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ABSTRACT

The 1972-73 accountability study of Duval County (Jacksonville, Florida) programs for trainable mentally handicapped (TMH) children and youth, funded under Title VI-B of the Elementary and Secondary Education Act, focused on the development and refinement of evaluation materials and field testing of the materials developed. Twelve teachers identified approximately 550 behavioral objectives with corresponding criterion test items and accompanying instructional suggestions. Field testing involved evaluation of the 550 behavioral objectives by teachers, parents, and community agency personnel, evaluation of student performance using criterion test items, and evaluation of the project products and activities by a three member panel of experts. Results of field testing supported such conclusions as the following; (1) that there is a high degree of correspondence between the importance attributed to skill areas by teachers, parents, and community agency personnel with social skills generally ranked highest and occupational skills lowest; (2) that project materials have a high probability of being used and correspond to teacher needs; (3) that the criterion test item approach to assessment of TMH student performance is inadequate; and (4) that there is need of additional behavioral objectives in the occupational skills area which take account of skills needed for success in sheltered workshop situations. (GW)

# SUMMARY EVALUATION REPORT
# 1972–1973




## ACCOUNTABILTY STUDY
## FOR TRAINABLE MENTALLY RETARDED CHILDREN AND YOUTH

**TITLE VI-B**

**DUVAL COUNTY SCHOOL BOARD**
**JACKSONVILLE, FLORIDA**

Summary Evaluation Report

1972-1973

# Accountability Study of the Program for Trainable Mentally Retarded Children and Youth

Prepared for
The Duval County School Board
Jacksonville, Florida

by

Instructional Programing Associates

Keith Brown
June, 1974

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# INTRODUCTION

This report represents a summary of the activities and results of the second year of the "Accountability Study of the Program for Trainable Mentally Retarded Children and Youth." This study is being conducted by the Duval County School Board, Jacksonville, Florida. Financial support was obtained under Title VI-B of the Elementary and Secondary Education Act.

For information on the first year of this study, two documents, Summary Evaluation Report (1971-1972) and Accountability Model, should be referenced. These publications and additional information on this study are available through the Clearinghouse/Information Center, Bureau of Education for Exceptional Students, 319 Knott Building, Tallahassee, Florida 32304.

Instructional Programing Associates, under the direction of Dr. Keith Brown, has prepared this 1972-73 summary report as a part of the evaluation activities of the second project year.

The activities described in this report could not have been conducted without the sustained direction of Mr. William Geiger, the project director; excellent and extensive input from Dr. Charles Forgnone, Dr. Wilson Guertin, Dr. Andrew Oseroff, and Dr. Louis Schwartz; and the support of the Exceptional Student Education Section of the Duval County School Board and the Bureau of Education for Exceptional Students of the Florida State Department of Education.

The contributions of the principal and teachers in the Duval County program for trainable mentally retarded (TMR) students cannot be underestimated. Their willingness to try new, untested evaluation procedures was the most critical factor in making this project possible.

## BACKGROUND

"The Accountability Study for Trainable Mentally Retarded Children and Youth" was initially funded in July, 1971 with the anticipation of renewed support for a three year period. This project was originally submitted in response to a need recognized by the Bureau of Education for Exceptional Students of the Florida State Department of Education for a systematic means of evaluating the progress of trainable students in achieving functional skill levels as a result of the educational programs provided for them. Such information was perceived as being highly desirable for responsible administrative decision-making. The overall objective of the first project year was "to develop, implement, and audit an evaluation design based on systems analysis, which (would) measure the cost-effectiveness of the Duval County program for Trainable Mentally Retarded Children and Youth in achieving its stated goals in the areas of language development, social adequacy, and vocational readiness". The results of this first year are contained in Summary Evaluation Report 1971-1972.

As a consequence of the first year's successes and failures, several changes were made in the focus of the project. The major change was the development of a conceptual model for viewing a total program for TMR students. This model

possessed the necessary flexibility for easy use by teachers in many different settings and included an assessment technique which would: (1) provide teachers with useful information about student performance and (2) furnish administrative personnel with helpful program evaluation data.

## PROJECT PURPOSE AND OBJECTIVES

The following were the objectives for the 1972-73 project year:

Main Objective:

To modify, expand, and validate the evaluation of the cost-effectiveness of change in trainable mentally retarded students' behavior in all areas of concern necessary for adequate functioning in society, in such a way that the model and most of the objectives (could) be utilized state-wide after the completion of the 1972-73 project year.

Sub-objectives:

* To revise the objectives developed during the first project year in the areas of vocational readiness, social adequacy, and language, to serve as the first set of objectives for a state-wide catalog in the area of the trainable mentally retarded so that they meet all specifications of the state and can be utilized by any program in the state.
* To develop pre-objectives and objectives for the other areas of importance not included in the original project, covering all areas of importance for the trainable child from 6 to 18 years of age.
* To obtain validation of the objectives by teachers in similar programs across the state.
* To validate the objectives by the opinion of parents.
* To validate the objectives by the opinion of community agencies which provide services for the child before and after he leaves the educational program.

* To incorporate into the modified evaluation design all of the objectives.

* To complete development of methods, activities, and resources to be utilized in achieving a portion of the objectives.

* To provide a comprehensive accountability report on the effectiveness of resource utilization in changing student behavior.

* To develop a training manual and a set of video tapes of behaviors which require a high degree of [illegible]er judgement to determine if the behavior meets the criteri[illegible] in the objective.

## PROJECT ACTIVITIES

As in any project of this scope, the activities carried out in the course of the year were diverse. The project activities focussed on two major areas, (1) development and refinement of materials and (2) field-testing of the materials developed.

Development and Refinement of Materials:

A seven week workshop involving twelve teachers in the Duval County TMR program was conducted in July and August, 1972. During this workshop approximately 550 behavioral objectives with corresponding criterion test items and accompanying instructional suggestions were identified and written. The development and organization of these objectives into a flexible content-based model was guided by project consultants, Dr. Charles Forgnone, University of Florida, and Drs. Andrew Useroff and Louis Schwartz, Florida State University. Editing of the objectives and criterion test items and revision of the organizational model was conducted by the project staff through the Autumn of 1972.

The remainder of the project year was devoted to the refinement and validation of the collection of 550 objectives and corresponding criterion test items to determine their effectiveness as program evaluation instruments. In the refinement and validation of the 1972-73 collection of objectives, the following activities were conducted:

1. The project staff contacted six counties having public school educational programs that served 150 or more trainable students to determine if personnel from these counties would assist in refining, ranking, and validating the objectives. The Florida counties which participated were: Dade, Broward, Palm Beach, Polk, Orange, and Hillsborough. A Saturday workshop was held in each county for teachers and other county staff involved in the educational program for TMR students. During each workshop the purpose and history of the project and the organizational model were presented. Each teacher then performed the following tasks:
    a. Read at least 10% of the objectives for clarity and indicated desired changes.
    b. Ranked the importance of each objective, each specific skill area (module), and each general skill area (cluster), on a five-point scale.
    c. Identified skills valuable for TMR students that had been omitted from the collection.
    d. Responded to an anonymous opinion questionnaire about

the comprehensiveness, value, and usefulness of the collection of objectives.

2. At the beginning of the 1972-73 school year, parents of TMR students in the Duval County program were given a general orientation to the purpose and activities of the project at a PTA meeting held at Palm Avenue Exceptional Child Center. At subsequent PTA meetings, 97 parents completed an importance-ranking of the 26 clusters on a five-point scale. In addition, 58 of these parents were contacted individually and completed a forced-ranking of the clusters using a Q-Sort technique.

3. The Duval Association for Retarded Citizens, the Division for Mental Retardation's Regional Center, Vocational Rehabilitation, United Cerebral Palsy, and Pine Castle School (sheltered workshop) were contacted during the Summer of 1973. Thirty-four staff members from these organizations ranked the objectives, modules, and clusters for importance and indicated skills that had been omitted from the catalog of objectives.

Field-Testing of Materials:

Based on an evaluation design prepared by the project staff and Dr. Wilson H. Guertin, evaluation consultant to the project, the following activities were conducted to provide information on individual student performance and to determine the feasability of using criterion test items to evaluate the performance of TMR students:

1. The teachers of TMR students in the Duval County program completed an informal assessment of each student's observed ability on the complete collection of objectives. Lists of appropriate objectives for each student, compiled from the informal assessment forms, were later given to each teacher.

2. The ten most important objectives for each student were ranked according to instructional priority for that student. A description of the top three to five objectives chosen for each student was sent home for the parents' information.

3. The teachers administered criterion test items (pre-test) to each student. The test items corresponded to the top priority objectives which were selected as appropriate for the individual student. (The number of test items administered to each student by a teacher varied from one to about five.)

4. To determine some interrelations among items, the criterion test items for each objective in the Writing and Counting and Numeral Identification Clusters were administered to all of the students (262) in the program.

## OVERALL EVALUATION DESIGN

The evaluation design for the second year of this project had three distinct but inter-related aspects. These were: (1) evaluation of the

materials by teachers, parents, and community agency personnel; (2) evaluation of student performance using criterion test items; and (3) evaluation of project products and activities by a three-member panel of experts.

Evaluation of the Collection of Objectives, Modules, and Clusters by Teachers, Parents, and Community Agency Personnel:

1. Evaluation by Teachers:

   In order to determine the comprehensiveness, clarity, and validity of the objectives and related materials, 122 teachers from seven Florida counties with programs serving large numbers of TMR students:

   a. read the objectives for clarity and indicated changes;

   b. ranked the importance of each objective, module, and cluster on the following five-point scale:

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| essential | important | not very important | unimportant | very unimportant |

   c. recommended additional skills which they thought were valuable for trainable students but were not included in the collection of 550 objectives; and

   d. responded to an anonymous opinion questionnaire about the comprenensiveness, value, and usefulness of the collection of objectives.

2. Evaluation by Parents:

   To determine the comparative importance of various skill areas in a public school program for TMR students, the parents of trainable students in the Duval County Program were asked to complete a ranking of the 26 clusters which represented the collection of 550 objectives.

The five-point scale described above was also used in this importance-ranking activity. Ninety-seven parents ranked these clusters.

These parents were also asked to take part in an individually administered, forced-ranking of the clusters using a Q-Sort technique. The distribution for this five-level Q-Sort was as follows:

| Most Important | More Important | Important | Less Important | Least Important |
|---|---|---|---|---|
| 2 | 4 | 14 | 4 | 2 |

The fifty-eight parents who took part in this activity were asked to sort cards representing the 26 clusters into the above distribution. Due to the lengthiness of ranking all of the objectives, parents were asked to rank only the clusters. This ranking provided an overall view of skill area importance.

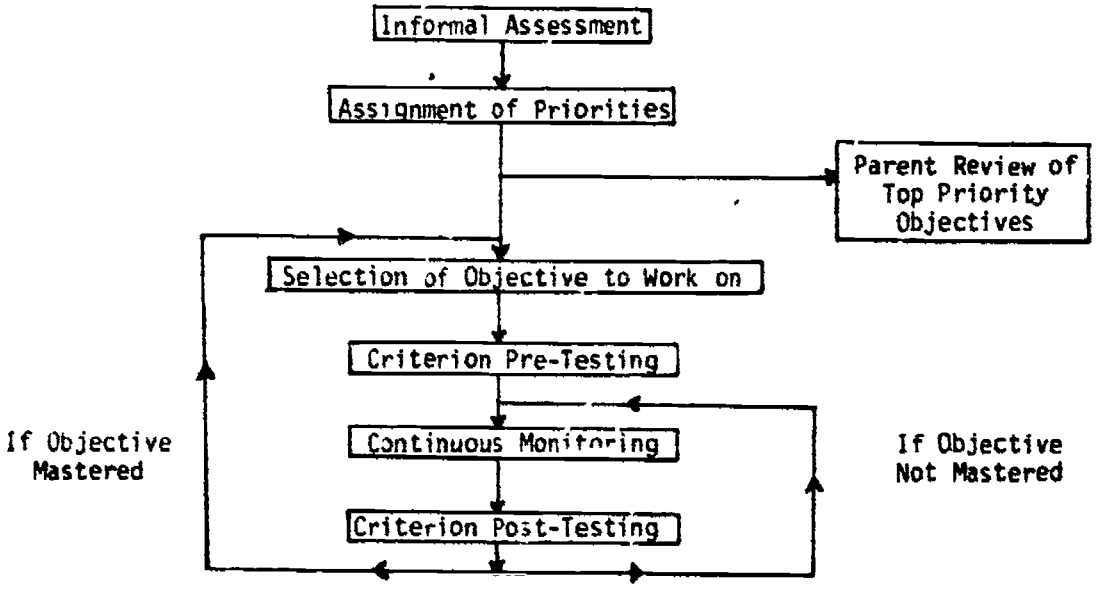
3. Evaluation by Community Agency Personnel:

Staff members of Duval County community agencies serving TMR students (Duval Association for Retarded Citizens, the Division of Mental Retardation's Regional Center, Vocational Rehabilitation, United Cerebral Palsy, and Pine Castle School) were asked to rank the objectives, modules, and clusters using the five-point scale described in the section on ranking by teachers. They were also asked to indicate any skill areas omitted from the collection of objectives.

Evaluation of Student Performance

There were two aspects to the design for the evaluation of TMR students' performance on specific objectives.

The first was the application of the sequence of assessment activities depicted in the following model which indicates the major components in the evaluation design:




The intent of this model was to outline assessment procedures for evaluating student performance on individually selected objectives. The instruments used for assessment were the criterion test items developed for each objective. The following is a more detailed description of this model:

1. Informal Assessment:

   The first step in the evaluation of the trainable student's performance was an informal assessment of the student's skills. Each teacher was given the collection of 550 objectives. In addition, he received a checklist with a short written description

of each of the objectives. (One checklist was provided for each student.) By completing this checklist on each student, the teacher indicated which of the objectives was appropriate for each of his students.

2. Assignment of Priorities:

Based on the information from the informal assessment and the progress that the student had made during the interim, the teacher assigned priorities to the objectives. The priority of a given objective for a student was a combination of perceived importance of skill acquisition for the student and the teacher's instructional sequence. Through the process of informal assessment, all of the objectives which were inappropriate for the student (at that particular time) were eliminated. In the assignment of priorities activity, those objectives which were appropriate for the student were placed in a hierarchy so that they could be assessed and worked on in an orderly fashion.

3. Parent Review of Top Priority Objectives:

The three to five objectives receiving the highest priority were transferred to letter form and sent home to the parents of the student. This provided a basis for school-home communication about specific skills in the student's instructional program.

4. Formal Criterion Pre-Testing:

From the ordered set of appropriate objectives, the teacher

selected the objective(s) that he intended to work on first. After the selection was made, the teacher obtained the criterion test item(s) and any necessary testing materials for that particular objective(s). The test item was then administered to the student in the manner specified in the test item instructions. After administration of the test item(s), the teacher completed the recording form and turned it in for analysis.

If the student mastered the objective(s) on the pre-test, the teacher selected the next objective(s) and administered the criterion test item(s) for that objective(s). If the student had not mastered the skill, the teacher began an instructional program focussed on assisting the student in acquiring the skill.

5. Continuous Monitoring of Student Progress:

At the completion of the first administration of the criterion test item(s), the teacher received a checklist which listed the same breakdown of the skills involved in mastering the objective as was contained in the criterion test item. This checklist was for the teacher's use in continuously monitoring student progress toward mastery of the objective. Each time a student mastered a new part of an objective, this progress could be recorded, providing the teacher with instructionally useful information on the student's performance.

6. Formal Criterion Post-Testing:

When the teacher thought that the student had mastered the ob-

jective, he again obtained the criterion test item and materials. The criterion test item was readministered to the student, and the recording form was turned in for analysis.

- If the student had mastered the objective, the teacher selected another objective on which to pre-test the student. If the student had not mastered the objective, the teacher continued instruction and post-tested again at a later time.

The second aspect of the evaluation of the performance of TMR students was to attempt to define a sequence and to identify interrelationships between checklist elements within a criterion test item of an objective and between objectives in a cluster. To accomplish this two clusters were selected on which the entire population of TMR students in the Duval County program was assessed. The objectives selected for this extensive criterion test item administration were those in the Writing and Counting and Numeral Identification clusters.

Evaluation of Project by Panel of Experts

All materials developed during the 1972-73 project year were examined by a three-member project evaluation panel: Dr. Harold W. Heller, University of Alabama; Dr. Oliver Kolstoe, University of Northern Colorado; and Dr. Bobby Palk, University of Alabama. After studying these materials for two days, the panel met from May 29-June 1, 1973 to determine whether or not the project had met its stated objectives and to recommend future activities.

## RESULTS

### Evaluation of Objectives, Modules, and Clusters by Teachers, Parents, and Community Agency Personnel

1. Evaluation by Teachers:

Teachers of TMR students from Dade, Duval, Broward, Palm Beach, Polk, Orange, and Hillsborough counties in Florida ranked the importance of each objective, module, and cluster; 122 teachers participated in these rankings. Each of these teachers ranked the entire collection of 550 objectives on a five-point scale of importance. (1.0 on this scale corresponded to "essential".) Due to the large number of objectives, only the 50 objectives receiving the highest ranking are presented in Table 1. (The complete teacher rankings are available upon request.)

Table I

Ranking of objectives in order of importance by teachers (50 highest ranked objectives).

| Item Description | N | Mean | Standard Deviation |
|---|---|---|---|
| Washing face and hands | 122 | 1.04 | 0.20 |
| Brushing teeth | 121 | 1.09 | 0.31 |
| Urination (female) | 121 | 1.11 | 0.34 |
| Urination (male) | 122 | 1.11 | 0.34 |
| Wiping Mucous from face | 122 | 1.12 | 0.40 |
| Defecation | 122 | 1.12 | 0.35 |
| Wiping food from face | 122 | 1.15 | 0.44 |
| Knows dangerous objects | 120 | 1.15 | 0.40 |
| Knows objects harmful if ingested | 119 | 1.15 | 0.36 |
| Wiping food from hands | 122 | 1.16 | 0.43 |
| Picks up, chews, swallows solid food | 122 | 1.16 | 0.39 |
| Crosses intersection with light | 120 | 1.17 | 0.40 |
| Menstrual care | 122 | 1.17 | 0.38 |
| Crosses intersection without light | 119 | 1.18 | 0.41 |
| Blowing nose | 122 | 1.18 | 0.41 |

| Item Description | N | Mean | Standard Deviation |
|---|---|---|---|
| Comprehension of safety words | 122 | 1.18 | 0.38 |
| Telling authority you are sick | 122 | 1.20 | 0.40 |
| Taking a shower | 122 | 1.21 | 0.43 |
| Knows objects to avoid | 120 | 1.21 | 0.45 |
| Knows objects harmful to eyes | 121 | 1.21 | 0.40 |
| Knows objects harmful to ears | 121 | 1.22 | 0.44 |
| Knows objects harmful to nose | 121 | 1.22 | 0.42 |
| Drinking from glass | 121 | 1.26 | 0.53 |
| Initiates own name and address | 122 | 1.26 | 0.49 |
| Names flashcard safety words | 122 | 1.26 | 0.56 |
| Initiates name, address, telephone | 121 | 1.27 | 0.51 |
| Walks safely on shoulder of road | 117 | 1.28 | 0.49 |
| Uses knife, fork, spoon | 120 | 1.29 | 0.51 |
| Passes sharp objects | 119 | 1.29 | 0.45 |
| Verbally reports fire to person | 121 | 1.30 | 0.47 |
| Comprehension of public signs | 122 | 1.30 | 0.49 |
| Repeats name, address, telephone number | 121 | 1.31 | 0.62 |
| Turns on, tests water in shower | 122 | 1.32 | 0.55 |
| Opens and closes doors | 119 | 1.32 | 0.50 |
| Uses electric appliance safely | 119 | 1.33 | 0.49 |
| Follows fire drill procedure | 121 | 1.33 | 0.49 |
| Uses zipper | 122 | 1.35 | 0.48 |
| Combs hair | 120 | 1.35 | 0.53 |
| Uses buttons | 122 | 1.36 | 0.48 |
| Writes first and last names | 122 | 1.37 | 0.62 |
| Behaves safely on playground | 121 | 1.38 | 0.49 |
| Names flashcard public signs | 122 | 1.38 | 0.61 |
| Identifies body parts | 122 | 1.38 | 0.52 |
| Initiates sentences on name, address | 122 | 1.39 | 0.58 |
| Grasps, picks up object | 122 | 1.39 | 0.50 |
| Uses snaps | 122 | 1.41 | 0.49 |
| Puts on shoes | 121 | 1.42 | 0.53 |
| Selects clean dinnerware | 121 | 1.43 | 0.53 |
| Climbs stairs | 121 | 1.43 | 0.53 |
| Puts on socks | 121 | 1.44 | 0.54 |

After ranking each objective, the teachers were requested to rank each module on the same five-point scale. Table 2 summarizes the 50 highest ranked modules.

Table 2

Ranking of modules in order of importance by teachers (50 highest ranked modules).

| Item Description | N | Mean | Standard Deviation |
|---|---|---|---|
| Bathes | 123 | 1.09 | 0.31 |
| Wipes face | 123 | 1.11 | 0.41 |
| Street safety | 123 | 1.12 | 0.35 |
| Washes and dries self | 123 | 1.13 | 0.40 |
| Use of dangerous objects | 122 | 1.14 | 0.37 |
| Fire safety | 123 | 1.15 | 0.35 |
| Sanitation | 122 | 1.17 | 0.42 |
| Drinks liquids | 123 | 1.18 | 0.40 |
| Eye, ear, nose and throat safety | 122 | 1.19 | 0.39 |
| Eats solid food | 123 | 1.22 | 0.45 |
| Recreational safety | 123 | 1.33 | 0.49 |
| Taking off clothes | 123 | 1.33 | 0.52 |
| Putting on clothes | 123 | 1.33 | 0.52 |
| Sickness | 121 | 1.37 | 0.52 |
| Use of utensils | 121 | 1.38 | 0.53 |
| Fastening clothes | 121 | 1.40 | 0.52 |
| Odor control | 121 | 1.40 | 0.58 |
| Body parts | 122 | 1.46 | 0.57 |
| Weather safety | 123 | 1.50 | 0.59 |
| Body image | 122 | 1.54 | 0.65 |
| Visual motor coordination | 122 | 1.55 | 0.57 |
| Directionality and laterality | 122 | 1.56 | 0.57 |
| Recognizes coins | 120 | 1.57 | 0.61 |
| First aid | 122 | 1.61 | 0.55 |
| Skin care | 122 | 1.61 | 0.56 |
| Spoken reproduction of words | 122 | 1.61 | 0.52 |
| Spoken production of words | 122 | 1.61 | 0.58 |
| Counting objects | 122 | 1.61 | 0.57 |
| Auditory discrimination | 122 | 1.62 | 0.59 |
| Balance | 121 | 1.64 | 0.59 |
| Visual discrimination | 122 | 1.65 | 0.63 |
| Opening containers | 122 | 1.66 | 0.54 |
| Recognizes paper money | 120 | 1.67 | 0.72 |
| Shop safety rules | 121 | 1.68 | 0.72 |
| Auditory association | 122 | 1.70 | 0.58 |
| Care of apparel | 122 | 1.72 | 0.55 |
| Dishwashing and drying | 122 | 1.72 | 0.69 |
| Spoken production of phrases | 122 | 1.73 | 0.63 |
| Tells time | 121 | 1.73 | 0.68 |
| Bedmaking | 121 | 1.73 | 0.64 |
| Auditory figure-ground | 121 | 1.74 | 0.61 |

| Item Description | N | Mean | Standard Deviation |
|---|---|---|---|
| Balanced eating and drinking | 123 | 1.75 | 0.63 |
| Tidying | 122 | 1.75 | 0.55 |
| Cleaning bathroom | 122 | 1.75 | 0.58 |
| Clearing and setting table | 121 | 1.76 | 0.62 |
| Hair dressing | 120 | 1.77 | 0.65 |
| Comprehension of Sight vocabulary | 121 | 1.77 | 0.68 |
| Food storage and retrieval | 121 | 1.77 | 0.57 |
| Cleans kitchen | 122 | 1.78 | 0.66 |
| Appropriateness of dress | 121 | 1.80 | 0.64 |

Finally, the teachers were asked to rank the 26 clusters representing Social Skills, Basic Skills, and Occupational Skills. The results are presented in Table 3. It is interesting to note that all of the clusters representing the Social Skills were ranked in the top third; clusters representing Occupational Skills were generally ranked low.

Table 3

Ranking of clusters in order of importance by teachers.

| Item Description | N | Mean | Standard Deviation |
|---|---|---|---|
| Cleanliness | 122 | 1.06 | 0.27 |
| Safety Skills | 122 | 1.06 | 0.27 |
| Eating | 122 | 1.11 | 0.34 |
| Health Skills | 122 | 1.13 | 0.34 |
| Dressing and Undressing | 122 | 1.24 | 0.46 |
| Listening | 122 | 1.31 | 0.46 |
| Speaking | 122 | 1.39 | 0.51 |
| Grooming | 122 | 1.40 | 0.49 |
| Sensory Motor Coordination | 120 | 1.51 | 0.62 |
| Position of Body in Space | 122 | 1.52 | 0.60 |
| Housekeeping | 122 | 1.63 | 0.59 |
| Homemaking | 120 | 1.66 | 0.56 |
| Money Concepts | 122 | 1.67 | 0.68 |
| Counting and Numeral Identification | 122 | 1.73 | 0.65 |
| Maintenance | 122 | 1.73 | 0.60 |
| Recreation Activities - Individual | 121 | 1.82 | 0.69 |
| Recreation Activities - Group | 121 | 1.90 | 0.80 |

| Item Description | N | Mean | Standard Deviation |
|---|---|---|---|
| Writing | 122 | 2.02 | 0.81 |
| Use of Shop Tools | 122 | 2.02 | 0.83 |
| Measurement | 122 | 2.10 | 0.77 |
| Reading | 122 | 2.11 | 0.88 |
| Recreational Arts | 122 | 2.13 | 0.85 |
| Personal Public Service Skills | 122 | 2.17 | 0.86 |
| Craft Skills | 12[illegible] | 2.24 | 0.86 |
| Addition and Subtraction | 121 | 2.25 | 0.91 |
| Clerical Service Skills | 122 | 2.40 | 0.91 |

In addition to ranking the objectives, modules, and clusters, the teachers indicated poorly worded statements and possible additional objectives. This information was used in modifying individual objectives and in expanding the entire collection.

In order to determine initial reaction to the project and its probable use by teachers across the state, the teachers from these six counties were asked to complete an anonymous opinion questionnaire. The response to this questionnaire was a positive endorsement of the potential usefulness of the materials that were developed by the project during the second year.

2. Evaluation by Parents:

Parents of students in the Duval County TMR program participated in two different cluster ranking activities. Ninety-seven parents completed a ranking of the clusters using the same five-point scale as the teachers. The rankings were completed during large PTA meetings. All of the items were read verbally to assist parents who had difficulty reading. The results of the parent group-ranking are presented in Table 4.

Table 4

Group-ranking of clusters by parents in order of importance

| Item Description | N | Mean | Standard Deviation |
|---|---|---|---|
| Cleanliness | 97 | 1.29 | 0.59 |
| Safety Skills | 95 | 1.38 | 0.62 |
| Eating | 95 | 1.42 | 0.63 |
| Listening | 96 | 1.51 | 0.74 |
| Health Skills | 97 | 1.53 | 0.63 |
| Speaking | 96 | 1.56 | 0.72 |
| Dressing and Undressing | 95 | 1.61 | 0.62 |
| Grooming | 94 | 1.64 | 0.50 |
| Sensory Motor Coordination | 93 | 1.68 | 0.67 |
| Housekeeping | 97 | 1.70 | 0.58 |
| Recreation Activities - Individual | 92 | 1.76 | 0.50 |
| Writing | 96 | 1.79 | 0.63 |
| Homemaking | 96 | 1.83 | 0.67 |
| Reading | 97 | 1.84 | 0.64 |
| Position of Body in Space | 92 | 1.84 | 0.74 |
| Counting and Numeral Identification | 96 | 1.88 | 0.62 |
| Money Concepts | 96 | 1.98 | 0.68 |
| Addition and Subtraction | 93 | 2.00 | 0.72 |
| Maintenance | 96 | 2.02 | 0.74 |
| Recreational Arts | 94 | 2.04 | 0.70 |
| Craft Skills | 95 | 2.08 | 0.63 |
| Measurement | 95 | 2.21 | 0.75 |
| Personal Public Service Skills | 94 | 2.29 | 0.83 |
| Clerical Service Skills | 94 | 2.38 | 0.75 |
| Use of Shop Tools | 92 | 2.38 | 0.95 |
| Recreational Activities - Group | 77 | 1.87 | |

These parents were also asked to take part in an individually administered ranking of the clusters using a Q-Sort technique with a five-level distribution. Fifty-eight parents volunteered to complete this ranking. The results of this parent Q-Sort ranking are presented in Table 5.

Table 5

Q-Sort ranking of clusters by parents in order of importance.

| Item Description | N | Mean | Standard Deviation |
|---|---|---|---|
| Speaking | 58 | 1.93 | 0.72 |
| Listening | 58 | 1.98 | 0.84 |
| Safety Skills | 58 | 2.28 | 0.83 |
| Cleanliness | 58 | 2.34 | 0.76 |
| Reading | 58 | 2.43 | 0.95 |
| Health Skills | 58 | 2.50 | 0.73 |
| Eating | 58 | 2.57 | 0.98 |
| Dressing and Undressing | 58 | 2.60 | 0.76 |
| Sensory Motor Coordination | 58 | 2.64 | 0.98 |
| Writing | 58 | 2.72 | 0.78 |
| Grooming | 58 | 2.81 | 0.66 |
| Counting and Numeral Identification | 58 | 2.97 | 0.64 |
| Housekeeping | 58 | 3.00 | 0.56 |
| Money Concepts | 58 | 3.12 | 0.77 |
| Recreation Activities - Individual | 58 | 3.19 | 0.66 |
| Homemaking | 58 | 3.19 | 0.54 |
| Position of Body in Space | 58 | 3.24 | 0.77 |
| Recreation Activities - Group | 58 | 3.24 | 0.68 |
| Addition and Subtraction | 58 | 3.26 | 0.88 |
| Craft Skills | 58 | 3.41 | 0.74 |
| Recreational Arts | 58 | 3.53 | 0.68 |
| Personal Public Service Skills | 58 | 3.69 | 0.72 |
| Use of Shop Tools | 58 | 3.76 | 0.88 |
| Measurement | 58 | 3.78 | 0.77 |
| Maintenance | 58 | 3.78 | 0.87 |
| Clerical Service Skills | 58 | 4.03 | 0.83 |

Some interesting differences exist between the two methods of ranking. With the Q-Sort technique, the relative position of several clusters changes; for example, listening, speaking, and reading skills move up in importance. Clusters in the Social Skills make up the majority of the top third; clusters from the Occupational Skills make up the majority of the bottom third. This is similar to the results of the teacher ranking reported in Table 3.

3. Evaluation by Community Agency Personnel:

The staff of five community agencies providing services to TMR students in Duval County were asked to rank the objectives, modules, and clusters. Thirty-four staff members from the Duval Association for Retarded Citizens, the Division of Retardation's Regional Center, Vocational Rehabilitation, United Cerebral Palsy, and Pine Castle School completed the rankings and reviewed the entire collection of objectives. Table 6 presents the top 50 objectives as ranked by these community agency personnel serving TMR individuals in Duval County. (The complete community agency personnel rankings are available upon request.)

Table 6

Ranking of objectives in order of importance by community agency personnel (50 highest ranked objectives).

| Item Description | N | Mean | Standard Deviation |
|---|---|---|---|
| Picks up, chews, swallows solid food | 34 | 1.26 | 0.44 |
| Taking a shower | 34 | 1.35 | 0.48 |
| Brushing teeth | 34 | 1.41 | 0.55 |
| Washing face and hands | 34 | 1.41 | 0.49 |
| Wiping mucous from face | 34 | 1.44 | 0.60 |
| Menstrual care | 33 | 1.45 | 0.50 |
| Defecation | 33 | 1.45 | 0.61 |
| Knows dangerous objects | 34 | 1.47 | 0.78 |
| Wiping food from face | 33 | 1.48 | 0.66 |
| Drinking from glass | 34 | 1.50 | 0.56 |
| Wiping food from hands | 33 | 1.52 | 0.70 |
| Knows objects harmful if ingested | 33 | 1.52 | 0.61 |
| Turning on, testing water in shower | 34 | 1.53 | 0.61 |
| Urination (female) | 34 | 1.53 | 0.81 |
| Urination (male) | 34 | 1.53 | 0.81 |
| Uses knife, fork, spoon | 34 | 1.56 | 0.60 |
| Knows objects to avoid | 34 | 1.59 | 0.77 |
| Grasps, picks up object | 34 | 1.62 | 0.54 |
| Knows objects harmful to eyes | 34 | 1.65 | 0.64 |
| Knows objects harmful to ears | 34 | 1.65 | 0.64 |
| Knows objects harmful to nose | 34 | 1.65 | 0.64 |

| Item Description | N | Mean | Standard Deviation |
|---|---|---|---|
| Takes off clothes over shoulders | 34 | 1.65 | 0.76 |
| Initiates own name and address | 34 | 1.65 | 1.00 |
| Comprehension of safety words | 34 | 1.65 | 0.54 |
| Repeats name, address, telephone | 33 | 1.67 | 1.03 |
| Takes off clothes over head | 34 | 1.68 | 0.79 |
| Pulls down clothes | 34 | 1.68 | 0.79 |
| Pulls up clothes | 34 | 1.68 | 0.79 |
| Puts clothes on over head | 34 | 1.68 | 0.79 |
| Puts clothes on over shoulders | 34 | 1.68 | 0.79 |
| Comprehension of public signs | 34 | 1.68 | 0.58 |
| Passes sharp objects | 33 | 1.70 | 0.76 |
| Shampooing hair | 34 | 1.71 | 0.71 |
| Crosses intersection with light | 34 | 1.71 | 1.02 |
| Takes off shoes | 34 | 1.71 | 0.82 |
| Takes off socks | 34 | 1.71 | 0.82 |
| Puts on socks | 34 | 1.71 | 0.82 |
| Puts on shoes | 34 | 1.71 | 0.82 |
| Uses buttons | 34 | 1.71 | 0.75 |
| Writes first and last names | 34 | 1.71 | 0.67 |
| Names flashcard safety words | 34 | 1.71 | 0.57 |
| Identifies coins | 34 | 1.71 | 0.67 |
| Names public signs | 32 | 1.72 | 0.62 |
| Opening and closing doors | 34 | 1.74 | 0.82 |
| Uses zipper | 34 | 1.74 | 0.74 |
| Blowing nose | 34 | 1.74 | 0.92 |
| Telling authority you are sick | 34 | 1.74 | 0.74 |
| Initiates name, address, telephone | 34 | 1.74 | 1.01 |
| Identifies bills to $20 | 34 | 1.76 | 0.73 |
| Identifies body parts | 34 | 1.76 | 0.73 |

Table 7 summarizes the 50 modules attributed the most importance by 34 Duval County community agency personnel.

Table 7

Ranking of modules in order of importance by community agency personnel (50 highest ranked modules).

| Item Description | N | Mean | Standard Deviation |
|---|---|---|---|
| Drinks liquids | 34 | 1.15 | 0.35 |
| Bathes | 33 | 1.21 | 0.41 |

| Item Description | N | Mean | Standard Deviation |
|---|---|---|---|
| Eats solid food | 34 | 1.21 | 0.40 |
| Putting on clothes | 34 | 1.29 | 0.46 |
| Washes and dries self | 34 | 1.32 | 0.47 |
| Taking off clothes | 34 | 1.32 | 0.47 |
| Uses utensils | 33 | 1.39 | 0.49 |
| Fastening clothes | 33 | 1.39 | 0.55 |
| Uses dangerous objects safely | 33 | 1.42 | 0.60 |
| Wipes face | 33 | 1.45 | 0.86 |
| Street safety | 33 | 1.45 | 0.56 |
| Fire safety | 34 | 1.47 | 0.61 |
| Sanitation | 33 | 1.48 | 0.66 |
| Eye, ear, nose, and throat safety | 31 | 1.58 | 0.61 |
| Recognizes coins | 32 | 1.72 | 0.57 |
| Odor control | 33 | 1.73 | 0.66 |
| Recognizes paper money | 32 | 1.75 | 0.61 |
| Balanced eating and drinking | 34 | 1.79 | 0.72 |
| Recreational safety | 34 | 1.79 | 0.63 |
| Sorts, washes, and dries clothes | 30 | 1.80 | 0.54 |
| Counting objects | 32 | 1.81 | 0.73 |
| Bedmaking | 30 | 1.83 | 0.58 |
| Weather safety | 32 | 1.84 | 0.71 |
| Opening containers | 30 | 1.87 | 0.67 |
| Sickness | 33 | 1.88 | 0.69 |
| Tells time | 32 | 1.88 | 0.70 |
| Identification of currency by cent value | 31 | 1.90 | 0.64 |
| Dishwashing and drying | 30 | 1.90 | 0.65 |
| Exchanges money for up to 50¢ | 32 | 1.91 | 0.63 |
| Balance | 33 | 1.91 | 0.75 |
| Cleans kitchen | 30 | 1.93 | 0.68 |
| Using kitchen appliances | 30 | 1.93 | 0.68 |
| Spoken reproduction of words | 33 | 1.94 | 0.85 |
| Spoken production of words | 33 | 1.94 | 0.81 |
| Shopping | 32 | 1.94 | 0.70 |
| Oral Counting | 32 | 1.94 | 0.79 |
| Numeral identification | 32 | 1.94 | 0.75 |
| Visual motor coordination | 33 | 1.94 | 0.69 |
| Identifies price tags | 32 | 1.97 | 0.64 |
| Makes change for up to $1.00 | 32 | 1.97 | 0.73 |
| Locks and unlocks | 31 | 1.97 | 0.65 |
| Using stove | 30 | 1.97 | 0.66 |
| Care of apparel | 33 | 2.00 | 0.65 |
| Skin care | 33 | 2.00 | 0.78 |
| Clearing and setting table | 30 | 2.00 | 0.58 |
| First aid | 33 | 2.03 | 0.76 |
| Auditory discrimination | 33 | 2.03 | 0.76 |
| Addition | 32 | 2.03 | 0.77 |
| Body image | 32 | 2.03 | 0.64 |
| Body parts | 32 | 2.03 | 0.77 |

The ranking of the clusters in order of importance by community agency personnel is presented in Table 8. The distribution of community agency personnel-ranked clusters is very similar to the distribution of clusters as ranked by both teachers and parents. The top third emphasizes Social Skills; the bottom third emphasizes Occupational Skills.

Table 8

Ranking of Clusters in order of importance by community agency staff.

| Item Description | N | Mean | Standard Deviation |
|---|---|---|---|
| Eating | 34 | 1.15 | 0.35 |
| Cleanliness | 34 | 1.21 | 0.40 |
| Dressing and Undressing | 34 | 1.32 | 0.53 |
| Safety Skills | 34 | 1.41 | 0.55 |
| Listening | 34 | 1.47 | 0.55 |
| Grooming | 34 | 1.50 | 0.56 |
| Health Skills | 33 | 1.55 | 0.66 |
| Speaking | 34 | 1.74 | 0.66 |
| Sensory Motor Coordination | 33 | 1.88 | 0.69 |
| Money Concepts | 33 | 1.91 | 0.67 |
| Writing | 33 | 1.94 | 0.78 |
| Housekeeping | 33 | 1.97 | 0.67 |
| Counting and Numeral Identification | 32 | 2.00 | 0.75 |
| Maintenance | 32 | 2.03 | 0.64 |
| Position of Body in Space | 33 | 2.12 | 0.81 |
| Homemaking | 32 | 2.16 | 0.67 |
| Reading | 33 | 2.21 | 0.77 |
| Addition and Subtraction | 32 | 2.22 | 0.65 |
| Recreation Activities - Individual | 34 | 2.24 | 0.73 |
| Recreation Activities - Group | 33 | 2.27 | 0.75 |
| Measurement | 34 | 2.41 | 0.69 |
| Use of Shop Tools | 33 | 2.70 | 0.80 |
| Recreational Arts | 34 | 2.74 | 0.85 |
| Personal Public Service Skills | 34 | 2.85 | 0.97 |
| Clerical Service Skills | 33 | 2.88 | 0.81 |
| Craft Skills | 32 | 2.88 | 0.82 |

Evaluation of Student Performance:

Several problems were encountered in evaluating student performance. Two departures from the proposed design (page 10) were necessary. The continuous monitoring and criterion post-testing aspects were not systematically undertaken. This was due primarily to scheduling delays which resulted in the initial testing being spread out over the entire year. However, the data collected and procedures used did result in useful modifications to the assessment procedures employed in the 1973-74 project year. The information collected during the 1972-73 field-test did little to clarify the level of performance of the students or the inter-relationships between objectives, and is therefore not presented in this report.

The Duval County teachers who participated in the collection of pupil performance data were asked to complete an anonymous questionnaire to evaluate the value of the 1972-73 assessment activities. They were provided the following written instructions prior to completing the questionnaire:

INSTRUCTIONS: This questionnaire is being given to you in order to obtain your feelings about your participation in the field-test activities of the TMR Accountability Study. This information is sought in order to improve the study next year. Your frank answers will be greatly appreciated. Your response should reflect the way you think or feel about each statement, in terms of the following six-point scale.

| STRONGLY DISAGREE | DISAGREE | MILDLY DISAGREE | MILDLY AGREE | AGREE | STRONGLY AGREE |
|---|---|---|---|---|---|
| SD | D | MD | MA | A | SA |
| 1 | 2 | 3 | 4 | 5 | 6 |

The questions and results are presented in Table 9. These results supported possible benefits from participating in the study. However, some detailed changes were indicated, such as, movement away from criterion test item assessment procedures.

Table 9

Reaction of Duval County Teachers to participation in the 1972-73 field-test activities of TMR Accountability Study.

| Statement | N | Mean |
|---|---|---|
| My involvement in the Accountability Study has made a better program for my children. | 21 | 3.28 |
| The criterion reference testing takes more time than it is worth. | 21 | 4.28 |
| I received adequate training in order to be able to assess my students' skills. | 21 | 4.81 |
| The criterion reference testing provided useful information in determining exactly how the students were doing in a skill. | 21 | 3.28 |
| The informal assessment (i.e., completing the checklist of objectives) on each student was a useful activity. | 21 | 3.28 |
| The Saturday workshops were a waste of time. | 21 | 3.33 |
| I knew how my students would do on the criterion reference tests before I administered them. | 21 | 4.52 |
| The Accountability Study has the potential of providing something useful to TMR teachers. | 21 | 4.28 |
| The information from the informal assessment was used in planning instruction for my students. | 21 | 3.43 |

| Statement | N | Mean |
|---|---|---|
| If I had a choice I would use criterion reference tests to evaluate my students. | 20 | 3.30 |
| If participation in the TMR Study were voluntary I would not participate. | 21 | 3.14 |
| I could have accurately assessed my students performance on the objectives without administering the criterion reference tests. | 20 | 4.35 |
| The informal assessment gave a useful profile for planning an instructional program for a student. | 21 | 3.66 |
| I could have provided a better program for my students if I did not have to spend time on the Accountability Study. | 21 | 3.66 |

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Evaluation of Project by Panel of Experts:

The following represents a summary of the report of the three-member evaluation panel.

* 90% of the objectives met the minimum criteria for performance objectives adopted by the State of Florida.
* At least 90% of the items included in the 600 plus objectives are important to the development of the youngsters.
* The present volume should be edited to reduce each behavioral objective to the least possible number of words without losing the purpose, clarity, and meaning.
* Visits should be made to approximately 5 sheltered workshops to identify appropriate objectives for the 16 to 18 year old TMR students.
* A users' manual should be developed to accompany the collection of objectives.
* The methods and materials aspect of the model should be bound in a separate book as a resource for the collection of objectives.

## CONCLUSIONS AND IMPLICATIONS

The results of the second year of the project lead to the following conclusions:

1. There is a high degree of correspondence between the importance attributed to skill areas by teachers, parents, and community agency personnel with Social Skills ranking generally at the top and Occupational Skills ranking at the bottom.

2. The materials developed during the 1972-73 project year have a high probability of being used and fill a need in the field based upon teacher review of the material and review by the panel of experts.

3. The criterion test item approach to assessment of TMR student performance is inadequate based upon feedback from teachers using the technique. Less reliance on structured criterion test items seems necessary if systematic evaluation of student performance is to be adopted by teachers.

4. Expansion of the number of objectives in the Occupational Skills area is necessary and should take into account those skills needed for successful performance in sheltered workshop situations.