

Chapter 3: Curriculum Integration of Thinkology

Curriculum Integration Philosophy

Too many “educational” software products fall into a category which, in Shakespeare’s words, are “full of sound and fury, signifying nothing.” They’re cute, they have great graphics and lots of interactivity, but once students have gone through them, there’s nothing left to say. No follow up. No lively discussions. No means of weaving the software into the lessons plans. No real continuing impact. What a shame. One of the fundamental goals of the *Thinkology* series is to avoid that trap. Critical thinking is not a skill to be left in the computer lab. The whole idea is for these skills to be transferred into every other part of the school, and into every part of life. We want this product to be the nexus of an effort to concentrate on the building of strong minds through mental exercise.

There is a good reason why *Thinkology’s* first volume deals with clarity. Clarity is the most foundational critical thinking skill. Clarity is mandatory for communication. Clear ideas, purposes and goals lead to clear information, clear questions and clear conclusions. A clear thought, clearly communicated, is understandable, distinct, evident, intelligible and vivid. Clarity has been called the “gateway standard” in critical thinking. Without it, nothing can be evaluated further. Without clarity at the outset, accuracy, logicalness, relevance, significance, strategy and other elements of critical thinking are impossible.

The key to learning how to think clearly is to practice thinking clearly. *Thinkology* Volume 1 is designed to be a springboard to clarity in every curricular area. The software is designed to provide practice in distinguishing between the clear and the unclear and in distinguishing different levels of clarity through multiple, ongoing acts of clarification.

Obviously, the software is only a small part of the process. We hope you will use it to build the concept of clarity in your students’ minds by providing concrete examples of what clarity is and how it works and to give them practice in applying the principles of clarity through fun interactivity. Then comes the challenge for you, the teacher: integrating critical thinking skills into your established classroom routine. We believe that the critical thinking skills identified and developed in the *Thinkology* series must be thoughtfully and intentionally applied in the normal, daily activities of the classroom in order to achieve full effect. It sounds like a daunting task, but we think you’ll find, after looking over this section of the manual, that it’s really not as hard or demanding on you as it sounds. Following are a few suggestions.

- **Read this section completely.** We know you’re busy, but we believe that it’s important for you to see how clarity fits into every curricular area, even if you teach a single subject. We realize, of course, that many of you will simply not have time to read the whole thing at first and will naturally jump straight to the section that applies to your most urgent need at that particular moment. That’s fine, but we urge you to schedule some time as soon as you can to read through this section in its entirety. We’ve tried to write it in a way that will make it enjoyable to read, especially at home in your favorite chair.
- **Compare the goals and objectives with your own.** We researched several curriculum guides and consulted many other resources to identify common curricular goals and objectives for students in Kindergarten through Third Grade. The organization of the goals and objectives follows that of Oklahoma’s PASS (Priority Academic Student Skills) core curriculum, which is an excellent and succinct curriculum guide. We’re not trying to dictate a curriculum to you or change the one you’re using. We’ve simply looked at representative samples and culled out a few that lend themselves to the development of clarity. What we would like for you to do is to compare the ones we have listed with those you are already using to develop some ideas about where clarity fits into your existing lesson plans then adapt our suggestions to your particular situation. This will naturally result in some rethinking of your approach as you consider ways of working clarity into the warp and woof of your instructional fabric.

- **Be innovative and creative.** These are suggestions, not commandments! We are only trying to stoke your creativity, so keep thinking about that as you read. Hopefully, this will lead to a host of new ideas and make connections in your mind to areas and applications that we haven't addressed. Naturally, we'd love to hear from you about how you've applied the principles of clarity in your unique situation. Drop us a line and let us know!

Using the Applications and Activities

The Applications and Activities are divided into four major sections: Kindergarten, First, Second, and Third grades. Each major section is further divided into specific curricular areas. Presentation of the material within each area varies. Some simply state some specific objectives and offer some suggestions for integrating clarity skills and *Thinkology* into their achievement. Others are divided by content, or by generalized goals, or both. We hope that this system results in making pertinent information easy to find when time is in short supply, but not so rigid as to isolate curricular areas from one another. Using *Thinkology*, we hope you'll find a fresh approach to integrating all of your curricular subjects together into an effective, innovative educational program which emphasizes thinking and reasoning, analysis, and understanding through the clever, careful and consistent application of critical thinking - the art of thinking about your thinking.

Special Notes for Special Education Teachers

Although *Thinkology* has been designed for mainstream use by children in early grade levels, we hope you will find a use for it in your classroom as well. For teachers of gifted and talented children, we have tried to leave plenty of room "at the top" of the goals and objectives we've listed for the various subjects, but we hope you'll understand that, in order to keep things as brief as possible, we've limited the scope of these generally to those found in the typical classroom. Please feel free to expand on these and develop deeper and/or broader activities for your students.

For teachers of students who work below grade level, don't hesitate to simplify the activities. Often this can be achieved by limiting the scope to a single, narrower portion of the subject. For some students, you may want to focus strictly on behavioral objectives rather than the mostly cognitive ones we've developed more fully. Nearly without exception, we've found Special Education teachers to be some of the most creative and talented teachers around, with a special aptitude for adapting materials to their particular situations. We hope that we have provided you with some tools which you and your students will find useful.

Kindergarten Curriculum Objectives

The curriculum objectives and applications are written differently for Kindergarten than for other grades. Since most Kindergartens are half-day programs, time tends to be critical. Also, the instructional goals of Kindergarten tend to be very different from those in other grades. We won't give specific lesson extension ideas for every curricular goal *Thinkology* addresses. In some cases, we won't even bother to comment when the goal and *Thinkology's* role in meeting it are pretty obvious.

Social Skills

- The student will work and play cooperatively in a variety of settings (e.g. in large and small groups and in learning centers.) Working with the computer provides an excellent chance for children to work and play together. Using *Thinkology* with two kindergartners per computer might be a good way to develop these skills.
- Exhibit behavior that demonstrates an understanding of school and classroom guidelines (e.g. rules, routines, schedules, procedures, respect of others' property.) Using the computer will obviously require some pretty stringent guidelines. We think your students will like *Thinkology* so much that they'll do whatever it takes to have their chance to play, or following rules.
- Listen to others while in large and small groups.
- Select and complete a task while working at a learning center.
- Stay involved in a self-selected activity for an appropriate length of time. We hope your students will beg for more time to use *Thinkology*! You can smile and say, "See how quickly time passes when you're learning such fun things?"
- Follow simple verbal directions.
- Work independently and/or cooperatively to solve problems. Clarity will help your kindergartners take their powers of observation and analysis and effectively communicate what they've discovered to their peers and to adults.

Creative Thinking Skills

- Express thoughts and ideas about work or play.
- Develop and verbalize solutions to simple problems.
- Think of new uses for familiar materials.

Thinkology is an ideal tool for helping children build confidence and skill in their growing creativity, giving them the tools they need for observing and clearly expressing ideas. Use *Thinkology* as an idea starter with activities using play dough, sand, water, dramatic play, blocks, creative stories, art, music, movement...



Classroom Activity: Play I WANT IT! using play dough. Children may make four objects with some similar and some different parts, like the wagons used in the story. They may then use their creations to play I WANT IT! with other children.



Classroom Activity: Included in the Copy Master section are outline drawings of the main characters from I WANT IT! Make copies of these for the children to color. They may choose to color them the same as the originals, or they may choose their own colors. In any case, ask them questions like, "Green is a pretty color. Why did you choose green for Molly's shirt?" Help children express their reasons clearly.

Some answers you may expect include: "I think Molly looks nice in green." So do I. "I wore a green shirt today" or "Molly in our class wore a green shirt today" Good observation skills. "Molly in the story has a green shirt." Adjust your monitor.

This activity may be extended by having children draw the characters, or make up their own characters. These may be used in other activities as props for creative play. For such extended use it may help to cut out the characters and glue them to stiffer paper stock or cardboard. Triangular pieces may be glued to the back to allow the characters to stand on their own (like a picture frame) or popsicle sticks may be glued to the bottom of the paper to make screen puppets.



Classroom Activity: Write your own I WANT IT! script. Using existing classroom objects (blocks, toys or other manipulatives) or those made by the students themselves in Activity 1, children may play the game using the characters they made in Activity 2 or other objects (stuffed animals, perhaps.) Children may also choose to play themselves instead of I WANT IT! characters. After they have watched I WANT IT! a few times, children may choose characters to portray or make up their own.

Language Arts

- The student shall tell what happens first, middle, and last about an activity or an event.
- The student shall tell what is happening in a picture.



Classroom Activity: Retelling *Thinkology* activity stories. Ask children to retell the events in any *Thinkology* story or activity. (See Chapter 2 for story and activity descriptions.) For younger children, the first few activities may be the best place to start this. Each is a short, complete story with a surprising and fun ending. As children master this objective, encourage them to be brief with their answers. This will cause them to think carefully (and critically!) about what they should say. This exercise will not work well with longer activities or the I WANT IT! or CTN NEWS stories; younger children may not be able to clearly recall the events in each one.

- Dictate a story about an event or an experience



Classroom Activity: Student's Stories. With what they've learned about clarity, encourage children to dictate a story about a recent event or experience. Help them think through what they wish to say by asking yourself, "Is this as clear as it can be?" and encouraging your students to clear up any areas you don't understand. Most often this will involve adding details, but for some children, elimination of unnecessary elements are just as vital to maximizing clarity.

- Read his or her own "writing" to the group, teacher and/or parent (may be pictures, attempts at letters, initial consonants, words, and phrases)



Classroom Activity: The activity above can be extended by asking the students to read their own writing. One tip for success: KEEP IT SHORT! Students may use a variety of means to communicate in writing. Some kindergartners may already possess a command of written communication, but this shouldn't exclude those who don't. They may use all kinds of tools to help them recall their story. A rebus may be the best solution for many children. Some may need extra help with letters or pictures. Remember, the goal is for the children to use what's on paper to retell ("read") their stories to others.

- Answer questions and contribute ideas that are relevant to the conversation or discussion
- Speak using complete sentences that include a subject, verb, simple phrases and adjectives. (I rode a big bus to school)



Classroom Activity: Shared Story Writing. Try this one after a special event which the whole class shared. Write a story about your shared experience as a group activity. You may write on an easel chart or on a chalkboard or dry erase board, whichever is most comfortable for you and your students. Begin by writing two very simple sentences about your activity, such as: We went to the park. It was fun.

Ask your students if this is clear. (Don't be too shocked if they say it's fine just like it is!) Ask them what could be added to make it more clear. Ask questions like, "Who went to the park? Was anyone absent that day? Who went besides members of our class? Who were the adults who went with us? What did we do there? When did we go? (This may include what day of the week, what time of day.) Where is the park? Is it near our school? Do any of the students go there often or live nearby? Why did we go? Was it for fun, for a community-wide event, or another reason? How did we get there? These and similar questions can lead to an interesting, informative and clear story which may be shared with others.

- Identify and name eight basic colors (Black, blue, red, yellow, orange, green, brown, purple)



Classroom Activity: What Did You Wear? Several *Thinkology* activities will assist in achieving this goal. The activities from the Creative Skills section will tie in well. Another possibility is to play What Did You Wear. BEGIN THE game with children sitting in a large group (any arrangement will do.) Ask, "Who wore blue today?" and ask those who wore blue to stand. Children may then name what article(s) of clothing is/are blue. As children gain discrimination, you may make this more challenging by asking more complex questions like, "Who wore red plaid today?" (your little Al Borlands will shine on this one!) or "Who wore green stripes today?" A bit of preplanning will be invaluable to this activity: take note of what the children are wearing. This will help you ask better questions and perhaps ask questions which will both encourage more reticent children to participate in group activities or to skip over children who might be embarrassed.

Mathematics

- Identify, name and draw a circle, square, rectangle and triangle when shown an example.
- Identify some three-dimensional objects (box, can, etc.)
- Sort objects into a set and tell what the objects have in common (color, size, shape)
- Build groups or sets which have more than, less than, or equal quantities and tell which have more, less or the same.



Classroom Activity: Circle The Wagons. *Thinkology* will assist students in clearly identifying and describing two and three-dimensional objects and grouping them according to their similarities. Use copy masters of the wagons from I WANT IT! You may color them, or let the children color them according to your instructions, which will doubtless be more fun for all! Children may then place all their wagons together on a table or the floor and sort them according to your instructions. Blue and red wagons; wagons with red wheels and yellow wheels; blue wagons with red wheels and a load of yellow bananas. The possibilities are almost limitless!

As childrens' clarity skills increase, activities such as this one will become easier to master. Since you're probably already using a variety of manipulatives to teach these concepts, we won't add to your storage problems by adding to your collection. We would like for you to use *Thinkology* for a while and see how much it helps children think through set-building problems.

- Identify and name sizes such as big, bigger, biggest; small, smaller, smallest; small, medium and large, and lengths, such as long, longer, longest; short, shorter, shortest; and put objects in graduated order from shortest to tallest, thinnest to thickest.
- Demonstrate, using objects, spatially related terms such as on, above, below, beside, under, on top of, behind and over.



Classroom Activity: Big and Small, Short and Tall. Among the *Thinkology* activities tailored to this are I WANT IT! Activities 6 and 9 and CTN NEWS Activity 3. These deal directly with size and/or spatial relation concepts. In I WANT IT! Activity 3, a stuffed toy gorilla turns into Gertrude for a good contrast between small and large. Using the copy masters of the story characters and a copy machine with enlargement and reduction features, make larger and smaller copies of the characters. For ease of storage and handling, you might wish to use the copy masters in their original size for the “largest” and make reductions from them to represent smaller sizes.

For extra fun, combine these with Creative Skills and Language Arts exercises. Use copy masters of the wagons to discuss on, in, under, etc. Combine the wagons with story characters placed on, above, below, beside, under, on top of, behind and over the wagons. Make sure there is plenty of space between the characters and the wagons when trying to differentiate between “on” and “over,” for instance, in order to avoid confusion.

Motor Skills

Computer usage requires fine motor skills and refines those skills along with eye-hand coordination. *Thinkology* will add to your computer activities and give children plenty of practice at pointing and clicking with mice in response to questions.

Science Objectives

- The student will observe and describe characteristics of the four seasons such as temperature, weather, appropriate clothing, etc.
- The student will observe, classify and describe the sensory attributes of objects according to taste, smell, hearing, touch and sight.
- The student will observe, describe and classify real objects according to their common properties (such as animal, vegetable, mineral)

Clarity plays a critical role in observation, description and classification. As children use the program and their clarity skill improves, they will become better at making distinctions.



Classroom Activity: The Four Seasons On Parade. Use this idea as a measurement tool. Do you decorate a bulletin board (or maybe even your whole room) on a seasonal scheme? Use your decorations, along with trips outside or perhaps organized “nature walks” to gather items and information about seasons. What sorts of items would you expect to gather during each of the seasons? This will vary according to where you live, but it will probably involve mostly plant matter such as leaves, flowers, and similar items. Add to the mix by observing the sky. What kinds of clouds do you see at different times of the year?

You don’t need to get too technical here; your kindergartners neither know nor care to know the subtle difference between an altocumulus and a cirrostratus.

Use general terms. Over most of the United States, summer clouds are predominantly white, puffy cotton balls (cumulus clouds) floating through a blue sky. Autumn is characterized by deep, clear blue skies and much cooler temperatures (this occurs behind cold fronts; watch the news to predict when might be a good time to observe this.) Winter is most often solid overcast with cold rain, sleet, and snow. Spring can be cloudy and rainy or warmer, clear and windy. Late spring is also prime time for thunderstorms. If you follow a traditional nine-month school year calendar beginning in August or September, Autumn, Winter and Spring are the obvious seasons.

Where do you fit summer? My recommendation is to place it at the first of the year. Solar summer lasts until the end of September (at Autumnal Equinox) and meteorological summer can last into October in many parts of the U. S. If you choose a different scheme for the beginning of the year, summer may also fit into the end of the year in late May.



Classroom Activity: Memorial Day marks the beginning of summer for many Americans. As you discuss seasons during your normal activities, observe how students observe and describe their characteristics after they've had some experience with *Thinkology*. Note the improvement! Children should be able to notice things such as sky conditions, precipitation types, colors of grass and leaves, which plants are green, which are brown, which have leaves or flowers or have lost their foliage, etc.

Another related activity might be to show your students pictures of people wearing different types of clothing — raincoats, overcoats, swimsuits, and so on. Ask them, “*During what season might such clothing be worn?*” or “*Would you wear a big, heavy coat during the hot summer? Why or why not?*” Help them express their answers clearly.

Social Studies Objectives

- Identify how children within the local community and around the world have needs in common and are also unique as to language, food, clothing, transportation and customs.



Classroom Activity: Alike Yet Different. After children have used *Thinkology* and have a good grasp on clarity, help them to think about and to clearly describe what things all children have in common. Some of these things might include families, schools, friends. What things do all children need? Sleep, food, water, a place to live, adults to help them learn and do things might be some of the answers. You can probably expect children to come up with some surprisingly insightful answers that would have made Dr. Maslow proud! What makes children in other cultures unique?

If you have access to some old copies of National Geographic Magazine, children might look for pictures of children around the world. Videos which feature children from other cultures would also be good tools. With their powers of observation and expression honed by *Thinkology*, help them clearly and concisely state similarities and differences between themselves and the children and other people they see. Videos are especially helpful at this point because they might include unfamiliar-sounding languages. Most children this age will not be able to recognize many differences in written languages.

Remember, too, that you may not have to look around the world for different cultural groups. Native Americans, Hispanics, Vietnamese and other East Asians, Middle Easterners, Africans, Pacific Islanders... How many of these people live in your community? How many different groups might be represented among your class? A special guest who represents one or more of these groups might be a special treat for the students. Encourage them to listen and observe carefully. Some of the activities listed under Language Arts would make an ideal follow-up and create more opportunities for critical thinking and expression.



Classroom Activity: Name that State. This will be especially fun using a map puzzle of the United States. Point out your state on the map. Ask children what it looks like. How might they describe it? Some states will be easy: Colorado, Kansas and Wyoming are rectangles. Vermont, New Hampshire and Delaware are roughly triangular. Indiana and Montana look alike (if you rotate Indiana 90° counterclockwise or Montana 90° clockwise they do! Which is bigger? Which is smaller? You can have some fun with this!) Pity most teachers in other states! Texas is shaped like... well, it's shaped like Texas! How else might you describe it? Ask your students to try! Help them be as clear as they can, which might be tough, and surprisingly simple and accurate, too!

Extra Opportunities:

- Does your school have a food drive during the year? If so, use the cans and boxes collected compare sizes.
- You might even arrange a "field trip" to the school kitchen. Compare the pots and pans used to prepare meals at school with those used at home. Cans, boxes and sacks of food items in the school kitchen will also be much larger than those used at home. You might want to bring some items from home, such as pots, pans, cans, boxes and utensils for use in comparison of none are otherwise available. If your classroom has a play kitchen area, use some of the play pots, pans, utensils and other items for added contrast.