

DEFINING FUNCTIONAL PERFORMANCE
IN AN EDUCATIONAL ENVIRONMENT

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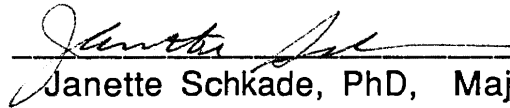
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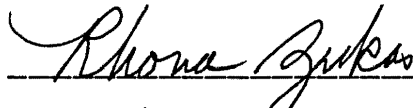
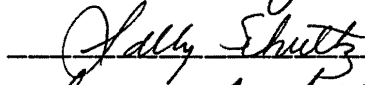
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I am submitting herewith a thesis written by Catherine Orr entitled "Defining Functional Performance in an Educational Environment". I have examined the final copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Arts, with a major in Occupational Therapy.

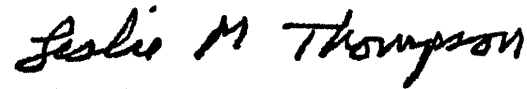

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We have read this thesis
and recommend its acceptance:

Dean, School of Occupational Therapy

Accepted


Dean of the Graduate School

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This work is further dedicated to and exists...

Because of Talitha

ABSTRACT

Defining Functional Performance in an Educational Environment

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The Model of Student Role Adaptation, developed to guide occupational therapy practice in the public schools, states that the demands of an educational environment affect the tasks required for a student to effectively benefit from instruction. This study examines the relationship between tasks identified by teachers as required for classroom participation and tasks addressed by occupational therapy treatment goals for evidence that therapists in public schools respond to needs created by environmental demands. A written survey consisting of school related tasks was sent to teachers and occupational therapists serving students in similar classrooms. The results indicated that occupational therapy treatment goals overall were significantly distributed among tasks designated as required by teachers. Analysis of the tasks by category, however, revealed a discrepancy. Teachers rated a high proportion of human interaction tasks as required yet occupational therapists appeared less responsive to these needs than to tasks related to motor skills.

TABLE OF CONTENTS

ABSTRACT.....	iv
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Chapter

I. THE PROBLEM AND ITS SETTING.....	1
II. LITERATURE REVIEW.....	8
III. METHODOLOGY	23
IV. RESULTS	31
V. DISCUSSION.....	39
REFERENCES.....	44

APPENDIX

A. Model of Student Role Adaptation	49
B. Teacher and Therapist Surveys.....	53
C. Rank Order Designations Tables 6-9	57

CHAPTER ONE
THE PROBLEM AND ITS SETTING
Background and Significance

A recurring theme in occupational therapy literature concerning practice in the public schools is the need for a theoretical framework which differentiates occupational therapy from other services and is communicable to educators (Royeen, 1988; Ottenbacher, 1982). To resolve this need on a local level the Dallas Independent School District occupational therapy staff constructed a practice model called the Model of Student Role Adaptation (Dallas Independent School District, 1990). This model appears to answer concerns found in the occupational therapy literature. It also has potential for application in other school districts yet had never been field tested in its original setting. This study explores the validity of several concepts in this model.

The Model of Student Role Adaptation

A copy of the complete model is located in Appendix A. Summarized, the Model of Student Role Adaptation identifies

occupational therapy's unique contribution to public education as the promotion of student role mastery. The student role is defined by the model as the collective behaviors and activities characteristic of the position of student within the United States public school system. Performance areas within the student role are listed as:

1. Manage school daily living skills
 - a. physical space
 - b. temporal structure (schedules)
 - c. self care
2. Participation in instruction
 - a. use of educational tools
 - b. readiness to receive instruction
3. Manage the school's human environment
 - a. orientation to group/class action
 - b. group member function
 - c. relationship formation

The model proposes that competence in student role tasks is essential to scholastic progress. Thus occupational therapy has the potential to provide a valuable service to education. The model further states that the level of performance required for

competence will differ for each student. This level is determined by the educational expectations for a student and the demands of his/her educational environment. Educational expectations are framed in a multidisciplinary committee as established by law (34 CFR parts 300.343-44) and documented in an individualized education plan (IEP). A student's educational environment consists of the setting, people, and activities used to bring the educational expectations to fruition.

The culmination of the Model of Student Role Adaptation is a function/dysfunction statement that seeks to interpret the law which governs all occupational therapy practice in special education. The implementing regulations of Public Law 94-142 at 34 Code of Federal Regulations part 300.13 defines related services, which include occupational therapy, as "...supportive services as are required to assist a handicapped child to benefit from special education...". According to this mandate occupational therapy can not provide services unless they are necessary for a child to benefit from education. Yet how does one determine whether or not a child is receiving benefit from special education? The Model of Student Role Adaptation determines this by stating that a student is

functional (receiving benefit from special education) when he or she is able to manage the student role in relation to educational expectations and the demands of her or his educational environment. A student is not functional (not receiving benefit from special education) when he or she is not able to manage the student role in relation to educational expectations and the demands of his or her educational environment.

Purpose of this Study

The purpose of this study was to examine current conditions in the Dallas Independent School District to determine whether the concepts of the student role and the educational environment relate to each other as indicated in the model's function/dysfunction statement. To accomplish this purpose the study examined the treatment decisions of occupational therapists for evidence that the demands of the educational environment were influencing those decisions.

Problem Statement

This study asked:

Is there a relationship between the student role tasks required to meet the demands of a specified educational environment and occupational therapists' treatment goals for students in that environment?

This question contains three subproblems:

1. What student role tasks are required to meet the demands of a specified educational environment?
2. What student role tasks are addressed by occupational therapist' treatment goals for students in that specified educational environment?
3. Is there a relationship between those student role tasks required to meet the demands of a specified educational environment and student role tasks addressed in occupational therapy treatment goals for students in that environment?

Terms

Educational environment- The setting, people, and activities employed to assist a student in fulfilling educational expectations.

Educational expectations- A vision of a student's future educational accomplishments. In special education this is conceived by a multidisciplinary team as established by law and documented in the goal and objective format of an IEP.

Student role- The collective behaviors and activities which comprise the customary function of student in the United States public school system.

Student role adaptation- The process of achieving and maintaining student role mastery.

Student role mastery- The successful performance of student role tasks required by the demands of the educational environment and the educational expectations for a single student.

Student role tasks- Specific tasks which embody the behaviors and activities which comprise the role of student.

Limitations

The limitations of this study were that it:

1. only examined data collected within the Dallas Independent School District.
2. did not examine the influence of factors other than the demands of the educational environment on occupational therapy treatment goal decisions.

Assumptions

Assumptions underlying this study were that:

1. student role mastery is the primary concern of occupational therapists employed by public school systems;
2. the student role tasks used in this study were accurate and inclusive components of the student role;
3. current occupational therapy treatment goals are valid;
4. all participants gave truthful and unbiased answers;
5. findings can be generalized to other settings.

CHAPTER TWO

LITERATURE REVIEW

The literature review centers around the question: Do occupational therapists consider the demands of a client's environment when determining a client's needs? The first portion of the review examines occupational therapy professional models for their inclusion of this factor. The second portion reviews literature concerning occupational therapy in the public schools.

Occupational Therapy Models

Hopkins (1988), discusses the philosophical base of occupational therapy which was adopted by the American Occupational Therapy Association (AOTA) Representative Assembly in 1979. The environment is mentioned by the philosophy twice. First it is cited as a factor which can cause dysfunction by interrupting the human process of adaptation. Second it is included as a component of purposeful activity as used by occupational therapists to decrease dysfunction. Hopkins describes this philosophical base as one of the progenitors of occupational

therapy models. It appears then that the environment is considered an important concept at the very root of the profession.

To investigate how the environment figures in professional models three prominent occupational therapy theorists were reviewed. The theorists were selected for their differing orientations as described by Reed (1984). These orientations are adaptive performance, developmental, and occupational behavior. The theorists are respectively, A. C. Mosey, L. Llorens, and G. Kielhofner.

Mosey

Mosey's professional model is summarized in Six Perspectives on Theory for the Practice of Occupational Therapy (Miller, Sieg, Ludwig, Shortridge, & Deusen, 1988). Mosey defines a model as having six parts. The environment is mentioned in the first part, philosophical assumptions. Mosey postulates that a person only achieves his or her potential through interaction with human and nonhuman environments and that this potential is only understood in the context of an individual's family, culture, or community. These

assumptions define function as a person's ability to interact with the environment consistent with their roles.

Mosey's model goes on to discuss the profession's ethical code, body of knowledge, domain of concern, and intervention principles. The environment figures again in the model's sixth part as one of the modalities this profession uses to bring about change.

Llorens

Llorens (1970), laid the framework of her professional model in the 1969 Eleanor Clarke Slagle lecture. The environment does not play a central role in her definition of function/dysfunction but serves as a backdrop. In her view individuals develop abilities and skills in a sequential order which are then used to match age-related demands placed on that person. Llorens refers to the environment as an arena which provides suitable practice for developing life skills. It does not appear as a determining factor in defining function save as it relates to identifying age-related demands.

Kielhofner

Kielhofner (1980, 1985), labels function in his Model of Human Occupation as a benign cycle. A person operating in a benign cycle is competent in performing the occupational requirements of his environment to his own satisfaction. Dysfunction occurs when internal satisfaction needs and/or external environmental demands are not met. This is termed a vicious cycle. The Model of Human Occupation views individuals as open systems which both interact with the environment and are changed by their interactions. A process model, it emphasizes this system's internal components and their working relationships. Dysfunction is postulated to be caused by an imbalance in the system. Thus the model's emphasis is on an individual's response to environmental demands rather than on the degree of extent of the demands themselves. The extent of the demands is broadly defined along a life span continuum where different life stages require different proportions of work and play.

Summary

Environmental demands appear with different degrees of emphasis in all three models. The Model of Student Role Adaptation places environmental demands in a position similar to that of Mosey. Once age-related demands are determined in Lloren's model the environment has no influence on determining function/dysfunction. Kielhofner's focus is on where an individual's system of coping has broken down rather than on the environment's role in creating the difficulty. From this review it seems likely that occupational therapists make some consideration of the demands of a client's environment in their practice. The different emphasis placed on this concept in the models reviewed suggests that different therapists do not give equal weight to environmental demands in function/dysfunction decisions.

Occupational Therapy Practice in the Public Schools

The second portion of this literature review considers the

question: Do occupational therapists working in public school systems consider the demands of a student's educational environment when determining that student's needs? The review explores the background and issues concerning occupational therapy practice in the schools. It then looks more closely at the role of environmental demands in therapeutic need and function/dysfunction decisions.

Background

Although occupational therapists worked in selected school settings prior to the passage of Public Law 94-142 (Coleman, 1988), this Education for All Handicapped Children Act signals the emergence of public schools as a major occupational therapy employer (McCormick & Lee, 1979). Public Law 94-142 regulations govern the scope and procedures of special education which includes occupational therapy. Occupational therapy is designated as a related and not a primary special education service. Therapy is to be provided only as it assists a student to benefit from special education (34 Code of Federal Regulations (CFR) Part 300.13). The

law is open to interpretation as to which occupational therapy services are educationally relevant. Determination of need for occupational therapy services is made by therapy assessment and agreement among the student's parent(s), teacher, a school administrator, and the student himself as is appropriate (34 CFR Part 300.344).

Early work on identifying educational relevant roles for occupational therapy was done by Gilfoyle and Hays (1979). Through questionnaire results from 284 therapists and 196 education administrators they identified five primary roles for occupational therapists in school systems and detailed specific functions for each. The identified roles are evaluating, program planning, intervention, managing/supervising, and consulting. These roles were adopted by the AOTA representative assembly in 1986 (AOTA, 1987).

Gilfoyle and Hays' work also explored what services occupational therapy offered in public school settings. Lists of program goals and intervention tasks indicated that school based therapists work intensively with the sensorimotor component of dysfunction. Items such as improving personal/social relationships,

work-study habits, or pre-vocational activities were cited less frequently by the respondents.

Issues

Consistently across the decade of the 1980's, occupational therapy has struggled with the need to merge its medically oriented roots with the relatively foreign educational focus of public education. McCormick and Lee (1979) introduced the subject with their article calling for a transdisciplinary approach which places special education teachers as primary program implementors. In their article on education agency certification for occupational therapists in public schools (Punwar & Wendt, 1980) describe educator concerns about accepting a medical therapy within its boundaries. Hightower-Vandamm (1980), in a paper whose title begins with "The Perils of Occupational Therapy...", cautioned therapists that educator perceptions of occupational therapy as a medical field were undermining the position of the profession. Ottenbacher (1982) called for practice models which combine medical and educational orientations. Magrun and Tigges (1982)

describe a service delivery method using a reconditioned bus as a clinic. This approach suggests that the task of merging medical and educational ideologies and operating procedures is at times so great that transplanting a medical environment is seen as preferable.

In 1986 Royeen called for efficacy studies on the benefit of occupational therapy services in public schools. She stated that educational administrators do not perceive clearly how occupational therapy supports education. This view is reinforced by a pilot study conducted by Bloom (1988) in which four special educators were interviewed. The educators indicated they felt occupational therapy was helpful in education but were unable to say why or how.

Articles in the *American Journal of Occupational Therapy*'s 1988 special issue on therapy in the schools make repeated calls for integration of medical and educational orientations as well as for clarity of communication between therapy and educators (Coutinho & Hunter, 1988; Royeen, 1988; Royeen & Marsh, 1988). Yet, in 1990 an article appeared in the *Occupational Therapy Forum* (Huebner, 1990) describing the fragmented and isolated service deliveries which have persisted throughout the author's career as a school based therapist.

Clearly the issue of merging medical and educational orientations has and will require changes for therapists throughout the five roles for school based practice outlined by Gilfoyle and Hays (1979). The strong position of the demands of the educational environment in the Model of Student Role Adaptation is an attempt to resolve this issue. Emphasis on what skills are required by the educational environment rather than on what skill components a student is lacking helps bridge the gap.

Environmental Demands/ Therapeutic Need

The concept of a student role mediated by environmental demands was broached in a 1979 study by Furgang and Yerxa which investigated whether teachers had different expectations of performance for handicapped children. A Student Role Expectation Inventory for first grade students was designed. it included tasks in academics, self care, and group behavior. The study's discussion suggests occupational therapy intervention would be appropriately directed toward adaptation to the school environment.

Although not labeled as such, Kinnealy and Morse (1979)

explored the influence of the environment on the student role by examining the physical, academic, and social needs generated by the mainstreaming of 31 physically handicapped children. They conclude that the optimum educational environment respects the strengths of each student while accommodating weaknesses by providing individualized support. Occupational therapy is mentioned as one such support. Clarkson (1982), described her treatment approach with school children learning self catheterization. Clarkson's rationale for the educational relevance of her work was to free the student for a less restricted environment thus her program appears to be a response to the demands of the school day environment. These articles indicate that particularly for physically disabled students in regular education settings, the demands of a student's educational environment can play a significant role in treatment decisions.

The Guidelines for Occupational Therapy Services in School Systems (1990) was reviewed for its approach to use of the demands of the educational environment in function/dysfunction decisions. The authors describe occupational therapy's purpose in school systems as facilitating independent function and

participation in educational activities. It proposes that therapy accomplishes this by assisting in the development of underlying skills. The demands of a student's environment figure prominently in the discussion concerning evaluation for service eligibility. Derived from the AOTA Standards of Practice for Occupational Therapy Services in the Public Schools adopted in 1987, the authors' steps recommend that evaluation methods and analysis of evaluation data consider performance across all environments. However, a relationship between need for services and environmental demands is not made. The assessment process is culminated with a question for the assessor: "Is the disability interfering with the educational program?" Examples of cases are provided where a student's disability may not interfere with education. Examples given are temporary injuries such as broken bones, a disabled person who has already achieved independence, or a client who has already received maximum benefit from therapy.

Stephens' (1989) presentation of therapy in the schools in her chapter in Occupational Therapy for Children (Pratt & Allen, 1989) references and parallels AOTA's guide. No system for determining

eligibility for occupational therapy services based on educational need is given.

Kauffman's (1988) chapter in Willard and Spackman's Occupational Therapy (Hopkins, 1988) is even more vague. The chapter's emphasis is on describing component skill deficits often seen in public school systems and appropriate evaluation tools.

Carr (1989) described the method adopted by the state of Louisiana for determining service eligibility. In it a student must evidence fine motor impairment due to motor deficits or developmental delay. It assumes that impaired motor functions interfere with a student's ability to participate in and thus benefit from education. In the case of developmental delay testing must show fine motor impairment below a student's documented functional abilities. The effect of the demands of a student's environment is not addressed. Letters published in response to Carr's article (Giangreco, 1990; Spencer, 1990) critique that omission. Among other concerns the writers question the validity of treatment decisions made without reference to a student's environment.

Literature which advocates a transdisciplinary or integrated

approach to service delivery in public schools takes a stronger stance on the role of the educational environment in determining a student's needs. Proponents (Dunn, 1989; Rainforth & York, 1987) view the environment as the canvas on which a treatment program is drawn. Routine activities are slightly modified or added to achieve a therapeutic purpose. To this end the educational environment must be carefully evaluated not only to determine a student's needs but to craft a functionally based treatment program.

Summary

Occupational therapy literature on practice in the public schools give conflicting reports concerning what influence environmental demands have on determining a student's needs. The role of the demands is evident in cases describing mainstreaming. In reference texts it is considered an important part of evaluation and yet does not figure in the final determination as to whether or not services are appropriate. The main emphasis of the literature seems to be on identifying a student's deficits in component skills leaving the therapist to use his or her own judgment and method for

determining the educational relevance of treatment. When the environment is utilized as a treatment tool the demands begin to have more impact on therapy decisions. Thus, though all sources appear to agree directly or indirectly that environmental demands are important, there are discrepancies in how great an impact they are perceived as having on therapeutic decisions. Another factor seen as having influence is component skills deficits.

Hypothesis

As the literature supports the importance of the demands of the environment in therapy decisions the following hypothesis was advanced in this study:

There is a significant, positive relationship between student role tasks required to meet the demands of a specified educational environment and the student role tasks addressed by occupational therapists' treatment goals for students in that environment.

CHAPTER THREE

METHODOLOGY

The methodology used in this study was a descriptive survey as described by Leedy (1980). Leedy ascribes four characteristics to a descriptive survey. First, this method uses observation as the primary means of collecting data. Leedy defines observation as the process of looking and recording responses. Data collection methods common to the descriptive survey are the questionnaire, the interview, or scales. Leedy describes the second characteristic as the need for the survey population to be carefully chosen. Leedy states that third, the probability of bias in the study must be recognized and fourth, that the data must be systematically organized for valid conclusions.

The Data

The data in this research consist of:

1. The responses of educators to the student role task analysis.
2. The responses of occupational therapists to the student

role task analysis.

3. The data generated by comparing educator and occupational therapist responses.

Subproblem One

The first subproblem reads: What student role tasks are required to meet the demands of a specified educational environment?

Specified educational environment. The specified environment selected for this study was the early childhood classroom as presented by special education in the Dallas Independent School District. These classes provide specialized instruction to children ages 3-6 years. Early childhood classes are open to students of all special education eligibility with the exception of autism and severe and profoundly handicapped. Early childhood classes were selected for this study for the following reasons:

1. Early childhood classes in the Dallas Independent School District have a uniform curriculum (DISD, 1988). This investigator

postulates that this uniformity in curriculum is mirrored by greater uniformity in student role demands than would be found in a cross-strata sample. Choosing a homogeneous sample also controls for the effects of a student's individualized educational expectations on student role demands.

2. Occupational therapists have a high frequency of referrals from this type of classroom.

3. The Dallas Independent School District has approximately 35 early childhood classrooms, a number sufficient for this study.

Subjects. The subjects selected for this portion of the study were 33 special education teachers. The selected teachers:

1. were employed by the Dallas Independent School District,
2. were certified by the state of Texas to teach special education,
3. had been assigned to teach early childhood classes for a minimum of eight months.

Special education teachers were selected to function as expert judges to determine the demands of the educational environment. They were considered qualified as they:

1. are the primary service providers in special education,
2. observe students in their student role daily,
3. have a major influence on the physical environment, interpersonal relationships, and activities of the classroom.

Instrument. A questionnaire was designed to survey teacher judgments concerning what student role tasks are required by early childhood classrooms. The teacher survey consisted of a cover letter, two demographic questions and items generated by a student role task analysis. A copy of the teacher survey is located in Appendix B. The analysis selected tasks, or items, using the steps outlined by Royeen (1985).

1. Define the construct.

The construct was defined as student role tasks. These are specific tasks which embody the behaviors and activities which comprise the role of student.

2. Collect related behaviors.

A variety of behaviors/skills were collected. The performance areas within the student role as described by the Model of Student Role Adaptation (Dallas Independent School District, 1990) were

used as a guide. Four occupational therapists with an average of nine years experience in public school settings generated the items. A list of 35 items was compiled.

3. Submit list for review.

The items were submitted to the Dallas Independent School District occupational therapy staff of nine therapists who as a group averaged nine years of experience in public school settings. The staff approved all 35 items as descriptive of the student role.

4. Generate descriptors.

This investigator reviewed the items for terms peculiar to the allied health professions. Items were re-worded using language familiar to the general population.

5. Edit.

Items were edited for brevity, to reduce ambiguity, and to increase clarity.

6. Elimination.

To test the scale a pilot study was conducted using a separate and smaller population than the one targeted for this research. Seventeen surveys were sent, eight were returned. Areas of confusion were noted and corrections made. Two items were

eliminated as redundant. Three were added to increase specificity. The final list consisted of 36 items.

7. Rating by a panel of experts.

The rating as to what extent each item is a statement of required function in a classroom was the objective of this portion of the study.

Procedure. Teachers were asked to mark items which in their opinion described tasks which must be performed in order for a child to successfully participate in an early childhood classroom. Formal permission from the Dallas Independent School District Research and Development Committee was obtained. The names and location of 33 early childhood teachers were identified through the Dallas Independent School District special education central computer data bank. Surveys were sent to each of the 33 teachers at their school assignments using the Dallas Independent School District inter-school mail system. Surveys were returned to the examiner through the same mail system.

Subproblem Two

The second subproblem states: What student role tasks are addressed by occupational therapists' treatment goals for students in that specified educational environment?

Subjects. The subjects selected for this portion of the study were 7 occupational therapists. The selected therapists were:

1. licensed in the state of Texas
2. employed full time by the Dallas Independent School District,
3. service providers to students in Dallas Independent School District early childhood classrooms.

Instrument. The therapist survey utilized the same 36 items also used in the teacher survey. The therapist survey asked respondents to indicate which student role tasks were being addressed by therapy services as indicated on students' individual educational plans. One survey for each early childhood student receiving therapy services was completed. A copy of this survey is located in

Appendix B.

Procedure. Subjects were approached by the investigator during a departmental business meeting. Surveys were distributed and returned by hand.

Subproblem Three

The third subproblem states: Is there a relationship between those student role tasks required to meet the demands of a specified educational environment and student role tasks addressed in occupational therapy treatment goals for students in that environment?

Procedure. Information obtained from data in subproblems one and two were subjected to statistical analysis.

CHAPTER FOUR
RESULTS
Subproblem One

Twenty four of thirty three teachers returned the survey, a 73% response rate. The surveys were screened and two eliminated. One respondent failed to meet the special education certification criteria and one lacked sufficient teaching experience in the early childhood setting. A total of 22 admissible surveys were used in this portion of the study.

Data Analysis. Responses were tallied by item creating a frequency column where each item received one tally each time it was selected by a respondent. The frequency of each item was then divided by the total number of admissible surveys to obtain the percentage of agreement among respondents. This is displayed in Table 1 on the following page.

Items selected by 75% or more of the respondents were designated as student role tasks required to meet the demands of an early childhood classroom environment. 75% was chosen as an indicator of consensus as it represents a clear majority. Table 2, on

page 33, displays the tasks selected as representative of early childhood environmental demands. Seventy-seven percent of the human environment tasks and 44% each of the daily living and instruction participation tasks were selected.

Table 1: Teacher Survey responses. N = 22
f = frequency % = percent of responses to total number respondents

Item	f	%	Item	f	%	Item	f	%
DAILY LIVING TASKS			Item 13	6	27%	Item 25	1	5%
Item 1	17	77%	Item 14	8	36%	Item 26	17	77%
Item 2	18	82%	Item 15	22	100%	Item 27	8	36%
Item 3	17	77%	Item 16	22	100%	HUMAN ENVIRONMENT		
Item 4	8	36%	Item 17	22	100%	Item 28	18	77%
Item 5	15	68%	Item 18	11	50%	Item 29	20	91%
Item 6	11	50%	INSTRUCTION			Item 30	16	73%
Item 7	20	91%	Item 19	22	100%	Item 31	21	95%
Item 8	0	0	Item 20	6	27%	Item 32	17	77%
Item 9	13	59%	Item 21	1	5%	Item 33	19	86%
Item 10	3	14%	Item 22	8	36%	Item 34	18	82%
Item 11	20	91%	Item 23	22	100%	Item 35	14	64%
Item 12	3	14%	Item 24	22	100%	Item 36	20	91%

Table 2: Student role tasks required by early childhood classrooms. X = required N = 22.

MANAGE DAILY LIVING TASKS	PARTICIPATE IN INSTRUCTION
☒ GET INTO SCHOOL	☒ MANIPULATE EDUCATIONAL OBJECTS
☒ MOVE TO CLASS	☐ PRODUCE PRINTED WORDS/NUMBER GROUPS
☒ MOVE TO LUNCH	☐ PRODUCE SENTENCES/MATH PROBLEMS
☐ MOVE TO GYM	☐ USE WORK SHEETS
☐ PLACE SELF AT DESK	☒ CUT
☐ WALK STAIRS	☒ CONSTRUCT
☒ GET ON/OFF BUS	☐ RECORD INFORMATION (notes/board copy)
☐ KEEP PRECISE SCHEDULE	☒ MAINTAIN LEARNING READY POSTURE
☐ STAY W/IN 15 MIN. OF SCHEDULE	☐ PREPARE SUPPLIES FOR USE
☐ STAY W/IN 30 MIN. OF SCHEDULE	MANAGE SCHOOL'S HUMAN ENVIRONMENT
☒ MANAGE COAT	☒ ORIENT BODY TOWARD INSTRUCTION
☐ MANGE BOOKS	☒ DIRECT RESPONSE TO CLASS/TEACHER
☐ MANAGE LOCKER	☐ WORK INDEPENDENTLY
☐ MANAGE SCHOOL SUPPLIES (transport, store)	☒ WAIT FOR TURN
☒ CARE FOR TOILET NEEDS	☒ STAND IN LINE
☒ EAT LUNCH	☒ REMAIN IN INSTRUCTION AREA
☒ MANAGE EATING TOOLS	☒ SHARE WORKSPACE
☐ LUNCHLINE	☐ COOPERATE IN GROUP ASSIGNMENTS
	☒ SHARE MATERIALS

Subproblem Two

Five of seven therapists returned 30 surveys, a response rate of 71%. Total number of surveys used in this portion of the study was 30.

Data Analysis. Responses were tallied by item in two frequency columns. The first column labeled "Goal" received one count for every survey with that item selected. The second column labeled "No Goal" received one count for every survey where that item was not selected. The total of the "Goal" and "No Goal" frequencies for each item equaled 30, the total number of surveys. This is displayed in Table 3 on the following page. Items selected as therapy goals are displayed in Table 4 on page 36. In contrast to teacher responses in subproblem one therapists selected 66% of the daily living, 71% of instruction participation, and 33% of human environment tasks.

Table 3: Frequency of positive and negative responses to items as treatment goals selected by occupational therapists for students in early childhood classrooms. N=30.

Item #	Goal	No Goal	Item #	Goal	No Goal
MANAGE DAILY LIVING TASKS			PARTICIPATE IN INSTRUCTION		
Item 1	14	16	Item 19	23	7
Item 2	13	17	Item 20	12	18
Item 3	11	19	Item 21	0	30
Item 4	2	28	Item 22	1	29
Item 5	15	15	Item 23	11	19
Item 6	11	19	Item 24	4	26
Item 7	7	23	Item 25	0	30
Item 8	0	30	Item 26	10	20
Item 9	0	30	Item 27	1	29
Item 10	0	30	MANAGE HUMAN ENVIRONMENT		
Item 11	10	20	Item 28	7	23
Item 12	0	30	Item 29	4	26
Item 13	0	30	Item 30	4	26
Item 14	0	30	Item 31	0	30
Item 15	16	14	Item 32	0	30
Item 16	15	15	Item 33	0	30
Item 17	15	15	Item 34	0	30
Item 18	3	27	Item 35	0	30
			Item 36	0	30

Table 5: Student role tasks addressed by one or more occupational therapy treatment goals.

X = goals assigned N = 30.

MANAGE DAILY LIVING TASKS	PARTICIPATE IN INSTRUCTION
☒ GET INTO SCHOOL	☒ MANIPULATE EDUCATIONAL OBJECTS
☒ MOVE TO CLASS	☒ PRODUCE PRINTED WORDS/NUMBER GROUPS
☒ MOVE TO LUNCH	☐ PRODUCE SENTENCES/MATH PROBLEMS
☒ MOVE TO GYM	☒ USE WORK SHEETS
☒ PLACE SELF AT DESK	☒ CUT
☒ WALK STAIRS	☒ CONSTRUCT
☒ GET ON/OFF BUS	☐ RECORD INFORMATION(notes/board copy)
☐ KEEP PRECISE SCHEDULE	☒ MAINTAIN LEARNING READY POSTURE
☐ STAY W/IN 15 MIN OF SCHEDULE	☒ PREPARE SUPPLIES FOR USE
☐ STAY W/IN 30 MIN OF SCHEDULE	MANAGE SCHOOL'S HUMAN ENVIRONMENT
☒ MANAGE COAT	☒ ORIENT BODY TOWARD INSTRUCTION
☐ MANGE BOOKS	☒ DIRECT RESPONSE TO CLASS/TEACHER
☐ MANAGE LOCKER	☒ WORK INDEPENDENTLY
☐ MANAGE SCHOOL SUPPLIES (transport,store)	☐ WAIT FOR TURN
☒ CARE FOR TOILET NEEDS	☐ STAND IN LINE
☒ EAT LUNCH	☐ REMAIN IN INSTRUCTION AREA
☒ MANAGE EATING TOOLS	☐ SHARE WORKSPACE
☒ LUNCHLINE	☐ COOPERATE IN GROUP ASSIGNMENTS
	☐ SHARE MATERIALS

Subproblem Three

The data from the previously assembled frequency columns was subjected to a chi square analysis to determine whether the distribution of occupational therapy treatment goal assignments/non-assignments was related to tasks required by early childhood classrooms. The chi square which appears in Table 5 is composed of frequencies from tables 1 and 3. A significant chi square (chi square = 58.8, $p < .001$) indicates that there is a strong relationship between tasks designated by teachers as environmental demands and therapy treatment goals.

Table 5: Chi square matrix: distribution of occupational therapy goal assignments/non-assignments among student role tasks required by early childhood classrooms. $p < .001$

obs f = observed frequency exp f = expected frequency

ENVIRONMENT	OCCUPATIONAL THERAPY	
	<u>Goals</u>	<u>No Goals</u>
Required Tasks	obs f 160	obs f 410
	exp f 110.3	exp f 459.7
Not Required Tasks	obs f 49	obs f 461
	exp f 98.7	exp f 411.3

The data was then subjected to a Spearman rank order correlation to explore the relationship between item frequencies assigned by teachers as judges of environmental demands, and occupational therapists in treatment planning. Ranks were assigned using data in tables 1 and 3. All 36 items were ranked and analyzed (Table 6, Appendix C). Items were then ranked again within the subject areas of daily living skill, instruction participation, and human environment tasks. These rankings are displayed in Tables 7, 8, and 9, Appendix C. The analysis for the total item set revealed a positive correlation with a .01 significance. The analysis for items by subject areas produced positive correlations with a .01 significance in daily living tasks and a .05 significance in instruction participation tasks. The analysis did not achieve significance in human environment tasks, Table 10.

Table 10: Results of Spearman rank order correlations between teacher required task selections and occupational therapist goal assignments.

Total Item Set	$p < .01$	$r' = .54$
Manage Daily Living Skill Items	$p < .01$	$r' = .84$
Participate in Instruction Items	$p < .05$	$r' = .68$
Manage Human Environment Items	$p < .15$	$r' = .08$

CHAPTER FIVE

DISCUSSION

Results support the hypothesis that there is a significant, positive relationship between student role tasks required to meet the demands of a specified educational environment and the student role tasks addressed by occupational therapy treatment goals for students in that environment. In this study the chi square analysis demonstrated that occupational therapy treatment goal assignments/non-assignments were related to tasks required and not required by early childhood classrooms. Occupational therapists assigned a greater frequency of goals to tasks rated by teachers as environmental demands and a lower frequency to tasks not required by early childhood classrooms. The Spearman rank order correlation for the total item set was significant and positive. Therapists and teachers were in agreement as to which items were important in early childhood classrooms. This suggests that occupational therapists are designing programs in response to the classrooms' environmental demands.

In terms of the Model of Student Role Adaptation the supported hypothesis favors the model's contention that the demands of a

students educational environment influence the level of skill required for function/ student role mastery. Overall, the therapists in this study who were utilizing the model appeared to be targeting dysfunctions related to environmental demands.

When analyzed by item category, however, the data indicate that defining dysfunction in school settings contains issues other than environmental demands. Therapists appear to be less responsive to the behavioral/social demands of the class environment. In contrast, teachers appear to place priority on human interaction tasks in the classroom.

Results from subproblem one show that teachers selected 77% of the human environment tasks in contrast to 44% of the daily living and instruction participation tasks as environmental demands. Of note is the 77% response to item 1, "get into school". All Dallas Independent School District early childhood classrooms are located inside school buildings yet 33% of the respondents did not perceive entry as a task required for classroom participation. It is possible that the respondents answered to common educational expectations rather than environmental demands as for most students building entry is not a difficulty. Teachers may be less aware of daily living

tasks as prerequisites for instruction. Or perhaps school entry problems are not perceived as part of a teacher's role and thus respondents were less sensitive to the task's importance.

Occupational therapists selected 66% of the daily living and 71% of the instruction participation tasks as treatment goals and only 33% of the human environment tasks. This is in direct contrast to the teacher responses. Several interpretations are suggested.

First, this finding may be a reflection of the emphasis on occupational therapy's involvement with sensorimotor function in school settings which was discovered in the literature review (Gilfoyle and Hays, 1979; Hopkins, 1988; Carr, 1989). Task by task the items in the categories of daily living and instruction participation are more activity or motor based. Tasks listed under managing the human environment are more dependent on behavioral factors. The therapists in this study may be responding to sensorimotor deficits when assigning treatment goals.

Another interpretation is that the occupational therapists placed priority on activity of daily living (ADL) tasks. A review of ADL assessments used by the profession shows that tasks listed here under instruction participation have in other settings been

defined as ADL's (Law and Letts,1989). ADL's have long been an integral part of occupational therapy. Yet, it can be argued that occupational therapy's roots in psychiatric settings should also urge therapists to place priority on behavioral tasks.

The investigator postulates that this divergence between teacher and therapist task assignments is due to the recent arrival of occupational therapy and the handicapped to mainstream public schooling. Daily living skills present little difficulty for non-handicapped children. In contrast, the need to control and direct behavior is a constant in any childhood program. Emphasis on sensorimotor and daily living skills by occupational therapists in public school practice may be an adaptive response upon entering a setting where behavioral direction has historically been provided by educators.

To retain an approach representative of the entire domain of occupational therapy this study suggests further exploration is needed as to how occupational therapy's skills in psychiatric and behavioral techniques can be utilized in public school settings. Therapists also should not ignore the importance placed on human environment skills by teachers. Therapists may be perceived as

more useful in assisting education if effort is made to promote the benefits of services on behavioral as well as motor activity outcomes.

Future Study Implications. This study examined the influence of environmental demands on therapy treatment decisions. To further test the Model of Student Role Adaptation future studies need to explore the relationship between environmental demands and educational expectations as outlined in the model's function/dysfunction statement. The study also suggests that occupational therapy's emphasis on sensorimotor components and ADL's in school-based settings may have a role in therapist's function/dysfunction decisions. Studies conducted in public school settings not using this model could compare the relative efficacies of models based on remediation of component, sensorimotor skills versus task outcome models such as the Model of Student Role Adaptation.

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APPENDIX A

Model of Student Role Adaptation

Model of Student Role Adaptation

A practice model designed for the Dallas Independent
School District
Dallas, TX

PHILOSOPHY

This practice model is based upon the following philosophy set forth by the profession of occupational therapy for practice in public school systems:

"As occupational therapists working in the schools, we must improve students' ability to profit from the education experience. As our philosophical base states, we do this through encouraging students to continuously adapt to more challenging learning experiences while remembering that the context must be the educational environment. Any requirements for adaptation that will not facilitate the learning and educational process should be addressed in other settings." (AOTA, 1989).

ASSUMPTIONS

This model is based on the following assumptions:

1. That the public school is an appropriate setting for handicapped students.
2. That handicapped students can learn in a public school setting.
3. That the special education system, through the A.R.D. process, is qualified in determining how and what a student is expected to learn.
4. Occupational Therapy can contribute to the learning potential of handicapped students.

5. Occupational therapy's contributions to learning within the public school system are most effective when delivered within the structure of the educational environment.

KEY CONCEPTS

LIFE ROLES: Activities of human beings are comprised of roles. These roles are the behaviors and activities required for competence in the areas of work, play, and self care.

STUDENT ROLE: The collective behaviors and activities which comprise the customary function of student in the United States public school system.

STUDENTROLEOCCUPATIONALPERFORMANCEAREAS:

1. Manage School Daily Living Tasks
 - a. Physical space
 - b. Temporal structure (schedules)
 - c. Self care
2. Participation in Instruction
 - a. Use of educational tools
 - b. Readiness to receive instruction
3. Manage Human Interactions in School
 - a. Orientation to group/class action
 - b. Group member function
 - c. Relationship formation

INSTRUCTIONAL ARRANGEMENT: The educational design chosen by the A.R.D. committee for a student based on his/her needs. The instructional arrangement includes the educational expectations for a student and the educational environment.

EDUCATIONAL EXPECTATIONS: A vision of a student's future educational accomplishments. In special education this is conceived by a multidisciplinary team as established by law and documented in the goal and objective format of an Individual Educational Plan.

EDUCATIONAL ENVIRONMENT: The setting, people, and activities employed to assist a student in fulfilling educational expectations.

CLASSROOM PERFORMANCE: The level of participation and progress made by a student in an instructional arrangement.

HYPOTHESES

1. Mastery of the student role is necessary for optimal classroom performance.
2. The instructional arrangement determines the degree of performance required for student role mastery.
3. Occupational therapy contributes to the educational process by addressing the occupational performance areas of the student role.

FUNCTION/DYSFUNCTION STATEMENT

When a student is able to master the student role as required by his/her instructional arrangement, he/she is considered to be functional. A student is considered dysfunctional when he/she is unable to manage the student role in relation to his/her instructional arrangement.

MISSION STATEMENT

The mission of the D.I.S.D. Occupational Therapy Department is to provide services when and where such services can enable, ensure or enhance a child's mastery of the occupational role of student as defined by his/her special education instructional arrangement.

Reference:

American Occupational Therapy Association. (1989). Guidelines for Occupational Therapy Services in School Systems. Rockville, MD: Author.

APPENDIX B
Teacher and Therapist Surveys

Cathy Orr, OTR
E. D. Walker Special Education Center
Occupational Therapy

October 1990

Dear Early Childhood Teacher:

To help therapists direct their services to the skills most needed the occupational/physical therapy department is constructing a screening tool to be used in different DISD classrooms. Would you act as an expert judge in selecting the tasks crucial to an early childhood setting?

The following page contains a student role task analysis. To complete the survey simply mark the tasks which the students are regularly asked to do in your early childhood class. If you wish to see how all the early childhood classes look on this scale indicate you wish a copy of the completed survey in the space provided. Please return the survey via school mail to C. Orr Box 157.

We thank you for your time and attention. See you in class!

Cathy Orr, OTR

TEACHER SURVEY

Are you certified to teach special education? ____yes ____no
How long have you taught in a DISD early childhood classroom? ____years ____months
Would you like a copy of this survey? ____no ____yes/ Name:____ School:____

PLEASE MARK THE TASKS WHICH IN YOUR EXPERIENCE ARE REQUIRED FOR SUCCESSFUL PARTICIPATION
IN AN EARLY CHILDHOOD CLASS.

MANAGE DAILY LIVING TASKS

- ____GET INTO SCHOOL
- ____MOVE TO CLASS
- ____MOVE TO LUNCH
- ____MOVE TO GYM
- ____PLACE SELF AT DESK
- ____WALK STAIRS
- ____GET ON/OFF BUS
- ____KEEP PRECISE SCHEDULE
- ____STAY W/IN 15 MIN. OF SCHEDULE
- ____STAY W/IN 30 MIN. OF SCHEDULE
- ____MANAGE COAT
- ____MANAGE BOOKS
- ____MANAGE LOCKER
- ____MANAGE SCHOOL SUPPLIES (transport,store)
- ____CARE FOR TOILET NEEDS
- ____EAT LUNCH
- ____MANAGE EATING TOOLS
- ____LUNCHLINE

PARTICIPATE IN INSTRUCTION

- ____MANIPULATE EDUCATIONAL OBJECTS
- ____PRODUCE PRINTED WORDS/NUMBER GROUPS
- ____PRODUCE SENTENCES/MATH PROBLEMS
- ____USE WORK SHEETS
- ____CUT
- ____CONSTRUCT
- ____RECORD INFORMATION(notes/board copy)
- ____MAINTAIN LEARNING READY POSTURE
- ____PREPARE SUPPLIES FOR USE
- MANAGE SCHOOL'S HUMAN ENVIRONMENT
- ____ORIENT BODY TOWARD INSTRUCTION
- ____DIRECT RESPONSE TO CLASS/TEACHER
- ____WORK INDEPENDENTLY
- ____WAIT FOR TURN
- ____STAND IN LINE
- ____REMAIN IN INSTRUCTION AREA
- ____SHARE WORKSPACE
- ____COOPERATE IN GROUP ASSIGNMENTS
- ____SHARE MATERIALS

THERAPIST SURVEY

OT Initials_____ Student Initials_____

FOR THIS EARLY CHILDHOOD STUDENT, WHAT STUDENT ROLE TASKS ARE YOU ADDRESSING IN TREATMENT AND AS DOCUMENTED ON THIS CHILD'S INDIVIDUAL EDUCATION PLAN?

MANAGE DAILY LIVING TASKS

- ____GET INTO SCHOOL
- ____MOVE TO CLASS
- ____MOVE TO LUNCH
- ____MOVE TO GYM
- ____PLACE SELF AT DESK
- ____WALK STAIRS
- ____GET ON/OFF BUS
- ____KEEP PRECISE SCHEDULE
- ____STAY W/IN 15 MIN. OF SCHEDULE
- ____STAY W/IN 30 MIN. OF SCHEDULE
- ____MANAGE COAT
- ____MANAGE BOOKS
- ____MANAGE LOCKER
- ____MANAGE SCHOOL SUPPLIES (transport,store)
- ____CARE FOR TOILET NEEDS
- ____EAT LUNCH
- ____MANAGE EATING TOOLS
- ____LUNCHLINE

PARTICIPATE IN INSTRUCTION

- ____MANIPULATE EDUCATIONAL OBJECTS
- ____PRODUCE PRINTED WORDS/NUMBER GROUPS
- ____PRODUCE SENTENCES/MATH PROBLEMS
- ____USE WORK SHEETS
- ____CUT
- ____CONSTRUCT
- ____RECORD INFORMATION(notes/board copy)
- ____MAINTAIN LEARNING READY POSTURE
- ____PREPARE SUPPLIES FOR USE
- ____MANAGE SCHOOL'S HUMAN ENVIRONMENT
- ____ORIENT BODY TOWARD INSTRUCTION
- ____DIRECT RESPONSE TO CLASS/TEACHER
- ____WORK INDEPENDENTLY
- ____WAIT FOR TURN
- ____STAND IN LINE
- ____REMAIN IN INSTRUCTION AREA
- ____SHARE WORKSPACE
- ____COOPERATE IN GROUP ASSIGNMENTS
- ____SHARE MATERIALS

APPENDIX C
Rank Order Designations
Tables 6, 7, 8, and 9

Table 6: Rank order by frequency of teacher and occupational therapist positive responses / all items.

SpEd=special education teacher. OT= occupational therapist.

Item #	SpEd	OT	Item #	SpEd	OT
MANAGE DAILY LIVING TASKS			PARTICIPATE IN INSTRUCTION		
Item 1	17.5	6	Item 19	3.5	1
Item 2	14	7	Item 20	30.5	8
Item 3	17.5	10	Item 21	34.5	29.5
Item 4	27.5	20	Item 22	27.5	21.5
Item 5	21	4	Item 23	3.5	10
Item 6	24.5	10	Item 24	3.5	17
Item 7	9.5	14.5	Item 25	34.5	29.5
Item 8	36	29.5	Item 26	16.5	12.5
Item 9	23	29.5	Item 27	27.5	21.5
Item 10	32.5	29.5	MANAGE HUMAN ENVIRONMENT		
Item 11	9.5	12.5	Item 28	14	14.5
Item 12	32.5	29.5	Item 29	9.5	17
Item 13	30.5	29.5	Item 30	20	17
Item 14	27.5	29.5	Item 31	7	29.5
Item 15	3.5	2	Item 32	17.5	29.5
Item 16	3.5	4	Item 33	12	29.5
Item 17	3.5	4	Item 34	14	29.5
Item 18	24.5	19	Item 35	22	29.5
			Item 36	9.5	29.5

Table 7: Rank order teacher and occupational therapist responses.

MANAGE DAILY LIVING TASKS

SpEd=special education teacher. OT=occupational therapist.

Item #	SpEd	OT	Item #	SpEd	OT
Item 1	7.5	5	Item 10	16.5	15.5
Item 2	6	6	Item 11	4.5	9
Item 3	7.5	7.5	Item 12	16.5	15.5
Item 4	13.5	12	Item 13	15	15.5
Item 5	9	3	Item 14	13.5	15.5
Item 6	11.5	7.5	Item 15	2	1
Item 7	4.5	10	Item 16	2	3
Item 8	18	15.5	Item 17	2	3
Item 9	10	15.5	Item 18	11.5	11

Table 8: Rank order teacher and occupational therapist responses.
PARTICIPATE IN INSTRUCTION

SpEd=special education teacher. OT=occupational therapist.

Item #	SpEd	OT	Item #	SpEd	OT
Item 19	2	1	Item 24	2	5
Item 20	7	2	Item 25	8.5	8.5
Item 21	8.5	8.5	Item 26	4	4
Item 22	5.5	6.5	Item 27	5.5	6.5
Item 23	2	3			

Table 9: Rank order teacher and occupational therapist responses.
MANAGE HUMAN ENVIRONMENT

SpEd=special education teacher. OT=occupational therapist.

Item #	SpEd	OT	Item #	SpEd	OT
Item 28	5.5	1	Item 33	4	6.5
Item 29	2.5	2.5	Item 34	5.5	6.5
Item 30	8	2.5	Item 35	9	6.5
Item 31	1	6.5	Item 36	2.5	6.5
Item 32	7	6.5			