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ABSTRACT
                One hundred interactions involving 4,231
communicative acts between classroom personnel and multiply disabled
students were videotaped. The resulting data were coded and analyzed,
and showed that: (1) conventional communicative forms (e.g., speech,
manual signs, conventional nonverbal expressions) were selected to
convey information to students 60% of the time, while
non-conventional forms (e.g., manipulation, touch, pause in movement,
depictive action, non-depictive actions) were selected 40% of the
time; (2) students who were the most able communicators were most
frequently addressed using conventional forms; (3) non-conventional
forms were used most frequently to convey directives; and (4) the
majority of teacher communications utilized the auditory modality.
Because of the limited communicative abilities of multiply disabled
students, it is suggested that teachers consider greater use of more
concrete, nonverbal forms in interactions with their students.
(Author/JDD)

Characteristics of Teacher Communicative Expressions
Directed to Students having Multiple Disabilities

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Introduction

Videotape coding procedures were developed to assist classroom personnel in analyzing their communicative behaviors with students having multiple disabilities. The purpose was to provide classroom personnel with a better understanding of the communicative acts to which their students are exposed and to assist them in determining the effectiveness of their interactive approach. In the process of analyzing videotaped interactions with classroom personnel, we have gathered considerable data concerning how they communicate with students having multiple disabilities. The following describes some of our findings.

Subjects

A total of 100 videotaped interactions including 18 classroom personnel and 30 students having multiple disabilities were obtained. The classroom personnel included 13 teachers, 2 speech-language pathologists, and 3 skilled paraprofessionals. The students were all classified "Multiply Handicapped," 14 were additionally classified "Deaf-Blind." All exhibited severe developmental delays in cognitive and communicative ability. Twelve were totally non-ambulatory, 9 were ambulatory only in a horizontal position (crawl, creep, roll scoot), 9 were fully ambulatory or could move unassisted in a wheel chair. All required partial or total assistance in self-care. Twelve students were between the ages of 3 and 5, 12 between the ages of 6 and 10, and 6 between the ages of 11 and 15. All were served in classroom programs featuring a low staff-student ratio which provided ample opportunity for daily one-to-one staff-student interactions. Classroom personnel used a "developmental" approach in their intervention programs and enhancing the students' communicative ability was viewed by staff as a high priority.

Procedures

Videotapes were made of one-to-one interactions, mostly those in which developing the students' communicative ability was the primary objective, but also in interactive activities focused on the use of objects, and at lunch or snack. Activities stressing "independence" rather than interaction on the part of the students were not included.

The teachers' communicative expressions, both verbal and non-verbal, were identified on the videotape and coded according to their form and communicative intent. At least one member of the project staff and the teacher on the videotape participated together in the coding. This was done because our primary objective was to assist the teachers in understanding the communicative expressions to which their students were exposed. However, we also found that including the teacher in the coding process was essential, to be certain that all communicative expressions were identified and to assure accurate interpretation of communicative intent.

The coding system included 29 categories of communicative form and 33 categories of communicative intent. A coding manual describing the categories and including numerous examples was prepared and used to assist in coding.

For present purposes, however, the more specific coding categories have been condensed under general headings as follows. Table 1 shows the general categories of communicative form.

Results

The numbers nex*: to each heading on Table 1 show the percentage of coded teacher expressions falling in each category. A total of 4231 communicative expressions were identified. Of these, 3757 were intended by the teacher to communicate information to the student. The results are based on these 3757 expressions. Table 1 shows that teachers most frequently selected linguistic forms (speech or manual signs) to convey information to their students. Conventional forms, both linguistic and non-linguistic, accounted for 60% of all teacher communications. Of the remaining expressions, 21% involved physical contact with the student, 14% were non-conventional forms that did not involve physical contact, 5% were included under "Other."

The reliance on conventional forms to convey information to these students seemed surprising, especially because most were at preverbal stages of development. Therefore, the data were re-examined to determine if the forms used varied as a function of the students' communicative abilities.

A convenient way to group the students was according to the types of behaviors they exhibited which were interpreted by the teachers as communicative. Group I included students whose communicative behaviors were generally limited to what might be called indeces of state indicating alertness or indeces of positive or negative affect in reaction to external or internal stimuli. Group II included students who had a repertoire of intentional, goal-directed actions which were interpreted by teachers as communicative and were performed by the students with anticipation of a specific effect, usually physical stimulation. These intentional actions might be directed to a person or an object, although they were frequently non-directed. Students in Group III demonstrated intentional communicative behavior and most had a limited repertoire of words or manual signs. There were 12 students in Group I, 8 in Group II, and 9 in Group III.

Figure 1 shows the percentage of expressions by form directed to students at each level. Again, conventional forms predominated for each group, although the percentage of conventional forms directed to Group III students was greater than for Groups I and II.
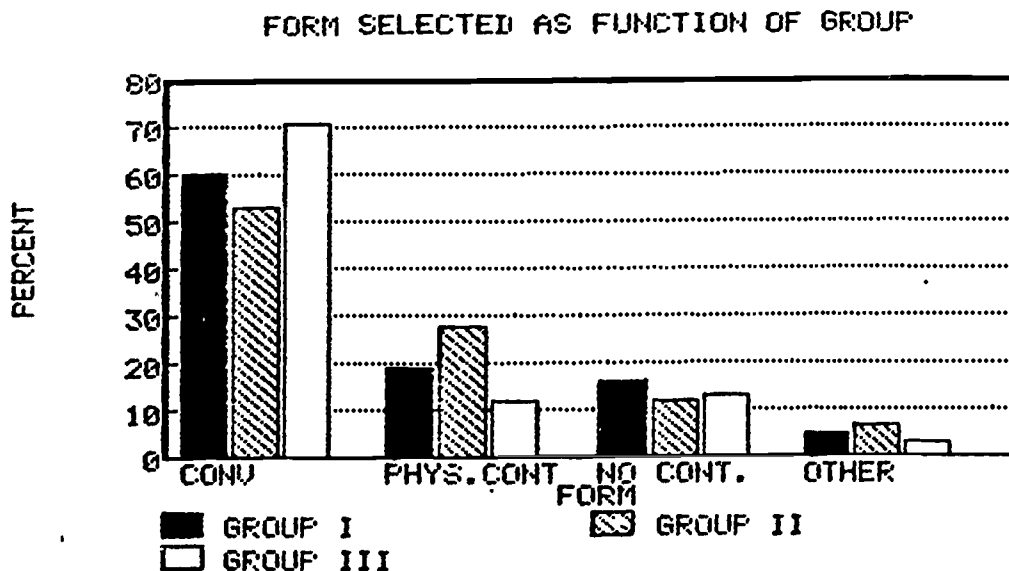
FORM SELECTED AS FUNCTION OF GROUP

FIGURE 1 4

As might be expected, the communicative forms selected were affected by the communicative intent the teacher wished to convey. Table 2 shows the communicative intentions coded. Again, the actual coding system was considerably more comprehensive and only general headings are described.

Figure 2 shows the forms selected as a function of the teachers' communicative intention. In general, non-conventional forms (physical contact and non-contact) were more frequently used to convey directives, whereas other intentions were usually conveyed using conventional forms. These data also demonstrate some interesting contrasts in how these teachers attempted to convey certain intentions. For example, efforts to encourage behaviors (E-B) were almost always conveyed using conventional forms while to discourage behaviors (D-B), physical contact was most often selected. Instructing in communication (IS-C) was usually carried out by modelling conventional forms while eliciting communications (R-C) was most frequently carried out using non-conventional forms. Instructing in actions (IS-A), however, appeared not to be carried out either verbally or through modelling, but rather through physical contact with the student.

FORM SELECTED FOR CONVEYING DIRECTIVE
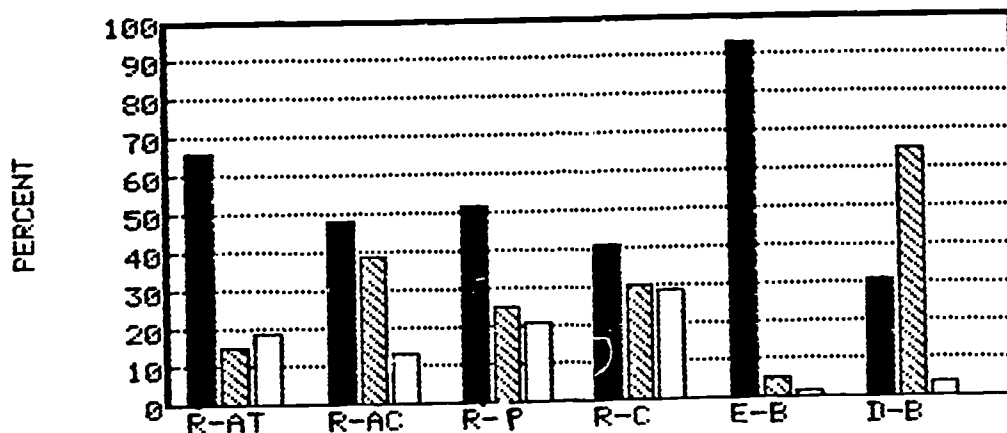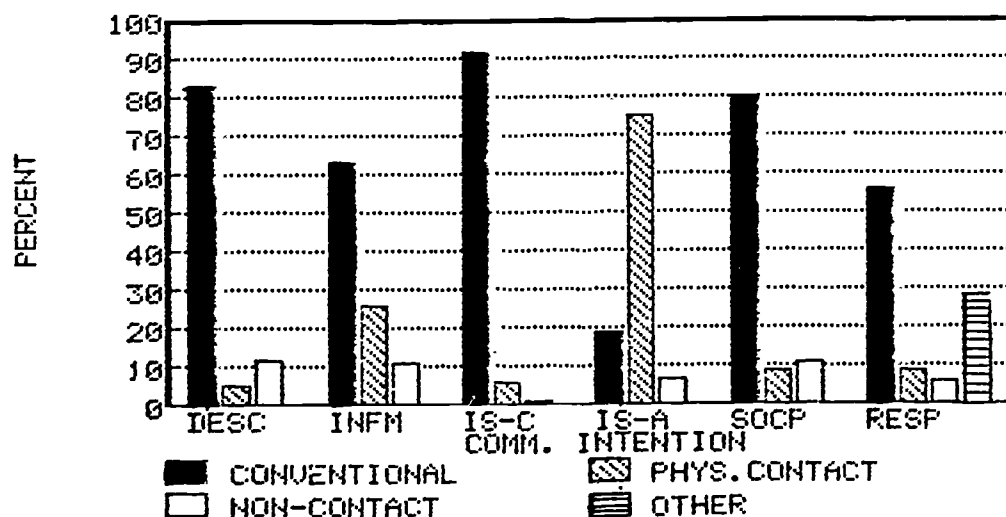

FORM FOR CONVEYING NON-DIRECTIVE

■ CONVENTIONAL   ▨ PHYS.CONTACT
☐ NON-CONTACT   ▤ OTHER

FIGURE 2

5

The procedures used to categorize communicative form did not distinguish the sensory modality through which teacher communications were conveyed. Figure 3 shows the modality used as a function of the students' communicative ability. These data show that for all groups, more than 50% of the communications were conveyed auditorily alone. Other modalities including visual or tactile, and combined auditory-visual or auditory-tactile were each used for a much smaller percentage of the expressions. The limited use of the visual modality with these students was striking, especially since all had useable vision and many were described by the staff as "visual learners." Only with Group III, the most communicatively able students, was the visual modality tapped with any frequency, and this, in part, reflected greater use of sign language to communicate with these students.
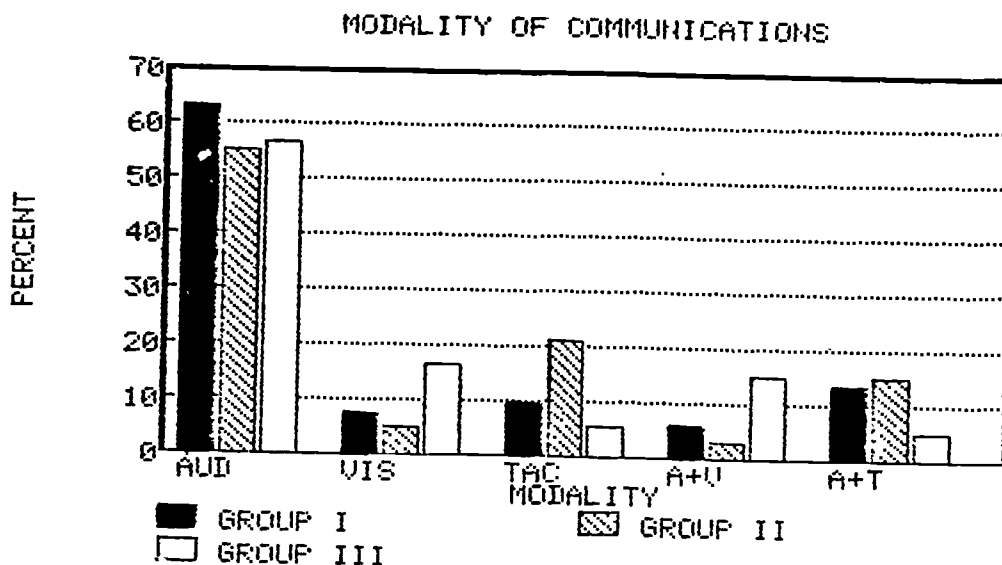
MODALITY OF COMMUNICATIONS

FIGURE 3

Finally, Figure 4 shows the percentage of teacher expressions conveyed using speech and/or sign language with no accompanying non-verbal form. "Requests for Participation" using speech were excluded since these verbalizations were generally intended only to indicate the teacher's presence or to keep the student involved in the interaction rather than to convey specific information. There evidently was extensive use of language without an accompanying non-verbal form to communicate with all students, although this was most often the case when interacting with the most communicatively able students (Group III).
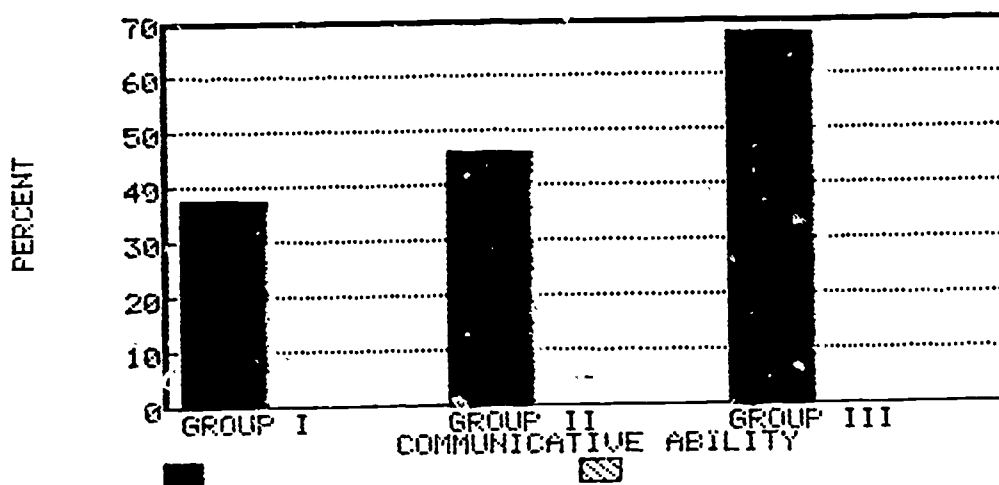
6

LANGUAGE FORM W/O SIMULTANEOUS NONVERBAL

FIGURE 4

Summary

In summary, the results indicate that communications directed to these
students with severe and multiple disabilities tended to be conventional in
form and were most frequently conveyed auditorily. Other forms and modalities
were used less, although when teachers wished to convey a directive, non-
conventional forms were often selected. There were certainly differences in
the communicative strategies used by individual teachers, with different
students, and in different activities with the same teacher-student pair.
However, the overall results suggest that the teachers are assuming that the
students either understand or through exposure alone will readily come to
understand information conveyed through conventional means, and that use of
conventional forms at this point in the students' development is the
appropriate model for the students' acquisition of expressive abilities. Both
these assumptions may be questioned with regard to many of the students.

The form of the communicative expression is, of course, only one of many
factors which influences the effectiveness of communication with these
students. The availability of consistent contextual cues, both physical and
temporal, are obviously also of vital importance. However, based on these
data, we suggest that professionals who interact with students having severe
and multiple disabilities should consider how well their communicative
expressions match the receptive abilities of their students and, if
appropriate, make greater use of more concrete, non-verbal forms where they
may enhance the students' active participation in communicative exchanges.

TABLE 1

Communicative Forms

Conventional (60%)

__Linguistic (53%)__

- Speech
- Manual signs
- Manipulating student's hand to form a manual sign

__Conventional, Non-Linguistic (7%)__

- Conventional facial expression: smile, frown
- Conventional motor gesture: "stop" gesture, wave, clap
- Conventional vocalization: "hmm", "shh", "uh oh", cheer
- song or rhyme where the rhythm conveys information

Physical Contact (21%)

__Manipulation (9%)__

__Touch (7%)__

__Pause in Movement (5%)__

No Physical Contact (14%)

__Depictive Action (4%)__

- Pantomime: motor act which depicts an action or property
- Demonstration
- Vocal depiction: vocalization imitating a sound made by an object, animal, etc.
- Pictures and drawings

__Non-depictive Actions 6%)__

- Moving points
- Object display
- Non-conventional signal: stand by sink, door, or cabinet; get in student's line of vision, make noise.

__Pause (4%)__

- Pause in movement
- Pause in song/rhyme

Other (5%)

__Performing Requested Action (5%)__

8

TABLE 2

Intentions

Directive

To elicit a response or to have an immediate effect on the student's behavior.

Request

- Attention (R-AT)
- Action (R-AC)
- Participation (R-P)
- Communication (R-C)

Encourage Behavior (E-B)

Discourage Behavior (D-B)

Non-Directive

To provide tne student information without requiring or expecting an immediate behavioral response.

Describe (DESC) - action, object, event, person, property

Inform (INFM) - indicate when an activity is about to start or end

Instruct in Communication (IS-C)

Instruct in Performing Actions (IS-A)

Social Pr edures (SOCP)

- greeting, comforting, polite comments

Respond to Student's Communication (RESP)

- affirm/comply, reject, describe or rephrase, seek clarification

Other

No Intent

- Communicative expression not directed to student

- Acts not intended as communicative, but which may convey information to student

9