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ABSTRACT

The study evaluated narrative production in seven severe to profoundly hearing impaired adolescents in an attempt to determine whether syntactic prowess would predict which subjects would be more adept at narrative production, in terms of the story grammar conventions used, and the cohesive devices used when narrating a story to a naive listener. The oral narratives of the subjects were analyzed according to three different narrative analysis systems: an analysis of cohesive markers, an analysis of story grammar development, and an analysis of the conceptual development of the story. Results were compared with syntactic analyses performed on the subjects' complete language samples (reflecting both conversational and narrative language production). Since the syntactic competencies of the students did not predict ability to produce sophisticated narratives, it was concluded that although syntax is an important component of narratives, it is probably not a sufficient component in and of itself to ensure adequate narrative production. Results also suggested the need to teach expressive syntax use and the use of cohesive devices across sentences and not exclusively within sentence frameworks. Five overhead displays used in the presentation are included. (DB)

Syntactic Skill and Narrative Abilities of Hearing-Impaired Adolescents

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In a 1986 presentation to the ASHA convention, we discussed a system for the description and weighting of complex sentence structures. This system allowed us to examine how inclusion of complex structures in the oral productive repertoires of a group of severe-to-profoundly hearing-impaired adolescents, as well as the relative frequency of their use of those structures, interfaced with the students' speech intelligibility. A proposed inverse relationship between intelligibility and syntactic complexity was generally upheld. That is, results of that study demonstrated that many students with high levels of syntactic comprehension as tested by the Test for Syntactic Abilities (Quigley, Steinkamp, Power & Jones, 1978), were also individuals with high intelligibility scores although the complexity of the syntax they attempted productively was not necessarily the highest of the students tested.

These findings led us to ask another question: if hearing-impaired students hold in check the complexity of the syntactic structures they use productively in conversation in order to facilitate their intelligibility, do they make similar accomodations when utilizing complex syntactic structures in their spoken narratives? That is, would syncactic prowess predict which of the students would be more adept at narrative production, in terms of the story grammar conventions used, and the cohesive devices used to tell a story in a

manner which could be understood by a naive listener, or would we no particular relationship between the two competencies for this group of subjects?

Recently, narrative discourse has been viewed with increasing interest as an area of language performance which may provide professionals with insight regarding the appropriateness of a student's language development as well as for appropriate goal selection when it has been determined that language development is disordered (Johnston, 1982; Roth & Spekman, 1986; Westby, 1985). Similar utility could be found in the spoken narratives of hearing-impaired students who are primarily oral communicators.

OVERHEAD #1

To this end, the oral narratives of seven severe-to-profoundly hearing-impaired students, ages 11:6 to 15:9 (four girls, three boys), were analyzed according to three different narrative analysis systems: 1) an analysis of the cohesive markers used was based on a procedure reported by Liles (1985), 2) an analysis of story grammar development based on Stein & Glenn's germinal work (1979), reported by Roth & Spekman (1986), and 3) an analysis of the conceptual development of the story (Applebee, 1978). Both the Liles (1985) and Roth & Spekman (1986) procedures were developed from work comparing the performances of language-normal children with normal-hearing, language-learning disabled children. The results of these three analyses were compared with the syntactic analyses performed on our subjects' complete language samples, that is, samples reflecting both narrative and conversational language production.

OVERHEAD #2

Before we go further, to assist the unindoctrinated, cohesive markers are those devices which can be used to tie together information conveyed within text but which crosses sentence boundaries. Reference is one commonly used cohesive tie. For example, in the sentences: "E.T. came to earth and stayed

because the spaceship left. He had a funny face", we know that the "he" of the second sentence refers to E.T. Story grammar refers to the systematic way in which individuals put together narrative passages to convey a sequence of events in a logical manner, including beginnings and endings as well as presentations of conflicts and resolutions much in the way that traditional fables and folk tales have been shown to do. Descriptions of the categories Roth & Spekman used to code narratives is provided on page one of your handout. Research has demonstrated that there is a developmental progression in the way in which young, normally-developing children create such stories.

PROCEDURES

Each of the seven students in the present study provided the first investigator with a spontaneous language sample, a portion of which contained a narrative describing the movie E.T.. As might be expected, the children's narratives were not of a standard size within the larger sample; each child was asked to tell the investigator "all about the E.T. movie" because the investigator had not seen it. So, for this portion of the sampling task it was implied that this was a story re-telling task to a naive listener. The rest of the language sample was typically conversational in nature.

OVERHEAD #3

The entire sample, with narrative and conversational components was analyzed for complex syntactic structures according to a procedure outlined by John..., Carney & Weiss (1986). In this analysis, transcripts were coded for 24 categories of advanced or complex syntax, to determine the level of expressive syntax used by the seven subjects. The frequency with which the subjects produced the structures appears in the next transparency. In the interest of brevity, the table presents only a select set of six syntactic categories. These six were selected because they have potential to contribute

to the expression of seven story grammar categories described by Roth & Spekman (1986). Notes on how each syntactic category might support certain story grammar categories appear on the second page of your handout.

The six syntactic categories include: Modal verbs; Coordinated sentences; Nouns which are post-modified by prepositional phrases, relative clauses, participles, and verbles clauses; Complements; Infinitive Verbs; and Adverbial Clauses. Examples of each of these categories, taken from the subjects' language samples appear on page two of the handout. If you will turn your attention back to the transparency, you will see that subjects have been divided into two groups, according to the overall level of production of the original set of 24 syntactic categories. Subjects 4, 5, 2, & 3 can be called "HIGH PRODUCERS", because they used a variety of structures, at frequencies typically higher than those demonstrated by "LOW PRODUCERS", Subjects 7, 6 & 1.

Modals were produced at a high rate only by HIGH PRODUCERS 4 & 5. The modals used were relatively unsophisticated consisting mostly of "CAN" and "HAFTA". Complements, which follow mental state verbs, were used at low rates and were more characteristic of the HIGH PRODUCERS. With modals and complements used at low rates by most subjects, we might expect components of story grammar which focus on hypothetical thinking and emotions or thoughts of characters to be weak particularly for the LOW PRODUCERS. Roth & Spekman (1986) called these components the main character's Plans, cognitive and affective Responses, and Reactions.

Continuing to look at the transparency, you will see that all subjects produced coordinate sentences and infinitive verbs at high rates. Consequently, we might expect portions of stories which describe the main character's actions to be strong. Roth & Spekman (1986) call this component of story grammar, Attempt.

The remaining categories on the table--nouns which are post-modified and adverbial clauses--are used at high rates only by the HIGH PRODUCERS. We might expect, then, that HIGH PRODUCERS telling stories would be more likely than LOW PRODUCERS to refer clearly to main characters and their locations, and to describe the time and causes of situations and actions. Roth & Spekman (1986) would call these story grammar components Major and Minor Settings and actions which are Direct Consequences. These syntactic structures would also contribute to the cohesion of stories told by HIGH PRODUCERS, a factor which has been investigated by Liles (1985).

Other syntactic structures not displayed in the table include 1. prepositional phrases used as adverbs and 2. negatives--both of which were used frequently by all subjects--and 1. Passive sentences and 2. Present or Past Perfect verbs, both of which were seldom used by any subjects. Use of prepositional phrases and negatives bode well for describing Initiating Events in stories: their place, time, and possibly unexpected nature. Negatives also allow description of a main character's failure to achieve desired consequences and his negative emotional reactions.

The virtual absence of passive sentences and perfect verbs suggests that End States of the main character's actions would not often be included in stories told by deaf children. Many story episodes would be left incomplete. Because the past perfect is widely used in children's storybooks, its absence here suggests our subjects were not familiar with some of the most common conventions of structured narrative.

OVERHEAD #4

To more explicitly examine subjects' expressive knowledge of story grammar, the narrative samples containing the E.T. story were also segmented into propositions for the cohesive marker and story grammar analysis

procedures. There was substantial variation in terms of the lengths of the narratives. The lengthiest of the narratives contained 200 propositions, with the shortest having 33 propositions. There were three narratives with at least 100 propositions (110, 162, 200) and four with fewer than 100 propositions (33, 34, 58, 92). According to procedures specified by Roth & Spekman (1986), each proposition was coded as belonging to one of the seven categories devised in their modification of Stein & Glenn's story grammar analysis system. Propositions were coded on the basis of the information they contained as well as on the basis of how the proposition functioned in the story.

Episodes were also delineated for each of the stories. The end of an episode was marked "whenever a new sequence of events was initiated (p.51)". Episodes were also coded as either complete or incomplete according to criteria specified by Roth & Spekman (1986) and also provided on the handout. The number of episodes produced by the students ranged from three to seven and was not always directly related to the number of propositions in the narrative. For example, S2, who produced the most episodes, seven, produced fewer than 100 propositions in her narrative sample. Only one subject, S7, produced more complete episodes than incomplete episodes. In fact, only one subject, S5, produced as many complete episodes as incomplete episodes. Thus, five of the students produced more incomplete than complete episodes. It is interesting that the subjects were generally lacking propositions representing the Response, Plan, and Reaction categories, which is not surprising given the syntactic repertoires in evidence. Because these three categories were not essential for the construction of complete episodes as defined by Roth and Spekman (1986), an episode analysis alone would not delineate this deficiency. However, it may be because of the lack of these story components that the hearing-impaired children's stories never attained true narrative status.

OVERHEAD #5

For the analysis of cohesive markers, three different marker types were coded: 1) reference, either personal (e.g. personal pronouns or possessive pronouns) "referring to the identity of relevant persons, objects, and events (p.132)" words such as his, she, one; or demonstrative, "a form of verbal pointing, identifying the referent by location in place or time (p.132)" words such as this, that ; 2) conjunctions, specified as additive (and), adversative (but), causal (because) or temporal (then, afterward); and 3) lexical cohesion, which is the use of a noun which specifies a person, animate non-human, object, place, fact or action. For example, the use of "the sister" after using the phrase: "Gertie, Elliott's sister," earlier in the story would be an example of lexical cohesion. The adequacy or inadequacy of cohesive markers was also coded, in a similar manner to the way that Liles (1985) looked at cohesive adequacy with the data collected from her normal-hearing subjects. A cohesive marker was judged to be inadequate if the information referred to by the marker cannot be found in the text or if the information provided is ambiguous, though present.

Despite the disparity of sample size, each child, with the exception of S4 for lexical cohesion, demonstrated at least one example of each type of cohesive marker. When totaled across children, there were 693 instances where cohesion was attempted in the students' narratives. Of these instances, 396 or 57% of them were inadequately presented so that it was not possible for the listener to determine to what the cohesive marker referred. The remaining 43% were adequately conveyed. It should be mentioned that only the reference, both personal and demonstrative, and lexical cohesion markers were included for this particular tally; the conjunction markers were not included because it was difficult for those judgments to be made reliably. Individual subjects ranged

from 35% to 79% in their conveyance of adequate cohesive markers. Personal reference was the type of cohesion most often attempted by the children, with lexical cohesion the least often attempted.

If we look at the performance of those subjects we would predict would do well or poorly based on their productive syntactic repertoire, we find an incomplete picture. Subject 4, who represented the "High Producers" group for complex syntactic structures, demonstrated the highest percentage of cohesion adequacy of the seven children, but a poor showing in terms of episode completeness, with no complete episodes out of the three attempted. Subject 1, a member of the Low Producers group in terms of her production of complex syntax, demonstrated the lowest percentage of adequate cohesive markers, and two complete episodes of the six she attempted.

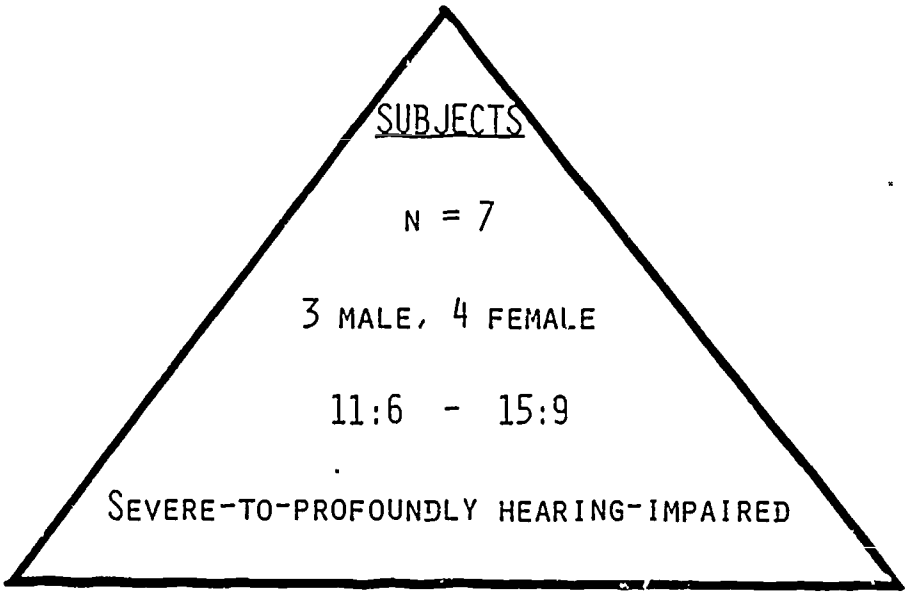
A global judgment of each child's narrative was made. According to Applebee (1978), there are six developmental stages of narrative construction ranging from the initial stage, called "HEAPS", where there is little, if any, use of cohesive devices, to the final stage, "NARRATIVES", where a central theme developed over the course of the story is evident. The narratives produced by our subjects were judged to be "UNFOCUSED CHAINS", representing Applebee's Stage Four, where the listener is left without a continuous theme leading from the beginning to the end of the story. It is not evident that subsequent events have developed or are elaborations of previous events as would be the case with narratives. It was also clear from this finding that global descriptions of the narratives would not separate out our subjects into groups.

The results of this preliminary study have illustrated at least two interesting points. First, although syntax is an important component in the production of narratives, it is probably not a sufficient component in and of

itself to ensure bona fide narrative production. That is, the syntactic competencies of the students in terms of their frequent use of a variety of complex syntactic forms was insufficient to predict which subjects would be able to produce the most sophisticated narratives. Second, it is probably the case that several of the children had the ability to use more complex syntactic forms than the ones they were using in their narrative samples. This discovery leads to the suggestion that spontaneous, expressive syntax use and more specifically, the use of cohesive devices, needs to be taught across sentences, not exclusively within sentence frameworks.

Overhead #1

SUBJECTS AND PROCEDURES



LANGUAGE SAMPLE ANALYSIS

SYNTACTIC ANALYSIS
(JOHNSON, CARNEY, & WEISS, 1986) → CONVERSATION & NARRATIVE

COHESIVE MARKER ANALYSIS
(LILES, 1985)

STORY GRAMMAR ANALYSIS
(ROTH & SPEKMAN, 1986) → NARRATIVE

CONCEPTUAL DEVELOPMENT OF STORIES
(APPLEBEE, 1969)

overhead #2

COHESIVE MARKERS: REFERENCE

"E. T. CAME TO EARTH AND STAYED BECAUSE THE SPACESHIP LEFT. HE HAD A FUNNY FACE."

Overhead #3

COMPLEX OR ADVANCED SYNTAX

HIGH PRODUCERS

SUBJECT #	MODALS	COORDIN.	N+POSTMOD.	COMPLEM.	INFIN.	ADV.CLAUSE
4	20	27	15	6	12	21
5	20	34	18	3	13	25
2	7	25	8	8	12	14
3	5	16	8	3	19	8

LOW PRODUCERS

SUBJECT #						
7	4	19	4	0	7	8
6	8	19	2	0	21	7
1	1	9	3	4	11	5

overhead #4

COHESIVE MARKER COUNTS

(REFERENCE)	SUBJECTS						
	S1	S2	S3	S4	S5	S6	S7
PERSONAL							
ADEQUATE	52	34	51	28	51	9	30
INADEQUATE	97	64	83	7	58	9	7
DEMONSTRATIVE							
ADEQUATE	7	6	6	5	1	3	3
INADEQUATE	13	3	6	2	8	10	4
LEXICAL COHESION							
ADEQUATE	3	3	3	0	1	1	0
INADEQUATE	5	2	12	0	5	0	1
TOTAL ADEQUATE %AGE	35% (65%)	38% (62%)	37% (63%)	79% (21%)	43% (57%)	41% (59%)	73% (27%)
TOTAL ATTEMPTS	177	112	161	42	124	32	45

overhead #5

NARRATIVE EPISODES

	Number of Propositions	Number of Episodes	Complete	Incomplete
S1	200	6	2	4
S2	92	7	3	4
S3	162	6	2	4
S4	34	3	0	3
S5	110	6	3	3
S6	33	3	0	3
S7	58	3	2	1

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