

THE PROCESS CURRICULUM

Psychomotor Competence

Psychomotor Competence and Language Development

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INTRODUCTION

The ANISA theory of development defines learning as the ability to differentiate experience (whatever the category of potentiality) by breaking it down into contrastable elements, to integrate the elements which have been differentiated to make up new elements (which may in turn function as contrastable units within a larger whole) and to generalize the integrations to other situations and experiences. This definition is the generative basis for the development of the process curriculum of the Model and provides a theoretical frame of reference for integrating different parts of the total curriculum, including content as well as process.

With each proposition that follows, the rationale underlying that proposition will relate to the "differentiation of experience" and the "integration of contrastable elements", with generalization to other experiences understood. For example, in letter recognition the "differentiation of the experience" refers to the identification of simple geometric shapes, and directional placement of the shapes. The "integration of contrastable elements" relates to the combining of particular shapes, with reference to directional placement, to make complex forms or letters. The generalization occurs in transferring what has been learned about shapes and spatial orientation through psychomotor activities to visual recognition of marks and symbols and their relative orientation in the form of letters, necessary for the recognition of words and the acquisition of reading skills.

Under the heading of process objectives, it should be noted that, although classification is identified as the cognitive process given primary focus relative to those aspects of language development dealt with here, it is not the only cognitive process in orientation. Many others are implicit in the stated process objectives and described experiences, but they are not given explicit emphasis. Children will comprehend identified objectives with greater clarity and less confusion if they are identified gradually. When the teacher wishes to give the other implicit cognitive processes the primary emphasis, he may explicate them for that purpose.

Part I of this paper, Integrating the Reading Curriculum with the Curriculum for Psychomotor Development, deals with the rather specific aspects of language development more closely related to reading, and has been organized with a view to paralleling the structure of the ANISA Model's basic curriculum for reading. Part I includes the following sections:

Psychomotor Competence and Letter Recognition

Psychomotor Competence and Word Recognition

Psychomotor Competence and Sentence Comprehension

Part II of this paper, Integration of Language Development Curriculum with the Curriculum for Psychomotor Development, concerns the more general aspects of language development. These are rather comprehensive and generative in nature, and involve the on-going scope of language development in terms of oral and written language and vocabulary expansion. The aesthetic aspects of language provide a strong focus which is emphasized through dance-related experiences. Part II includes the following sections:

Psychomotor Competence and Auditory Discrimination

Psychomotor Competence and Vocabulary Expansion

Psychomotor Competence and Verbal Imagery

PART I: INTEGRATING THE READING CURRICULUM WITH THE CURRICULUM FOR PSYCHOMOTOR DEVELOPMENT

Psychomotor Competence and Letter Recognition

Proposition

The visual recognition of letters is dependent upon differentiation of (a) simple geometric shapes consisting mainly of straight lines and curves; b) the juxtaposition or integration of the lines and/or curves; and, (c) the directional (up-down, one side-other side) placement or position of the lines and/or curves to a baseline.

Any experience which might enhance a child's ability to recognize and differentiate shapes, particularly curved and straight lines, and then integrate those shapes into more complex forms, and generalize those forms to particular letters should contribute in some significant way to letter recognition and to the development of reading skill.

Many psychomotor activities can provide information for just such experiences as have been identified above and therefore can be incorporated into a psychomotor curriculum with the objective of enhancing both kinesthetic and visual discrimination of shape, relative to curved and straight lines, and spatial orientation relative to the directional elements of shapes in space.

Content Objectives

The child should know that

- a) A movement can be represented by a mark which can represent a sound. A sound or sounds can have meaning, telling you to do something, think something, feel something, or say something.
- b) Sound comes from the movement of something (a clap of the hands, a click of the tongue); letters are marks--consisting of curved and straight lines--that stand for sounds made by the movement of vocal chords, lips, tongue, etc.
- c) Locomotion occurs along pathways which are represented by curved and straight lines.
- d) Body position can be held in simple shapes which demonstrate curved and straight lines.
- e) Body gestures can move through patterns or pathways which are represented by curved and straight lines.
- f) Posture can be maintained with varying spatial orientation, and locomotion and gesture can occur in different directions which are represented in the particular position (spatial orientation) of lines and curves.
- g) Body position can combine straight lines and/or curved lines alone, with equipment (ropes, sticks, hoops, etc.) and with others, to represent complex forms, shapes or letters.
- h) Locomotion and gesture can travel through combined straight and/or curved pathways to represent complex forms, shapes or letters.
- i) Movement can represent or reflect the pattern of a sound (for expansion of this concept see Auditory Discrimination presented later in this working paper).

Process Objectives

Kinesthetic and Visual Discrimination

- a) To discriminate between straight and curved motion and/or body position in locomotor, postural and gestural movements.
- b) To discriminate between spatial elements relative to the directional aspects of space.

Kinesthetic and Visual Integration

- c) To integrate straight and curved motion and/or body position into complex patterns or body shapes.

Kinesthetic and Visual Generalization/Correlation

- d) To match straight and curved body movements and positions with drawn lines and curves.
- e) To match combined straight and/or curved body movements and positions with drawn patterns and letters.

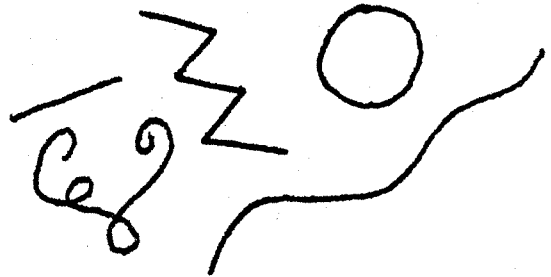
Classification

- g) To identify and sound letters represented by the body motion or shape.

Letter Recognition

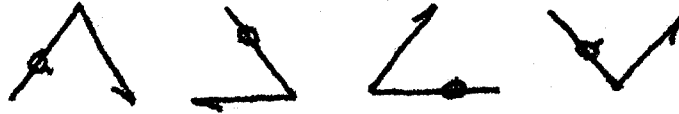
Learning Experience

1. a) Draw lines on a board and tell the children to run, drawing those patterns with their feet on the floor. (Name pathways-- straight, curved, etc.).
b) Direct their movement to one kind of pathway--on signal to "stop", match that with their body shape, etc.
2. a) Make shapes with body that are either stretched (straight), curved, twisted, angular. Work on each shape so that children gain kinesthetic "feel" of the difference.
b) Have children work in pairs, identifying and copying partner's shape.
3. a) With hand, as though painting on a big wall, draw shapes in the air.
b) Try using other parts of the body to "draw" the shape.
c) Work with a partner mirroring the shapes.

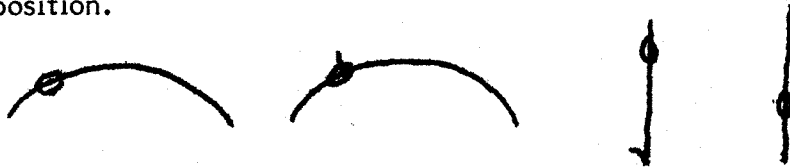


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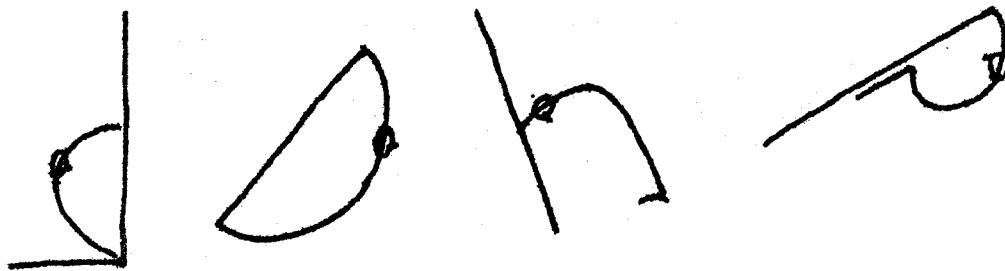
4. a) Make a body shape (curved, angled or straight); make the same shape, but balance on a different part of the body, e.g.,



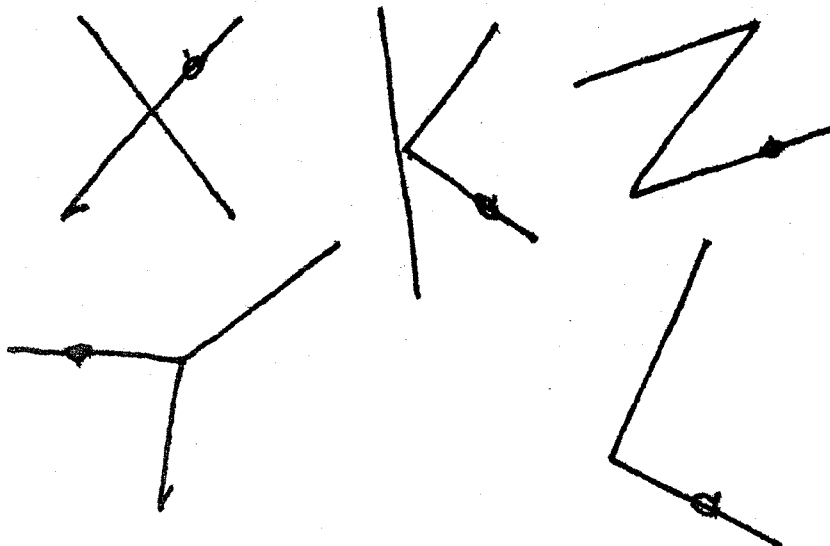
- b) Make the same shape, the same way up, but change your body position.



5. a) With ropes scattered on the floor in straight lines, making your body into a curve against the rope, make a joined shape--can you make a letter?



- b) Do the same thing with straight lines. Make sure your head is pointing to the top of the letter!



Psychomotor Competence, Word Recognition and Vocabulary Development

Auditory and visual recognition of action words can be enhanced by participation in the motor act implicit in those words. Action words can be differentiated and classified as a) prepositions, b) adjectives, c) adverbs, and d) verbs.

Any experience and interactions which might enhance a child's ability to differentiate and comprehend that words are made of letters appearing in a particular sequence, and the meaning of the action and action-related words, should contribute in some way to a child's word-recognition ability and his ultimate comprehension in reading.

All psychomotor activities provide opportunities for increasing comprehension of all action and action-related words, whether prepositions as in over, under, near, far, through; adjectives as with high, low, fast, slow; adverbs such as heavily, lightly, sharply, smoothly; or verbs such as run, jump, gallop, skip, hop, swing, kick, etc.

When such words are presented visually to elicit the appropriate movement response stronger bonds will be made between visual symbol, its sound and its meaning; lists of basic "sight words" can be built on in this way.

Content Objectives

The child should know that:

- a) words are made up of one or more sounds (phonemes) and written words are made up of one or more letters.
- b) words are means of conveying a thought or message that can be interpreted and demonstrated in movement.
- c) movement can be described in words.
- d) a movement vocabulary, like a word vocabulary, can be classified into categories, such as:

Class: words relating to Space

Subclasses: Direction Level Range(size) Shape Pathway

Words: Forwards
Backwards
Sideways
Up
Down

Process Objectives

- a) To demonstrate through movement the meaning of action words and descriptive words, presented visually and orally.
- b) To follow printed directions (comprehending meaning that has direct implications for action).

Kinesthetic, Visual and Auditory Discrimination

- c) To discriminate between meanings of words through locomotor, postural and gestural movements.

Kinesthetic, Visual and Auditory Integration

- d) To integrate action and descriptive words in more complex locomotor, postural and gestural movement sequences.

Classification

- e) To identify movements and their descriptive terms that belong in certain groupings or categories.

Interpretation

- f) To interpret words in terms of corresponding actions.

Learning Experiences

1. a) With the auditory introduction of movement words, visual cues (cards) can also be introduced for matching the heard and seen words with the appropriate movements. Simple words such as run, hop, jump, stop, go, fast, slow, can establish strong recognition and meaning bounds.
 - b) These written words can then be used as visual cues for action as with a simple obstacle course of stretched ropes and vertical hoops, where "Run - over, under, around, through -" can be tasks given. These can first be identified orally and visually and then visually only.
2. a) When children can read they gain tremendous satisfaction from being completely self-directed by reading instructions and initiating action based on the instructions. To divide the children into small groups and set up "stations" with different equipment and activities at each one, with the tasks

written on a card at the station, provides for demonstration of learning competence in many domains, e.g., one station might have a box of paddles and a box of balls--with the instructions take one at each box.

- Tasks:
1. Hit the ball up high.
 2. Hit the ball up fast.
 3. Hit the ball up softly.
 4. Hit the ball into the hoop.

Written on large cards.

3. a) When children have been given many experiences in a lesson where the major focus has been on one concept, such as identification of parts of the body, the words used can be listed on the board. Then the children can be asked if any words "go together" more than others. They will identify--parts of the leg--parts of the arm--parts of the trunk--upper half of the body--lower half of the body-- and so on. This provides classification experience and also identifies relationships of one part of the body to another.

Psychomotor competence, word order and sentence comprehension

Proposition

The meaning of any sentence is dependent upon the meaning of the individual words and the order in which the words are presented. Two sentences may consist of exactly the same words--Sue sees Sarah and Sarah sees Sue--but the meanings are quite distinct--the difference resulting from the placement or order of the words.

Any experience or interactions which might provide opportunities where the "ordering" of movements in a particular sequence is of primary importance. The ability to structure a sequence of movements and remember such order so that performing the same sequence again is possible can be a primary objective requiring kinesthetic and cognitive competence. Since the instructions for ordering a sequence of movement will be given either orally or visually, the visual or auditory discrimination, recognition and integration of the word order will also be an outcome of the activity.

Content Objective

The child should know that:

- a) A sequence of movement, or movements consists of a number of

discreetly identifiable parts (movements) that make up the whole (movement pattern or sequence).

- b) A sequence of movements, to retain its original meaning or function, must retain not only the identifiable parts, but also the identical order of the parts.
- c) To repeat a sequence of movements in exactly the same way the parts must be identified, ordered and remembered.
- d) If the order of movements in a sequence is changed, the meaning or function may also be changed.

Process Objectives

Kinesthetic and Auditory or Visual Discrimination and Integration

- a) To discriminate and integrate the order of a sequence of movement according to instructions.
- b) To discriminate and demonstrate in movement the change in function and meaning that occurs with a change in the word order of the instructions.
- c) To order words in a sequence or series in which there is meaning rather than nonsense.

Learning Experiences

1. a) Whenever children have demonstrated that they have understood a movement concept, one means of increasing the challenge is to make a sequence of movements incorporating that concept. For example, to fit together a succession of three different stretched body shapes moving smoothly from one to the next.
 - b) The next step is to select three distinct shapes that they believe will "fit" together well. They must remember the three shapes and find what order is best, remembering which is 1, 2, and 3. They should then be able to repeat the sequence exactly three times.
2. a) The idea of an action sequence can be introduced to children, such as--run, jump, and land.
 - b) When they have responded and remembered the sequence you can change the order and ask them to respond again, e.g., jump,

run, and land--they will quickly see that this has lost meaning (become nonsensical) by changing the order--landing necessarily comes after jumping.

- c) Children can be given brief action sentences in which they can change underlined words to change the task but must still maintain the relative order, e.g.:

run and jump high into the hoop landing on
(skip) (hop) (over)
(hop) (leap)

one part(s) of your body.
(two)
(four)

PART II: INTEGRATION OF LANGUAGE DEVELOPMENT CURRICULUM WITH THE CURRICULUM FOR PSYCHOMOTOR DEVELOPMENT

Psychomotor Competence and Auditory Discrimination

Proposition

In order to understand language, a child must be able to hear many fine distinctions between sounds. Phonemes must be distinguished from each other (for example, p's and b's are difficult to discriminate), words must be heard separately and even syllables within a word must be distinguished. In addition, spoken language involves the use of many intonation patterns and accents within words, within phrases, within sentences and within several sentences that are spoken together.

The process of acquiring the ability to differentiate the various uses of pitch, duration and quality (timbre) of what is being said is called prosody and involves being able to differentiate each from the others. For example the sentence, "You did that," can have many different meanings according to the way in which it is said. If the pitch goes from low to high, it will be a question, whereas if it goes high to low, it will be more of a statement. If the accent is on "you" the sentence implies that no one else "did that," but if the emphasis is on "that" it might suggest that there is a "this" that was not done. If a child is not able to perceive the significance of his intonations and accents, it will be very difficult for him to read aloud expressively and give the sentences meaning with the right nuance.

Providing experiences that require a child to move in relation to a particular sound can help the child differentiate the significant prosodic aspect of language sounds and integrate them into various patterns. By working with accents and rhythms or such qualities as high and low (pitch) or loud and soft (amplitude), movement experiences can be structured that will directly relate to a more complete understanding of prosody and how it influences meaning.

Content Objectives

- a) There are different kinds and qualities of movements just as there are different kinds and qualities of sounds.
- b) Movement and sound have certain time values and rhythm is patterned time.
- c) Movement can be strong or light just as music can be loud or soft.
- d) Movement can change in ways that reflect changes of the pitch of a sound from high to low.
- e) Different parts of a movement or movement phrases can be accented.

Process Objectives

Kinesthetic and Auditory Discrimination

- a) To differentiate movement qualities that relate to specific sounds.
- b) To differentiate movement elements that can change in ways that correspond to auditory changes in pitch, duration, volume or timbre.

Kinesthetic and Auditory Integration

- c) To integrate movements into patterns that correspond to patterns of sound.
- d) To integrate movements into patterns that relate to the sound pattern of a spoken phrase, for example, rhythms of syllables and of words.

Kinesthetic and Auditory Generalization

- e) To generalize one movement pattern to a variety of sound or word patterns.

- f) To generalize one sound or word pattern to a number of movement patterns.
- g) To generalize a specific movement and sound or intonation pattern to a variety of meanings in spoken language.

Classification

- h) To classify different elements of movements that can change in relation to a specific aspect of sound.

Learning Experiences

1.
 - a) Using sources of sound such as wood blocks, maracas or tambourine, ask children to turn their backs on the sound source and respond to the given sound with one and only one movement.
 - b) As the connection between movement and sound is established, the sound can vary in volume or become longer or shorter. Children can be asked to move big like the sound or move until they no longer hear the sound.
 - c) By varying the sound quality being used, children can be asked to think about the quality and match the kind of movement response to that sound. For example, a loud, slow beat on the drum can suggest big, deep, direct and heavy movement. Maracas can suggest light, trembling, flexible movement.
2.
 - a) Recognition of variations of pitch, time or volume in sound patterns can enhance the quality of children's corresponding movement patterns. For example, working with time, a pattern can start either fast or slow and then build to gradual variations in tempo, accelerating, decelerating, stopping and starting.
 - b) When working with volume, which relates very closely to force in movement and accent rhythmic patterns, the children can accent loud beats by making the matching movements bigger or stronger than other movements.
 - c) With the children in pairs, ask one child to set a sound pattern for the other child to move to. When both the movement and sound patterns become clear, ask the sound maker to vary one element such as the volume (the timing or the accents), and have the mover related to the variations.

3. a) A particular spoken name, word or phrase can serve as sound stimulus for a movement sequence. Ask children to say their names over and over until a rhythm emerges. Using that rhythm as stimulus, they can begin to devise a movement sequence that reflects the tempo and accents in their name. Names of cities or of things seen out the window are other examples to be used.
- b) With a simple piece of music which has clear definition of instruments, children can be asked to listen and move only when the drum, or the wood wind or the strings are loudest, matching their movement to the quality of sound (such as strong, light, high, low, fast, slow, etc.).

Psychomotor Competence and Vocabulary Expansion

Proposition

The expansion of a child's vocabulary is dependent primarily upon hearing and seeing how words in new relationships which are particularly meaningful when interacting with the environment motorically rather than passively (i.e., by sitting and listening).

Any experience and interaction which might enhance a child's ability to recognize and differentiate new words, both visually and orally, integrate those words into their own vocabulary and then generalize those words into new structures will have some impact upon vocabulary development.

All psychomotor activities can be designed to incorporate new words and movements into a child's vocabulary and movement repertoire. This occurs with introduction of new (to the child) terms and instructions, and can also occur by extensive use of synonyms or "like" words to stimulate further response. The use of "like" descriptors has a particular role in expansion of vocabulary by improving the "richness" or aesthetic quality of language available to the child, together with the parallel function in the psychomotor realm of enhancing quality of interpretation in movement. Examples of "like" words are given with the learning experiences following.

Content Objectives

The child should know that:

- a) New words convey a new thought that needs to be interpreted in a new or different movement response.
- b) The same movement response might be initiated by several different

but "like" words, that is--different words with very similar meanings.

- c) The more he understands and the broader movement repertoire he has, the better he can express himself motorically, as the more new words he knows the better he can express himself verbally.

Process Objectives

- a) To demonstrate the meaning of new words through movement (comprehending meaning that has direct implications for action).

Kinesthetic and Auditory Discrimination

- b) To discriminate between new words, with interpretation in movement.

Kinesthetic and Auditory Integration

- c) To integrate new words and movements into an expanding movement repertoire and vocabulary.

Classification

- d) To identify and group "like" words and their similar meaning(s).

Analogy

- e) To identify similarities (analogies) between action words and demonstrate those action words through their corresponding movements.

Learning Experiences

1. Children can become more aware of different and sometimes confusing words that relate to similar aspects of experience when they are used together in a movement activity. For example, if a child is "high" on the top of a geodesic dome he is also "up" and "above" the floor. If he is "under" the dome, he is also "beneath" and "below". If he is "in back of", he is also "behind" and "after". These and other combinations can be used alternately in describing activities or in giving directions so that the child comes to realize their similar meaning and can use them in similar instances.
2. Using many words to describe different movements will expand the child's vocabulary. When moving around the room twisting and

turning the child can be reinforced by suggestions of twirling, whirling, spinning or swirling. If he is going fast he can go quickly, briskly, suddenly, rapidly or explosively. By using many words and asking the children to suggest others, the teacher can help the child become aware of subtleties of meaning as well as expanding his range of vocabulary and movement abilities.

3. Poetry and poetic prose can also be used to expand and enhance the child's words and movement vocabulary. Discussion about descriptive words and then moving to express them can enrich both language and movement vocabulary. For example, the following poem might be used as a stimulus:

Lightning flashes through the sky
Cutting the air and the clouds that fly.
The crackling, jagged, sizzling sound
Tells the earth a storm is bound,
Soon the pelting raindrops fall
Covering earth with a watery shawl.

- Kalmhe

Psychomotor Competence and Verbal Imagery

Proposition

Language often involves the use of words and phrases that suggest a range of meaning that go beyond the literal written page. Such figurative devices as word-sound images, onomatopoeic words or metaphorical images contribute greatly to the richness and expressive power of language. For example, to get the full implication of sentences like "The brook babbled", "The wind whooshed around the corner", or "The wind chugged and puffed", the child must be able to understand the non-literal implications of what is actually written. In addition, as the child begins to understand and to use a greater variety of images in his own speaking and writing, his ability to express his thoughts can become richer and more refined.

Movement experiences can serve as a very powerful introduction to verbal imagery. By providing words and ideas that stimulate movement, a teacher can help a child understand qualities and aspects of experience in new and fresh ways. For example, asking children to whoosh or babble, or to create a movement phrase that chugs and puffs can enhance a child's ability to differentiate the qualities that are being referred to and to integrate them into a meaningful association of movement and sound.

Images can also serve a useful function in developing and articulating movement abilities. When working on a particular movement quality, children are often inspired by related ideas such as "light like a cloud" or

"floating like a balloon". In fact very young children are often able to differentiate movement qualities only by relating them to objects with which they are already familiar. Working with images that imply a particular movement pattern is also one of the easiest ways to introduce the notion of overall movement form--the understanding that movement has a beginning, middle and end. For example, the idea "grow from a seed to a tree", implies a natural form that can be incorporated right into the structure of the movement pattern, enabling a child to integrate several different movements into one movement sequence.

Content Objectives

The child should know that:

- a) Different things move in different ways.
- b) Movement can be related to the sound and connotations of a word.
- c) Movement can be suggested by words or phrases.
- d) The form or pattern of a movement sequence can be related to the movement pattern of some other thing that moves.

Process Objectives

Kinesthetic and Cognitive Differentiation

- a) To differentiate movement aspects of a given verbal image.
- b) To differentiate qualities of movement that relates to verbal images.

Kinesthetic and Cognitive Integration

- c) To integrate movement elements that are suggested by an image into a movement pattern.

Kinesthetic and Cognitive Generalization

- d) To generalize a movement to various images and ideas, thereby highlighting similarities among different images.
- e) To generalize one single item to many different movement patterns, emphasizing the aspects of movement patterns that can be similar in structure.

Classification

- f) To classify qualities of movement that relate to certain qualities of given images or ideas.

Abstraction

- g) To identify abstract qualities of given images or ideas that are translatable into movement.

Learning Experiences

1. a) Children can be asked to move like objects they know. For example, to work on shape they can "look like" trees, needles or balloons. For representing velocity as an aspect of time, they might move like rockets or turtles and snails. They can also jump like springs, roll like logs or balls and wiggle, slither, feel extended or contracted, like worms.
b) The quality of movement can be changed through varying the context of the image--if moving like a train, how does the movement change if the train goes uphill or downhill? How does walking change if it takes place in water, in glue or in peanut butter? How will a sponge move when it's very wet?
2. Words that sound like the movements they suggest and even made-up words that suggest movement can stimulate a movement response. Words like whoosh, ooze, slither, kazam, squish or splat can expand both the verbal vocabulary and the range of the movement vocabulary. These words can then be combined to make sound and movement patterns like "Whoosh, wiggle, squiggle, slide, bump, bump, dip and glide."
3. More complex images that suggest sequences of action can be used to structure the overall form of a movement sequence. A child can create a phrase that is like water changing from ice to steam or a movement pattern that resembles a wave swelling and crashing into the rocks. By combining children with similar or different images in groups a wide variety of movements patterns and contrasts can be generated.