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ABSTRACT

Utilization of two checklists for recording observed student and teacher classroom behaviors is the main topic of this report. The format, sections, procedures, and methods of analysis of the checklists are discussed. These checklists were used with 40 students and 4 teachers in an on-going, two year research project at the Model Secondary School for the Deaf. The report includes some of the findings obtained from the use of the instruments. (Author)

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STUDENT AND TEACHER ACTIVITY CHECKLISTS
FOR USE IN CLASSROOMS OF THE HEARING IMPAIRED

Marjorie L. Hyatt

Abstract

Utilization of two checklists for recording observed student and teacher classroom behaviors is the main topic of this report. The format, sections, procedures, and methods of analysis of the checklists are discussed. These checklists were used with 40 students and 4 teachers in an on-going, two year research project at the Model Secondary School for the Deaf. The report includes some of the findings obtained from the use of the instruments.

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Student and Teacher Activity Checklists for Use in Classrooms of the Hearing Impaired

Introduction

Craig and Collins (1969 and 1970) have developed and used a classroom observation system based on Flander's Interaction Analysis. With the Craig and Collins system an observer records 20 categories of teacher or student initiated expressive and receptive behavior and 11 modes of communication. In-depth studies of student and teacher communication patterns are possible with this system. However, a total perspective of classroom interaction is lacking. Some behaviors are encouraged because of a variety of factors such as the classroom environment, types of materials used, and the size of the class. This system does not address itself to behaviors occurring simultaneously with other factors.

Craig and Holman developed the Pittsburg Revised Interaction Analysis (1973) which would enable the observer the record descriptions of classroom situations, initiated interaction, and communication. Using this system, perspectives on the behaviors and activities of an entire class are possible. However, individual student and teacher behaviors are not recorded with this system.

Two classroom activity checklists which combine different variables from all three domains--materials, interaction, and communication modes--can be recorded simultaneously on single sheets were developed by the Office of Research and Evaluation (ORE) of the Model Secondary School for the Deaf (MSSD). The purpose of this report is to trace the history, characteristics, and on-going development of these instruments.

Instrumentation

A search through *Mirrors for Behavior: An Anthology of Classroom Instruments* found sources for revising and developing suitable checklists for assessing individual student and teacher classroom behaviors.

Originally developed for use in classrooms utilizing individualized instruction, the Student Activity Profile (SAP) by Honigman and Stephens (1969) had as its main purpose the assessment of a comprehensive set of student behavior. At the MSSD, the SAP has been revised to assess individual student behaviors (Appendix A). From the same data, entire classroom behaviors could also be charted.

The SAP is divided into four main components each with several sub-components. The checklists are listed below:

Materials +

<u>Hardware</u>	<u>Read</u>	<u>Write</u>
Cassette	Scans seriously	Writing in LAP
Language Master	Reading in Learning Activity Package (LAP)	Writing other task materials
Slide Projector	Reading other task materials	Writing in workbook
Filmstrip	Reading non-task materials	Writing non-task materials
Film		
Game		
Materials		

2. Interaction

<u>Student</u>	<u>Teacher</u>
Talk to other student - task	To teacher - gives fact

<u>Student</u>	<u>Teacher</u>
Talk to other student - social	To teacher - gives opinion
Group Discussion - task	To teacher - seeks information
Group Discussion - social	To teacher - seeks clarification
Interrupts (bothers teacher or student)	To teacher - hostile and other

3. Communication*

Signs, no voice

Signs and voice

Voice, no signs

No verbal interaction

4. Passive

<u>Learning</u>	<u>Non-Learning</u>
Watching/Listening task	Resting/Watching non-task
	Staring, limited Random Motor Activity (RMA)
	Gross RMA, wandering around
	Waiting: for teacher or materials
	Maintenance: sharpen pencil, etc.
	Misc. (including Testing)

+For the materials section only, data observed could be recorded with the following symbols: U=Used, Un=Unused, D=Diddling with.

*Communication modes were added for the purpose of studying hearing impaired populations.

An example of observed student behavior could include "1" at "Slide Projector," "Writing in LAP," "Group Discussion Task" and "Signs, no Voice."

The Teacher Activity Profile (TAP) was developed from the "Verbal Interaction Category System" by Amidon and Hunter (1966). (Appendix B).

Their system is divided into 12 categories of student or teacher initiated interactions that are applied to a matrix for analysis on the amount, order, and pattern of verbal interaction occurring in a classroom.

The ORE-developed TAP was designed to record individual teacher behaviors, activities, and communication modes occurring simultaneously. The format of the TAP resembles the SAP and the components are:

1. Type of Activity *

Discussion	Reading/Writing
Lecture	Recordkeeping
Quizzing/testing	Asking questions
Explaining routine or procedures	Talking with another teacher
Listening/Observing	Social interaction
Socializing	Interaction re-routine
Answering questions	Academic interaction
Reprimanding	Other

2. Mode of Communication

Signs, no Voice
 Signs and Voice
 Voice, no Signs

3. Subject Area

Math
 Science
 Social Studies
 Language/Communication
 Integrated Subjects
 Other

4. Activity Level

Very Active

Active

Inactive

5. Feedback

Positive

Negative

Maintaining

*Data recorded in Type of Activity section only could be marked in one of the following ways: W=Whole group, S=Subgroup, I=Individual, N=No student interaction.

Design

Prior to observing subjects, the observer inserted individual student and teacher names on separate SAP and TAP sheets contained in a notebook. The observer entered a classroom as unobtrusively as possible and stood or sat where the action could be seen clearly. The round number was recorded by the observer as he checked in the appropriate boxes whatever behavior was exhibited by an individual. The observer continued to scan and observe every individual's behavior in the room during that particular round.

When round one was completed, the observer started another round and proceeded in the same manner to record individual behaviors. Three rounds were considered to be sufficient for one observation session. For a group of 25 individuals, approximately 20 minutes were required to record three rounds. The observer planned to observe three class sessions a week at different times of the day.

The SAP and TAP were pilot tested with an Experimental and a Comparison group at the MSSD. Four experimental group teachers were observed with the TAP.

The experiment was an attempt at self-contained, personalized, and integrated curriculum within the greater open school concept of the MSSD. The Comparison group was utilized as a matched representative sample from the open school. One way of assessing the effectiveness of the experiment was to use observation checklists. Tables 1, 2, and 3 show the age, sex, and SAT Paragraph Meaning score distributions of the Experimental and Comparison groups.

Results

Analysis of the results revealed more than 180 significant biserial correlation coefficients ($p < .05$); with more than 50 correlations for the Experimental group ($N=20$), more than 80 correlations for the Comparison group ($N=20$), and more than 50 correlations for the Experimental teaching staff ($N=4$). Some of the findings are summarized in Tables 4, 5, and 6. The computer correlations for the SAP materials section were based on students who used (1) or did not use (0) the materials during each round. The correlations for the TAP Type of Activity section were based on teachers who were engaged in whole group classroom activities (1) or did not engage in whole group activities (0) during each round.

A frequency count of the students at particular activities revealed some differences between the Experimental and Comparison groups. Table 7 lists the percentages of time the Experimental and Comparison group students were observed at different activities. Some of the differences are pointed out below:

1. Both the Experimental and Comparison group students indicated no verbal interaction approximately 50% of the time.
2. The Comparison group read in their Learning Activity Package (LAP) 29% of the time as compared to the Experimental group (17%).

3. The Experimental and Comparison groups of students wrote in their LAPs 15% of the time.

4. The Comparison group waited for their teachers or materials 21% of the time as compared to 10% of the time for the Experimental students.

5. The Comparison group exhibited Gross Random Motor Activity (RMA) 15% of the time compared to the Experimental group's 5% of the time.

Table 8 shows individual Experimental group characteristics observed more than 25% of the time in the classroom. For example, the first student was observed reading and writing in his LAP as well as having no verbal interaction 25% of the time. Also, some students in the Experimental group were observed at particular activities more than one Standard Deviation above the group means for each activity meaning that they showed the particular behaviors more often than the others in the group.

Table 9 reveals individual teacher characteristics of the Experimental group observed more than 25% of the time. Teachers observed at activities more than one Standard Deviation above the group means are reported.

Table 10 shows the characteristics of the Experimental teachers as a group observed more than 25% of the time in the classroom.

t-tests on the Experimental and Comparison groups' means of selected SAP activity variables were calculated. Six means of the Experimental and Comparison groups were significantly different at $p < .05$. They are the following:

1. The Comparison group students tended to spend more time reading in their LAPs than the Experimental group students.
2. The Experimental group students tended to give their teachers more opinions than the Comparison group.

3. The Comparison group tended to exhibit more social behaviors to their teachers than the Experimental group students.
4. The Comparison group tended to exhibit gross random motor activity more than the Experimental group students.
5. The Comparison group tended to spend more time waiting for their teachers or materials than the Experimental group student.

Discussion

Analysis of the SAP results can reveal communication/interaction patterns which may be the result of influences of program objectives; teacher attitudes and expectations; and environmental restrictions and their implications on movement and expression. The Experimental group met for classes in a one-room building while the Comparison group enjoyed the larger facilities of the open classroom building. Some of the correlations, frequency counts, and t-tests regarding student/teacher interaction and modes of communication appeared to reflect on the aforementioned influences.

The materials used, both hardware or software, may also have direct influences on certain types of behaviors and interaction. Thus, correlations with materials and interaction need to be examined.

Differences in group and individual on-task and off-task behavior may offer clues toward subtle patterns when combined or correlated with other variables on the checklists.

The TAP can present insights into teacher behavior that are not easily identified. Again, factors influencing teacher behaviors are similar in nature to those influencing student behaviors. Certain behaviors were observed of the Experimental group teachers. In-depth studies could be conducted to determine desirable or undesirable traits of individual teachers.

Conclusion and Recommendations

The modified checklists for observing and recording student and teacher classroom behavior in classrooms of the hearing impaired were relatively easy to implement. The training of qualified observers to utilize the checklists would only require several practice sessions in the classroom. Thus, they could be adapted for use in other schools and classes of the hearing impaired.

Results from the data obtained on classroom behaviors could be used to assess individual or entire class behavior for traditional, open, or individualized instruction systems. Data can be analyzed in various ways with biserial correlations, frequency counts, and t-tests. Interpretations could be derived from these results to explain classroom behavior in terms of classroom environment and goals set. These results would also assist in the establishment of strategies to facilitate the learning process in classrooms of the hearing impaired.

It is important to note here the preliminary nature of these conclusions and that such a condition is due not only to the lack of replication, but also to the need for more adequate research and development on the instruments. Specifically, at least four basic tasks are suggested.

1. Tests on the reliability and validity of the checklists need to be conducted.
2. Further analysis of Experimental and Comparison group data using canonical correlations should be done. Several aspects of student and teacher behavior need clarification. For example, the clarification of students/teachers that exhibit specific behaviors and when these specific behaviors occur and effect certain communication modes.
3. The SAP and TAP require reformatting to facilitate increased accuracy and information loading in recording observed behavior.
4. A manual of instructions to accompany the SAP and TAP is required.

APPENDIX A

STUDENT ACTIVITY PROFILE (SAP)

Name of Student _____ I.D. of Class Area _____
 Name of Observer _____ Date _____
 Time Obs. Began _____ Time Obs. Completed _____

		Round *																					
T E R M I N A L S *	H E A R I N G A C T I V I T Y	Activity																					
		Cassette																					
		Language Master																					
		Slide Projector																					
		Filmstrip																					
		Film																					
		Game																					
		Materials (Describe)																					
		Scans seriously (as initial activity)																					
		Reading in LAP																					
		Reading other task materials																					
		Reading non-task materials																					
		Writing in LAP																					
		Writing other task materials																					
Writing in workbook																							
Writing non-task materials																							
I N T E R A C T I O N	S T U D E N T	Talk to other student - task																					
		Talk to other student - social																					
		Group discussion - task																					
		Group discussion - social																					
		Interrupts (bothers teacher or student)																					
A C T I O N	T E A C H E R	To Teacher - gives fact																					
		To Teacher - gives opinion																					
		To Teacher - seeks information																					
		To Teacher - seeks clarification																					
		To Teacher - social																					
C O M M U N I C A T I O N		To Teacher - hostile & other																					
		Signs, no voice																					
		Sign and voice																					
		Voice, no signs																					
P A S S I V E	N O N L E A R I N G	No verbal interaction																					
		Watching/Listening (Task)																					
		Resting/Watching (Non-Task)																					
		Staring, ltd RMA																					
		Gross RMA, Wandering around																					
		Waiting: for teacher or materials																					
		Maintenance: sharpen pencil, etc.																					
Misc. (Incl. Testing)																							

STUDENT ACTIVITY PROFILE (SAP)

Name of Student _____ I.D. of Class Area _____
 Name of Observer _____ Date _____
 Time Obs. Began _____ Time Obs. Completed _____

		Round #																			
M A T E R I A L S *	H A R D W A R E	Activity																			
		Cassette																			
		Language Master																			
		Slide Projector																			
		Filmstrip																			
		Film																			
		Game																			
		Materials (Describe)																			
		Scans seriously (as initial activity)																			
		Reading in LAP																			
S T U D E N T	R E A D	Reading other task materials																			
		Writing in LAP																			
		Writing other task materials																			
		Writing in workbook																			
I N T E R A C T I O N	W R I T E	Writing non-task materials																			
		Talk to other student - task																			
		Talk to other student - social																			
		Group discussion - task																			
		Group discussion - social																			
		Interrupts (bothers teacher or student)																			

* U=Used Un=Unused D=Diddling With

STUDENT ACTIVITY PROFILE (SAP)

(CONTINUED)

		Round #																			
		Activity																			
I N T E R A C T I O N	T E A C H E R	To Teacher - gives fact																			
		To Teacher - gives opinion																			
		To Teacher - seeks information																			
		To Teacher - seeks clarification																			
		To Teacher - social																			
		To Teacher - hostile & other																			
C O M M U N		Signs, no voice																			
		Sign and voice																			
		Voice, no signs																			
		No verbal interaction																			
P A S S I V E	I N G N O N L E A R I N G	Watching/Listening (Task)																			
		Resting/Watching (Non-Task)																			
		Staring, Ltd RMA																			
		Gross RMA, Wandering around																			
		Waiting: for teacher or materials																			
		Maintenance: sharpen pencil, etc.																			
		Misc. (Incl. Testing)																			

* U=Used Un=Unused D=Diddling With



APPENDIX B

TABLE 1
Age¹ Distribution of Experimental and Comparison Students

Age	Experimental Group		Comparison Group	
	N	%	N	%
13.3-13.9	1	5.0	4	20.0
14.0-14.9	5	30.0	7	35.0
15.0-15.9	2	10.0	2	10.0
16.0-16.9	11	55.0	7	35.0
Mean	15.66		15.09	
St. Deviation	1.13		1.21	

¹Age as of September, 1973

TABLE 2
Sex of Experimental and Comparison Students

Sex	Experimental Group		Comparison Group	
	N	%	N	%
Male	8	40.0	9	45.0
Female	12	60.0	11	55.0

TABLE 3

Paragraph Meaning Scores (in grade equivalence) of the S.A.T.¹

For The Experimental and Comparison Students

Score	Experimental Group		Comparison Group	
	N	%	N	%
2.1-2.9	2	10.0	2	10.0
3.0-3.9	6	30.0	4	20.0
4.0-4.9	7	35.0	8	40.0
5.0-5.9	3	15.0	3	15.0
6.0-6.9	1	5.0	1	5.0
7.0-7.9	1	5.0	2	10.0
Mean	4.41		4.42	
St. Deviation	1.29		1.30	

¹Scores on Sept., 1973 testing

TABLE 4

Significant* Biserial Correlations of Interaction and Communication-Passive Variables for Experimental (EG) and Comparison Groups (CG).

	COMMUNICATION - PASSIVE							
	Signs, no voice	Sign and voice	Voice, no signs	Watching/Listening (Task)	Gross RMA, Wandering around	Waiting: for teacher or materials	Misc. (Including Testing)	
I	+EG							
S	+EG			-EG	+CG			
Talk to other student - social	+CG	+EG		+CG				
Group discussion - task								
Group discussion - social	+EG	+CG						
Interrupts (bothers teacher or student)					+CG			
To Teacher - gives fact		+EG	+EG					
To Teacher - gives opinion		+EG	+CG					
To Teacher - seeks information	+CG		+EG					+CG
To Teacher - seeks clarification			+EG	+CG				
To Teacher - social		+CG	+EG		+CG			+CG
To Teacher - hostile & others	+CG							+CG

* p < .05

+ = positive correlations
- = negative correlations



TABLE 5

Significant* Biserial Correlations of Materials and Reading-Writing-Interaction Variables for Experimental (EG) and Comparison Groups (CG).

Reading-Writing-Interaction

Hardware	Scans seriously (as initial activity)	Writing in workbook	Talk to other student (Task)	Talk to other student (Social)	Group discussion (Task)	Group discussion (Social)	To Teacher gives opinion
Cassette			+ CG	+ CG			
Slide Projector	+ EG + CG		+ CG		+ EG	+ CG	+ CG
Filmstrip	+ EG						
Film			+ CG				
Blackboard	+ EG		+ CG		+ CG		
T.V.	+ CG						
Slides	+ EG + CG		+ CG		+ EG	+ CG	+ EG + CG
Overhead	+ CG				+ CG	+ CG	
Typewriter		+ CG	+ CG				

*p < .05

+ = positive correlations

- = negative correlations

TABLE 6

Significant* Biserial Correlations of Different Variables on the TAP for the Experimental Group Teachers.

	TAP															
	Explaining Routine or Procedures	Listening/Observing	Answering Questions	Asking Questions	Talking with another Teacher	Interaction Routine	Academic Interaction	Signs and Voice	Mathematics	Integrated Subject	Very Active	Active	Inactive	Positive	Negative	Maintaining
Discussion (Academic)	-		+									+				
Lecture																
Quizzing/Testing										+						+
Explaining Routine or Procedures	-	+	+	+											+	
Listening/Observing		-				-										
Socializing									+							
Answering Questions (Academic)						+			+			+			+	
Record Keeping														+		-
Social Interactions																-
Interaction Re-routine							+		+				+			
Academic Interaction							+		+							+
Signs, No Voice							-									
Math									-	+						
Integrated Subjects													+			
Other													+			
Very Active											-	-	+			-
Active																+
Inactive														+		

TABLE 7

Experimental and Comparison Group
 Percentages of Time Observed at Particular Activities

<u>Activities</u>	<u>EGZ</u>	<u>CGZ</u>
No verbal interaction	55	49
Watching/Listening Task	27	20
Signs no voice	19	22
Reading in LAP	17	29
<u>Talk with other student-social</u>	<u>16</u>	<u>18</u>
Writing in LAP	15	15
Group discussion-task	11	11
Sign and voice	11	07
Waiting for teacher and materials	10	21
<u>To teacher - gives opinion</u>	<u>09</u>	<u>05</u>
Resting/watching (non-task)	09	10
Scans seriously (as initial activity	08	11
Blackboard	07	00
Slide projector	06	00
T.V.	06	01
Talk to other student- task	06	04
Gross RMA, wandering around	05	15
Slides	04	00
Filmstrip	03	00
<u>Writing other task materials</u>	<u>03</u>	<u>02</u>
Writing in workbook	03	02
Writing non-task materials	03	01
Staring, limited RMA	03	07
Reading other task materials	02	05
<u>Reading non-task materials</u>	<u>02</u>	<u>02</u>
Group discussion - social	02	02
Interrupts (bothers teacher or student)	02	03
To teacher- gives fact	02	02
To teacher- seeks information	02	04
<u>To teacher- seeks clarification</u>	<u>02</u>	<u>04</u>
Voice no signs	02	00
Miscellaneous materials	01	09
To teacher social	01	09
To teacher hostile	01	02
<u>Cassette</u>	<u>00</u>	<u>00</u>
Language Master	00	00
Film	00	00
Game	00	00
Overhead	00	06
Typewriter	00	06
Maintenance; sharpen pencil, etc.	00	08
Misc. (include testing)	00	00
	\bar{X}	
	6.54	7.42
	SD	
	9.67	9.62
Total # of cases	496	209

TABLE 8

INDIVIDUAL EXPERIMENTAL STUDENT CHARACTERISTICS
FROM STUDENT ACTIVITY PROFILE DATA

Experimental Student #	Observed at Particular Activities More than 25% of Time	Observed at Particular Activities more than 1.0 SD Above the Mean
1	Reading in LAP Writing in LAP No Verbal Interaction	
2	Writing in LAP No Verbal Interaction	
3	Reading in LAP Writing in LAP No Verbal Interaction	
4	Reading in LAP Writing Non-Task Materials No Verbal Interaction	Writing Non-Task Materials Interrupts (bothers Teacher or Students)
5	No Verbal Interaction Watching/Listening (Task)	Resting/Watching (Non-Task)
6	Scans seriously (as initial activity) No Verbal Interaction Watching/Listening (Task)	Scans seriously (as initial activity)
7	Reading in LAP No Verbal Interaction Watching/Listening (Task)	
8	Signs, No Voice No Verbal Interaction Watching/Listening (Task)	

TABLE 8 (CONTINUED)

Experimental Student #	Observed at Particular Activities More than 25% of Time	Observed at Particular Activities more than 1.0 SD Above the Mean
9	Talk to Other Student - Social Signs, No Voice No Verbal Interaction Watching/Listening (Task)	
10	No Verbal Interaction	
11	Group Discussion - Task Signs, No Voice No Verbal Interaction Watching/Listening (Task)	
12	Talk to Other Student - Social Signs, No Voice	
13	No Verbal Interaction	
14	No Verbal Interaction Watching/Listening (Task)	
15	No Verbal Interaction Watching/Listening (Task)	
16	Reading Other Task Materials Talk to Other Student - Social Signs, No Voice Resting/Watching (Non-Task) Waiting: for Teacher or Materials	Reading Other Task Materials To Teacher - Seeks Information Resting/Watching (Non-Task)

TABLE 8 (CONTINUED)

Experimental Student #	Observed at Particular Activities More than 25% of time	Observed at Particular Activities more than 1.0 SD Above the Mean
17	No Verbal Interaction Watching/Listening (Task)	
18	No Verbal Interaction Watching/Listening (Task) Resting/Watching (Non-Task)	Resting/Watching (Non-Task)
19	Signs, No Voice No Verbal Interaction	
20	Talk to Other Student - Social No Verbal Interaction Watching/Listening (Task)	

TABLE 9

Individual Experimental Teacher Characteristics
From Teacher Activity Profile

Experimental Teacher #	Observed at Particular Activities More than 25% of the Time	Observed at Particular Activities More than 1.0 SD Above the Mean
1	Discussion, Explaining Routine, Listening/Observing, Answering Questions, Academic Interaction Signs and Voice, Integrated Subject, Active, Maintaining	Discussion
2	Discussion, Listening/Observing, Answering Questions, Reading/Writing, Asking Questions, Signs No Voice, Integrated Subject, Active, Maintaining, News (Other)	Discussion, Reading/Writing
3	Listening/Observing, Answering Questions, Reading/Writing, Talking with Another Teacher, Interaction re Routine, Signs and Voice, Math, Integrated Subject, Active, Maintaining	Explaining Routine, Reading/Writing
4	Listening/Observing, Answering Questions, Academic Interaction, Signs and Voice, Integrated Subject, Myth and Community, Active, Maintaining	

TABLE 10

Experimental Teacher Characteristics Observed
More than 25% of the Time in the Classroom

Activity

Explaining Routine or procedures
Listening/Observing
Answering Questions (Academic)
Reading/Writing
Academic Interaction
Signs and Voice
Integrated Subject
Active
Maintaining

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