

The environments cue behavior and facilitate development. A distinction needs to be drawn between cued behavior and development. Behaviorists have defined learning as a change in behavior. This view does not differentiate between behavior which adapts to a given environment, and behavior which modifies a given environment. Cued behavior is a response that represents an adjustment to an environment. Development is a processing that represents movement in the direction of increased control over the environment, consequences, and the future.

People are generally unconscious of the way in which environments cue behavior. Reflect for a moment how environments influence people's behavior. In an expensive restaurant people behave differently than in a soda fountain. In a restaurant people tend to sit straighter, talk more quietly, order more expensive foods, and generally behave more formally than in soda fountains where they sit on stools and rest elbows on counter tops. In the same way, behavior is dramatically different at football games than at symphonic concerts.

The man made environments of schools are no different in their effect on behavior. A school which is merely a string of small poorly lit rooms with desks bolted to the floor, blackboards mounted on walls, bare cold floors, and no storage or counter space has a different effect on students than a school which is divided into wet and dry and active and quiet areas in which materials are neatly displayed on shelves, traffic patterns are indicated by rugs and dividers,

CHAPTER VII THE ENVIRONMENTS

Teaching consists of arranging environments, guiding the child's interaction with the environments, and evaluating the child's development and the methods of its facilitation. The first step in the analysis of teaching, then, should be an examination of the elements which make up classroom environments, and how they can be arranged to promote development.

According to the Anisa Model, a child learns through interacting with the physical, human, self, and unknown environments. While it is important for the teacher to guide interaction with all four of these environments, the teacher can really only arrange the physical and human environments. Since the first step in this paradigm is an analysis of the elements which make up classroom environments and how they can be arranged, the focus in this section will be limited to an examination of the physical and human environments.

and students have a variety of postural options. A science room filled with large tables, test tubes, microscopes, and other scientific apparatus will cue different behavior than a room filled only with desks and textbooks.

This aspect of the environment which cues behavior will be referred to as context for the physical environment, and climate for the human environment.

Context

Context may be analyzed in terms of the following:
1) setting, 2) display, 3) storage, 4) time, and 5) healthfulness.

Setting consists of room characteristics and furniture.

room characteristics	furniture
space	tables
surface	chairs
lighting	benches
ventilation	couches
acoustics	pads
temperature	rugs
	platforms
	etc.
	shelves
	drawers
	counters
	dividers
	desks
	book racks

The solid elements have the following attributes which also must be considered: shape, size, weight, color, texture, and substance.

It is easy to take elements and their attributes for granted. Just as a fish fails to recognize the effect of water (his context) upon his life and behavior, it is easy for educators to not realize the effect of setting upon the child. For example, the use of space has great potential for cueing behavior. Space can be arranged to guide movement (traffic)

from area to area. Corridors for traffic can be indicated by space between bookcases, shelves, rugs, etc. These arrangements can guide traffic away from work areas. This minimizes distraction.

Large spaces provide freedom for movement. Such space usually becomes an active area. Quiet areas need to be protected. This suggests smaller enclosed space insulated acoustically and visually (perhaps by shelves, carpeting, book cases, etc.).

In work areas (for building and constructing etc.) enough space is needed so that each worker has enough room to work without being distracted by another student or getting into another student's way.

Surface areas are also important. There needs to be different surface areas for wet and dry activities. Wet activities require surfaces which can be easily cleaned and dried. Dry activities may require soft surfaces for comfort. Cushions may be nice for reading. Rugs may ease working on the floor.

Surfaces must also take the reflection of light into account. Quiet rest areas can be provided by subdued color. Light colors open and brighten a room. Some colors show dirt more readily than others. Some paint and textures mark easily. Some textures are rough on skin if brushed against accidentally. Generally, surfaces should provide a plain ground against which figures can be easily differentiated. Intricately designed wall paper would be distracting, easy to mark, and

would soil and stain easily while being difficult to clean and repair. Therefore, it is usually not found in schools.

The acoustical properties of a classroom are very important. A high noise level is distracting and can create an atmosphere of chaos--thereby fostering disorganization. Noise needs to be reduced from area to area. Carpeting, bookcases, and furniture arrangements can be utilized to cut down on sound. Room design, type of floor, ceiling and wall surface, and size of space all effect sound level.

Furniture should allow for flexibility of work, movement, and position. A room cluttered with typical school desks with attached chairs limits the use of space. Individual chairs, couches, pads, cushions, rugs, platforms, counters, tables of various sizes all provide for different functions.

Besides focusing on arrangement of setting, a teacher needs to display all the elements in a way that makes objects easy to identify, find, and put back. This suggests a grouping of objects according to some classification scheme. It also means placing them against a neutral background so their attributes are easily distinguishable. It further suggests placement that enhances removal and replacement with the least effort. Containers which separate classified objects and yet allow them to be visible are ideal. Obviously, their size should be suitable to the size and number of objects they contain. The containers can be placed on small trays upon which also can be placed any other related objects. There

should be space between each container and each tray so that they can be clearly differentiated.

Storage allows objects to be kept out of the way and out of sight in a place where they can be easily found and retrieved. There should be a storage place for every object in the classroom so that the environment can be easily changed.

Time is another important contextual factor. Time must be provided for activities when they are physiologically and psychologically most appropriate. For instance, difficult cognitive work should not be scheduled after lunch. Furthermore, it is important to provide enough time for effecting closure to the activity. Problems occurred during one art class because of inadequate time. The students liked their teacher, loved art, thought the suggested activities were great, but began asking to be transferred and generally began to socialize instead of work. The problem turned out to be that the students discovered it was impossible to finish anything they started. As soon as they began to get involved in a project it was time to clean up. It became easier not to start rather than face the frustration of lack of closure. This means pacing is very important. The teacher needs to schedule appropriate kinds of activities for beginning the day, know how long to let activities to go on, when to provide a change of pace, and how to schedule so that activities wind up at the end of the time limit allowed.

Generally, quiet work can be initiated in the morning. Involvement can deepen for about an hour and a half. Next, a change of pace is needed--something active. After lunch a quiet relaxing activity is most appropriate--like quiet reading. This can be followed by something providing more interaction. Variation is important. An educational T.V. program should not be followed by a movie because pacing needs to be varied.

Another factor to consider in the physical context besides setting, display, storage, and time, is the healthfulness of the environment. Ventilation, temperature, lighting, cleanliness, and freedom from toxic elements like bug sprays, lead paint, poisonous plants, and disease are important. Ventilation should provide fresh air without causing a draft or undertone of noise. Air vents for pulling in air should not be near custodial incinerators. Lighting should be evenly difused, adequately bright without glare. The environment should be sanitary and clean. A careful watch needs to be kept for toxic elements which may innocently be brought into the room by workmen, janitors, etc. Bug sprays, paint fumes, etc. can be harmful to some children. Everything in the environment should be such that it generally couldn't be misused by children to accidentally harm themselves.

A healthful context also provides good nutrition for meals and snacks. A school can greatly influence the way children feel by the food that is made available to them during the day.

All in all, then, context should not be taken for granted or ignored. Surroundings influence a child in many ways. It not only effects behavior, but feelings and social relationships. For example, if a child decides to play with some blocks, he will be influenced by the place that is available for him to use the blocks. If the child must build on an uneven shag rug surface he is forced to accommodate an obstacle not present were he to build on a flat bare floor. If there is no flat floor space, only shag rug, the child may try to find a table. If the only table available is being used for hammering peg boards or other activities which wobble the table, the block builder is going to get frustrated if he wants to build a tower. His frustration is caused by the limitations of the environment in which he is trying to operate. The inadequate work space may cause conflict between tower building, peg board hammering, clay pounding, and finger painting.

Such conflict is unnecessary. The teacher can re-arrange the environment to provide separate work areas for each of the activities. There can be a block area and an art area. The block area can be a dry area with thin indoor-outdoor carpeting for the children to work on. The area can be protected and enclosed by shelving. The art area should be in a wet area with linoleum floors. It could even be outdoors. Such an arrangement would promote greater harmony and enhance cooperation.

Climate

It is clear, then, that physical surroundings effect the socio-emotional climate of the human environment. A good climate is indicated by:

1. Solidarity: agreement of purpose, opinion, interest, and feeling.
2. Loyalty: members like the group and adhere to group norms.
3. Morale: persistence and group self-maintenance in the face of trouble or difficulties.
4. Satisfaction: Contentment causing members to work harmoniously together and endure disappointments, overcome difficulties, sacrifice for group, support group operations and goals, and not gripe or blame one another for occasional set-backs.
5. Atmosphere: a feeling or sense of esprit de corp. (Bany & Johnson, 1970).

The elements which go into creating these aspects of climate are:

trust
security
empathy
standards
supportiveness
acceptance
respect
openness
responsibility
self discipline

These are affected by the dynamic attributes of the human environment.

consistency
reinforcement
freedom from threat, tension, and fatigue
degree of membership, sense of contribution
structure
sensitivity
objectivity
obedience

Of course, these are influenced by the more static attributes of the human environment:

number of people
age of students
age ratio
sex of students
size of students

Therefore, the human climate will have some degree of trust, security, empathy, standards, supportiveness, acceptance, respect openness, responsibility, and student self discipline. The quality of these elements will determine the extent of solidarity loyalty, morale, satisfaction and atmosphere. All of this will be influenced by the number of people, their ages, age ratio, and sex. The teacher can adjust and improve the quality of the climate by establishing consistency, reinforcement, freedom from threat, tension, and fatigue, allowing for member contribution, creating structure, being sensitive, objective, and being firm in requiring obedience.

Usually, when teachers have "discipline" problems (lack of cooperation) the trouble stems from a climate, created by the teacher, which lacks consistency, reinforcement, opportunity for contribution, clarity of structure (groundrules), sensitivity, objectivity, and firmness. These are usually replaced by threat and tension. In such a climate children rebel.

These problems can usually be avoided by the teacher establishing ground rules. By stating a few rules which present in positive terms what the children are expected to do the teacher can clearly indicate what behaviors are desired. Such rules tell children what to do and indicate what not to do. Once such rules are established the teacher needs to enforce them firmly and consistently. This means there can be no unjustifiable exceptions to the rule. The teacher must obey the rules also.

Once a set of rules is established the teacher has indicated behaviors which are to be reinforced. The children should be rewarded for correct behaviors. The teacher should give recognition to both individuals and to the whole group for following rules.

In this way, it is easier to be objective. A simple rule is either obeyed or broken. Structure is clear to everyone. There is no need for threats because rules are consistently enforced (enforcement is not threatened) and their observance is reinforced.

Only one other ingredient is required. Each child in the classroom must feel that he is worth something. This means the teacher needs to be sensitive to the way the child feels and give him opportunities to contribute.

Sensitivity does not mean accepting all behavior and emotional expressions because one understands. A teacher must always encourage appropriate behavior from a child. Sensitivity is the ability to see at what level a child is functioning, where he is striving, and how to intervene so as to effectively aid him in actualizing his potential.

A sense of contribution on the part of the student is also very important. A student who is constantly told that he can't sing will not continue in choir. In the same way, a student whose opinion is constantly corrected, suggestions rejected, and is never delegated responsibility will soon stop trying. A sense of contribution, then, is a factor influencing involvement and commitment.

In summary, in arranging environments teachers need to consider context and climate. In arranging context a teacher works with setting, display, storage, time, and healthiness. He focuses on shape, size, weight, color, texture, and substance while arranging space, surface, lighting, ventilation, acoustics, temperature, tables, chairs, shelves, drawers, rugs, platforms, dividers, couches, pads, etc. In establishing climate the teacher looks at solidarity, loyalty, morale, satisfaction, and atmosphere evaluating the level of trust, security, empathy, standards, supportiveness, acceptance, respect, openness, responsibility, and student self discipline. He achieves these qualities by establishing consistency, reinforcement, freedom from threat, tension, and fatigue, a sense of contribution, clear structure, appearing sensitive and objective and firm in his requirement of obedience.

Instructional Units

In addition to working with context and climate, the teacher also arranges instructional units. In the physical environment the teacher arranges supplies, materials, and equipment to create instructional objects, audio-visual aids, field trips, simulation games, reading matter, and bulletin board displays. In the human environment the teacher arranges the size of groupings, goals, procedures, communication and interaction patterns, feedback systems, and development of interpersonal task and socio-emotional skills to create effective lectures, demonstrations, discussions, modeling, role playing, group games, brainstorming, synectic and problem solving sessions. (For

the principles and procedures for creating instructional units and for a list of interpersonal task and socio-emotional skills--see Appendix).

Of course, in arranging environments, a teacher's focus needs not only to be on the elements to be arranged, but also on their content, structure, and the criteria for evaluating their arrangements. By content is meant the potential purposes or uses of an object, or objects, along with its potential consequences. Structure is the pattern and relationship between elements. Criteria are the standards against which the arranged environments will be judged.

Content

The important thing to realize is that the content of the environment, and even of single elements in environments, is almost unlimited. This implies two things for the arranger of environments: 1) elements can be used in a multiplicity of ways, and 2) if a particular use of an object is desired it must be clearly specified. In addition, the teacher needs to be careful that objects don't allow the creation of unintended content.

Structure

Structure is the patterned relationship among elements in the environments. Structure is very important in the arrangement of environments. Arrangement requires consideration of 1) patterns and their complexity and variation, and 2) the individual elements which make up the patterns and their concreteness and clarity.

Patterns

A pattern is a grouping of elements whose relationship is repeated thereby forming some meaning. For example, a tree is a pattern of elements (a structure). The tree is made up of limbs, leaves, roots, trunk, etc. And, each of these elements is composed of sub-elements. Leaves have shape, color, veins, cells, etc.

Patterns vary in complexity. Complexity is influenced by the number of elements (variables) in a structure, their relevance, and the amount of change they undergo over time. Obviously, the number of elements in a structure influence its complexity. The number of elements is important because a child's ability to handle variables changes as he develops. In the Preoperational Stage (approximately 2-7 years) the child lacks the ability to coordinate variables. He only focuses on the one variable which stands out perceptually. It is not until the stage of formal operations that a child is able "...to incorporate into one single system all the variables that may be relevant, and to vary only one factor at a time (Kamil, 1972, p.102)."

In addition to complexity being influenced by number of variables, the relevance of the variables further contributes to complexity. Some elements are more relevant to the general function of a structure than other elements. Irrelevant elements are distracting. They require a child to be able discriminate relevant elements from the irrelevant. "Mind buster" puzzles use irrelevant elements to distract and mis-lead a problem

solver. Therefore, a teacher should attempt to eliminate unnecessary distractors. Plain wooden blocks would be better than wild psychedelic plastic blocks. The wild designs are not related to the function of the blocks. The designs only confuse and hinder perception of edge, shape, dimension.

When a child has difficulty the teacher should check to see if the child is having a problem discriminating relevant from irrelevant stimuli. In reading this is particularly important. It has been found that one chief difference between slow and fast learners is that the fast learners know how to select out the relevant stimuli. The slow learners attend to the wrong elements. Young children may attend to the size of letter instead of shape. Older children may not be able to pick out main ideas in reading passages.

Students having this kind of difficulty need materials which have few distractors. They also need cues which aid focusing on relevant elements. As the children progress the cues can be withdrawn and distractors added so the students can learn to differentiate at higher levels of complexity.

Another factor which adds to complexity is change. If elements or their relationships change the structure becomes more complex. It becomes even more complex if the change is rapid. For example, a dance step may be easy to immitate if it is demonstrated slowly, but it may be nearly impossible to differentiate out its movements if it is demonstrated up to tempo.

In addition to effecting complexity, however, variation (change) serves another important function. It introduces novelty. A balance needs to be struck between too much variation which causes too great complexity, and too little variation which allows for no novelty. This presents a problem of pacing. The teacher should carefully watch students for signs indicating too much novelty or too little. The teacher should then adjust the pace of changing the environment to fit the students.

This means that in arranging environments the teacher needs to first set out a limited number of instructional units and watch the child's interaction with them. The child determines his own pacing in the use of materials displayed. The teacher determines how much is displayed and how fast the displays are changed based on the child's interactions.

The more versatile the materials are, the more leeway there is in pacing. Old materials can be used in new ways. Versatile materials can be used by several different developmental levels. For example, blocks can be used by three year olds as well as six year olds.

In brief review, then, in arranging environments the teacher must consider structure. The teacher aids the student in discovering patterns by controlling the degree of complexity and providing a proper amount of variation in the environment. One way of making this task easier is by utilizing materials that are versatile.