
		lovely	wet
no		new	dirty
		old	
		broken	
		same	*another des. s. 19*

Clothes	yes	**next page**	underwear
		shirt	jacket
no		pants	jeans
		T-shirt	pantyhose
		socks	long underwear

Clothes

skirt	swim suit
pyjamas	shoes
sweat pants	sneakers
sweater	boots
shorts	sandals
rain jacket	
scarf	
mittens	
hat	

Accessories	yes	necklace	cap
		earrings	belt
no		ring	pocket
		bracelet	zipper
		purse	
		backpack	
		glasses	
		sunglasses	
		wallet	

Ask, if he/she wants to go to categories or to the beginning of this category.

1	Starting page
2	Quick messages/comments
3	Something wrong
4	Health, bodyparts...
5	Question
6	Opinion
7	News-pages
8	Categories
9	Time
10	Special days
11	Places
12	Free time
13	Food and drink
14	Clothes
15	Home
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Starting page

I want to tell you something	Ask 7 / 8
Quick message or comment	p. 2
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I'm asking a question	Ask 5 / 8
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Let's go somewhere	Ask 8 / 11
I would like to...	p. 8
I want to show you something	p. 7d
I've got a secret	p. 8
I've got an idea	p. 8
Read this page from the start	

Main categories

Starting page	yes ▶	**p. 1**
no ▼		
Next page	yes ▶	**next page**
no ▼		
time	yes ▶	**p. 9**
no ▼		
special days	yes ▶	**p. 10**
no ▼		
places	yes ▶	**p. 11**
no ▼		
free time	yes ▶	**p. 12**
no ▼		
food and drinks	yes ▶	**p. 13**
no ▼		
clothes	yes ▶	**p. 14**
no ▼		
home	yes ▶	**p. 15**
no ▼		
travelling	yes ▶	**p. 16**
no ▼		

Main categories

people	yes ▶	**p. 17**
no ▼		
verbs	yes ▶	**p. 18**
no ▼		
descriptives	yes ▶	**p. 19**
no ▼		
school	yes ▶	**p. 20**
no ▼		
animals	yes ▶	**p. 21**
no ▼		
nature	yes ▶	**p. 22**
no ▼		
healt, bodyparts and aids	yes ▶	**p. 4**
no ▼		
beauty and hygiene	yes ▶	**p. 23**
no ▼		
numbers and letters	yes ▶	**p. 24**
no ▼		
stuff and things	yes ▶	**p. 25**

If person answers no, go back to beginning of main categories.

Clothes

People — yes ▶

possessive	it
I / me	mother
you	sales person
he / she	*someone else s. 17*

no ▼

Verbs — yes ▶

negative form (not)	put on
past tense	take off
be	change
have (to)	try
want (to)	borrow
buy	like
get	*another verb s. 18*

no ▼

Descriptives — yes ▶

beautiful	different
lovely	wet
new	dirty
old	
broken	
same	*another des. s. 19*

no ▼

Clothes — yes ▶

next page	underwear
shirt	jacket
pants	jeans
T-shirt	pantyhose
socks	long underwear

no ▼

Clothes

skirt	swim suit
pyjamas	shoes
sweat pants	sneakers
sweater	boots
shorts	sandals
rain jacket	
scarf	
mittens	
hat	

Accessories — yes ▶

necklace	cap
earrings	belt
ring	pocket
bracelet	zipper
purse	
backpack	
glasses	
sunglasses	
wallet	

no ▼

Ask, if he/she wants to go to categories or to the beginning of this category.

Aided language stimulation

Normal language development:

SPEECH → 🙂 → SPEECH
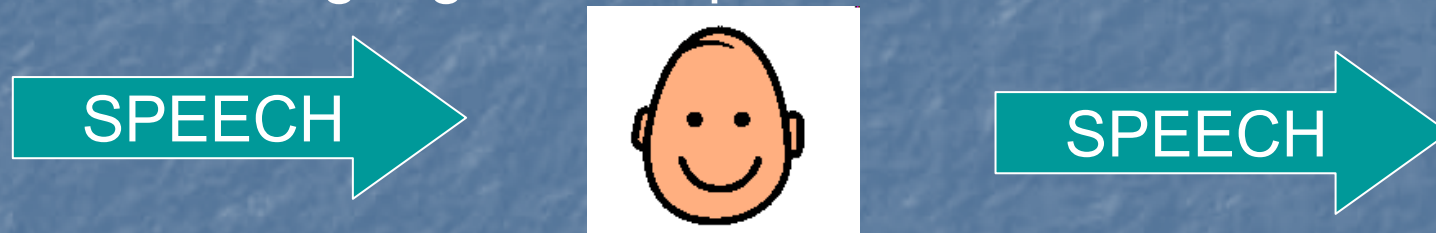
Common development for AAC:

SPEECH → 🙁 → AAC
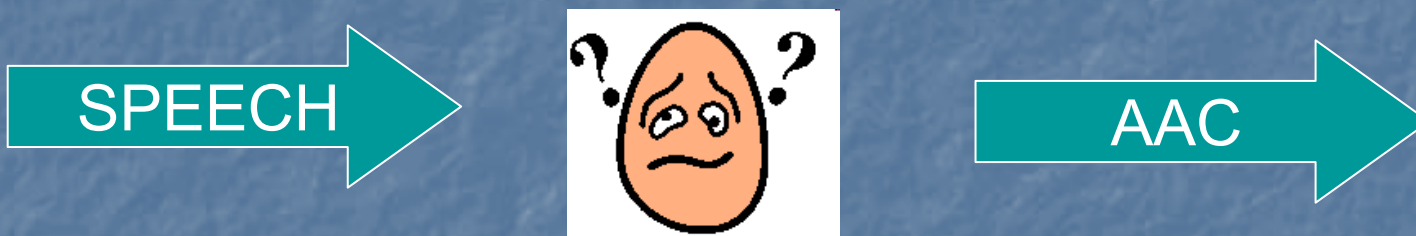
The way it should go:

SPEECH + AAC → 🙂 → AAC
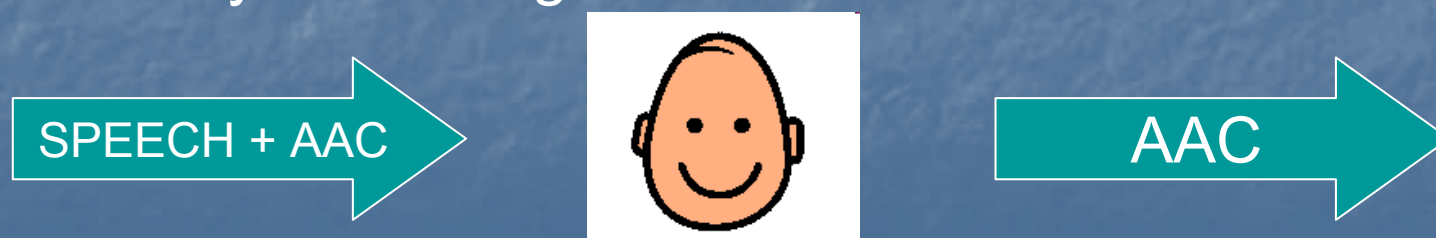
Aided language stimulation

- Challenging with auditory communication books
    - time constraints
    - conversational flow constraints

- Crucial for learning
    - how to auditory scan
    - how to use pragmatic starters
    - how to locate vocabulary
    - what can be said with the system
    - how to manage its limitations

Sanna learning new skills

- Learned fast and started to produce multi-word messages within months
  - longer messages
  - more correct word order
  - better inner speech

- More active in her communication
  - comments to peers
  - more communicative functions, e.g. questions
  - more initiation of communication

- Personality was showing more

More independence through the use of a computer

- Parallel programming
  - practiced two-switch scanning in cognitively and linguistically simple tasks
  - when using AACi's Ears motor demands were low
  - goal to combine these skills

- Meanwhile Sanna's communication book was transferred to Speaking Dynamically Pro
  - identical to manual due to memory demands

AACi's Ears on Speaking Dynamically Pro

Back to main categories	Malliteksti

Possessive	*not*	beautiful	shirt	necklace	Say message
	past tense		pants	earrings	
I	be	lovely	t-shirt	ring	
	have		socks	bracelet	
you	want	new	underwear	purse	Delete message
he / she	go	old	jacket	backpack	
it	buy		jeans	glasses	
	get	broken	pyjamas	sun glasses	Delete last word
we	put on	same	sweater	wallet	
	take off		shorts	cap	
mother	change	different	rain jacket	belt	
father	try	wet	scarf	pocket	
	borrow		mittens	zipper	
sales person	like	dirty	hat	mistake, out of here	
someone else	other verb	other descriptive	cap		
mistake, out of here	mistake, out of here	mistake, out of here	swimsuit		
			shoes		
			sneakers		
			boots		
			sandals		
			mistake, out of here		

Computer's pros and cons

- Independence
- Not reliable on communication partners skills
- Possible to work on messages while partner is doing something else

- Motor demands very high
  - importance of posture
- Computer not a smart partner
  - mistakes very frustrating
- Even more time consuming
- Computer not as easily accessible

Future challenges

- Von Tetzchner and Grove (2003): An environment which supports the acquisition of alternative language forms does not seem to come naturally
- Training people how to skillfully use Sanna's communication aids
  - to react to her communicative initiations
  - to be a competent communication partner who can scaffold Sanna's communication
  - to use assisted language stimulation in everyday situations
  - to technically cope with Sanna's computer
- Time restrictions
- Staff restrictions

Impact on Sanna's life

- Gained more control of her life

- Formed new relationships and was able to strengthen old ones
  - able to share feelings, information, hopes, wishes...

- Started to use interpretation services for people with complex communication needs
  - widening her social networks

- Gave a lecture with me in the Finnish National Conference of AAC :)

Thank you for listening!