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## Learning centers to facilitate a multi-age, heterogeneous-grouped classroom

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## Learning centers to facilitate a multi-age, heterogeneous-grouped classroom

### Abstract

Grouping by grade levels in school can facilitate subject matter and skill-driven curriculum centered on textbooks. Child centered programs focus on nurturing the potential of each child (Anderson, 1987). If schools are to offer all students equity and excellence, they must view all students as worthy and capable of learning. These three goals for educational programs can promote equity and excellence: (1) Students must be challenged to learn as much as they are capable of learning. (2) The personal-social development of students is an integral part of the program. Academic achievement must never be at the cost of personal development. Students should learn in ways that make them feel better about themselves and their capacity to learn and to interact successfully with others in the learning environment. (3) The school program should nurture a sense of school community, so children can identify with their school learning experiences (George, 1992).

Learning Centers to Facilitate  
a Multi-Age, Heterogeneous-Grouped Classroom

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by  
Kim Kvigne  
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## Introduction

### Rationale of the Project

Grouping by grade levels in school can facilitate subject matter and skill-driven curriculum centered on textbooks. Child-centered programs focus on nurturing the potential of each child (Anderson, 1987). If schools are to offer all students equity and excellence, they must view all students as worthy and capable of learning. These three goals for educational programs can promote equity and excellence: (1) Students must be challenged to learn as much as they are capable of learning. (2) The personal-social development of students is an integral part of the program. Academic achievement must never be at the cost of personal development. Students should learn in ways that make them feel better about themselves and their capacity to learn and to interact successfully with others in the learning environment. (3) The school program should nurture a sense of school community, so children can identify with their school learning experiences (George, 1992).

These goals can best be fulfilled through a multi-age, heterogeneous-grouped classroom. The organization of multi-age classes and the promotion of heterogeneity can bring higher student achievement in schools today (Gaustad, 1992). Multi-age, heterogeneous grouping allows schools to respond to individual children's instructional needs (Pavan, 1992). One way such a

program can be delivered is through learning centers. Well-designed learning centers can address children's learning instructional needs better than paper and pencil tasks (Wait, 1989).

### Purpose of the Project

The purpose of this project is to study and design learning centers that can be used to facilitate a multi-age, heterogeneous-grouped classroom. An example of a literature base with accompanying centers for a unit will be presented.

### Importance of the Project

The principal and a majority of teachers in the writer's school believe that the school should address children's personal-social and instructional needs rather than an established curriculum. The school program should be flexible to meet each child's needs, providing success and challenge. Through multi-age, heterogeneous grouping, the needs of more children can be met. Multi-age grouping can provide sufficient flexibility to accommodate children at different levels of personal-social maturity and academic ability (Elkind, 1987).

### Procedures of the Project

The author is a teacher in a school implementing multi-age, heterogeneous grouping for the first year. The project includes first, second and third graders. There are two combination rooms of children six and seven years of age; two rooms of children

six, seven and eight years of age; and one room of children seven and eight years of age. In addition to the five multi-age classrooms, one traditional classroom remains at each grade level.

A review of the professional literature will be conducted to look at the effectiveness of multi-age, heterogeneous grouping and the role learning centers can play in such a classroom.

This proposed project will take place in a multi-age, heterogeneous grouped classroom of six and seven year olds. Children will progress at their own pace through an integrated, child-centered curriculum. Language arts, social studies and science curriculum will be taught through a literature-based theme of habitats, consisting of six separate units: oceans, forests, rain forests, arctic region, deserts, and plains. In order to create a classroom environment that encourages exploration and independent learning, flexible grouping will be an element of the program. A combination of large group, small groups and individual instruction will be provided. Learning centers, both sustaining centers and centers specific to a unit, will be offered. The contents of the sustaining centers (listening/reading center, poetry center, author/illustrator center, interesting objects center, bookmaking center, and art center) will change to enrich the study of each unit. A variety of assessment strategies, such as informal observations,

anecdotal records, developmental checklists, portfolios, conferences, and district tests, will be used to determine children's growth and further instructional needs.

#### Pertinent Terms of the Study

In this proposed graduate project, these meanings are associated with the terms:

Child-centered curriculum focuses on individual interests and needs of children.

Multi-age grouping refers to students of various ages working together in an instructional situation.

Heterogeneous grouping organizes students of various abilities for instruction.

Whole language refers to children creating meaning through the language processes within the functions of language.

Literature base offers quality literature from the different genres to support thematic and unit study.

Thematic unit integrated across the curriculum focuses on concepts related to a theme from the different curricular areas.

Learning centers are areas within a classroom in which students working alone or in small groups are presented instructional materials and related activities. These centers can provide alternative learning experiences.



Sustaining centers are learning centers that remain in the classroom throughout the year changing in content depending on the unit of instruction.

#### Review of Professional Literature

The review of professional literature has been conducted to explore multi-age, heterogeneous grouping and the use of learning centers.

#### Multi-age Grouping

The restructuring in education, such as teacher empowerment, teamwork, site-based decision-making, emphasizes more flexible learning situations and the continuous progress of students in their school life. Such a view of education has paved the way for multi-age grouping (Anderson, 1993). Many studies of this classroom organization have been conducted in the areas of academic achievement and mental health, including self concept and attitude toward school. From sixty four studies published after 1967, the conclusions support multi-age grouping. Students in multi-age settings did as well or better than students in traditional settings in both academic achievement and mental health (Pavan, 1992). Multi-age grouping is gaining advocates and emerging as a powerful strategy for promoting learning (Anderson & Pavan, 1993).

Several studies of multi-age grouping suggested that it provided a learning environment that supported students'

personal-social development. In a multi-age grouping, children can work with peers of a wider age range. If children spontaneously form heterogeneous groups, Katz (1990) questions why do adults typically segregate them by age. David Pratt (1986) states that from an evolutionary perspective, age homogeneity is not only unnatural but perhaps even destructive. Pratt (1986) examined aspects of children's friendships--their levels of competition and aggression and harmony and nurturance--in the traditional and multi-age classroom. He concluded that multi-age situations are more conducive to social and emotional development and altruism as well as language development and cognitive growth. After examining the findings of studies of multi-age classroom environments, Pratt (1986) concluded that they are psychologically and socially healthy places. Anderson and Pavan (1993) also agree that there is support for the conclusion that multi-age grouping is associated with better self-concept and attitude towards school.

From an academic point of view, there is support for multi-age grouping. Children progress at different rates in different areas of achievement and alternately spurt ahead and hit plateaus rather than move at a uniform rate (Gaustad, 1992). In a multi-age program, time is one element that may be varied. For example, not all students in grade one will master the first grade curriculum. However, if students are allowed three years

to demonstrate the achievement expected at the end of third grade, many more students will be able to do so than if they were evaluated at the end of each grade (McLoughlin, 1969). Black (1993) reports that learning goes along more smoothly when teachers are not hampered by age and grade limitations or by the artificial time constraints of compartmentalized learning that occurs in many traditional classrooms.

A multi-age program is not simply a grouping scheme but a philosophy that demands the provision of appropriate and rich educational experiences for each child (Goodlad & Anderson, 1987). A multi-age organization can contribute to instructional effectiveness, but the curriculum and instructional methods presented within a multi-age framework are as important in determining the ultimate effects as the school organization plan (Slavin, 1987).

Black (1993) says the term probably is not as important as the practice. Instead of shuffling children around and placing a different label on the class grouping, schools also need to make sweeping changes in curriculum and instruction. Schools should insure, especially in the early years, that the learning environment is free of anxiety and failure. Schools should create ways for children to learn at their own pace and to gain self-confidence in their abilities as learners.

## Learning Centers

The real world is a world of topics, experiences, problems, and issues, not disciplines, subjects or courses (Shoemaker, 1989). Instruction needs to be integrated, organized around themes, to prepare students to apply their knowledge to real-world problems more effectively.

In the language arts, learning centers can provide authentic reading and writing experiences (Edelsky & Smith, 1984). Harms and Lettow (1986) suggest that sustaining centers for the language arts program can include a listening/reading center with works of different genres and accompanying tapes that include a wide range of reading levels, an author/illustrator center related to a common theme, poetry center, interesting objects center, and bookmaking center. The content of these centers change as a new theme or unit is introduced. The centers are also accompanied by centers specific to the current study.

Teachers who are comfortable with multi-age classes are those who believe students learn by being actively engaged, thoughtful and reflective, rather than sitting passive and occupied with rote assignments (Black, 1993). Ideas are more easily learned when they are taught in a meaningful context, when they are relevant to the learners, and when the learners take an active role, using multiple mind-body functions in learning (Gaustad, 1992). Learning centers can help children make

connections among elements of concepts and their relationship to a theme (Stabb, 1991).

Learning centers can provide opportunities in which children are empowered to learn by integrating subject matter and providing instruction within the context of purposeful, meaningful experiences (Lukasevich, 1990; Edelsky, Draper, & Smith, 1983; Edelsky & Smith, 1984). Centers are based on the philosophy that children are capable of assuming responsibility for much of their own learning (Bennie, 1977). Centers focus on developing abilities that will ultimately enable learners to become independent, life-long learners and to reach their fullest potential (Bennie, 1977). They are also based on the understanding that children learn in different ways and at varying rates (Bennie, 1977). Well-designed learning centers for primary children include a variety of materials that allow children of varying developmental abilities to experience success (Wait, 1989).

Because children in multi-age, heterogeneous classrooms have numerous social and academic abilities, learning centers can provide opportunities for them to interact on many different levels (Stabb, 1991). It is important for these children to have many different opportunities to talk and to interact. It not only improves their oral abilities but also allows them

opportunities to use language to learn in various situations (Lindfors, 1987).

Project: A Literature Base  
with Accompanying Learning Centers

This project shows how learning centers can facilitate a multi-age heterogeneous-grouped classroom. The example is part of the ocean unit related to the theme habitats throughout the earth. Learning centers will include sustaining centers that remain in the classroom throughout the year with their content changing with the units as well as learning centers specific to the unit, in this case, oceans. Sustaining centers will include these centers: reading/listening, poetry, author/illustrator, interesting objects, bookmaking, creative dramatics, and scraps, all located with traffic flow, noise level and equipment required, in mind. Desks will be replaced with tables to make more center space available. Center directions where applicable will be placed on tri-fold units for easy moving and storage.

Sustaining Centers

Reading/listening center. The objective of the reading/listening center is to offer quality literature of all genres encouraging literature experiences for various student abilities in the classroom. Tapes will be available for many of the books so that the literature may be enjoyed by all age levels and abilities. Visuals, such as whale and octopus puppets, a

large ocean map, and a mural with sea animals and plants constructed by the children, will be displayed. Student-authored books about the ocean will also be added to this center.

Books for the reading/listening center:

Fiction:

Bowden, Joan Chase. Why the Tides Ebb and Flow (Boston: Houghton Mifflin, 1979).

Cole, Joanna. The Magic School Bus on the Ocean Floor, illustrator Bruce Degan (New York: Scholastic, 1992).

Cooney, Barbara. Island Boy (New York: Viking, 1988).

Dos Santos. Sand Dollar, Sand Dollar (New York: Lippincott, 1980).

Ehlert, Lois. Fish Eyes (New York: Harcourt, 1990).

Gerstein, Mordicai. The Seal Mother (New York: Dial, 1986).

Gibbons, Gail. Beacons of Light: Lighthouses (New York: Morrow, 1990).

Haley, Gail E. Sea Tale (New York: Dutton, 1990).

Heller, Ruth. How to Hide an Octopus and Other Sea Creatures (New York: Grosset and Dunlap, 1985).

Johnston, Tony. Whale Song, illustrator Ed Young (New York: Putnam, 1987).

Koch, Michelle. By the Sea (New York: Greenwillow, 1991).

McDonald, Megan. Is This A House For Hermit Crab? (New York: Orchard, 1990).

Roop, Peter. Keep the Lights Burning, Abbie (Minneapolis: Carolrhoda, 1985).

Sheldon, Dyan. The Whale's Song, illustrator Gary Blythe (New York: Penguin,, 1990).

Weber, Bernard. I Was All Thumbs (Boston: Houghton Mifflin, 1975).

#### Nonfiction:

Armour, Richard. Sea Full of Whales (New York: Scholastic, 1974).

Cousteau, Jacques Yves. The Ocean World of Jacques Cousteau (New York: Danbury, 1974).

Gibbons, Gail. Sunken Treasure (New York: Crowell, 1988).

McMillan, Bruce. Going on a Whale Watch (New York: Scholastic, 1992).

Serventy, Vincent. Animals in the Wild: Whale and Dolphin (New York: Scholastic, 1984).

Poetry center. The objective of the poetry center will be to offer quality poetry for enjoyment and to encourage children's poetry composition. The poetry center will be stocked with large chart copies of each ocean poem featured for the week as well as poetry books. Available in the center will be a reference book that explains the structure of different forms of poetry with example poems. Children will be encouraged to create an ocean poem that can be displayed in the center.



Poems in the poetry center:

"Electric Eel," "The Octopus," "Seal Lullaby," "Sea Turtle,"

Animals Animals, by Eric Carle (New York: Putnam, 1989).

"A Visit From the Sea," "The Octopus"

Birds Beasts and Fishes, by Anne Carter (New York: Macmillan, 1991).

"At the Seaside," "Pirate Story,"

A Child's Garden of Verses, by Robert Louis Stevenson (New York: Delacorte, 1985).

"Sandwriting"

Finding A Poem, by Eve Merriam (New York: Atheneum, 1970).

"Fish and the Fisherman," "Hermit Crabs," "My Whale," "Save the Whale," "Schools For Fish," "The Sea Creatures," "Shells," "Swimming School," "Water Homes"

Fingerplays and Rhymes For Always and Sometimes, by Terry Lynne Graham (Atlanta: Humanics Limited, 1984).

"Bluest Whale," "Remembering Oscar Eel"

A Hippopotamusn't and Other Animal Verses, by Patrick Lewis (New York: Dial, 1990).

"Beach Rose," "Jellyfish Walk"

I'm Gonna Tell Mama I Want An Iguana, by Tony Johnston (New York: Putnam, 1990).

"To Catch A Fish" by Eloise Greenfield

Pass It On, selected by Wade Hudson (Orange, New Jersey: Just Us Books, 1993).

"Beela By the Sea," by Leroy F. Jackson; "The Sea," by Anonymous; "The Shark," by Lord Alfred Douglas; "Sea Shell," by Amy Lowell; "Until I Saw the Sea," by Lilian Moore

The Random House Book of Poetry for Children, selected by Jack Prelutsky (New York: Random House, 1983).

"Sea Shell"

There Was a Place and Other Poems, by Myra Cohn Livingston (New York: Macmillan, 1988).

Author/illustrator center. The objective of the author/illustrator center will be to feature an author whose work is related to the ocean unit. The author/illustrator Leo Lionni has been selected because of his book Swimmy. The center contains a biographical sketch and teacher-made tapes of the author's works and materials to experiment with the media in the illustrations.

Retelling center. The objective of the retelling center will be to encourage children to create their own meaning from their reading experiences and then to share them with others, thus strengthening their language abilities. Retelling can occur through speaking, writing, dramatizing, or illustrating. The directions in the center are:

#### Literature Experience

Listen to/read: Sis, Peter. An Ocean World (New York: Greenwillow, 1992).

#### Expressive Activity

Use the pictures to tell or write the story.

#### Literature Experience

Listen to/read: Pfister, Marcus. The Rainbow Fish (New York: Scholastic, 1992).

#### Expressive Activity

1. Use the felt figures to retell the story.
2. With a group of children, act out the story.

Interesting objects center. The objective of the interesting objects center will be to provide objects specific to the ocean environment for children to examine. The center will include a child's plastic swimming pool filled with sand, pails and shovels for building sand castles, shells, scuba equipment to wear, toy ocean animals, and an aquarium filled with different types of fish.

Bookmaking center. The objective of the bookmaking center will be to encourage student authors to extend their involvement in the writing process to the publishing component. The center will be stocked with paper, cardboard, gift wrap, thread, needles, and the directions for making hardbound books as well as pencils, markers, crayons, scissors, tape, stapler, and a computer. Instructions will also be provided for making many kinds of books and different ways to share them.

Creative dramatics center. The objective of the creative dramatics center will be to encourage research and role playing of the ocean animals and people who use the ocean. A submarine constructed by the children from a refrigerator box will be available for the setting.

Scraps center. The objective of the scraps center will be to provide materials for exploration. A large plastic container, with materials such as cloth, buttons, cotton balls, lace, sacks, paper plates, and yarn will be provided at the beginning of the year. Notes will be sent home requesting donations to the scrap center. A puppet-making book will also be available as well as other arts and craft idea books.

Specific Centers for the Ocean Unit

Shell center. The objective of the shell center will be to provide hands-on experiences with a variety of shells after reading about them.

### Literature Experience

Listen to/read:

Cole, Sheila. When the Tide Is Low, illustrator Virginia Wright-Frierson (New York: Lothrop, 1985).

Carle, Eric. A House For Hermit Crab (Saxonville, Massachusetts: Picture Book Studio, 1987).

### Expressive Activity

1. Use the reference books on shells and sort the box of shells by type.
2. Choose a shell and find out what animal once lived in it.

Ocean animals. The objective of the center on ocean animals will be to focus on and to respond to ocean animal life.

### Literature Experience

Listen to/read Joanne Ryder's Winter Whale, illustrator Michael Rothman (New York: Morrow, 1991).

### Expressive Activity

Pretend you are a humpback whale, draw a picture of your home, and write about what you did today.

### Literature Experience

Listen to/read:

Pallotta, Jerry. The Ocean Alphabet Book (Watertown, Massachusetts: Charlesbridge, 1991).

Pallotta, Jerry. The Underwater Alphabet Book (Watertown, Massachusetts: Charlesbridge, 1991).

#### Expressive Activity

1. Make your own ocean alphabet book. Think of an ocean image for each letter of the alphabet. Illustrate and describe each ocean image that you choose. You may want to use the ocean word bank in creating your book.
2. What ocean animal would you like to be? Tell why.
3. Create an ocean animal to add to the class mural.

#### Literature Experience

Listen to/read Gina Ingolia's Strange Sea Creatures, illustrator Turi MacCombie (Racine, Wisconsin: Western, 1991).

#### Expressive Activity

Use your imagination to make your own sea creature. You may wish to illustrate and write a story about your sea creature.

Mermaid center. The objective of the mermaid center will be to experience and respond to literature about mermaids.

#### Literature Experience

Listen to/read Robert D. San Souci's Sukey and the Mermaid, illustrator Brian Pinkney (New York: Four Winds, 1992).

### Expressive Activity

Recall the choice Sukey had to make whether to go with the mermaid under the sea or stay with her people on the land. Would you make the choice to go with the mermaid? Tell why or why not.

### Literature Experience

Listen to/read Susan Cooper's The Selkie Girl, illustrator Warwick Hutton (New York: Macmillan, 1986).

### Expressive Activity

1. Recall how the children felt when their mother went back to the sea. Write how you would feel.
2. Think about how the Selkie Girl changed from a seal to a girl. Pretend you could be anyone or anything. What would you be? Tell why.

### Literature Experience

Listen to/read Eric Jon Nones' Caleb's Friend (Canada: HarperCollins, 1993).

### Expressive Activity

1. Recall the special friendship between Caleb and the boy from the sea. Write about a special friend you have. Write about something special you did for that person.

Ocean art center. The objective of the ocean art center will be to provide the opportunity to examine the ocean as a setting and to create an ocean picture using water colors.

### Literature Experience

Listen to/read Barbara Cooney's Hattie and the Wild Waves (New York: Viking, 1990).

### Expressive Activity

Paint an ocean picture. You may wish to frame the picture using one of the pre-made frames and display your picture in the class art gallery.

Ocean animal rescue center. The objective of the ocean animal rescue center will be to respond to nonfiction literature about ocean animal rescues.

### Literature Experience

Listen to/read:

Tokuda, Wendy & Hall, Richard. Humphrey The Lost Whale: A True Story, illustrator Hanako Wakiyama (Union City, California: Heian, 1986).

Knapp, Toni. The Six Bridges of Humphrey the Whale, illustrator Craig Brown (Colorado Springs: Rockrimmon, 1989).

### Expressive Activity

1. Make a map to show where Humphrey traveled when he was lost.

### Literature Experience

Listen to/read John Himmelman's Ibis: A True Whale Story (New York: Scholastic, 1990).



### Expressive Activity

Read the afterward in the back of the book. The author tells about the work of the Center for Coastal Studies in Provincetown, Massachusetts. Think of questions you would like to ask the people who helped rescue Ibis. Write a letter to the director of the center. Mail your letter to:

Center for Coastal Studies  
 P.O. Box 1036  
 Provincetown, MA 02657

### Literature Experience

Listen to/read Francine Jacob's Sam the Sea Cow,  
 illustrator Laura Kelly (New York: Walker, 1979).

### Expressive Activity

1. Recall what happened to Sam the Sea Cow. Write about how manatees are endangered.
2. Write a letter requesting information from Save the Manatee Club. Mail your letter to:

Save the Manatee Club  
 500 North Maitland Avenue  
 Maitland, FL 32751

Seashore center. The objective of the seashore center will be to recall or imagine an experience by the seashore in response to literature read.

## Literature Experience

Listen to/read:

Charlotte Zolotow's The Seashore Book, illustrator Wendell Minor (New York: HarperCollins, 1992).

## Expressive Activity

1. Write about a time you visited the seashore.
2. If you have not been to a seashore, write about what you might experience if you visited the seashore.

## Conclusion

Multi-age, heterogeneous grouping of a classroom can facilitate a language arts program to focus on children creating meaning through the comprehension and composition processes rather than on a sequence of skills. (Such an emphasis can also be found in some single age, grade organizations.) Learning centers can be one means of providing for flexible grouping and individualized learning in a multi-age, heterogeneous classroom which can facilitate a wider age and ability range than a single age classroom. Centers can encourage active participation among all learners, enabling them to set goals, make decisions, work independently, and assess their learning. Thus, students are empowered to extend their abilities.

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