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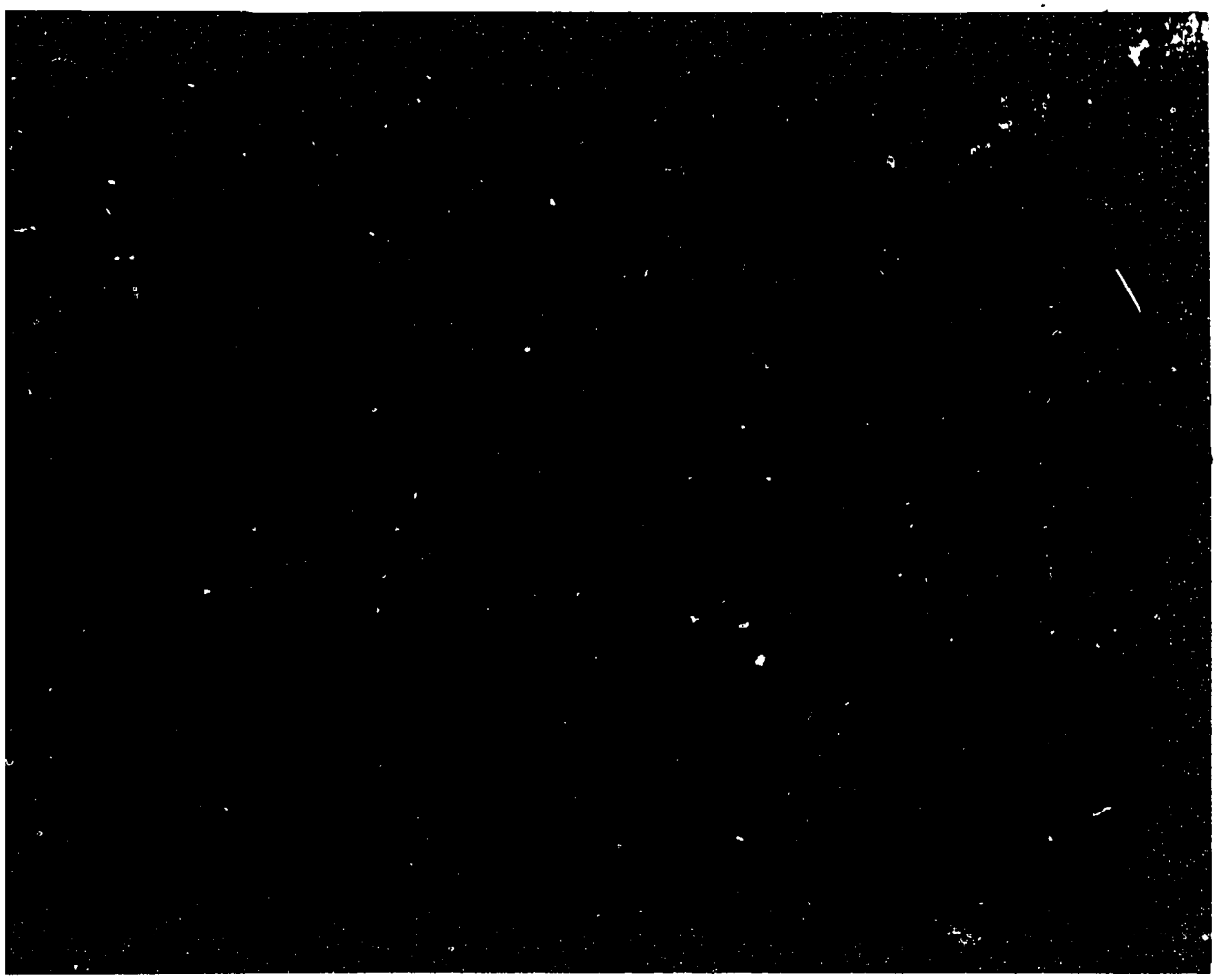
ABSTRACT

The report describes the development and use of the Educational Assessment of Social Interaction (EASI), part of project REACH (Regular Education for All Children with Handicaps). The EASI is intended for program evaluation rather than individual student evaluation. The scale, originally developed to measure interactions among severely disabled and nondisabled students in integrated settings, measures social interactions in terms of four major dimensions: (1) role (initiate/acknowledge), (2) purpose (social, helping, teaching); (3) topography (isolated or inappropriate behavior directed to self or others); and (4) descriptive information (who/activity). A sample data collection sheet is included, and an example of data from one of four students involved in field testing is presented. Cautions in using the scale are cited. (CL)

Educational Assessment of Social Interaction EASI



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REGULAR EDUCATION FOR ALL CHILDREN WITH HANDICAPS

EDUCATIONAL ASSESSMENT OF SOCIAL INTERACTION
(E.A.S.I.)

An observational checklist for measuring social interactions between nondisabled and severely disabled students in integrated settings

by

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The EASI was developed through the cooperative efforts of San Francisco State University and San Francisco Unified School District.

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Notice

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Preface

The Educational Assessment of Social Interaction (EASI) was developed by REACH as a measurement instrument for program evaluation. Its purpose is not to assess a wide range of social interaction skills within an individual student. Rather, the scale is intended for use in evaluating the outcomes of educational practices upon broad categories of social interactions between nondisabled and severely disabled students. The anticipated audience for the EASI is thus individuals (teachers, administrators, etc.) who are concerned with global program evaluation efforts. The EASI is not intended as a tool for individual student assessment and instructional programming. Special thanks are extended to Nan Graham, Debra Moore, Debbi Jacobs, and Susan Beckstead for their assistance and participation in field testing.

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Literature Overview

In recent years, numerous coding systems have been devised for the measurement of social interactions between severely disabled and nondisabled students in the context of experimental research (Voeltz, et al., 1981; Tremblay, Strain, Henderson and Shores, 1980; Strain, Kerr and Ragland, 1979; Guralnick 1980; Certo and Kohl, 1982; Stainback and Stainback, Note 1; Murata, Note 2). These investigators have varied widely in their theoretical frameworks for conceptualizing social interaction, and as a result, the specific categories of behavior coded in these systems reflect considerable variability from one report to another. Guralnick (1980), for example, scores social participation according to Parten's (1932) categories of unoccupied, solitary, onlooker, parallel, associative, and cooperative play. In contrast, Strain et al. (1979) score social behaviors as either motor-gestural or vocal-verbal, along with notation of positive and negative topographical features. Despite this variation, however, it appears that all systems code social interactions according to at least four major dimensions: 1) response form or topography, e.g., vocal-verbal and motor-gestural (Strain et al., 1979); physical and verbal (Stainback et al., Note 1); 2) aim or purpose of the interaction, e.g., parallel and cooperative play (Tremblay et al., 1980); 3) the affective climate of the interaction, e.g., positive or negative (Stainback et al., Note 1; Guralnick, 1980; Strain et al., 1979); and 4) demographic and descriptor variables including sex, the initiator-receiver role dimension, one-to-one vs. small group interaction, adult vs. peer interactor, etc. These four dimensions would thus appear to provide a major starting point for development of any social interaction measurement system.

A second factor common to many of the observational coding systems reported in the literature is the substantial amount of time required to develop proficiency in using the instrument. Voeltz et al. (1981), for example, reports on a training program for observers using her scale that includes numerous hours of training time for each observer before any actual observations are undertaken. Hamre-Nietupski, Nietupski, Stainback and Stainback (1982) also comment upon the necessity of practice with an observational system and the need for acceptable interrater reliability before a system is used in the classroom environment.

With the two considerations of developing a system sensitive to major interaction dimensions, and a system that can be used reliably with comparatively little training, the ASI was initially developed as a measurement tool for evaluating severely disabled and nondisabled student interactions in integrated settings and contexts. As discussed below, however, field test data suggest several cautions to note when using the EASI.

Using the EASI

Data Collection Sheet and Instructions for Use. The EASI measures social interactions in terms of four major dimensions: 1) Role (Initiate/Acknowledge, scored as I/A); 2) Purpose (Social, Helping, Teaching, scored as S/H/T); 3) Topography (Isolate, Inappropriate behavior directed to others, Inappropriate behavior directed to self, scored as ○ / ϟ /ⓢ); and 4) Descriptive information (Who/Activity, scored in anecdotal form). Specific definitions and scoring criteria for each of these categories are discussed in detail below.

Figure 1 presents a sample data collection sheet. Data collection follows a 20 seconds observe, 20 seconds record, time sampling format. Each horizontal row within an observational block (Rows 1-15) represents 20 seconds of observation of one severely disabled student and all nondisabled interactors with that student. Within each horizontal row, the right half of the row is used to score the behaviors of the severely disabled student under observation. The left half of the row is used to score the behavior of all nondisabled interactors.

All categories of behavior for both the nondisabled and severely disabled person(s) observed during each 20 second observation are scored according to criteria discussed below.

The leftmost column of numbers (:00-:20) represents the beginning and ending seconds of each observational interval. One set of observations (rows 1-15) thus represents a total of fifteen 20-second observations, or 5 minutes of observed behavior and ten total minutes spent observing and recording.

The data sheet also provides spaces to note the date, setting, and starting and stopping times of each observation. Although designed for use in integrated contexts such as recess or the cafeteria, scoring can also be done within classroom contexts.

Scoring Protocol. None of the categories below are mutually exclusive except for the Purpose of interaction category (e.g., an interaction purpose must be either social or helping or teaching). All other categories which occur during an observational interval are scored for that interval according to the criteria listed below.

I = Initiation Behavior. This category is used to note who initiates the interaction. An initiation is any cue or behavior directed from one person to another that results in a contact between the two persons. Initiations set the occasion for a social, helping, or teaching interaction response to occur and may be vocal/verbal or gestural in form. Eye contact may also serve as a form of initiation for severely physically disabled and/or nonverbal students. The purpose of the initiation column is to identify who started the interaction.

Date:_____ Setting:_____ Time Start:_____ Time Finish:_____

Time sample: 20 seconds observe, 20 seconds record, for 10 consecutive minutes Scorer:_____

Nondisabled Interactors

OBSERVE:		I	A	S	H	T	O	ϟ	ⓖ
1	:00-:20								
2	:40-1:0								
3	1:20-1:4								
4	2:00-2:2								
5	2:40-3:0								
6	3:20-3:4								
7	4:00-4:2								
8	4:40-5:0								
9	5:20-5:4								
10	6:00-6:2								
11	6:40-7:0								
12	7:20-7:4								
13	8:00-8:2								
14	8:40-9:0								
15	9:20-9:4								
	Total								

Sev. Disabled Student_____

	I	A	S	H	T	O	ϟ	ⓖ	WHO/ACTIVITY
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
Total									

Figure 1

Within a 20-second observation period, either a nondisabled or a severely disabled student may initiate an interaction, or both may initiate interactions (the two interactions will be different, however, since two people cannot both initiate the same interaction). Only the first initiation (and the responses to it) within a 20-second observation is scored; however if both a nondisbled and a severely disabled student initiate toward one another, each initiation is scored.

A = Acknowledgement. An acknowledgement is any form of active behavior made in response to an initiation. Acknowledgements may take appropriate or inappropriate forms and do not necessarily have to look "social". For example, if a nondisabled student says, "Push the door" and the severely disabled student pushes, an acknowledgement is scored. If the severely disabled student does not push the door, but makes eye contact and smiles, an acknowledgement is still scored.

Only acknowledgements to the first initiation within a 20-second interval are scored. If no acknowledgement occurs, an N is scored and any other behavior categories that occur in that interval are recorded, i.e., if a student fails to acknowledge a greeting while she is engaged in self stimulation, N and (ϟ) are both scored.

Purpose. The purpose of the interaction is scored only for the initiator of the interaction.

S = Social. A social interaction is any interaction between two people which does not meet the specific criteria of helping or teaching interactions as defined below, i.e., any interaction that is neither helping nor teaching is considered to be social. Any activities of daily living (e.g., self-help skills) that fall into helping or teaching categories are automatically excluded from the social category (e.g., two students may jointly participate in making a sandwich, but the purpose of this action is not social in nature).

H = Helping. A helping interaction is one in which the recipient is passive. In a helping interaction, either 1) no active responding is required, e.g., a nondisabled student pushes a severely disabled student in her wheelchair, or 2) a response is required but the severely disabled student is given no opportunity to independently perform the response, e.g., a nondisabled student requests "stand up" while simultaneously pulling the severely disabled student to his feet. Although a helping interaction does not require an active response, a severely disabled student may actively acknowledge a response, e.g., if a student is pushed around in her wheelchair (a helping interaction), the student might actively acknowledge the helping interaction with a smile.

T = Teaching. In a teaching interaction, the recipient is expected to make some self-initiated active response to the initiation (although the recipient may fail to actually make that response, in which case the teaching interaction might become a helping interaction). Teaching interactions are directive in nature: a specific response is expected. Teaching interactions may be focused on any content area, including daily living skills, etc. The one exception is is the area of social play, when the purpose of an interaction is to maintain a play activity (social) rather than to direct performance of a specific play skill (teaching).

Topography. Any inappropriate topographies occurring in an interval are scored. These categories are scored regardless of whether or not they occurred as part of the specific interaction occurring in this interval. These cate- gories are also scored even if no interaction occurred in the interval. If none of these categories are scored for an interval, it is assumed that the "climate" of the interval was positive and appropriate.

O = Isolation. Isolation is defined as 10 consecutive seconds spent alone and not engaged in an appropriate isolate activity. Several types of isolation are possible. Voluntary isolation is not in response to any initia tion, but rather occurs when the person deliverately removes himself from the opportunity to receive an initiation by walking away from others, turning his head to the wall, lying face down on the ground, etc. Isolation may also occur in response to a specific initiation, e.g., a student puts his head on the desk when asked a question. If isolation is a deliberate response to an initiation, isolation and acknowledgement are scored.

↯ = Inappropriate to Others. Any inappropriate behavior directed to others. Topographies may include spitting, hitting, kicking, screaming, resisting assistance or contact, becoming passively floppy, etc. However, if an inappropriate response is made in response to an acknowledgement, it is scored only as an acknowledgement, i.e., inappropriate behaviors are scored only in addition to an acknowledgement or in the absence of an acknowledgement.

Ⓢ = Inappropriate to Self. Any self stimulatory or self abusive behavior falls into this category. Before observing a particular student, specific self-stimulatory or self-abusive behaviors should be noted.

Sample Data. To further clarify the use of the EASI data sheet, Figure 2 presents sample data from one of the students involved in the field testing of the instrument. These data were gathered in an isolated, segregated severely disabled site during recess. E.H., the student, was an ambulatory, nonverbal deaf-blind adolescent.

During the first four observational intervals, no initiations were made to the student, nor did he initiate any interactions. Throughout these intervals, he was lying on the ground or standing facing a wall and engaging in self stimulation (finger flicking). During interval 5, a nondisabled adult initiated a social interaction by greeting Edwin. Edwin acknowledged the greeting and stood up, but continued to engage in stimulatory behavior. During interval 7, a teacher initiated a teaching interaction by telling Edwin to "get up". Edwin acknowledged by standing up, but continued to flick his fingers.

During intervals 9 and 10, Edwin initiated social interaction with other students by poking them. It should be noted that the scoring sheet does not provide categories for scoring the behavior of other severely disabled students involved in interactions with the target student, since the left block of rows is

Date: 9-26-82 Setting: Recess-Segregated Time Start; 10:09 Time Finish: 10:19

Time sample: 20 seconds observe, 20 seconds record for 10 consecutive minutes. Scorer: Lori

OBSERVE:	I	A	S	H	T	O	ϟ	0		SH I	SH A	E.H. S	E.H. H	E.H. T	E.H. O	E.H. ϟ	E.H. 0	WHO / ACTIVITY
1 :00-:20									1						✓		✓	stims facing wall
2 :40-1:0									2						✓		✓	" "
3 1:20-1:4									3						✓		✓	" "
4 2:00-2:2									4						✓		✓	lies on ground, stims
5 2:40-3:0	✓		✓						Gail 5		✓						✓	gets up, but stims
6 3:20-3:4									6								✓	runs, stims
7 4:00-4:2	✓				✓				Teacher 7		✓						✓	gets up, stims
8 4:40-5:0									8						✓		✓	
9 5:20-5:4									9	✓		✓					✓	pokes SH student, no response
10 6:00-6:2									10	✓		✓					✓	" ", stims
11 6:40-7:0	✓				✓				Don 11		✓						✓	sits up, keeps stimming
12 7:20-7:4									12						✓		✓	
13 8:00-8:2									13						✓		✓	lies down
14 8:40-9:0	✓				✓				Gail 14		N				✓			
15 9:20-9:4	✓			✓					Teacher 15		N				✓			
Total	5	0	1	1	3	-	-	-	Total	2	3/2	2	0	0	8	0	13	

Figure 2

designated only for nondisabled interactors. Therefore, scorers should be careful to note ancedotally the outcomes and forms of any severely disabled/ severely disabled interactions in the Who/ Activity narrative column.

In interval 11, Edwin again acknowledged a teaching interaction. However, he remained isolated for the remainder of the intervals and did not acknowledge the remaining two initiations made toward him by adult staff.

As indicated in the total columns, several types of information can be obtained and summarized from the EASI scoring sheets. The number and nature of initiations from nondisabled to severely disabled are readily tabulated (5 total initiations: one social, one helping, three teaching), as well as the ratio of initiations that are acknowledged by the severely disabled student (3/5). The number of severely disabled to nondisabled initiations can be similarly calculated (0 in this instance). In addition, percentages of intervals in which inappropriate behaviors occur can also be readily computed (8/15 = 55% intervals spent in isolation; 13/15 = 86% intervals in which self-stimulation occurred). These types of data yield useful descriptive information for comparison (e.g., comparative rate of nondisabled to severely disabled versus severely disabled to nondisabled interactions; comparative rate of adult to student versus student to student interactions; types of interaction most frequently initiated and acknowledged, etc.) and can be gathered across a variety of settings.

Development Data. The current EASI is the product of several field tests of prior versions of the measurement strategy.These field tests were carried out in three classrooms of severely disabled students integrated into regular school sites in the San Francisco Unified School District. Prior versions categorized the form of initiations and acknowledgements according to whether they were vocal/verbal, motor/action, object focused, or eye contact/facial expression. However, repeated attempts at data collection indicated very little independence among these categories (e.g., a high percentage of interactions/ acknowledgements involved several of these forms). In addition, their inclusion extended the number of possible behavior categories to twelve for each of the interactors in a 20-second interval, and reliability rarely ranged above 80%. Because the form of appropriate behaviors seemed to be the least important dimension for interaction, these categories were eventually dropped. The "negative" forms (isolation, inappropriate to other or self) were retained because these behaviors might be expected to change as a function of integrated versus isolated settings.

Field testing with the current form of the EASI has been completed with a randomly selected sample of eight severely disabled students attending a self-contained school for severely,

multiply disabled students. The sample included two nonambulatory students, three students who used walkers or other prosthetics, and one deaf blind student. Two students used limited gestures for communication, one used limited speech, and the remaining five were nonverbal and had no alternative communication systems. None of the students were independent in toileting or self-care skills. The chronological age range spanned three to sixteen years.

Reliability of the scale was determined based upon a five-minute sample of behavior for six of the eight students. Occurrence reliability was calculated using the formula (# agree/#agree + disagree). The range of reliabiity quotients was .77 to 1.0, with a median of .82 and a mean of .84.

Table 1 presents a summary of the raw data from the students in the field test. These data represent a total of 40 minutes of observed interaction (eight students observed for five minutes each) during recess and lunch activities.

CATEGORY	Nondis. to Dis.	Dis. to Nondis.
Initiations	48	5
# Acknowledged by Dis./ Nondis.	37	2
Type of interaction:		
Social	26	5
Helping	16	0
Teaching	7	0
Isolation	--	17
Inappropriate to Other	--	0
Inappropriate to Self	--	3

Table 1

These data indicate that in this self-contained setting, the overall interaction rate (# of acknowledged interactions, regardless of who initiated) is 39, or approximately one interaction per minute. In terms of the initiator/ acknowledger role, nondisabled initiations are almost ten times more frequent than severely disabled initiations (48 to 5). Similarly, the number of completed interactions involving an adult and a severely disabled student is 39, while the number of student to student interactions is 0. Finally, in terms of type of interactions, social interactions are clearly predominant, regardless of who intitates them.

Data such as these, gathered in the context of internally valid large or small N designs, should yield critical information about the nature of social interactions in educational contexts and should greatly assist in evaluation of program outcomes. The California Research Institute (USOE contract #300-82-0365, Wayne

Sailor, Ph.D., Principle Investigator) is currently engaged in a long term repeated measures analysis using this instrument to compare interaction rates in an experimental group at an integrated school site with a matched control group at a segregated school site, and will report outcomes as soon as they are available.

Cautions. Until a comprehensive experimental analysis is undertaken, it is impossible to predict whether or not the level of measurement of social interaction used in the EASI will in fact be sensitive enough to yield differences between settings or groups. A five-minute sample of behavior, for example, may be inadequate to pick up measurable differences due to a ceiling effect. The EASI, therefore, appears most appropriate at this time for descriptive rather than analytical purposes.

However, several nonexperimental classroom applications appear possible. Teachers may find the basic data collection format useful in gathering information related to changes in the number and types of interactions between nondisabled and severely disabled students. Such changes might be anticipated to occur as a function of specific instructional programs for severely disabled students, in service activities with nondisabled students, settings in which interaction opportunities are provided, etc. In gathering these data, we recommend that each user develop his own specific definitions and response criteria for each category of behavior on the EASI. These adaptations should be made to ensure reliability of measurement and to ensure that the data being collected reflect the major interests and concerns of the user.

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