The Impact of the Classroom Environment on Defining Function in School-Based Practice

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Objective. Whether the environment is stressed in function-dysfunction decisions appears to depend on where in the hierarchy of components of complex tasks and role skills the evaluating therapist is focused. This study examined the intervention planning decisions of occupational therapists who used the Model of Student Role Adaptation, which emphasizes the complex tasks involved in the student role. The purpose of the study was to determine whether these therapists were responding to environmental demands in planning their interventions.

Method. Special education teachers selected tasks that they believed were the most essential for student functioning within their classroom environments. These selections were compared with the goals and objectives developed by occupational therapists who serve children in these settings.

Results. Chi square analysis indicated a significant relationship between tasks designated by the teacher participants as environmental demands and those included in occupational therapy intervention planning.

Conclusion. The results suggest that the occupational therapist participants were responding to the environmental demands of the classroom when constructing their intervention plans.

The definition of what does or does not constitute function for a client governs all occupational therapy intervention. Function-dysfunction decisions determine the need for services, indicate goals and methods, and become the standard by which the success of occupational therapy intervention is measured. Occupational therapy in the public schools is guided by a single phrase in the regulations of the Individuals With Disabilities Education Act (IDEA, 1990, Public Law 101-476). This phrase states that occupational therapy services shall be provided as is required for a child to benefit from his or her special education. The phrase is specific in that it dictates that occupational therapy services in the schools be aligned with the goals of special education, but it is open to interpretation with respect to what factors are to be used in determining whether a child is “functional.”

To fill this vacuum, occupational therapists have created procedures and criteria for school-based practice (Carr, 1990). These criteria have included developmental levels (American Occupational Therapy Association [AOTA], 1989; Carr, 1989), motor performances (Carr, 1989; Farley, Sarracino, & Howard, 1991), education rel-
evance lists (Texas Education Agency, 1991) and occupa-
tional performance areas and components (Dunn &
McGourty, 1989). More recently, attention has been fo­
cused on the role of the environment in function–dys­
function decisions (Dunn, 1993).

Literature Review
The concept of the environment is common to occupa-
tional therapy theory. However, the proposed influence of
the environment on function differs with various models
(e.g., Llorens, 1970; Mosey, 1981; Nelson, 1988; Reed,
1984; Schkade & Shulz, 1992). Definitions of the envi­
roment and the extent of its influence on intervention
decisions also vary in the occupational therapy literature
about school-based practice. Early articles about students
with physical disabilities in the regular education class­
room suggested a direct relationship between the de­
mands of the educational environment and therapy inter­
vention (e.g., Clarkson, 1982; Furgang & Yerxa, 1979;
Kinnealy & Morse, 1979; Rainforth & York, 1987).
These authors indicated that the environmental demands
of the school setting can contribute to the identification
of intervention needs. Brollier, Shepherd, and Markley
(1994) promoted the use of environmentally referenced
assessments for function–dysfunction decisions in transi­
tion planning for public school students into the com­
munity. The Pediatric Evaluation of Disability Inventory
(Haley, Coster, Ludlow, Haltiwanger, & Andrellos, 1992)
assesses complex functional tasks in different environ­
ments. Griswold (1994) described the use of ethnograph­
ic analysis to assess the classroom environment. Currently
under development, the School Function Assessment
(Coster, Deeney, Haltiwanger, & Haley, 1996) organizes
items by different settings within the school as well as by
skill categories.

In contrast, deficits in component skill areas are of­
ten cited as determining factors in function–dysfunc­tion
decisions in school-based practice. Here, the influence of
the environment is present but not emphasized (e.g.,
Cook, 1991; Dunn & Campbell, 1991). The procedures
described by Carr (1989) lean heavily on motor skills
and developmental test results but omit the environment
as a factor in defining function for school-based therapy
services (Giangreco & Spencer, 1990). The criteria report­
ed by Farley et al. (1991) refer to the environment only
obliquely as a factor in expected intervention outcomes. In
a survey of school-based practitioners, Powell (1994) found
that therapists spend relatively little time in context-oriented
intervention and work most often with sensorimotor foun­
dation skills.

Whether the environment is stressed in function–
dysfunction decisions appears to depend on where in the
hierarchy of skills the evaluating therapist is focused. The
School Function Assessment tool, as described by Coster
(1996), is based on a top–down model that emphasizes
the child’s performances in terms of roles and complex
tasks. Component-level evaluation occurs only when dys­
function has been identified at these higher levels. This
concept is also central to the Model of Student Role
Adaptation (see Figure 1), which was developed in the
Dallas Independent School District (DISD) in Texas to
assist in occupational therapy function–dysfunction deci­
According to this model, the focus of school-based occu­
pational therapy services is to promote student role mas­
tery. To define what constitutes mastery for a specific
child, the therapist examines the individualized education
program and the child’s educational environment. The
demands of these educational expectations and the envi­
rironment in which they are fostered will determine the
nature of that child’s required student role. The student
role heavily depends on the demands of the environment.
This dependency can be illustrated by the dramatic differ­
ence between the student role requirements for a child in
a self-contained special education classroom and those
that a child must master for inclusion into a regular edu­
cation setting.

This study was conducted in the DISD to determine
whether use of the Model of Student Role Adaptation
guided the therapists to respond to environmental de­
mands in planning their intervention. The nature of these
demands was defined by classroom teachers. The data
were examined for a match between the intervention
plans of the therapists and the teacher’s perceptions of
what tasks constituted student role mastery in their class­
rooms.

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Thirty-three special education teachers were selected to act as expert judges in determining what behaviors and activities were required in their classrooms. These teachers were responsible for classrooms that served children ages 3 to 6 years with varied disabilities. These early childhood special education classes were selected because a uniform curriculum was required for instruction. In addition, all the classrooms operated with similar format, space, equipment, and staffing. This uniformity was desired to reduce differences in the environmental demands between individual classrooms. Criteria for selection included certification by the state of Texas to teach special education and a minimum of 8 months teaching experience in the early childhood setting.

Five occupational therapists employed by the DISD also participated in the study. These therapists were selected because they were providing direct occupational therapy services to students in the targeted classrooms. Because school-based occupational therapy uses a wide range of service delivery options, only direct service intervention was examined because it was more likely to reflect the clinical thinking of the occupational therapist alone. It was believed that intervention conducted under more collaborative service delivery styles would be more likely to include the teacher's reasoning.

Instrument
A task analysis of the student role was conducted by the occupational therapist participants, using the steps outlined by Royeen (1985). The Model of Student Role Adaptation identifies three categories of student role performance: (a) school daily living tasks, (b) participation in instruction, and (c) human interactions. A list of 35 observable behaviors and activities were compiled by a committee of four therapists. These were submitted to the full-time occupational therapy staff of nine therapists who approved all 35 items as descriptive of the student role. To assess clarity from an educator's viewpoint, surveys containing the 35 proposed items were sent to 17 special education teachers who were not otherwise associated with this study. Areas of confusion were noted, and corrections made. Two items were eliminated as redundant. Three items were added to increase specificity. The final list of student role tasks consisted of 36 items (see Table 1).

Procedure
Surveys were sent to the 33 teacher participants via the school mail system. The survey was accompanied by a cover letter that requested the teachers' assistance in developing a screening tool for use in DISD classrooms. They were asked to mark which of the 36 items the students in their classrooms were required to perform regularly. Surveys were returned anonymously through the same mail system.

Surveys were distributed to the five occupational therapist participants during a departmental business meeting. The therapists were asked to complete one survey for each child receiving direct services in the targeted classrooms. They were also directed to mark which of the 36 items were included in the goals and objectives of the child's occupational therapy intervention.

Results
Twenty-four of the 33 teacher participants returned the survey. Two surveys were eliminated because one participant did not meet the special education certification criterion, and one lacked the required 8 months experience in the early childhood setting. Therefore, data analysis was performed on 22 (67%) surveys. The five occupational therapist participants returned 30 surveys.

The frequency with which each item was designated as an early childhood classroom requirement was tabulated and converted into a percentage of the total response rate. Items selected by 75% or more of the respondents were operationally defined as representing the student role demands of the target environment. On the basis of this criterion, 44% of the items in the categories of school daily living tasks and participation in instruction were selected. Seventy-eight percent of the items in the human interaction category were considered to be required regularly in the targeted setting.

The frequency with which each item was designated as being addressed by occupational therapy direct services was also tabulated. The therapists indicated that 67% of the items in the school daily living category and 78% of the items in the participation in instruction category were being addressed. Thirty-three percent of the items in the human interaction category were included in the direct intervention.

A chi square analysis performed on the frequency data from the two sets of questionnaires (i.e., teacher and therapist participants) indicated a significant relationship ($\chi^2 = 58.8, df = 1, p < .001$) between tasks designated by teachers as environmental demands and those included in direct occupational therapy intervention (see Table 2).

Discussion
The results of the study suggest that the occupational therapist participants who use the Model of Student Role Adaptation may be responding to environmental demands in planning their intervention. A moderate rela-
### Table 1
Percentage of Student Role Tasks Selected by Teacher Participants and Targeted for Occupational Therapy Intervention

<table>
<thead>
<tr>
<th>Potential Student Role Tasks</th>
<th>Teacher Selection</th>
<th>Goals in Occupational Therapy Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manage school daily living tasks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Get into school</td>
<td>77%</td>
<td>47%</td>
</tr>
<tr>
<td>Move to class</td>
<td>82%</td>
<td>43%</td>
</tr>
<tr>
<td>Move to lunch</td>
<td>77%</td>
<td>37%</td>
</tr>
<tr>
<td>Move to gym</td>
<td>36%</td>
<td>7%</td>
</tr>
<tr>
<td>Place self at desk</td>
<td>68%</td>
<td>50%</td>
</tr>
<tr>
<td>Walk stairs</td>
<td>50%</td>
<td>37%</td>
</tr>
<tr>
<td>Get on and off bus</td>
<td>91%</td>
<td>23%</td>
</tr>
<tr>
<td>Keep precise schedule</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Stay within 15 min of schedule</td>
<td>59%</td>
<td>0%</td>
</tr>
<tr>
<td>Stay within 30 min of schedule</td>
<td>14%</td>
<td>0%</td>
</tr>
<tr>
<td>Manage coat</td>
<td>91%</td>
<td>33%</td>
</tr>
<tr>
<td>Manage books</td>
<td>14%</td>
<td>0%</td>
</tr>
<tr>
<td>Manage locker</td>
<td>27%</td>
<td>0%</td>
</tr>
<tr>
<td>Manage school supplies</td>
<td>36%</td>
<td>0%</td>
</tr>
<tr>
<td>Care for toilet needs</td>
<td>100%</td>
<td>53%</td>
</tr>
<tr>
<td>Eat lunch</td>
<td>100%</td>
<td>50%</td>
</tr>
<tr>
<td>Manage eating tools</td>
<td>100%</td>
<td>50%</td>
</tr>
<tr>
<td>Go through lunch line</td>
<td>50%</td>
<td>10%</td>
</tr>
<tr>
<td>Participate in instruction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manipulate educational objects</td>
<td>100%</td>
<td>77%</td>
</tr>
<tr>
<td>Produce printed words and numbers</td>
<td>27%</td>
<td>40%</td>
</tr>
<tr>
<td>Produce sentences and math problems</td>
<td>5%</td>
<td>40%</td>
</tr>
<tr>
<td>Use work sheets</td>
<td>36%</td>
<td>0%</td>
</tr>
<tr>
<td>Cut</td>
<td>100%</td>
<td>3%</td>
</tr>
<tr>
<td>Construct</td>
<td>100%</td>
<td>37%</td>
</tr>
<tr>
<td>Record information (in notes from board)</td>
<td>5%</td>
<td>0%</td>
</tr>
<tr>
<td>Maintain learning-ready posture</td>
<td>77%</td>
<td>33%</td>
</tr>
<tr>
<td>Prepare supplies for use</td>
<td>36%</td>
<td>3%</td>
</tr>
<tr>
<td>Manage school’s human interaction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Orient body toward instruction</td>
<td>77%</td>
<td>23%</td>
</tr>
<tr>
<td>Direct response to class or teacher</td>
<td>91%</td>
<td>13%</td>
</tr>
<tr>
<td>Work independently</td>
<td>73%</td>
<td>13%</td>
</tr>
<tr>
<td>Wait for turn</td>
<td>95%</td>
<td>0%</td>
</tr>
<tr>
<td>Stand in line</td>
<td>77%</td>
<td>0%</td>
</tr>
<tr>
<td>Remain in instruction area</td>
<td>86%</td>
<td>0%</td>
</tr>
<tr>
<td>Share work space</td>
<td>82%</td>
<td>0%</td>
</tr>
<tr>
<td>Cooperate in group assignments</td>
<td>64%</td>
<td>0%</td>
</tr>
<tr>
<td>Share materials</td>
<td>91%</td>
<td>0%</td>
</tr>
</tbody>
</table>

*Item selected by >75% of the teacher participants was operationally defined as a required student role task.

A relationship existed between the items that were included in the goals and objectives of occupational therapy intervention and those that the teacher participants selected as demands of the targeted classroom environment. The occupational therapist and teacher participants appeared to be in agreement as to what was required for function in these classrooms.

Defining function in school-based practice with an emphasis on environmental demands has several advantages. Assessment tools that are environmentally referenced speak directly to the child’s educational needs in the classroom and other environments (Brollier et al., 1994; Chandler, 1995). Educational environments are a common denominator between therapists and teachers, and discussion at this level may lend itself to better communication of the educational relevance of occupational therapy interventions (Gott, 1991). Attention to environmental demands may also be helpful when intervention is conducted within the classroom itself (Bal, 1995; Clark, 1995).

Although, overall, the items selected by the teacher and therapist participants correlated, a discrepancy was found in the selection of items in the human interaction category. The therapist participants indicated goals or ob-
Adaptation has been adopted as the theoretical base for objectives for only three of the seven human interaction items the teacher participants deemed important. It may be that human interaction goals were being addressed only in consultation and thus were eliminated from this study, which examined direct services only. It is also possible that the therapist participants did not perceive human interaction as part of their role in school-based practice. Another interpretation is that the therapist participants were addressing human interaction tasks indirectly in their intervention without articulating this action in their objectives. Psychosocial concerns permeate all of occupational therapy practice (AOTA, 1995). Whole task approaches on the basis of environmental context may provide greater avenues for school-based therapists to intervene in human interaction domains.

A limitation of this study is that it was conducted in a single school district where the Model of Student Role Adaptation has been adopted as the theoretical base for intervention. Results may not generalize to other settings that use different function–dysfunction decision-making criteria for occupational therapy services. Further examination in school environments where therapists are unfamiliar with the model would be beneficial for comparison.

Summary

In this study, special education teachers were asked to select the tasks that they believed were the most essential for student functioning within their classroom environments. These selections were compared with the goals and objectives developed by occupational therapists who serve children in those settings. The results suggest that the occupational therapist participants were responding to the environmental demands of the classroom when constructing their intervention plans. Models of practice that emphasize the influence of the environment in function–dysfunction decisions appear to be well suited to school-based practice where the therapist must deal with a wide variety of environments and communicate the educational relevance of occupational therapy intervention.

Table 2
Chi Square Matrix: Frequency of Occupational Therapy Goal Assignments–Nonassignments Among Teacher-Required–Not-Required Student Role Tasks

<table>
<thead>
<tr>
<th>Teacher Participants</th>
<th>Occupational Therapists Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required tasks</td>
<td>Goals 160</td>
</tr>
<tr>
<td>Not-required tasks</td>
<td>Goals 49</td>
</tr>
<tr>
<td>Totals</td>
<td>209</td>
</tr>
</tbody>
</table>

Note: $\chi^2 = 58.8, df = 1, p < .001.$

References


