

*

()

5-32. 『 』, 2000, 5, 1, .

I.

가 가

(Augmentative and Alternative Communication: AAC) 가 (, 1996, 1999; , 1999; , 1999; , 1998). 가

가 가 가

(von Tetzchner, 1996).

* 1997

가

가

가

(, ,

).

가

(Calculator, 1997; Grove et al. 1996;

Romski, Sevick & Adamson, 1997; Smith, 1996b; Soto, 1996; Sutton, 1996).

, AAC

AAC

가

가

가

,

AAC

가

가

1.

가

(Adamson et al., 1992; Gerber & Kraat, 1992;

Romski, Sevick & Wilkinson, 1994).

가

가

Romski, Sevick & Adamson

(1997)

, Vygotsky

가.

가

(,)

(,)

가

가

가

가

가

가

(Ronski & Sevick, 1996).

(speech comprehension skill)

“

”

가

가

가

가

(

)

가

(Voice Output Communication Aid: VOCA)

(Bedrosian, 1997).

Kaiser, 1986).

가

(Warren &

가

(Goosens & Crain, 1986).

가

가

2.

가.

가

가

가

가

가

(Goldin-Meadow & Mylander, 1990),

가

가

(Kraat, 1990).

(Moeller & Luetke-

Stahlman, 1990; Wilcox, Kouri & Caswell, 1990),

(Kraat, 1990).

von Tetzchner (1990)가

가

(von Tetzchner, 1990; Kraat,

1990; Light, 1988).

가 ,

가

(Crystal, 1986)

가

가가 가

MLU가

가

가

(representativeness)

가가

가

가

가

가

가
가 ()
) AAC
가 AAC
, AAC
AAC
(co-construction) 가
, 가
(scanning)
, ()가
AAC 가 가
, 가 가
(Kraat, 1985),
가
가

(graphic symbol)¹

가
가 , Sutton (1989) (ritualizing:
(informing: ,),
(controlling:), (feeling:)
. AAC 가

(Basil, 1992; Kraat, 1985; Light, Collier & Parnes, 1985b; Sutton, 1989).

, AAC 가

AAC

(Light Collier &

Parnes, 1985a; O'Keefe & Dattilo, 1992).

AAC

AAC

(phonological
awareness) (, Bishop, Rankin & Mirenda, 1994;
Blischak, 1994, 1999), Bishop
가 (Bishop & Robson, 1989; Bishop, Byers &
Brown, 1990). , (speech) 가

(phonological information)

가

AAC

1. graphic symbol

가

가 AAC

가 AAC

Blischak (1999)

AAC

, AAC “ ” “ ”

가 AAC

가 가

(Beukelman & Mirenda, 1998). AAC

(Beukelman, Jones & Rowan, 1989; Nelson, 1992)

(,)가 (,

(Smith, 1996a; van Balkom & Welle

Donker-Gimbrere, 1996).

, AAC 가 (morphology)

가 , AAC 가

(,)

가 , AAC 가

(Light, 1989). AAC 가

(Sutton & Gallagher, 1993). AAC

(Smith, 1996a).

Smith (1996a) PCS (Picture communication symbol) “ (sit)”

(line-drawing) . Smith

“ 가 (The girl is sitting on the chair)”

PCS Girl, sit, on, chair

“sit” . Smith “sit” PCS가

가

AAC 가

가

. Soto (1996)
. (1)
가 (Basil, 1992;
Basil & Soro-Camats, 1996). (2)
S+V+O AAC S+O+V (,
Girl + House + Go), V+S+O (, Go + Girl + House), O+V+S (, House + Go +
Girl) AAC
(van Balkom & Welle Donker-Gimbrere, 1996). (3)
가 , 가
(van Balkom & Welle Donker-Gimbrere, 1996). (4)
, 가 ,
가 (Soto & Toro-Zambrana, 1995). (5)
가 (, + , +), (word overextension)(, dog
instead of cow)
(Light, Collier & Parnes, 1985c).
, AAC
, AAC
, AAC 가 ,
AAC
, AAC
AAC

. AAC

1.

(encoding)

가

가. (Blissymbolics)

가 (Soto, 1996).

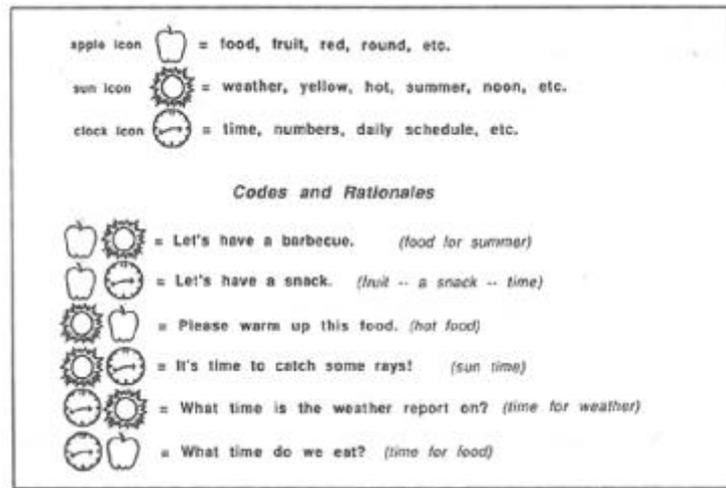
가 가 100 (McNaughton, 1995), (Soto & Toro-Zambrana, 1995), 가 (Besio & Chinato, 1996).

가 (multi-meaningness)

2. semantic compaction system Homepage: kaddath.mt.cs.cmu.edu/scs

가

(AlphaTalker, DeltaTalker, DigiVox, Macaw). < - 1>



< - 1>

(Beukelman & Mirenda, 1998:78)

가

(Minspeak)가

가

가

(Deegan, 1993; Jennische, 1993; McNaughton & Jennische,

1992).

가

(iconic encoding)

가

가

가

PCS

가

가

가

(Erickson & Baker, 1996).

가가

가

가가

(Nysberg, 1993),

(Jennische, 1993).

/

가

가

가

가

AAC

가

(Pierce et al., 1993).

2.

가 가

가

가.

AAC

가

가

가

(1)

가

(Fitzgerald Key)

, , , , , ,

. Bruno (1989)

(,), , , (), ,

. Goosens, Crain & Elder (1994)

(, , , ,), , ,

, (dynamic display)³

(Burkhart, 1994),

가 .

(2)

, ,

가 가

가 (Garret, Beukleman &

Low -Morrow, 1989),

(Hamilton & Snell, 1993; Mirenda, Malette & McGregor, 1994). Hamilton & Snell (1993)

, , ,

, Mirenda, Malette & McGregor (1994)

, , ,

, , , , 가

,

가

가 가

()

(3) /

AAC

3.

가

(, 가) (,)
가
(Blockberger, 1995).

(Burkhart, 1994; Goosens & Crain, 1986).

(,)
) 가), 가 (, ,
(eye gazing), (rotary scanner),

, , 가
/ (multiword)
(Beukelman & Mirenda, 1998). AAC 가

“ ”, “ ”, “ 가 ”
가 .
가
가

(branching)

(Burkhart, 1994).

, , 가
가

() , 가 , 가
(, ,) 가

(1) , ()가

(labeling) 가 가

(Remington, 1994).

가 가 , (intrusive)
(Ronski, Sevcik & Pate, 1988).

Carr & Kologinsky (1983) 가 , (incidental teaching)

(Reichle & Brown, 1986).

, 가

가 , AAC

가 Iacono, (1993) 가

Mirenda & Beukleman (1993) 가 (, PCS) 가

(), 가 (, girl's napkin), ()+ (, big banana),

+ (, ride horse) , ,

가 , 가

가

(2) (milieu teaching) 가

(, 1995; , 1997; , 1999; Yoder, Kaiser & Alpert, 1991). (Tannock & Girolametto, 1992) “ () (enhanced milieu teaching)”

가 (Kaiser & Hester, 1994). (incidental teaching), - (mand-model procedure), (time delay)

가 가

가 , (,

1999; Alwell et al., 1989).

Iacono & Duncum (1995)

가

() , 가 (+Dynovox with DynaSyms)

가

가

가

가

(Hamilton & Snell, 1993).

(3)

(Aided Language Stimulation: ALS)

(System for

Augmenting Language: SAL)

AAC

가

, SAL

VOCA

ASL

가

가

가

(Goosens, Crain & Elder,

1994; Romski & Sevcik, 1992, 1996).

가

가

가

SAL

가

(Romski & Sevcik, 1992; Romski & Sevcik, 1996), ASL

(Basil & Soro-Camats, 1996; Goosens, 1989). SAL , 2

(, want +juice,

hot dog + good)

(4) (transition)
 Paul (1997) (illocutionary stage)
 (locutionary stage) ,
 (metaphonology) AAC

AAC 가
 가 ,
 가 . < -

1> (Paul, 1997)가

< - 1>

()		
12		
18		
4-6		()

가 ,
 ,
 AAC
 (, ,)
 가 , AAC
 가
 ,
 (vertical structuring), (giant word)
 . ‘ (Schwartz et al., 1985)
 ,
 가

가 . “ ”, “ ”
 . VOCA
 가
 가

AAC , “ ”, “ ”

가 (literacy socialization), (phonological awareness)
 . VOCA (Blischak, 1994, 1999),

.

. AAC
 Light (1997) , ,
 . < - 2> Light가

4가

< - 2> .

	AAC	AAC
(:)	.	. , , -
()	-	. 가 :가 ,

()

<p>(:)</p>	<p>· AAC daily care routine 가 AAC AAC AAC 가 AAC</p>	<p>· 가: - (1) , (2) (3) (4) 가 AAC 가 (, care giving demand), 가</p>
<p>(: (1)</p>	<p>· 2 AAC 가</p>	<p>· 가 (: , , 가). (Hunt-Berg, 1995) -</p>
<p>(2) AAC</p>	<p>· AAC AAC: 가 AAC (operational demand)가 가</p>	<p>· AAC Language Stimulation) (, Aided 가 : 가 가 가 (Paul, 1995). AAC</p>
<p>(AAC :)</p>	<p>· AAC 가</p>	<p>· AAC : AAC 가 (Sutton & Dench, 1996). AAC 가 가</p>

* ASHA(1983) , , , , 5가

: Light (1997)

- (1997). : . 4
- : 103- 119.
- (1994). : BLISS . 1
- : . 65- 102.
- (1995). . 2
- , 46- 69.
- (1994). : . 1
- : . 103- 125.
- (1996). . . 1
- , 1, 177- 191.
- (1999). : .
- , 29, 91- 112.
- (1999). .
- (1999). .
- . 4, 119- 138.
- (1999). 가 (Cheat talk)
- (1998). . 33, 169- 190.
- Adamson, L., Romski, M., Deffenbach, K. & Sevcik, R. (1992). Symbol vocabulary and the focus of conversation: Augmenting language development for youth with mental retardation. *Journal of Speech and Hearing Research*, 35, 1333- 1344.
- Alwell, M., Hunt, P., Goetz, L. & Sailor, W. (1989). Teaching generalized communicative behaviors within interrupted behavior chain contexts. *Journal of the Association for Persons with Severe Handicaps*, 14, 91- 100.
- Basil, C. (1992). Social interaction and learned helplessness in severely disabled children. *Augmentative and Alternative Communication*, 8, 188- 199.
- Basil, C. & Soro-Camats, E. (1996). Supporting graphic language acquisition by a girl with multiple impairments. In S. von Tetzchner & M. Jensen (Eds.), *Augmentative and Alternative Communication: European Perspectives* (pp. 270-291). London: Whurr Publishers.
- Bedrosian, J. (1997). Language acquisition in young AAC system users: Issues and directions for future research. *Augmentative and Alternative Communication*, 13, 179- 185.
- Besio, S. & Chinato, M. (1996). A semiotic analysis of the possibilities and limitations of Blissymbols. In S. von Tetzchner & M. Jensen (Eds.), *Augmentative and Alternative Communication: European Perspectives* (pp. 182- 194). London: Whurr Publishers.
- Beukleman, D., Jones, R. & Rowan, M. (1989). Frequency of word usage by nondisabled peers in integrated preschool classrooms. *Augmentative and Alternative Communication*, 5, 243- 248.

- Beukelman, D. & Mirenda, P. (1998). *Augmentative and Alternative Communication: Management of Severe Communication Disorders in Children and Adults* (2nd ed.). Baltimore: Paul H. Brookes.
- Bishop, D. M., Byers, Brown, B. & Robson, J. (1990). The relationship between phoneme discrimination, speech production, and language comprehension in cerebral-palsied individuals. *Journal of Speech and Hearing Research*, 33, 210-219.
- Bishop, D. M., Rankin, J. & Mirenda, P. (1994). Impact of graphic symbol use on reading acquisition. *Augmentative and Alternative Communication*, 10, 113-125.
- Bishop, D. M. & Robson, J. (1989). Accurate non-word spelling despite congenital inability to speak: Phoneme-grapheme conversion does not require subvocal articulation. *British Journal of Psychology*, 80, 1-13.
- Blischak, D. (1994). Phonologic awareness: Implication for individuals with little or no functional speech. *Augmentative and Alternative Communication*, 10, 245-254.
- Blischak, D. (1999). Increases in natural speech production following experience with synthetic speech. *Journal of Special Education Technology*, 14(2), 44-53.
- Blockberger, S. (1995). AAC intervention and early conceptual and lexical development. *Journal of Speech-Language Pathology & Audiology*, 19, 221-232.
- Bruno, J. (1989). Customizing a Minspeak system for a preliterate child: A case study example. *Augmentative and Alternative Communication*, 5, 89-100.
- Burkhart, L. (1994). Organizing vocabulary on dynamic display devices: Practical ideas and strategies. Paper presented at the sixth biennial conference of the ISAAC, Maastricht, Netherlands.
- Calculator, S. N. (1997). Fostering early language acquisition and AAC use: Exploring reciprocal influences between children and their environments. *Augmentative and Alternative Communication*, 13, 149-157.
- Carr, E. & Kologinsky, E. (1983). Acquisition of sign language by autistic children II: Spontaneity and generalization. *Applied Behavior Analysis*, 16, 297-314.
- Crystal, D. (1986). ISAAC in chains: The future of communication systems. *Augmentative and Alternative Communication*, 2, 140-145.
- Deegan, S. (1993). Minspeak: A Powerful encoding technique. *Communicating Together*, 11(2), 22-23.
- Erickson, K. & Baker, B. (1996). Language, literacy, and semantic compaction. Paper presented at the seventh biennial conference of the ISAAC. Van Couver, BC, Canada.
- Garrett, K., Beukelman, D. & Low-Morrow, D. (1989). A comprehensive augmentative communication system for an adult with Broca's aphasia. *Augmentative and Alternative Communication*, 5, 55-61.
- Gerber, S. & Kraat, A. (1992). Use of a developmental model of language acquisition: Applications to children using AAC systems. *Augmentative and Alternative Communication*, 8, 19-32.

- Goldin-Meadow, S. & Mylander, C. (1990). The role of parental input in the development of a morphological system. *Journal of Child Language*, 17, 527-564.
- Goosens, C. (1989). Aided communication intervention before assessment: A case study of a child with cerebral palsy. *Augmentative and Alternative Communication*, 5, 14-26.
- Goosens, C. & Crain, S. (1986). *Augmentative Communication Assessment Resource*. Wauconda, IL: Don Johnston.
- Goosens, C., Crain, S. & Elder, P. (1994). *Communication Displays for Engineered Preschool Environments*. Solana Beach, CA: Mayer-Johnson Co.
- Grove, N., Clibbens, J., Barnett, S. & Loncke, F. (1996). Constructing theoretical models of augmentative and alternative communication. *Proceedings of the Fourth ISAAC Research Symposium*, 48-66.
- Hamilton, B. & Snell, M. (1993). Using the milieu approach to increase spontaneous communication book use across environments by an adolescent with autism. *Augmentative and Alternative Communication*, 9, 259-272.
- Iacono, T. & Duncom, J. (1995). Comparison of sign alone and in combination with an electronic communication device in early language intervention: A case study. *Augmentative and Alternative Communication*, 11, 249-259.
- Iacono, T., Mirenda, P. & Beukelman, D. (1993). Comparison of unimodal and multimodal AAC techniques for children with intellectual disabilities. *Augmentative and Alternative Communication*, 9, 83-94.
- Jennische, M. (1993). There are still reasons for concern. *Communicating Together*, 11(2), 21-22.
- Kaiser, A. & Hester, P. (1994). Generalized effects of enhanced milieu teaching. *Journal of Speech and Hearing Research*, 37, 1320-1340.
- Kraat, A. (1985). *Communication Interaction between Aided and Natural Speakers*. Madison, WI: Trace Center.
- Kraat, A. (1990). Some general questions relative to AAC research. *Proceedings from the First ISAAC Research Symposium*, 118-123.
- Light, J. (1988). Interaction involving individuals using augmentative and alternative communication systems: State of the art and future directions. *Augmentative and Alternative Communication*, 4, 66-82.
- Light, J. (1989). Toward a definition of communicative competence for individuals using augmentative and alternative communication system. *Augmentative and Alternative Communication*, 5, 137-144.
- Light, J. (1997). "Let's go star fishing": Reflections on the contexts of language learning for children who use aided AAC. *Augmentative and Alternative Communication*, 13, 158-171.
- Light, J., Collier, B. & Parnes, P. (1985a). Communication interaction between young nonspeaking physically disabled children and their primary caregivers: Part I. Discourse patterns. *Augmentative and Alternative Communication*, 1, 74-83.

- Light, J., Collier, B. & Parnes, P. (1985b). Communication interaction between young nonspeaking physically disabled children and their primary caregivers: Part II. Communicative functions. *Augmentative and Alternative Communication, 1*, 98-107.
- Light, J., Collier, B. & Parnes, P. (1985c). Communication interaction between young nonspeaking physically disabled children and their primary caregivers: Part III. Modes of communications. *Augmentative and Alternative Communication, 1*, 125-133.
- McNaughton, S. (1995). Responding to "What is your latest thinking on Bliss?" *Communicating Together, 12(4)*, 22-23.
- McNaughton, S. & Jennische, M. (1992). Language, Just what do we mean? *Communicating Together, 10(4)*, 21-23.
- Mirenda, P., Malette, P. & McGregor, T. (1994). Multicomponent, integrated communication systems for persons with severe intellectual disabilities. Paper presented at the sixth biennial conference of the ISAAC, Maastricht, Netherlands.
- Moeller, M. & Luetke-Stahlman, B. (1990). Parents' use of signing exact English: A descriptive analysis. *Journal of Speech and Hearing Disorders, 55(2)*, 327-338.
- Nelson, N. (1992). Performance is the prize: Language competence and performance among AAC users. *Augmentative and Alternative Communication, 8*, 3-18.
- Nysberg, E. (1993). Some notes on Minspeak, language, and language development. *Communicating Together, 11(1)*, 19-22.
- O'Keefe, B. & Dattilo, J. (1992). Teaching the response-recode to adults with mental retardation using AAC systems. *Augmentative and Alternative Communication, 8*, 224-233.
- Paul, R. (1997). Facilitating transitions in language development for children using AAC. *Augmentative and Alternative Communication, 13(3)*, 141-148.
- Pierce, P., Steelman, J., Koppenhaver, D. & Yoder, D. (1993). Linking symbols with language. *Communicating Together, 11(1)*, 18-19.
- Reichle, J. & Brown, L. (1986). Teaching the use of a multipage direct selection communication board to an adult with autism. *Journal of the Association for Persons with Severe Handicaps, 11*, 68-73.
- Remington, B. (1994). Augmentative and alternative communication and behavior analysis: A productive partnership? *Augmentative and Alternative Communication, 10*, 3-13.
- Romski, M. A. & Sevcik, R. (1992). Developing augmented language in children with severe mental retardation. In S. F. Warred & J. Reichle (Eds.), *Communication and Language Intervention Series: Vol 1. Causes and Effects in Communication and Language Intervention* (pp. 113-130). Baltimore: Paul H. Brookes.
- Romski, M. A. & Sevcik, R. (1996). *Breaking the Speech Barrier: Language Development through Augmented Means*. Baltimore: Paul H. Brookes.
- Romski, M. A., Sevcik, R. & Pate, J. (1988). Establishment of symbolic communication in persons with severe retardation. *Journal of Speech and Hearing Disorders, 53*, 94-107.

- Romski, M. A., Sevcik, R. & Wilkinson, K. (1994). Peer-directed communicative interactions of augmented language learners with mental retardation. *American Journal on Mental Retardation*, 98, 527-538.
- Romski, M. A., Sevcik, R. & Adamson, L. (1997). Framework for studying how children with developmental disabilities develop language through augmented means. *Augmentative and Alternative Communication*, 1, 172-178.
- Schwartz, R., Chapman, D., Prelock, P., Terrell, B. & Rowan, L. (1985). Facilitation of early syntax through discourse structure. *Journal of Child Language*, 12, 13-25.
- Smith, M. (1996a). The medium or the message: A study of speaking children using communication boards. In S. von Tetzchner & M. Jensen (Eds.), *Augmentative and Alternative Communication: European Perspectives* (pp. 119-136). London: Whurr Publishers.
- Smith, M. (1996b). The bimodal situation of children developing alternative modes of language. *Proceedings of the Fourth ISAAC Research Symposium*, 12-18.
- Soto, G. (1996). Multi-unit utterances and syntax in graphic communication. *Proceedings of the Fourth ISAAC Research Symposium*, 26-32.
- Soto, G. & Toro-Zambrana, W. (1995). Integration of Bliss symbol use from a language research paradigm. *Augmentative and Alternative Communication*, 11, 118-10.
- Sutton, A. (1989). The social-verbal competence of AAC users. *Augmentative and Alternative Communication*, 5, 150-164.
- Sutton, A. (1996). Language theory and intervention practice. *Proceedings of the Fourth ISAAC Research Symposium*, 33-47.
- Sutton, A. & Gallagher, T. (1993). Verb class distinctions and AAC language-encoding limitations. *Journal of Speech and Hearing Research*, 36, 1216-1226.
- Tannock, R. & Girolametto, L. (1992). Reassessing parent-focused language intervention programs. In S. F. Warren & J. Reichle (Eds.), *Communication and Language Intervention Series: Vol. 1. Causes and Effects in Communication and Language Intervention* (pp. 49-79). Baltimore: Paul H. Brookes.
- Van Balkom, H., & Welle Donker-Gimbrere, M. (1996). A psycholinguistic approach to graphic language use. In S. von Tetzchner & M. Jensen (Eds.), *Augmentative and alternative communication: European perspectives* (pp. 153-170). London: Whurr Publishers.
- Von Tetzchner, S. (1990). Methodological issues in the study of language development among children using aided language. *Proceedings from the First ISAAC Research Symposium*, 113-117.
- von Tetzchner, S. (1996). Introduction to language development. *Communication Naturally: Theoretical and methodological issues in augmentative and alternative communication. Proceedings of the Fourth ISAAC Research Symposium*, 8-11.
- Warren, S. & Kaiser, A. (1986). Incidental language teaching: A critical review. *Journal of Speech and Hearing Disorders*, 51, 291-299.
- Wilcox, M., Kouri, T. & Caswell, S. (1990). Partner sensitivity to communication behaviors of young

children with developmental disorders. *Journal of Speech and Hearing Research*, 55, 679-693.

Yoder, D., Kaiser, A. & Alpert, C. (1991). An exploratory study of the interaction between language teaching methods and child characteristics. *Journal of Speech and Hearing Research*, 34, 155-167.

ABSTRACT

Issues in Language Development of Augmentative and Alternative Communication Users

Eunhye Park* (Department of Special Education, Ewha Womans University)

Increasing number of research articles investigate the language development of augmentative and alternative communication users. Due to the unique nature of AAC, however, there are numerous unsolved issues on this topic. In this paper, discussions are organized around the following issues: conceptual and methodological issues, effect of AAC on language development, and possible AAC instructional strategies to facilitate language development of AAC users. First arguments on the meaning of language development for AAC users and research methodological problems were researched. Second, the effect of AAC were discussed in relation to five domains of language: pragmatics, phonology, semantics, morphology, and syntax. Third, various AAC instructional strategies were reviewed in respect to possible contribution to the language development of AAC users. Symbol organization and teaching methods were discussed. Lastly, the importance and influence of AAC users' language learning environment was explained.

* E-mail: epark@mm.ewha.ac.kr