Ethnographic Analysis: A Study of Classroom Environments

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Objectives. Occupational therapists assess and adapt an environment to enhance clients' abilities to function. Therapists working in schools may assess several classroom environments in a week. Identifying relevant information in an efficient manner is essential yet presents a challenge for school therapists.

Method. In this study, ethnographic research methodology was used to analyze the plethora of data gained from observations in eight classrooms.

Results. Three major categories were identified to structure observations: activities, people, and communication. These categories were used to compile a Classroom Observation Guide that gives therapists relevant questions to ask in each category.

Conclusion. Using the Classroom Observation Guide, occupational therapists can recommend classroom activities that suit a particular teacher's style. For example, working with a teacher who prefers structured activities with clear time and space boundaries for one specific purpose, a therapist might suggest organized sensorimotor games with a distinct purpose to be carried out for a given time period.

Occupational therapists in schools are frequently expected to work with teachers to develop learning activities and adapt the classroom environment to enhance learning for students with special needs. Because of greater emphasis on inclusion of all children with special needs in regular classrooms, therapists are increasingly working in classrooms with teachers who have a variety of educational approaches. Understanding the classroom environment is necessary to work most effectively. However, environmental assessment procedures suggested in the literature require several hours of observation and interviews, a time-consuming process for the school-based therapist who may be in five to six classrooms a day. An ethnographic study of eight elementary classrooms in two school systems was conducted as a first step to organize classroom observation data. Analysis of the data generated the development of a Classroom Observation Guide that can enable therapists to obtain relevant classroom observation data quickly. Therapists can then determine the most effective intervention strategies to use in any given classroom environment.

Literature Review

Importance of the Environment in Occupational Therapy Theory

Occupational therapists recognize the influence of the environment on a person's abilities to perform actions expected for a given role. Rogers (1983) described physical and social qualities of the environment as important "enablers of human performance" (p. 604). The objects, people, and situations in the environment stimulate a person's interests and provide opportunity for action and consequently for development or maturation (Barris, Kielhofner, Levine, & Neville, 1985; Christiansen, 1991).

Polatajko (1992) claimed that one gains occupational competence through dynamic interaction with the environment. Polatajko described a causal relationship between the environment and person: as the demands of the environment increase, a person's abilities increase. For these reasons, Spencer, Krefting, and Mattingly (1995) argued that assessment needs to look not only at the person and the clinical needs, but also at the environment.

Mosey (1992) affirmed the relevance of the environment as an arena in which to assess or direct therapy. She claimed that occupational therapists enhance a person's ability to participate in areas of performance while facilitating performance components as necessary, within the context of the environment. Mosey depicted the environment as "fundamental to occupational therapy's domain of concern" (p. 266).

Although occupational therapy philosophy describes the relevance of the environment for a person's functioning, few specific environmental assessment tools...
exist for practical use. Christiansen (1991) argued that "perhaps because of the influence of medicine and its orientation toward the internal workings of the body, occupational therapists have given insufficient attention in the past to environmental factors and their influence on performance" (p. 24). Additionally, many therapists are unsure of what to assess in an environment and how to organize the information for treatment planning.

Assessment of the Environment

Theorists in occupational therapy have provided broad guidelines for environmental assessment that include the physical, social, and cultural aspects (Barris et al., 1985; Christiansen, 1991; Mosey, 1992; Polatajko, 1992; Spencer, 1987; Spencer, 1991; Spencer et al., 1993). More specific direction was offered by Spencer (1987) who proposed that therapists assess space and objects to learn about the physical aspects of the environment; social systems and networks to understand the social environment; and activity patterns, articulated beliefs, and expectations to understand culture in the environment. Barris et al. (1985) described four layers in the environment: objects, tasks, social groups and organizations, and culture. They depicted these layers as a hierarchy, indicating a relationship among all of the environmental aspects.

An analysis that includes all of the aspects of the environment noted above would appear to produce an unwieldy amount of data. Furthermore, after review of a variety of environmental assessment instruments, Spencer (1987) claimed that each one only pertains to one aspect of the environment; therefore, a complete environmental assessment could involve using several different instruments with a variety of data-gathering methods, leading to a time-consuming process. As an alternative to using multiple assessment instruments, Spencer (1987) and Spencer et al. (1993) proposed that therapists observe and interview clients and their family members and use interpretive analysis of the data to obtain information on the environment. Recognizing that this approach would also result in a great deal of information, Spencer suggested an organizational framework to make sense of data. Ethnographic analysis can provide a practical approach to develop such a framework (Spencer et al., 1993).

Ethnographic Analysis

Ethnography provides a method of data analysis that gives meaning to the information obtained from observations or interviews (Agar, 1986). Environmental studies using an ethnographic approach in sociology describe the structure and culture. The structure of an environment refers to the people, objects, and tasks (Berger, 1964). From a sociological perspective, the structure is described as a social world grouped around the objects and tasks in the environment. Such a perspective considers the people and their roles, their language and communication patterns, and the objects they use as they engage in activities (Berger, 1964).

Culture supports the structure through the behavior patterns and beliefs socially transmitted to people in a common environment. Frost, Moore, Louis, Lundberg, and Martin (1991) noted that culture implies stable behavioral patterns and shared concepts that are seen in all aspects of group life. Barley (1983) claimed that one can understand culture by analyzing stories, myths, and symbols shared by people in an environment. In stories about a group of people, culture is depicted in the descriptions of the events, the objects and how they are used, and the behavior of the persons. The words and behavior used in the storytelling also aid in understanding culture (Barley, 1983). Stories are often told during an interview, as demonstrated by clinical reasoning research (Mattingly & Gillette, 1991).

Occupational therapy environmental assessment parallels the sociological perspective of ethnographic study. Structural analysis includes an examination of the physical aspects of an environment as well as its social components. Looking at structure involves determining the environmental space, objects, and tasks. Structure also includes identifying people in the social system and their roles and communication patterns. Understanding culture requires looking for patterns of behavior, beliefs about the behavior, and expectations of the group. Identifying symbols, such as words or objects that have a meaning shared by the group, also indicate important aspects of the culture. Because culture is seen through the structure and the structure confirms the culture, analysis of both is done simultaneously.

Spencer et al. (1993) claimed that ethnographic assessment answers important questions for occupational therapists. A description of the physical aspects of the environment, including objects in the setting and those used for tasks, provides information about how routines and tasks are performed. Knowing the people in the environment and what they do (the social aspects) allows therapists to understand the roles and performance organization of the roles. Examining the occupations and tasks and how these are valued allows therapists to look at the meaning of the tasks or occupations (Spencer et al., 1993).

Ethnographic Research in Schools

Ethnographic studies of schools have focused on both the structural and cultural components of the environment to understand the teaching–learning process that occurs in the classroom. In their study of classrooms, Gearing and Epstein (1982) found that examination of activities and the interaction promoted by the activities reveal class-
room structure. They also found that the classroom activities transmitted culture to the students. For example, a reading game structured interactions between people for learning but also transmitted the cultural values of creating motivation, ensuring success, and building self-confidence in students.

Doyle (1972) found that classroom activities gave a structure to the students' day as well as imparting cultural values. Through activities, students took on roles as they learned responsibility for their actions, an important aspect of the culture. Cohen, Lotan, and Leechor (1989) found that teaching methods and curriculum materials, the type of supervision by the teacher, and the work arrangements among the students were all interrelated to describe the function of learning activities.

Mehan (1984) focused on language and its relation to the unspoken rules and norms in the classroom. He claimed that language needs to be interpreted in the context in which it was spoken. The person speaking, where the conversation takes place, and when the interaction occurs are all important for understanding what was said. Mehan claimed that the unspoken rules and norms of the classroom are "important for students' success because interpreting classroom rules seem to be a part of successful participation in the classroom community" (p. 178).

Study Purpose

If Mehan (1984) was correct, occupational therapists working in schools would also participate more effectively in the classroom once they understood the rules and norms, or structure and culture of the environment. Knowing the structure and culture of a classroom will enable therapists to identify their roles and determine the most appropriate intervention strategies for a particular classroom environment. This study was undertaken to (a) identify the type of information that would be easily observable and relevant for therapists who work in a given classroom and (b) provide a tool for organization of the observation data to enable therapists to make therapy decisions. The classroom environment is the focus of the investigation, rather than the functioning of a specific child or children in that classroom.

Method

To determine key aspects for assessment of classrooms, I observed eight elementary school classrooms from two different school districts in New Hampshire. Both districts were in small towns, located approximately 15 miles from major cities. Each classroom was observed once, with observation times ranging from 15 to 55 min, with an average observation time of 25 min. Observation time was dictated by the natural progression of school activities such as physical education, music, library time, and recess. The length of observation time is typical of the time a school therapist would have to observe and focus on the classroom environment. The classrooms were chosen by the school principals to represent a range of teaching styles and grade levels.

In addition to classroom observations, I interviewed classroom teachers, principals, and students about their impressions of school and classrooms. I attended a school district meeting for one of the districts and teachers' curriculum development meetings for core subjects of math and reading. Although it was not used to understand individual classrooms, information gained from interviews and meetings provided greater understanding of the culture of particular school districts, which would affect each classroom in the district.

In both of the schools, I knew the principals but not the classroom teachers. The teachers were told that I was an occupational therapist conducting research to better understand the school setting. In all cases, I was welcomed, and my stated motive for observing was appreciated. While in the classrooms, I usually assumed the role of an observer. Sometimes, however, I followed the children in the classroom as they moved from place to place and I became involved in answering their questions or listening to stories students had written.

My data gathering combined two methods. In some classrooms, I documented every detail possible about the setting and classroom activities. I diagrammed the classroom bulletin boards and objects hanging from the ceiling, desk arrangements, and spatial relationships of students to each other and to the teacher. I recorded exact words that the teacher used and the responses he or she received. In other classrooms and during interviews, I wrote key phrases to aid in my recall and then added more detailed description of the classroom observation or interview data after leaving the room.

After I completed three observations, I listed emerging concepts and grouped data into preliminary categories using guidelines from previous ethnographic studies in schools (Cohen et al., 1989; Doyle, 1972; Gearing & Epstein, 1982; Mehan, 1984). As I gathered more observation data, I contrasted the classrooms with the categories, which broadened the categories and further defined the type of information within them.

Agar (1986) provided guidelines for analyzing ethnographic data gathered through observations and interviews. Through a process of finding differences between pieces of information, a breakdown and resolution process of data analysis occurs, enabling the researcher to gain greater understanding of the information. Lofland and Lofland (1984) posed questions for the researcher to ask about the data to develop categories for data analysis. Using the guidelines of Agar (1986) and Lofland and Lofland (1984), I noted dichotomies in the data and then examined all of the observation data using these dichotomies. Through this process, I regrouped the data into
three major categories and created subcategories within these. Thus, I established categories and subcategories based on patterns and variations of patterns demonstrated in the data. When tested against each classroom observed, the categories included the dichotomies found as subcategories and appeared broad enough to encompass new data, yet sufficiently discrete to aid in describing the environment.

Results

Initial review of the data resulted in five categories: student activities, objects, size of groups, teachers' behavior and expressions, and students' behavior and expressions. Analysis of questions posed in the data resulted in dichotomies such as a teacher-directed approach versus student-directed approach to learning, the role of the teacher as an authority or as a facilitator for learning, and the teacher versus students as resources for learning. Analysis of the dichotomies created subcategories that allowed deeper understanding of major categories. For example, under an emerging general category of People, the approach to learning was indicated by the roles of students and teachers and the interaction among students and between students and teachers. In several classrooms, students were resources for learning when they were paired to help each other with a task, to serve as consultants during peer conferences, or to work together on projects. In contrast, in other classrooms, teachers were guiding students' activities and served as the sole resource for the students. Interaction in these cases was only between the teacher and students, even though the students might have been in one large group.

After analysis of all questions posed by the data and comparison of each of the classroom observations, the original five categories became three categories: Activities, People, and Communication. Subcategories within each category further describe the category and provide a greater understanding. The categories and subcategories were configured into a Classroom Observation Guide. The category of Activities includes the purpose, objects used, time and space requirements, and the type of learning that was taking place. Information about activities is key to understanding how time and space are structured and the type of objects that are valued by the teacher. In the category of People, roles and interaction are components that provide a means to assess the type and level of control one person has over another. The category of Communication includes identifying who talks to whom and about what, the purpose of the communication, and the context in which the communication occurs. This category also looks at specific words used, the nonverbal aspects of communicating, and the consequences of the communication as a whole. Communication seems implied in interaction between people and activities involving more than one person. Yet, as a separate category, Communication looks deeper to specifically address who, what, why, and when. The information from this third category further clarifies the purpose behind an activity and the relationship between people in the environment.

Discussion and Implications for Practice

Before organization of the collected data, the mass of detailed information from any one classroom observation seemed overwhelming and meaningless, as it would to most school therapists observing in a classroom. Categorization of the data into the Classroom Observation Guide offered structure to the mass of data collected. Use of the categories and their components creates a fairly complete picture of the structure and culture in a classroom. Furthermore, the interrelationship between components of the categories provides a more complete picture of the classroom environment as a whole without overlooking essential information.

The Classroom Observation Guide can be used to guide occupational therapists' assessment of specific classrooms in which they work. This is especially important as school therapists' role changes, and they work more frequently with children in the classroom and act as consultants to teachers. School-based therapists need to quickly yet accurately assess the classroom to suggest modifications or propose therapeutic activities that fit within the existing environment.

The analysis of two different classroom environments using the Classroom Observation Guide are shown in Appendix A and Appendix B. These examples were chosen to show contrast between classroom environments. Other classrooms observed in this study were not necessarily like either one of these two classrooms; each classroom was unique. Classroom A was a first-grade class where I observed a math lesson. The information was gathered during a 35-min observation and organized on the Classroom Observation Guide in less than 10 min. Classroom B was a second-grade class in another school district where I observed many learning activities taking place simultaneously. Observation time in this classroom was 40 min; the Classroom Observation Guide was completed in 10 min. In interviews after the observations, each teacher felt that the observation was typical for her classroom.

An occupational therapist could conclude that activities in Classroom A are subject determined, with clear time and space boundaries, with a purpose specific to that subject area, and with objects designated for that particular subject. The teacher holds power over the students in terms of knowledge and interactions. Communication patterns, both verbal and nonverbal, confirm the teacher's control.

A therapist working with the teacher in Classroom A could use the classroom assessment information to make
recommendations that coincide with the current classroom environment. Because this particular teacher works with the class as one large group, she would probably be more willing to do sensorimotor activities if they addressed the needs of several children, rather than just one child. The teacher would most likely accept sensorimotor activities that are separate from other classroom subject areas, with a clear sensorimotor purpose and time and space boundaries. Activities that require students to participate according to therapist or teacher instruction would most easily fit with the culture of the classroom. If the teacher carried out the activities, rather than the therapist, she would likely prefer specific instructions on the activities that she could relay to the students. In this classroom, a school therapist might suggest organized sensorimotor games that would involve the entire class.

An occupational therapist could conclude that learning activities in Classroom B incorporate many traditional subject areas and tend to be functionally based, as students apply knowledge to complete tasks. Furthermore, whereas tasks require varied amounts of space, time boundaries are determined by the students' level of interest and motivation. The teacher serves as a facilitator and resource for the students. Again, verbal and nonverbal communication patterns confirm the teacher's role and the general culture in the classroom.

The teacher in Classroom B would likely be open to therapeutic activity suggestions by the occupational therapist for one child with special needs or for several children. Maintaining the culture in the classroom, activity suggestions may evolve to an additional learning station for all students, regardless of the number of students with sensorimotor needs. The teacher in Classroom B would also probably build on the therapist's suggestions and incorporate sensorimotor components into many learning activities. The relationship between the therapist and this teacher could be one of collaboration and brainstorming. Activity suggestions might include working with modeling clay, having children use their bodies to shape letters of the alphabet, or incorporating a ladder or scooter board into an activity.

The two examples illustrate the diversity of classroom environments and the utility of the Classroom Observation Guide as a tool for assessing that classroom environment. Analysis of the classroom would greatly enable an occupational therapist to work with or consult to a classroom teacher by offering activity suggestions that best fit the existing classroom structure and culture.

**Conclusion**

Occupational therapists acknowledge the importance of the environment in both assessment and intervention. Yet, there is little guidance for performing such an assessment in the classroom. The ethnographic research process used in this study resulted in an organized format for guiding observations of one environment: the school classroom. The Classroom Observation Guide can assist therapists in collecting observation data about the classroom environment so that they can suggest activities to enhance development and functioning of students with special needs. Its relevance for efficient and effective practice will determine the need for the development of similar assessment tools in other environments.

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**Appendix A**

**Classroom Observation Guide**

**Classroom A: Ms. R's First Grade**

**Activities** Math lesson

*Purpose:* Teach subtraction

*Objects used:* Plastic pieces

*Time required:* 35 min

*Space required:* Entire classroom with blackboard and desktops for each student

*Type of learning:* Teacher-directed group learning; fill-in-the-blank questioning style

**People**

*Roles:* Teacher as resource and authority

*Students as receivers of information and respondents*

*Interaction:* Teacher to students: students respond as a group to the teacher; individual student to teacher only when called on to answer

**Communication**

*Who is giving information:* Teacher

*To whom is information given:* Students as a group

*Purpose of information:* Review information and assess abilities in subject area and for students to demonstrate knowledge

*Context of communication:* Math lesson

*Words used:* "Let's all count . . .," "Let's check our work," "Let's read the problem;" "Now I am going to put other (math) sentences on the board," "How do we know [the number is] even?"

*Nonverbal communication noted (position, posture, expression):* Teacher walked around the classroom, standing at different places in the room. She stood very erect and spoke quietly and slowly, using exaggerated articulation

*Consequences of communication:* All students worked as a class. "Let's" meant all children responded in unison; questions or statements made without "let's" meant children raised their hands to be called on but everyone was prepared to answer

**Appendix B**

**Classroom Observation Guide**

**Classroom B: Ms. N's Second Grade**

**Activities** Learning centers around the room
Purpose: Apply language, listening, reading, and math to tasks

Objects used: Computer, paper, scissors, crayons, pencils, clothespins, string, pictures of food, magazines, pretend money, empty food containers, blocks, worksheets

Time required: 40 min

Space required: Entire classroom and students' desks grouped together to form squares or rectangles

Type of learning: Students chose activity and initiated learning; student-directed, application, and exploratory learning

People

Roles: Teacher set up learning centers for student learning; students were primary resources for each other; teacher was a secondary resource

Interaction: Primarily, students talked with each other; students and teacher talked as needed, usually after student initiated interaction

Communication

Who is giving information: Primarily students

To whom is information given: Primarily other students

Purpose of information: Share knowledge and help each other learn and apply knowledge, same for students and teacher

Context of communication: Variety of learning tasks

Words used: Conversational style questions and information sharing by students and teacher

Nonverbal communication noted (position, posture, expression): Teacher walked around the room, leaned over to observe students' work and talk with them or kneel to their level; made eye contact with person

Consequences of communication: Students worked independently of teacher, often with each other in pairs or small groups of three to four

References


