

Chapter 9

INSTRUCTIONAL ADAPTATIONS FOR STUDENTS WITH DIVERSE NEEDS

When it comes to young people, believe that all things are possible. Expect the best from young people; they're capable of it. Our job is to find the gift in each young person, see every young person as pure potential.

DR. MICHAEL CARRERA



INSTRUCTIONAL ADAPTATIONS FOR STUDENTS WITH DIVERSE NEEDS

In his book “Lessons for Lifeguards” (1996), health educator Michael A. Carrera offers practical advice for those who work with children and youth. His words are meant to incite, inspire, and excite those who work with children and youth to take action, be involved, be committed, and care about young people. This chapter is grounded in the belief that all students can learn and can be successful. Each student must be viewed as an individual with great gifts, talents, and assets that will enable him/her to achieve the rigorous demands set forth by the *Core Curriculum Content Standards*.

The theory and strategies described in this chapter address instructional issues for three types of identified students:

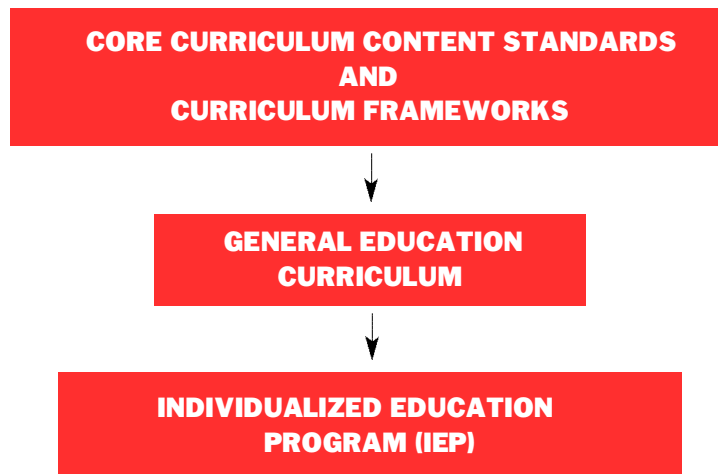
- Students with Disabilities
- Limited English Proficient Students
- Exceptionally Able Students

The chapter is divided into three sections. Each section addresses specific requirements and strategies for that particular group of students. The activities included in each section have been taken directly from *Chapter 8: Sample Learning Activities* in this *Framework*. They have been modified to illustrate general instructional modifications that can be used for any student, not just those students “classified” as being eligible for specialized services. These adaptations reflect sound teaching principles as well as current teaching and learning research. Teachers should use this chapter as a template to adapt other learning activities found in the *Framework*.

This chapter aims to support a collaborative teaching environment that provides all students with educational experiences that enable them to maximize their potential. To this end, teachers, students, parents, healthcare providers, and counselors must work together to ensure that these students participate in instructional activities that support the achievement of the *Standards*. For this to happen, team members must develop effective communication skills and must work together to identify student needs and devise ways to meet them.

INSTRUCTIONAL ADAPTATIONS FOR STUDENTS WITH DISABILITIES

The *New Jersey Core Curriculum Content Standards* and related *Frameworks* are the focus of curriculum and instruction for all pupils, including students with disabilities. In order to provide students with meaningful access to curriculum and instruction based on the *Standards*, adaptations may be necessary. Adaptations are not intended to compromise the *Standards*. Instead, adaptations provide students with disabilities the opportunity to maximize their strengths and compensate for their learning differences.

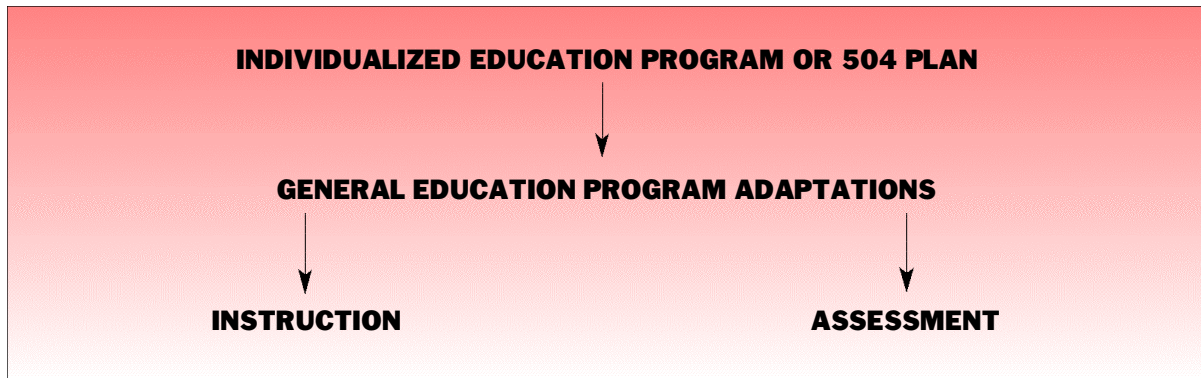


Because students with disabilities are expected to participate in the general education curriculum, the Individualized Education Program (IEP) must reflect the *Standards* as well as the local school district's general education curriculum.

ADAPTATION: A FEDERAL REQUIREMENT

The Individuals with Disabilities Act, Amendments 1997 and Section 504 of the Rehabilitation Act of 1973 guarantee students with disabilities the right to general education program adaptations, as specified in their Individualized Education Programs (IEPs) or 504 plans. These federal requirements are intended to result in adaptations that provide access to the general education program and general education curriculum.

Students with disabilities demonstrate a broad range of learning, cognitive, communication, physical, sensory, and social/emotional differences that may necessitate adaptations to the general education program. Each pupil manifests his learning abilities, learning style, and learning preferences in a unique way. Consequently, the type of adaptations needed and the program in which the adaptations will be implemented are determined individually within the Individualized Education Program (IEP) or 504 planning processes.



For the purpose of the *Comprehensive Health Education and Physical Education Framework*, sample learning adaptations are defined as adjustments or modifications to the general education program enabling students with disabilities to:

- Participate in and benefit from learning activities and experiences based on the *Standards*.
- Demonstrate understanding and application of the *Standards*.

CATEGORIES OF ADAPTATIONS

With the adoption of the *New Jersey Core Curriculum Content Standards* on May 1, 1996, the New Jersey State Board of Education recognized comprehensive health education and physical education as essential components of the curriculum for all students. The goal of comprehensive health and physical education programs is to develop students who are *health-literate* and *physically educated*. Students with disabilities must also work towards that goal. It is well-documented that children with disabilities are at higher risk for health-damaging behaviors. Students with disabilities frequently have related difficulties in the areas of social and communicative competence, (Elias, et al., 1997) poor information processing abilities, and limited problem-solving and decision-making skills. They are more likely to show difficulty reading social cues, demonstrate impulsivity and an inability to delay gratification, and may have increased difficulty managing frustration and high-intensity emotions. These same students may possess low self-esteem and self-efficacy supported by “feeling different” or being rejected by peers. (Elias, et al.) These social, cognitive, sensory, and physical deficits increase the likelihood that a student with disabilities will participate in behaviors that contribute to intentional or unintentional injury; use alcohol, tobacco and other drugs; participate in risky sexual behaviors; lead a sedentary lifestyle; or maintain unhealthy dietary patterns. While it is critically important that students with disabilities receive instruction in comprehensive health and physical education to ensure their ability to practice health-enhancing behaviors, the nature of that instruction may vary according to the needs of the student.

The sample learning activities contained in this *Framework* emphasize hands-on and activity-based learning experiences. The activities embody best practice instruction beneficial for all students, including students with disabilities; however, to make the activities more meaningful for students with disabilities, adaptations to certain aspects of the activities may be necessary. Adaptations may take a variety of forms. Some adaptations structure students' learning in a more explicit, systematic way than some non-disabled students may require. Other adaptations provide alternative means for students to acquire or demonstrate their knowledge while they are developing health and physical education proficiency at their own rate and maximizing their style of learning.

The adaptations in this chapter were developed to complement and make accessible the sample learning activities in the *Framework*. Additional adaptations, not in this document, may be needed for some students with disabilities to provide further instruction in foundation skills which support the processes described in the *Framework*. In addition, *Chapter 10: Technology* presents background information on assistive technology for students with special needs.

The categories listed below are intended to guide the process of selecting adaptations for an individual pupil with disabilities. Adaptations include but are not limited to the following:

INSTRUCTIONAL PRESENTATION	CLASSROOM ORGANIZATION
Instructional Preparation Instructional Prompts Instructional Applications Instructional Monitoring	Instructional Groups Instructional Supports Environmental Conditions Adaptive Equipment
STUDENT RESPONSE	SAFETY CONSIDERATIONS
Response Format Response Procedures	Rules and Procedures Equipment, Materials, and Facilities
STUDENT MOTIVATION	
Interest Confidence Independence Enjoyment	

DESCRIPTIONS OF ADAPTATIONS

Descriptions, including the rationale, specific functions, and an example for each category follow. Sample activities provided at the end of this chapter have been selected to illustrate a range of possible adaptations that might be used across the *Standards* and cumulative progress indicators. These examples were developed from selected activities in *Chapter Eight* of this *Framework* (please refer to the page number at the top right of each adaptation for the location of the original sample learning activity). While these strategies are known to be beneficial for all students, they are an essential component of the instructional program for a student with disabilities.

INSTRUCTIONAL PRESENTATION

Rationale

Students with disabilities may require instructional presentations that enable them to acquire, comprehend, recall, and apply health and physical education content to ensure that all students become health-literate and physically educated individuals. In addition, instructional presentation adaptations can enhance a student's attention and ability to focus on instruction.

Purpose

The primary purpose of these adaptations is to provide special education students participating in health education and physical education classes with teacher-initiated and teacher-directed interventions that:

- Prepare students for learning and engage students in the learning process (**instructional preparation**)
- Structure and organize information (**instructional prompts**)
- Foster understanding of new concepts and processes (**instructional application**)
- Promote student self-reflection and self-management regarding task demands, goal attainment, and performance accuracy (**instructional monitoring**).

INSTRUCTIONAL PREPARATION

Purpose	Examples
<ul style="list-style-type: none"> ■ Heighten student interest and understanding ■ Establish purpose/goals of lesson ■ Activate prior knowledge ■ Build background knowledge of content or strategy ■ Focus attention and thinking ■ Introduce key concepts and information ■ Promote self-efficacy 	<ul style="list-style-type: none"> ■ Relating to personal experiences ■ Previewing information/materials ■ Pinpointing for physical activities ■ Using advance organizers ■ Brainstorming/webbing ■ Modeling ■ Using questioning techniques ■ Employing KWL strategies ■ Predicting ■ Pre-teaching vocabulary (meaning or pronunciation) ■ Pre-teaching or reviewing ■ Using visual demonstrations, illustrations, and models ■ Using mini-lessons

INSTRUCTIONAL PROMPTS

Purpose	Examples
<ul style="list-style-type: none"> ■ Organize information ■ Build whole-part relationships ■ Cue associations, connections, and/or sequences of physical activities ■ Highlight and clarify essential concepts ■ Generate categorizations/comparisons ■ Generate classifications ■ Activate recall ■ Summarize 	<ul style="list-style-type: none"> ■ Use graphic organizers ■ Use semantic organizers ■ Employ segmenting techniques and/or task analysis

INSTRUCTIONAL APPLICATION

Purpose	Examples
<ul style="list-style-type: none"> ■ Simplify abstract concepts ■ Provide concrete examples ■ Extend ideas-elaborate understanding ■ Build connections/associations ■ Relate to everyday experiences ■ Promote generalization ■ Engage multiple modalities 	<ul style="list-style-type: none"> ■ Implement hands-on activities ■ Use dramatization ■ Employ props ■ Create illustrations ■ Provide music or movement ■ Draw or paint ■ Create graphics or charts ■ Take field trips ■ Invite guest speakers ■ Interview/survey ■ Discuss personally relevant activities ■ Provide for real-life applications ■ Use games/simulations ■ Structure dialog ■ Shape/approximate physical activities ■ Employ peer/cross-age teaching

INSTRUCTIONAL MONITORING

Purpose	Examples
<ul style="list-style-type: none"> ■ Provide periodic (continuous) check for understanding ■ Redirect attention ■ Direct on-task behavior ■ Promote participation ■ Check progress ■ Assist in goal setting ■ Establish timelines ■ Clarify assignments, directions, instructions ■ Provide reinforcement and corrective feedback ■ Promote strategy use and generalization ■ Manage student behavior and interactions ■ Develop self-questioning and self-regulation 	<ul style="list-style-type: none"> ■ Use self-monitoring checklist/task analysis ■ Set timelines for assignments ■ Use planning agendas ■ Allow student “think alouds” ■ Require journal entries ■ Establish portfolios ■ Videotape physical activities ■ Dialog ■ Develop action plans ■ Use peer reviews/mentors ■ Keep a vocabulary journal ■ Employ questioning techniques ■ Initiate student contracts ■ Use rubrics and task cards ■ Use a reward system

CLASSROOM ORGANIZATION

Rationale

Students with disabilities may require specific adaptations to classroom organization in order for them to be actively involved in health and physical education activities.

Purpose

The primary purpose of classroom organization adaptations is to maximize student attention, participation, independence, mobility, safety, and comfort. These adaptations promote peer and adult communication and provide accessibility to information, materials, and equipment. When considering **instructional support** for students with physical, neurological, and/or sensory disabilities (particularly as they participate in movement and fitness activities) it is essential that the physical education teacher collaborate with the school nurse, parents, and if appropriate, the occupational therapist, physical therapist, or health aide to determine effective adaptations. Working as a collaborative team, these individuals can assist the physical education teacher to plan an instructional program that reflects the student's current health status and health needs. Additionally, it is important that the skills being addressed in a therapeutic setting (e.g., specific stretching exercises directed by the physical therapist) be reinforced in and generalized to the student's participation in the health and physical education program.

When considering these adaptations, classroom organization can be divided into the following categories: **instructional groups**, **instructional support**, **environmental conditions**, and **adaptive equipment and materials**. These adaptations are important to facilitate the student's participation in the health and physical education instructional program but are absolutely essential to the activities supporting *Standard 2.5: Movement* and *Standard 2.6: Fitness*.

INSTRUCTIONAL GROUPS	INSTRUCTIONAL SUPPORT (from another person)	
<p style="text-align: center;">Examples</p> <ul style="list-style-type: none"> ■ Cooperative learning groups ■ Peer partners ■ Buddy system ■ Teams ■ Cross-age tutors ■ Multi-age grouping ■ Competitive groups 	<p style="text-align: center;">Adaptations</p> <ul style="list-style-type: none"> ■ Assist physically ■ Gesture or signal ■ Clarify ■ Interpret ■ Reinforce ■ Highlight ■ Organize ■ Focus ■ Prompt or cue 	<p style="text-align: center;">Individuals</p> <ul style="list-style-type: none"> ■ Peers/cross-age teachers ■ School nurse ■ Mentors ■ Speech therapist ■ Health aide ■ Physical therapist ■ Occupational therapist ■ Speech therapist

ENVIRONMENTAL CONDITIONS	ADAPTIVE EQUIPMENT/MATERIALS
<p style="text-align: center;">Examples</p> <ul style="list-style-type: none"> ■ Room/field/gym/playground arrangement ■ Work/play space ■ Material accessibility ■ Lighting ■ Noise level ■ Learning stations/lab stations ■ Labeling equipment and stations ■ Seating arrangements or assignments ■ Portable units ■ Music ■ Visual/tactile/auditory/kinesthetic focus ■ Self space guides (spots, carpet squares) ■ Immersion ■ Weather (rain, cold, ice, heat) 	<p style="text-align: center;">Examples</p> <ul style="list-style-type: none"> ■ Speech synthesizer ■ Personal computers/Internet access ■ Communication board ■ Close captioned video/TV ■ Audio tapes ■ Braille ■ Enlarged print ■ Low vision equipment (clocks) ■ Talking watch/calculator ■ Lap board ■ FM system ■ Specialized PE equipment (e.g., Velcro mitt with fleece ball, ball with bell, ramps, adjustable height equipment) ■ Puppets/models

STUDENT RESPONSE

Rationale

Students with disabilities may require specific adaptations in order to demonstrate acquisition, recall, understanding, and application of health education and physical education content, skills, and related processes.

Purpose

The primary purpose of adaptations to student performance responses is to provide students with disabilities a means of demonstrating progress toward and achievement of the *Standards*.

RESPONSE FORMAT	RESPONSE PROCEDURES
<ul style="list-style-type: none"> ■ Complete information organizers ■ Interviews, discussions, debates ■ Illustrations - posters, collage, mural ■ Models ■ Observation/data charts ■ Diagrams ■ Puzzles ■ Reenactments ■ Debates ■ Journal entries ■ Portfolio entry ■ Bulletin board displays ■ Role play ■ Video and audio tapes ■ PC/multimedia ■ Dictation ■ Songs, raps, poems, choral reading ■ Authentic products (e.g., brochures, menus, schedules, diet plans, fitness plans, letters, surveys, ads) ■ Peer review guides/task cards ■ Self assessment guides ■ Experiments 	<ul style="list-style-type: none"> ■ Provide extended time ■ Use practice exercises ■ Provide an interpreter ■ Use a preferred response mode ■ Case studies ■ Give shorter assignments/more frequently ■ Use specialized equipment ■ Employ individual, paired, or small group projects or activities ■ Allow take-home tests ■ Score by approximation ■ Credit range of improvement

STUDENT MOTIVATION

Rationale

Some students with disabilities may be reluctant to engage or persist in health education or physical education activities. The student’s reluctance may be due to difficulties with aspects of learning processes. In addition, the student may have experienced repeated failure or embarrassment when participating in physical education activities. Educators may make the assumption that all students enjoy participating in physical activity. For some students with disabilities, whether physical, sensory, neurological, cognitive, or emotional, this may not be true.

Purpose

Because of these difficulties, motivational strategies are important to assist students with disabilities to become successfully involved in a variety of health education and physical education experiences so they develop proficiency, confidence, and enjoyment. This, in turn, will support the adoption of leisure time options that support wellness and generalize beyond the school setting.

PURPOSE	STRATEGY
<ul style="list-style-type: none"> ■ Create interest, persistence, confidence, enjoyment, and independence in activities ■ Understand relevance and importance of health and fitness issues as they relate to personal vulnerability ■ Promote health-enhancing behaviors 	<ul style="list-style-type: none"> ■ Personally meaningful and relevant activities ■ Role models/mentors ■ Student involvement in goal setting and assessment activities ■ Linking across disciplines ■ Activity choice ■ Hands on, multi-modal activities ■ Doable tasks ■ Learning styles considerations ■ Choice to work alone or with others, when appropriate ■ Accurate and current information ■ Teachable moment ■ Peer input

SAFETY CONSIDERATIONS

Rationale

The comprehensive health and physical education sample learning activities included in this *Framework* are hands-on experiences that occur in the classroom, gymnasium, or outdoors. Students with disabilities may require adaptations in order to ensure safe participation for themselves and others.

Purpose

The primary purpose of safety adaptations is to provide understanding of and adherence to safety rules and procedures and to enhance learning for all through the safe use of equipment and supplies.

SAFETY RULES AND PROCEDURES	SAFE USE OF SPACE AND EQUIPMENT
<p>Examples</p> <ul style="list-style-type: none"> ■ Understand safety and health rules and procedures ■ Follow all rules ■ Use material/equipment appropriately ■ Share materials ■ Adhere to time allocation ■ Set-up and clean-up ■ Consider the weather/climate ■ Warm-up and cool-down procedures ■ Conduct activities with supervision and an appropriate student/teacher ratio ■ Limit group sizes for highly impulsive, distractible, active students 	<p>Examples</p> <ul style="list-style-type: none"> ■ Role play ■ Employ cross age teaching/mentors ■ Model and demonstrate ■ Label materials and equipment ■ Distribute supplies and equipment ■ Assign responsibilities ■ Create a checklist of directions and procedures ■ Post a timeline chart ■ Use self-space markers ■ Establish activity boundaries ■ Use adjustable, sturdy, and developmentally-appropriate equipment ■ Consider the condition of the physical space ■ Position oneself to observe all students ■ Use signaling devices (e.g., whistles, megaphones, flags, cow bells, flashing lights)

SAMPLE ADAPTATION #1**Standard:** 2.1-10**Page Number:** 129**Grade Level:** 7- 8**Activity Title:** Bounce Back From Depression

INSTRUCTIONAL PRESENTATION

Instructional Prompt: *Information Organizer—Data Collection Sheet*
Concept Activity—Picture

An Information Organizer provides a format for presenting information that helps students draw conclusions, identify cause and effect relationships, categorize ideas, sequence events, show relationships, and organize thoughts.

A Concept Activity is a concrete presentation of abstract concepts. Using visual aids such as pictures or concrete materials, a concept activity helps to build connections and associations between new ideas and everyday experiences.

- Pre-teach a definition of **depression** then have the class brainstorm common words or phrases associated with depression (e.g., down in the dumps, blue, gloomy, sad, bummed out).
- Arrange desks in a semi-circle so all students can see the bouncing raisins demonstration.
- While observing the demonstration, students complete items 1-4 on the data collection sheet (sample follows).
- As volunteers share responses, the teacher records them using an overhead projector.
- Show a transparency of flowers bouncing back (sample follows) to reinforce the concept.
- Divide the class into small groups to review case studies and suggest strategies and resources to help with the problem. Refer students to item #4 on the data collection sheet.
- Reconvene to share case study responses.

Bounce Back From Depression

INSTRUCTIONAL GROUPS	INSTRUCTIONAL MATERIALS/EQUIPMENT
<ul style="list-style-type: none"> ■ Whole class for demonstration ■ Small groups (with teacher-assigned roles) for case study analysis 	<ul style="list-style-type: none"> ■ Overhead projector ■ Teacher-prepared transparency, data collection sheet, and case studies ■ Large glass, raisins, seltzer
STUDENT RESPONSE	ENVIRONMENTAL CONDITIONS
<ul style="list-style-type: none"> ■ Complete data collection sheet ■ Shared responses from data collection and case studies 	<ul style="list-style-type: none"> ■ Semi-circle arrangement for demonstration ■ Small group workspace
STUDENT MANAGEMENT	MOTIVATION
<ul style="list-style-type: none"> ■ Use of overhead projector ■ Use of data collection sheet to focus and maintain attention during demonstration ■ Teacher-assigned group roles to maximize each child's success 	<ul style="list-style-type: none"> ■ Observation of demonstration ■ Talking and working with others in cooperative groups

SAMPLE DATA COLLECTION SHEET

PART A:

THE BOUNCING RAISINS DEMONSTRATION

Watch what happens to raisins dropped in seltzer.

1. Sketch the glass filled with seltzer water and raisins. Draw what you see.
2. Notice some raisins have “bounced back” to the top of the glass.
3. Label these raisins with the letter “A”.
4. Label raisins on the bottom of the glass with the letter “B”.
5. What mood would best describe the floating raisins?

PART B:

SHORT PERIODS OF DEPRESSION AND FEELING SAD ARE NORMAL.

List five things that have helped you “bounce back” when you feel sad.

- 1.
- 2.
- 3.
- 4.
- 5.

Have a nice day!

Flowers Bouncing Back



SAMPLE ADAPTATION #2**Standard: 2.1-18****Page Number: 159****Grade Level: 9 - 12****Activity Title: Agencies That Protect Your Health**

INSTRUCTIONAL PRESENTATION

Instructional Prompt: *Interview Guide*

An Interview Guide is used for the purpose of gathering information and focuses the student's attention on the main points to be covered. It provides a structured format for organizing the information obtained.

- Distribute copies of the “Blue Pages of Government Listings” from your local phone book.
- Working in groups, students highlight those agencies that help to protect and promote health.
- Each group provides the name, address, and phone number of one agency it highlighted. Record the information on chart paper. The process continues until all highlighted agencies are recorded.
- Students and teacher review and discuss the list to determine if each agency does, in fact, work to promote health.
- Each student selects an agency to contact via telephone for the purpose of gathering information (see sample form). Review appropriate phone etiquette. Explain that not all agencies will be anxious to answer questions. If someone is rude to them, tell students to say “I am sorry you cannot help me. Is there someone else who can?”
- Each student reports back on his/her agency.
- Extension activities might include having the class compile and distribute a directory of agencies that were contacted and/or inviting guest speakers from selected agencies.

Agencies That Protect Your Health

INSTRUCTIONAL GROUPS	INSTRUCTIONAL MATERIALS AND EQUIPMENT
<ul style="list-style-type: none"> ■ Small groups for highlighting “Blue Pages” ■ Individual agency interview ■ Whole-class reporting 	<ul style="list-style-type: none"> ■ Copies of the “Blue Pages” ■ Highlighters ■ Flip chart ■ Interview guide
STUDENT RESPONSE	ENVIRONMENTAL CONDITIONS
<ul style="list-style-type: none"> ■ Small-group selection of agencies ■ Individual reports of interviews 	<ul style="list-style-type: none"> ■ Comfortable work area for groups and individual reporting
MOTIVATION	STUDENT MANAGEMENT
<ul style="list-style-type: none"> ■ Use of “Blue Pages” ■ Direct contact with agencies 	<ul style="list-style-type: none"> ■ Group-work rules and procedures ■ Appropriate telephone etiquette when contacting agencies
INSTRUCTIONAL SUPPORT	
<ul style="list-style-type: none"> ■ Teacher-provided “Blue Pages” ■ Teacher-provided Interview Guide ■ Possible guest speaker 	

SAMPLE PHONE INTERVIEW GUIDE

Agencies That Protect Your Health

Name of Agency _____

Address _____

Phone Number _____

Script:

Hello, my name is _____.

I am a student at _____ High School.

My health class is studying public health agencies.

Can you tell me what your agency does to help people?

Thank you very much. Good bye.

SAMPLE ADAPTATION #3**Standard:** 2.3 -15**Page Number:** 282**Grade Level:** 9 -12**Activity Title:** Signs and Symptoms of ATOD Abuse

INSTRUCTIONAL PRESENTATION

Instructional Preparation: *Brainstorming: Round Robin***Instructional Application:** *Product: Business Cards*

Brainstorming is a group process used to activate a student's prior knowledge and build associations to a specific topic. Ideas generated are not evaluated or criticized during the brainstorming activity. Round robin (or carousel) brainstorming allows small groups to move from one topic/question to another, adding new ideas. It provides more structure than typical brainstorming because a broad topic/question can be broken down into specific areas and addressed separately by each group.

A Product is an application activity that requires students to demonstrate understanding by using learned information in a practical way.

- Divide the class into three groups and give each group a different color magic marker.
- Groups circulate among flip charts, each of which has a specific question heading (samples follow).
- Each group generates and records on flip charts as many responses as possible in 5 to 7 minutes.
- Teacher leads whole-class discussion of responses.
- Using a teacher-prepared T-chart, discuss "Signs of Possible Substance Use and Abuse" and "Ways to Help a Person Who Is Chemically Dependent".
- Students prepare business cards addressing various substances and helping agencies.

Signs and Symptoms of ATOD Abuse

INSTRUCTIONAL GROUPS	INSTRUCTIONAL MATERIALS AND EQUIPMENT
<ul style="list-style-type: none"> ■ Three groups for round robin ■ Whole-class discussions ■ Individual for preparing business cards 	<ul style="list-style-type: none"> ■ Flip charts and markers ■ Thinking questions ■ Teacher made T-charts ■ Card stock squares for business cards ■ Computer and appropriate software, if available
STUDENT RESPONSE	ENVIRONMENTAL
<ul style="list-style-type: none"> ■ Round robin flip chart responses ■ T-chart worksheets ■ Business cards 	<ul style="list-style-type: none"> ■ Space for groups to move among flip charts ■ Semi-circle for discussion of chart
MOTIVATION	INSTRUCTIONAL SUPPORT
<ul style="list-style-type: none"> ■ Round robin activity ■ Creating business cards 	<ul style="list-style-type: none"> ■ Print shop for providing card stock and printing business cards ■ Teacher-prepared T-charts and round robin flip charts ■ Teacher led discussion

QUESTIONS FOR FLIP CHART STATIONS

When do teenagers experience pressures to use alcohol, tobacco, and other drugs?

■

At what age does pressure begin to use alcohol, tobacco, and other drugs?

■

What kinds of social settings contribute to the pressure to use alcohol, tobacco, and other drugs?

■

SAMPLE T-CHART

SIGNS OF POSSIBLE SUBSTANCE USE AND ABUSE

- Sleeps in class
- Smells like alcohol all the time
- Absent or late a lot after partying
- Drinks when depressed
- Smokes cigarettes all the time
- Drinks alcohol before driving
- Can't stop drinking or smoking even though she's pregnant
- Spends his/her entire paycheck on drugs

WAYS TO HELP INDIVIDUALS WHO ARE CHEMICALLY DEPENDENT

- Send to the school substance awareness coordinator
- Invite them to do something else
- Rehab
- Keep busy at things they like to do
- Don't invite them to parties where drugs/alcohol are present
- Take them to get medical help

SAMPLE BUSINESS CARD

“Substance Use is a Bad Business”

(Front)

“In the Business of Helping”

Alcoholics Anonymous
1-800-555-5555

Narcotics Anonymous
1-800-555-5551

National Council for Addictions and Drug Dependencies
1-800-555-5552

(Back)

SAMPLE ADAPTATION #4**Standard** 2.4 -10**Page Number:** 336**Grade Level:** 7- 8**Activity Title:** Meeting Human Needs

INSTRUCTIONAL PRESENTATION

Instructional Preparation: *Simulation: Pyramid Ring Toy*
*Concept Activity: Puzzle***Instructional Application:** *Application Activity: Poster*

A Simulation is a process of examining a concept or problem not easily examined directly. Simulations are useful for providing a concrete explanation of an abstract concept through a unique experience or comparison.

A Concept Activity presents abstract concepts in a more concrete manner. Using materials like pictures, graphs, and puzzles, a concept activity helps to clarify and organize the learner's thinking.

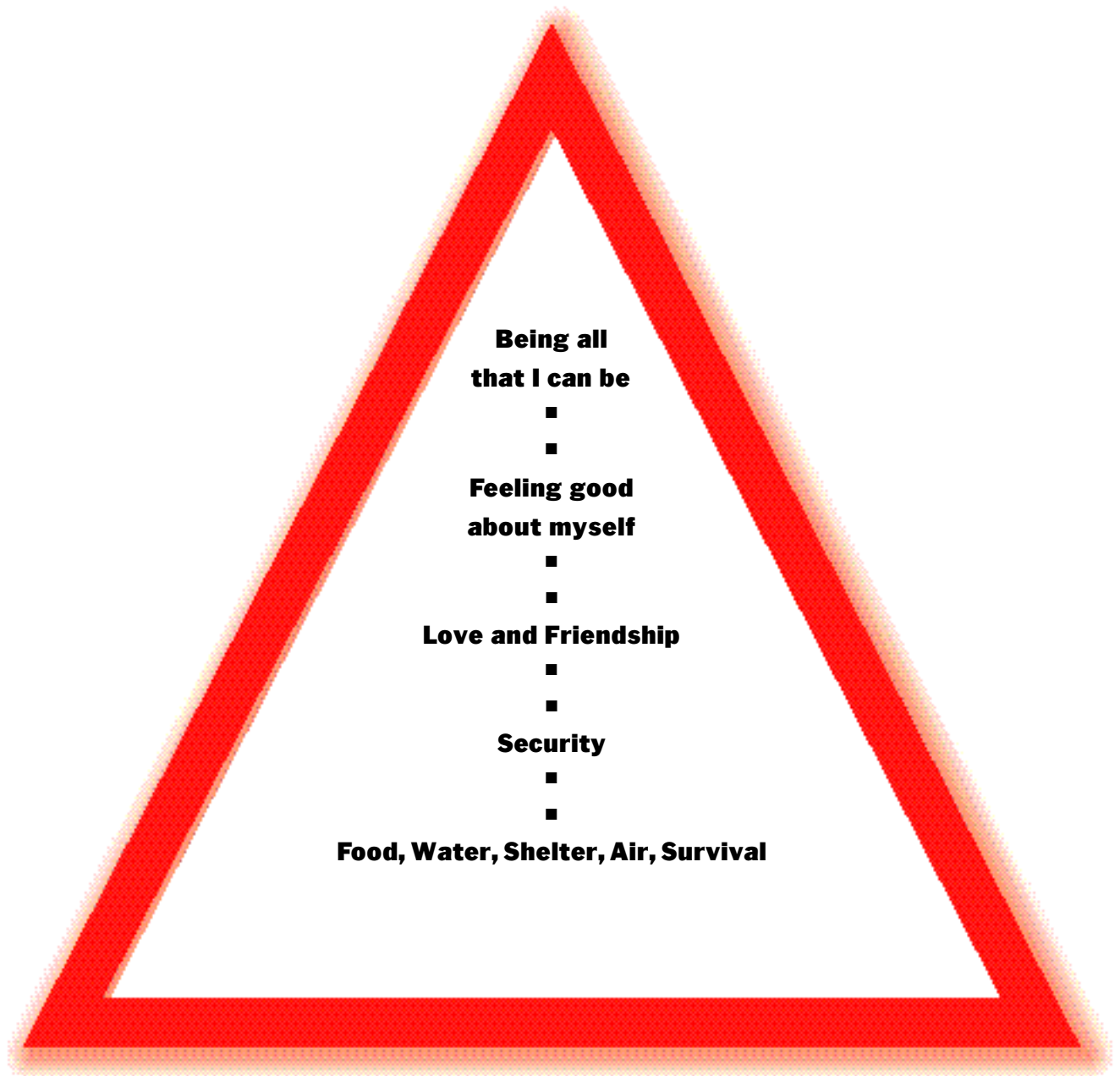
An Application Activity requires students to demonstrate understanding by using learned information in a practical way.

- Brainstorm simple vocabulary for describing each of the five need areas, e.g., “What are Physical Needs?”
- Discuss the structural importance of the pyramid.
- Use a toddler's ring-stacking game to demonstrate how the stack cannot be correctly completed without each underlying ring properly placed. Label rings to correspond to Maslow's Hierarchy.
- Give each student an interlocking puzzle of Maslow's Hierarchy pyramid and have them interlock the pieces, reinforcing the fact that the lower-level needs must be in place before interlocking a higher-need puzzle piece (see attachment).
- Divide the class into five groups—one for each need level.
- Students discuss and create lists of ways parents satisfy their children's needs at each level, using a worksheet (see attachment).
- Each group creates one assigned section of a large class poster, using pictures to represent how parents satisfy that particular need and/or listing ways.
- Groups convene to create a group poster from their individual parts, building the class poster from “Physical Needs” through “Self Actualization.”

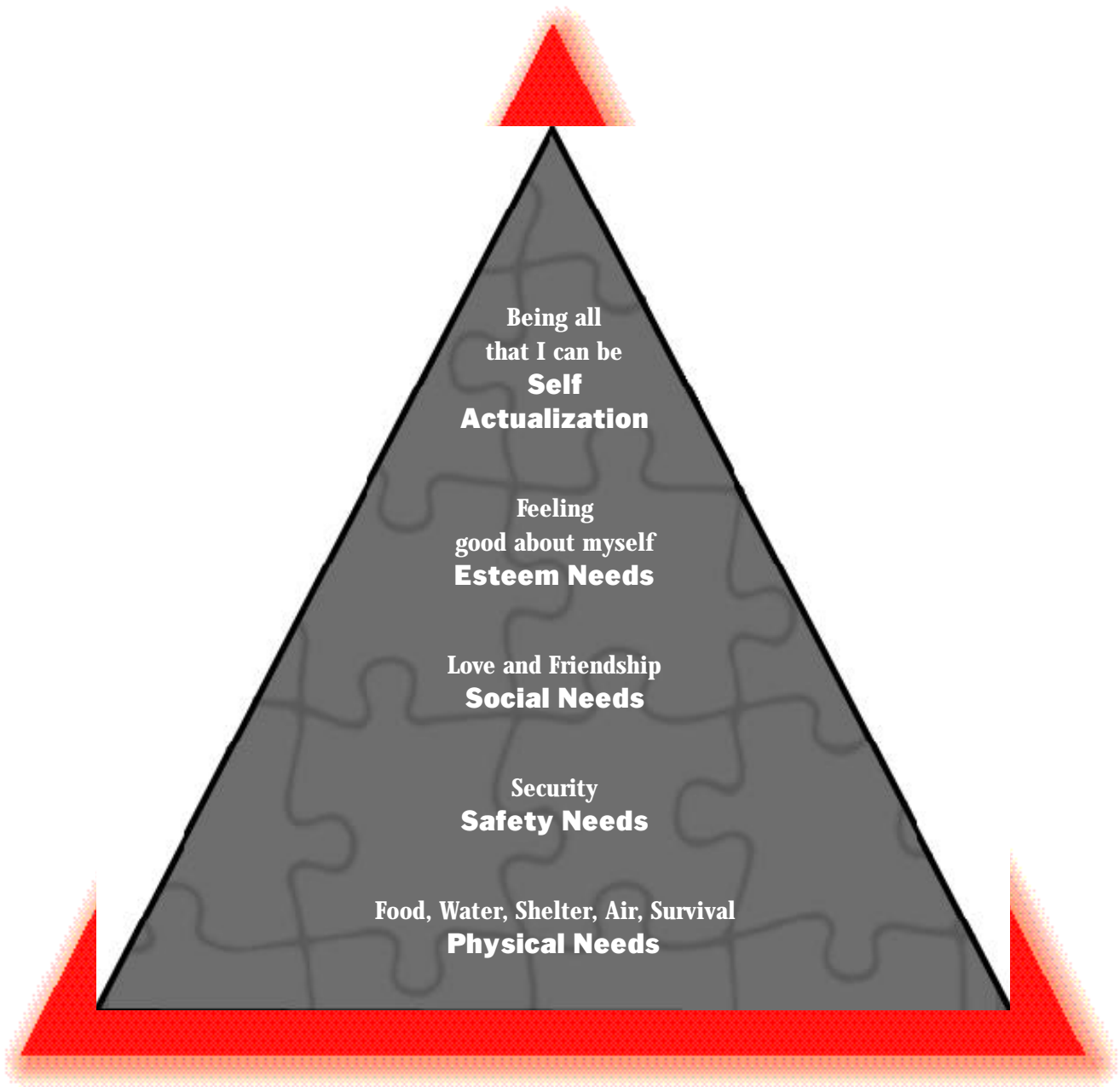
Meeting Human Needs

INSTRUCTIONAL GROUPS	INSTRUCTIONAL MATERIALS/EQUIPMENT
<ul style="list-style-type: none"> ■ Whole class for brainstorming activity ■ Small groups for identifying how parents satisfy needs ■ Whole class for creating large poster 	<ul style="list-style-type: none"> ■ Toddler's ring-stack game ■ Individual Maslow's Hierarchy pyramid puzzle ■ Individual worksheets ■ Large poster paper
STUDENT RESPONSE	ENVIRONMENTAL CONDITIONS
<ul style="list-style-type: none"> ■ Complete group section of pyramid poster ■ Contribute to whole class poster 	<ul style="list-style-type: none"> ■ Appropriate space for group work ■ Large area (walls or floor) for creating class poster
MOTIVATION	STUDENT MANAGEMENT
<ul style="list-style-type: none"> ■ Use of simulation activity with toddler's toy ■ Student puzzles 	<ul style="list-style-type: none"> ■ Teacher assigns group member roles and monitors performance ■ Class product (poster)
INSTRUCTIONAL SUPPORT	
<ul style="list-style-type: none"> ■ Teacher-led brainstorming ■ Follow-up questioning and clarification on incorrect responses ■ Teacher-created materials 	

Maslow's Pyramid Chart



Maslow's Puzzle



SAMPLE ADAPTATION #5**Standard 2.4-6****Page Number: 316****Grade level: 5-6****Activity Title: Stages of Growth**

INSTRUCTIONAL PRESENTATION

Instructional Preparation: *Brainstorming, Webbing***Instructional Prompt:** *Timeline: Stages of Growth Chart*

Brainstorming is a group process used to activate a student's prior knowledge and build associations to a specific topic. Ideas generated are not evaluated or criticized during the brainstorming activity. Student responses are recorded in list form.

Webbing is an activity that frequently follows the brainstorming process. During this procedure, a semantic map or web is developed based on categories derived from the brainstorming word list. (See Appendix B for several examples.)

Timeline Charts allow the student to sequence occurrences and developmental stages and associate them with significant events or characteristics.

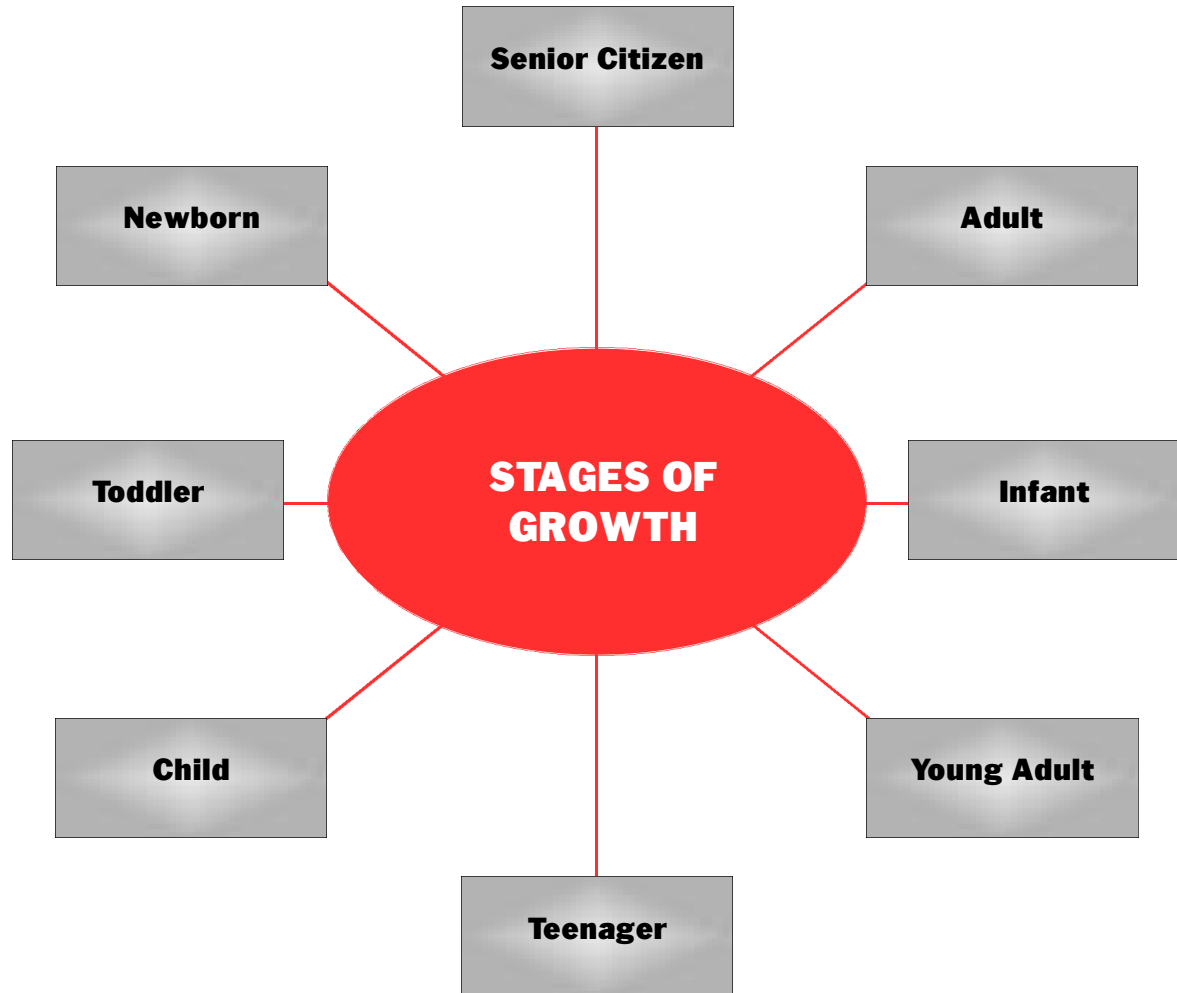
- Ask: "How long does it take to grow up?" Emphasize that everyone has an opinion about when he or she is grown-up but that all individuals pass through various stages of growth.
- Brainstorm the stages a person experiences as he/she grows older.
- Using a web, organize brainstormed information into categories approximating those on the Stages of Growth chart (see original learning activity for sample).
- Distribute and discuss the Stages of Growth chart, comparing it to the web.
- Divide the class into small groups. Students complete the chart using resources provided by the teacher.
- Each group shares responses.
- Question and clarify responses, reinforcing the fact that everyone develops at his/her own pace. The beginning and ending of each stage will vary among individuals.

- Extension activities might include the following:
 - Role playing an event or change at each stage
 - Preparing a drawing, collecting pictures, or making a collage showing people at each stage of development
 - Interviewing a senior citizen regarding his/her memories of each stage

Stages of Growth

INSTRUCTIONAL GROUPS	INSTRUCTIONAL MATERIALS AND EQUIPMENT
<ul style="list-style-type: none"> ■ Whole-class brainstorming and reporting ■ Small groups for research and completion of chart 	<ul style="list-style-type: none"> ■ Resources: health text, pamphlets, journals, encyclopedias, books on tape, Internet sites ■ Teacher-made “Stages of Growth Chart” ■ Graphic organizer/web
STUDENT RESPONSE	ENVIRONMENTAL CONDITIONS
<ul style="list-style-type: none"> ■ Brainstorming ■ Webbing ■ Completion of chart ■ Group presentation 	<ul style="list-style-type: none"> ■ Space for group work ■ Stations for research ■ Word processor, computer, or tape recorder station for students who have difficulty writing
INSTRUCTIONAL SUPPORT	STUDENT MANAGEMENT
<ul style="list-style-type: none"> ■ Teacher-led brainstorming ■ Teacher-created materials ■ Senior citizen representation 	<ul style="list-style-type: none"> ■ Timer for group work at each station ■ Teacher-assigned group roles: taskmaster, recorder, presenter, and timer

Sample Web: Stages of Growth



SAMPLE ADAPTATION #6**Standard 2.5-1****Page Number: 411****Grade Level: K-2****Activity Title: Hide and Seek Moves**

INSTRUCTIONAL PRESENTATION

Instructional Preparation: *Modeling/Demonstration***Instructional Prompt:** *Peer Pairing*
 Spatial Cues: Directional Arrows, Poly Spot Markers

Modeling and Demonstration heighten student interest and understanding by illustrating and clarifying a concept or activity.

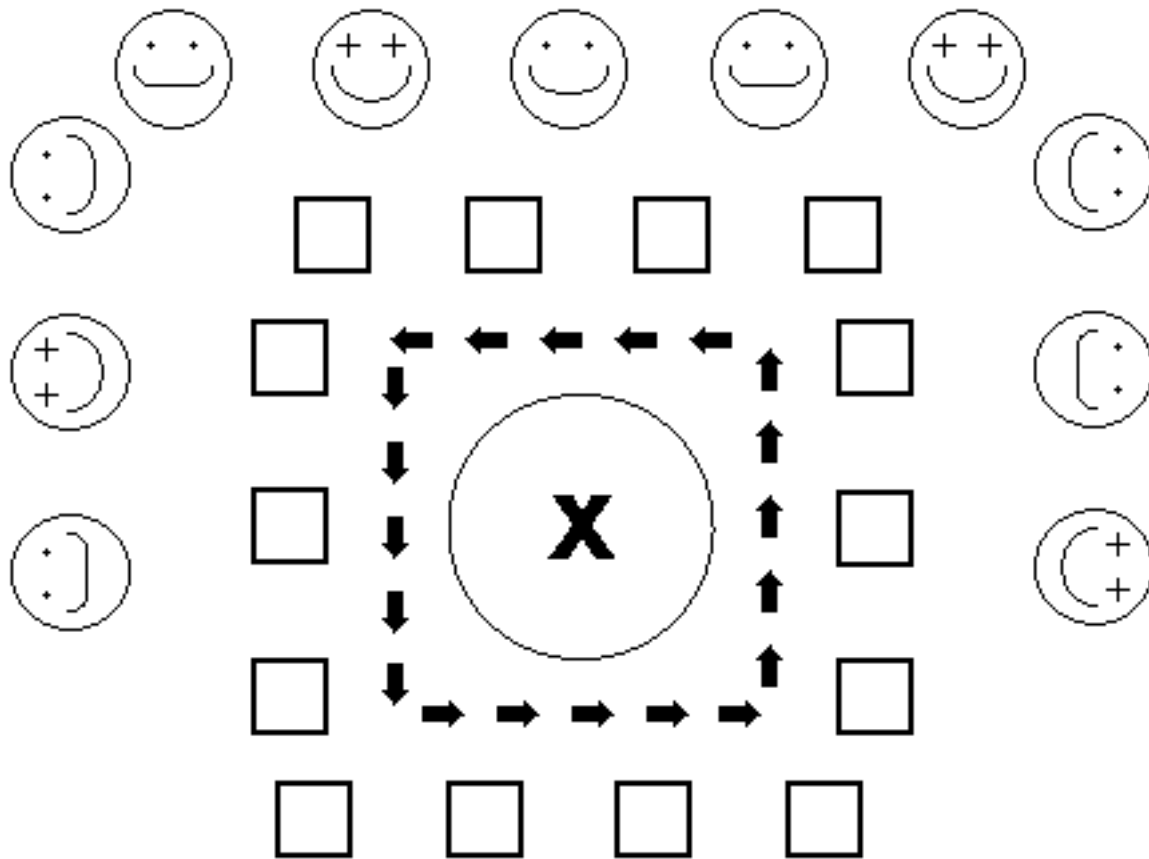
Movement Cues increase spatial awareness and help students focus on the appropriate use of space.





- Teacher shows students enlarged samples of motor skill cards and models or demonstrates the motor skill (e.g., walking, running, hopping, galloping).
- Teacher assigns “peer pairs” based on ability to read/understand activity cards and motor activity skill level.
- Pairs remove one movement card from under a poly spot and proceed to the poly directional arrows (see attached diagram).
- When the music begins, pairs perform motor activity following the direction of the arrows until the music stops.
- When the music stops, each pair proceeds to a new poly spot, deposits their used card, and selects a new activity card from under that poly spot.
- Activity continues until pairs have practiced a set number of the motor activities.
- Teacher reviews large activity cards and has the whole group perform the activity, following the poly directional arrows, until all activity cards are reviewed.

Hide and Seek Moves

<p>INSTRUCTIONAL GROUPS</p>	<p>INSTRUCTIONAL MATERIALS AND EQUIPMENT</p>
<ul style="list-style-type: none"> ■ Whole class for presentation, demonstration, and review ■ Peer pairs for separate activities 	<ul style="list-style-type: none"> ■ Teacher-provided poly spot markers and directional arrows ■ Teacher-made activity cards (small for under spots, large for demonstration and review) ■ CD player/tape recorder with various kinds of music
<p>STUDENT RESPONSE</p>	<p>ENVIRONMENTAL CONDITIONS</p>
<ul style="list-style-type: none"> ■ Mimic teacher-demonstrated activity ■ Perform activity with whole class ■ Perform activities with peers 	<ul style="list-style-type: none"> ■ Structured, defined, restricted space for all activities (whether indoors or outdoors)
<p>STUDENT MANAGEMENT</p>	<p>MOTIVATION</p>
<ul style="list-style-type: none"> ■ Peer pairs act as coaches to each other ■ Clearly defined space 	<ul style="list-style-type: none"> ■ Talking and working in pairs ■ Fast-moving activity ■ Use of music
<p>INSTRUCTIONAL SUPPORT</p>	<p>SAFETY RULES AND PROCEDURES</p>
<ul style="list-style-type: none"> ■ School nurse regarding health restrictions for any child 	<ul style="list-style-type: none"> ■ Review rules and procedures for safe locomotor activities ■ Monitor activity flow and pace

Hide and Seek Moves Space Diagram



-  poly spots
-  teacher
-  child
-  poly directional arrows

SAMPLE ADAPTATION #7**Standard:** 2.5-2**Page Number:** 421**Grade Level:** 3 - 4**Activity Title:** Ready Reaction

INSTRUCTIONAL PRESENTATION

Instructional Preparation: *Concept Activity: Mirror Demonstration***Instructional Application:** *Prop: Hoop*

A Concept Activity is a concrete presentation of abstract concepts. Using aids such as pictures or concrete materials, a concept activity helps to build connections and associations between new ideas and everyday experiences.

A Prop is a concrete material that helps to support or sustain a student's independent performance of an activity.

- Teacher demonstrates concept of “mirroring” using a full-length mirror.
- Students individually mirror teacher's motor movement. Each student works in his/her own motor square designated by four poly spot markers (or outlined with tape that can be adjusted later in the activity).
- Teacher signals halt or stop by signing stop or by one loud clap.
- Teacher assigns partner pairs based on motor activity skill levels and distributes one hoop to each pair. Motor squares are doubled in size to accommodate partner pairs.
- Pairs are connected by the hoop. Students face each other, each holding the hoop with both hands.
- Teacher repeats the motor activities.
- Partners respond in mirror fashion.

Ready Reaction

INSTRUCTIONAL GROUPS	INSTRUCTIONAL MATERIALS AND EQUIPMENT
<ul style="list-style-type: none"> ■ Whole class for demonstration ■ Pairs for hula hoop mirror activity 	<ul style="list-style-type: none"> ■ Teacher-provided hoops and poly spot markers
STUDENT RESPONSE	ENVIRONMENTAL CONDITIONS
<ul style="list-style-type: none"> ■ Mimic teacher-demonstrated activity ■ Perform activity with partner 	<ul style="list-style-type: none"> ■ Structured, defined space for working individually or with partners
STUDENT MANAGEMENT	MOTIVATION
<ul style="list-style-type: none"> ■ Pairs support and assist each other ■ Clearly defined personal and partner space 	<ul style="list-style-type: none"> ■ Working in pairs ■ Use of hoops
SAFETY RULES AND PROCEDURES	
<ul style="list-style-type: none"> ■ Review safety rules and procedures; post in activity area ■ Monitor activity flow, pace, and space 	

ADAPTING LEARNING ACTIVITIES FOR STUDENTS WITH LIMITED ENGLISH PROFICIENCY

Imagine that you are being sent to Japan to study physical education and sports. You do not speak the language and you have never been to Japan before. Part of your assignment while visiting Japan is to take several physical education and health courses at a major Japanese university. The professors only speak Japanese in their classes, and you are expected to act just like any other native student. You have no time to learn the language before the trip. When you arrive in Japan, what will you do first? Will you choose to learn the language first and then study physical education? Will you try to take college classes at the same time as learning Japanese? As an adult, you have several options to consider. For the most part, students whose families have relocated to New Jersey from other parts of the world do not have such options.

A basic assumption of this section is that students who have come to New Jersey schools speaking a language other than English have the arduous task of advancing academically in content area classes at the same time they endeavor to acquire English language proficiency. Some students who arrive in our schools at advanced ages have not attended school at all or have attended school only minimally. Others may come with excellent skills in their native language and will be able to transfer that knowledge as they learn English. All students face the challenge of adjusting to the demands of a learning environment that is probably very different from their last educational experience. Most students are highly motivated to be successful in school, but the sheer magnitude of the task overwhelms them. Since it is not reasonable for their education to be on hold while their English skills develop, content area teachers assist these students in concept development while bilingual and ESL teachers support the acquisition of English language skills. Careful planning and collaboration among all educators responsible for the educational programming for the student can facilitate their achievement and success.

WHO ARE STUDENTS WITH LIMITED ENGLISH PROFICIENCY (LEP)?

Providing students who are linguistically and culturally diverse with an appropriate education is a national concern. Students whose native language is not English and have difficulty speaking, reading, writing, and understanding the English language so as to deny them the opportunity to learn successfully in classrooms where the language of instruction is English qualify as LEP students. It is generally agreed that identifying the primary language and assessing relative English and native language proficiency is important. These students vary greatly in readiness for school and need to be identified, assessed, and provided appropriate placement in a program designed to meet their particular needs.

Rationale and Purpose

Research supports the notion that children from different cultures or different class levels in our society will differ meaningfully in how they learn. Sometimes a teacher is faced with a number of limit-

ed English proficient students in his/her classroom and must figure out how best to address the students' individual needs. The purpose of adapting content lessons for LEP students is to lower the language barrier and make the English used in such lessons as comprehensible as possible. Two factors affect the comprehensibility of language:

- The degree to which the language used is contextualized through visible situations
- The level of text familiarity to the student's background knowledge and experience

Thus, to be successfully communicative, lessons must be designed to build upon the student's background knowledge with an emphasis on nonlinguistic cues so that LEP students can comprehend the material and the teacher's messages. Of the five language skills—listening, speaking, reading, writing and viewing—reading is one of the most difficult skills to teach and therefore to learn. A student's level of literacy in his/her first language will affect the level of literacy in the second language. One of the key premises of bilingual instruction is that while a student is learning a new language, teachers need to ensure that cognitive development and literacy continue to develop without interruption.

GENERAL PRINCIPLES

The beginning LEP student may understand little English and will respond by guessing from context what is expected or by imitating other students. At this stage, the teacher needs to provide many visual cues (e.g., pictures, videos, demonstrations). With increasing exposure to English, the student will begin to understand simple language but may not be ready to produce language. Teachers should demonstrate and model thinking behaviors for LEP students. For example, the teacher says, "open your book" as students listen and observe the teacher opening the book. This is commonly referred to as the silent period in second language development. During the silent period the teacher should not force speaking but focus on making speech comprehensible to the student by using simple language and visual aids.

As the student begins to produce language, he/she will imitate words and phrases used by the teacher and other students. At this stage, the student will make many errors; however, the teacher should provide positive reinforcement and encouragement, building the student's self-confidence and correcting errors sensitively and judiciously. The teacher should continue to involve the student in many classroom activities and ask him/her to respond to questions nonverbally or with simple one-word or short-phrase responses. Evaluation of the student's progress should focus on measuring understanding rather than production. As the student begins to use language creatively (spontaneously using previously learned language in a new way), he/she may continue to make numerous grammatical mistakes and have trouble understanding and producing complex structures of academic language, even though he/she may appear or sound fluent in a social setting. The general aim should continue to be to lower the language barrier by making classroom communication simple and clear. A student's capacity to become fluent in English will be greatly enhanced by engaging in activities that connect to one's own life in meaningful ways.

SUPPORTING CONTENT AND LANGUAGE ACQUISITION

Four overarching strategies have been shown to be most effective in supporting the learning and achievement of limited English proficient students in content area classes.

1. Integrate activities into thematic units.

Students often learn best through the repetition of words, ideas, and actions. When important concepts in one content area are reinforced across several other content areas, students benefit from seeing and hearing the same information. Students are able to use the same vocabulary, thus increasing their confidence and competence. Practicing the desired skills in several classes empowers students to become proficient in the use of the knowledge and skills. This strategy requires a collaborative team approach that includes the bilingual and ESL teacher. All teachers can reinforce the language skills needed by the student to prepare for and complete content area activities.

2. Tap the student's prior knowledge and experience, which may be different from other students in the class.

Prior knowledge can never be taken for granted. This is especially true for immigrant students and other limited English proficient students. Students who have not lived in New Jersey all their lives (or even those who have lived in different parts of the state) may have a very different experiential background to draw from. The entire class can be culturally enriched by tapping into the variety of perceptions and experiences of the students (e.g., a student from Peru may classify an elephant, an ostrich and a llama as farm animals). Many of these students will have little or no grasp of certain concepts considered typically American (e.g., historical figures, artists, foods). References to television shows, holiday practices, or geographic locations may mean nothing to these students. Teachers should examine their content lessons for cultural assumptions that might impede the student's learning. If the cultural reference is unnecessary, it should be removed. If the reference is necessary to the lesson, the bilingual and/or the ESL teacher can be enlisted to teach some of the content a week before the intended lesson so the student will be more prepared. A peer tutor can be enlisted to explain the concept as it relates to the lesson, or the teacher can choose to fully explain the cultural reference to the entire class during the course of the lesson.

3. Teach learning strategies and scaffold complex tasks.

Teachers at all levels are encouraged to model thinking and study skills. Some learners develop these kinds of strategies on their own to help organize ideas and thoughts. Graphic organizers are one example of a tool that students can use to visually organize relationships and concepts. Teaching students to think metacognitively (to reflect on what and how they are thinking) is an important part of this process. Students need to be able to reflect on what they know and what they need to know in order to move forward. Limited English proficient students need to be challenged by complex concepts. They will be better able to grasp those concepts if the information is scaffolded or supported by previously taught knowledge and skills. Many of these students develop their own organizational strategies; asking them to share their ideas with the rest of the class enhances their self-esteem, encourages the use of language skills in a different context, and provides the entire class with a new idea to support learning.

4. Organize students into a variety of learning groups.

English is most efficiently learned when it is used to conduct meaningful, natural communication. Students need ample opportunities to talk, use new vocabulary, and share ideas with their peers. Cooperative learning groups, sharing pairs, and teams foster this type of interaction. Listening to English-speaking peers is an important part of language acquisition. Students who have not yet attained intermediate proficiency in English can shadow the work of English-speaking students. Those with greater ability can actively participate in small-group discussion, with assistance as needed for accepted usage and form. Occasionally, students from the same cultural background can be grouped together for some aspect of classroom instruction; however, LEP students benefit socially, emotionally, and cognitively from working with English-speaking peers.

TEACHING TIPS

- Learn the background of your LEP students and collaborate with the bilingual and ESL teacher to plan activities that are culturally and linguistically appropriate.
- Group students flexibly. Be alert for English-speaking students who can provide support to the LEP student.
- Give clear, simple directions. Ask students to retell, in their own words, what you are asking them to do.
- Use pictures to support more complicated tasks. Break the tasks into smaller chunks.
- Team-teach with the bilingual and ESL teacher whenever possible.
- Provide bilingual resources in the classroom (e.g., dictionaries, picture books).
- Use multicultural resources in instruction (e.g., music, dance, games).
- Use “Sheltered English”: simple sentences; one tense; one concept per sentence; eliminate any unnecessary language or ideas; substitute common words for unfamiliar words; convert passive voice to active voice.
- Maintain a picture dictionary or file.
- Teach vocabulary before content.
- Label objects in the gym or classroom.
- Tape instructions and vocabulary so the student can hear the directions several times.
- Use realia (actual objects) so the vocabulary becomes real and tangible.
- Develop and maintain consistent classroom procedures and routines.
- Provide concrete examples whenever possible.
- Relate content and activities to the students’ every day experiences.
- Check for understanding by structuring the questions to the students’ language level.
- Use visual reviews (e.g., charts, graphics).
- Use a variety of learning activities to address different learning styles.

Adapted from: Haynes & O’Loughlin (1997). *Instructional and assessment considerations for ESL students*.

FREQUENTLY ASKED QUESTIONS

Instructing Limited English Proficient Students in Comprehensive Health Education and Physical Education

- 1. I'm a health education or physical education teacher. Will the ESL teacher come into my classroom or gym to assist with students with limited English proficiency?** The health and physical education teacher, the bilingual education teacher, and the ESL teacher should work together to identify background language skills (e.g., vocabulary, rules) necessary for a particular lesson or unit. The bilingual and/or ESL teacher can provide the student with focused instruction in those areas. In some school districts, the bilingual and/or the ESL teacher may be available to provide intermittent in-class support, especially if the number of LEP students in a particular class is large.
- 2. Who determines what content is taught to these students?** Limited English proficient students are not exempted from achieving the *Core Curriculum Content Standards in Comprehensive Health Education and Physical Education*. These students must participate in an educational program designed to enable them to acquire the requisite health and physical education knowledge and skills. The content specialist (e.g., health teacher, physical education teacher) determines the course content based on the *Standards* and the school district's curriculum.
- 3. Sometimes physical education classes are large (30-40+ students). How can these adaptations be managed in such classes?** Limited English proficient students will benefit from small-group activities. Using peer mentors to assist LEP students and to model appropriate skills and behaviors may also help.
- 4. What additional training/information does the physical education teacher need to provide learning experiences for these students?** Every teacher is not expected to be fluent in all the languages represented in New Jersey's public schools. In some very large districts, teachers may have responsibility for students from several diverse backgrounds. The teacher can be sensitive to cultural differences that may impact participation in classroom activities. For example, the notion of changing one's clothes in a public room, showering, and playing sports during a school day may be completely alien to some students. Teachers cannot assume that all students understand the rules of sports or the subtleties of strategic play. In some cases, even the names of sports may be confusing (e.g. "soccer" vs. "football"). Additionally, teachers need to be sensitive to those students who have immigrated from war-torn countries where youngsters never play in fields for fear of land mines.
- 5. What additional training/information does the health teacher need to provide learning experiences for these students?** Culture is an important contributor to one's definition of health. Social and emotional health are inextricably linked to spiritual health, particularly when discussing issues such as death and dying, sexuality, and marriage. Health teachers need to understand the cultural and spiritual backgrounds and beliefs of their limited English proficient students in order to best assist students to make sound decisions about health issues.

6. What can I do to ensure that these students are afforded every opportunity to learn? Work with the bilingual and ESL teacher to develop a short explanation of the course expectations. Review the expectations with the students and their families before the start of instruction. Parent-school communication will enhance the instructional program and student success. In addition, pair the students with a native English speaker to help the newcomer ease into the school and classroom routine.

7. Should limited English proficient students be pulled from health and physical education for ESL instruction?

Pulling students from one class in order to make time for another class is not beneficial. LEP students are held to the same challenging academic standards as other students and therefore need to participate fully in the curriculum. One possible alternative to this situation might be for the health and physical education teacher to team-teach with the bilingual and/or ESL teacher. Interdisciplinary thematic units, where health concepts are taught in science or social studies classes are another option. Scheduling options need to be explored in creative ways.

8. Where can I find resources in languages other than English?

Many commercial publishers create text materials in other languages. Library media specialists, world language teachers, ESL teachers, and bilingual teachers can assist in the search for appropriate materials. Contact leaders in the immigrant community for more information. Other resources can be located on the Internet (e.g., the Clearinghouse for Bilingual Education at <http://www.ncbe.gwu.edu>). Other sources, such as the Ministry of Education of Mexico, actually send free textbooks to the United States in order to assist the education of their students living here.

9. What is “sheltered English” instruction?

When an activity can be illustrated visually or by manipulating articles (e.g. dribbling a basketball) students can comprehend the concept without words being spoken. LEP students frequently have difficulty understanding language that is spoken rapidly or full of idiomatic expressions (e.g., “Way to go!”—meaning someone performed well, not that he/she knows the directions to a place). Whenever a concept or skill can be illustrated, the language barrier is lessened and LEP students benefit. Physical education, by its very nature, lends itself to this type of instruction.

SAMPLE LEARNING ADAPTATIONS

Four sample activities, extracted from Chapter 8 of this *Framework*, have been selected to illustrate adaptations for LEP students. The adaptations reflect the four over-arching strategies mentioned earlier in this section and provide teachers with ideas to restructure or redesign their own classroom strategies to enhance learning for LEP students. The sample activity appears in its original form, followed by a list of ideas to modify the activity to benefit LEP students.

Standard 2.5:

All students will learn and apply movement concepts and skills that foster participation in physical activities throughout life.

COMBINING MOVEMENT SKILLS

Indicator 2.5-4: *Combine movement skills to participate in physical activities, such as games, sports, and lifetime recreational pursuits.*

GRADE LEVEL CLUSTER: K-2**B. RIBBON DANCE**

For this activity, you need a large, open play area, music tapes or CDs, and one multicolored paper streamer or plastic ribbon per child. Show pictures or video of a rhythmic gymnast using hoops, balls, and ribbons. Distribute the colored streamers and instruct students to find personal space. Students draw a circle in the air with their ribbon. Encourage students to use both hands to draw the circles. Allow students a few minutes to get accustomed to the feel of the ribbon. Have them make circles over their heads, behind their backs, and at varying levels. Allow students to incorporate a locomotor movement as they continue to draw with the ribbon. On signal, students throw their ribbons high up into the air and let them fall to the ground. After sufficient practice circling, moving, and tossing, students perform an original ribbon dance to a short piece of music.

Variation: Divide the class into several small groups (e.g., by color of ribbon), and have each group perform to a segment of music. After each group has performed, combine the entire class into one celebration dance.

Variation: Use rhythm instruments rather than music. Students beat a drum, tambourine, or wood blocks to set the pace for the ribbon dance. Each type of instrument indicates a change in pattern (e.g., tambourine or chime means travel at a high level, the drum signifies circle or travel at a low level or very slowly). Allow students to serve as both dancers and musicians.

Variation: Challenge students to create movement patterns that simulate ocean waves, a lasso, a bouncing ball, or a tornado. Have students describe the qualities of each.

Variation: Instead of ribbons, use hoops, hand or foot rhythm tappers, or soft balls.

SUGGESTED ADAPTATIONS FOR LEP STUDENTS**RIBBON DANCE****GRADE K-2**

- Create and use illustration/word cards and videos to focus the vocabulary used in the lesson.

Directions (left, right, up, down, sideways)

Levels (low, medium, high)

Speeds (fast, slow, stop, go)

Shapes (circle, square)

Pathways (air, floor, ground, zigzag, straight)

Colors

Movement forms (run, walk, skip, hop)

- Organize class into pairs or small groups for the activity.
- Model the desired outcome and have students model the desired actions.
- Use music from various cultures to promote student interest.

Standard 2.6:

All students will learn and apply health-related fitness concepts.

FITNESS AND WELLNESS

Indicator 2.6-6: *Describe the components of health-related fitness and how each contributes to wellness.*

GRADE LEVEL CLUSTER: 7-8**A. 48 REASONS**

Divide the class into small groups to brainstorm reasons why individuals should exercise. After a designated time period, reconvene the class and create a master list. Students classify the responses into categories (e.g., psychological benefits, physical benefits) and discuss each.

Variation: Each group brainstorms reasons to exercise and then ranks its responses from most important to least important. Groups defend their choices and develop a class rank of reasons.

Variation: Write the name of each health-related fitness component on a sheet of chart paper. Each time a group names a reason to exercise, discuss where it should be placed. Some reasons may fit in more than one category. Students defend the placements.

SUGGESTED ADAPTATIONS FOR LEP STUDENTS

- Organize the class into balanced groups to encourage active discussion.
- Develop language cards and illustrations for the student responses. LEP students can work with an English-speaking partner to create these cards.
- Use magazines from various countries for the project.
- Review vocabulary using word cards, illustrations, videos, and modeling. Encourage students to research definitions of some of the words (e.g., “fitness”, “fitness components”).
- Assist students to develop and maintain a vocabulary journal.
- Invite the ESL teacher to circulate and assist groups with brainstorming and ranking activities.
- Use an advanced LEP student, now in high school, to facilitate group discussions.
- Have students brainstorm possible responses with the ESL teacher in preparation for the group activity.
- Students create posters or illustrations to support the lesson.
- Journal writing or sentence completion can be used to check understanding.

Standard 2.4:

All students will learn the biological, social, cultural, and psychological aspects of human sexuality and family life.

RESOURCES

Indicator 2.4-21: *Identify resources that provide information, assistance, and care in addressing sexual and reproductive health and legal issues.*

GRADE LEVEL CLUSTER: 9-12

Teacher Tip: The following activity encourages students to discuss common adolescent sexual health concerns. For younger or less mature classes, you may need to begin this activity using an anonymous question box. As students become more comfortable talking about these issues, eliminate the anonymous question box.

A. COMMON CONCERNS

Brainstorm concerns, worries, or questions males or females might have about the sexual parts of their bodies. List the questions on newsprint entitled “Male Concerns” and “Female Concerns” and leave posted in the room. Divide the class into groups. Each group develops a list of resources for each listed concern. Students use resource directories, contact local healthcare organizations, or use the Internet to locate health and social service agencies that provide reproductive and sexual health-care and information.

Variation: Create several scenarios that represent the following situation: A friend shares a sexual concern with you (e.g., she thinks she’s pregnant; he has an unusual discharge; she found a lump in her breast; he thinks he might be gay). Create a role-play that illustrates how to address the friend’s concerns. Develop a list of school resources for students who need help.

SUGGESTED ADAPTATIONS FOR LEP STUDENTS

- Be sensitive to cultural traditions, norms, or practices that might inhibit student participation in this activity.
- Provide reference materials in both English and the student’s native language
- Work with the ESL teacher to develop a resource and vocabulary list for the activity.
- Have the ESL teacher practice the brainstorming part of the activity with the student prior to the lesson.
- Include a general discussion of cultural and societal norms as part of this activity.
- Adhere to class ground rules for discussion.
- Involve healthcare providers and community agencies that represent the cultural backgrounds of the students.
- Keep parents informed of classroom activities.

D. BE A HEALTH SERVICES DETECTIVE

Ask students where they might go to obtain information about a sexual health problem. List the answers on the board (e.g., call directory assistance for a local hot line or help line, call the help line number, look in the phone book for an agency or individual). After students have identified several agencies that provide reproductive and sexual health services, ask the following questions:

- What qualities would you want in a person or agency that provides sexual and reproductive health services?
- What would prompt you to choose one service over another?
- What do the services cost?
- How would you go about finding out more information?

Assign each student an agency or resource to contact for more information. Student research should focus on costs and insurance; parental permission or notification; types and kinds of services; hours; location; transportation availability; and HIV, STD, and pregnancy testing. Students compile the information to create a resource directory for teens.

Variation: Students investigate health services and information provided by various state and federal agencies (e.g., state health department, CDC, medical schools, universities).

Variation: Students develop a list of advocacy groups and nonprofit organizations that support research, information, and treatment for individuals (e.g., American Cancer Society, March of Dimes). To learn more about the nonprofit agency or organization, students participate in a community service project for their selected agency.

Variation: Students research laws regarding health and reproductive care for minors and develop a pamphlet, poster, Web page, or fact sheet. Students should focus on the similarities and differences of these laws in neighboring states.

Variation: Invite a panel of healthcare providers to discuss reproductive and sexual health issues. Be sure to include physicians (OB-GYN and urologist), a nurse practitioner or midwife, a family counselor, a sexuality counselor, and a health educator.

Variation: Invite a human resources specialist from a large company to discuss its reproductive health benefits and policies.

Variation: Invite representatives from various health insurance companies to discuss reproductive and sexual health benefits and limitations. The speaker should address confidentiality, referrals for specialized services, and the costs of specialized programs dealing with infertility as well as the availability of coverage for oral contraceptives, hormone replacement therapy, and drugs for impotence.

SUGGESTED ADAPTATIONS FOR LEP STUDENTS**BE A HEALTH SERVICES DETECTIVE****GRADES 9-12**

- Allow the LEP student to work with an English-speaking student on the project.
- Provide the student with sample resource materials in both English and the student's native language (e.g., health pamphlets in Spanish/English).
- Involve representatives from community agencies that assist immigrants with healthcare needs.
- Have the ESL teacher discuss the activity with the student in advance in order to increase the student's comfort level.
- Provide the student with a community mentor from the same culture for the project.
- Relate the activity to the student's previous experiences with healthcare for nonsexual issues and concerns (e.g., immunizations, physicals).
- Be sensitive to cultural and religious norms and beliefs regarding family planning, gender roles, and open discussion about sexual issues.
- Adhere to classroom ground rules.

INSTRUCTIONAL ADAPTATIONS FOR THE EXCEPTIONALLY ABLE STUDENT

The *Core Curriculum Content Standards* require that school districts provide appropriate challenges for all students, including the exceptionally able (gifted) student. Existing regulations (N.J.A.C. 6: 8-4.5) require school districts to identify pupils with gifted and talented abilities and provide them with an educational program and services. Local boards of education should have policies and procedures for early and ongoing identification of the exceptionally able student. District policies should include an annual review of student progress to support enhanced instructional programming.

Because student needs and instructional programs vary widely from district to district, comprehensive health and physical education teachers need to be prepared to identify and accommodate the exceptionally able student to support the achievement of the *Standards*. These students may be overlooked in regular classroom instruction. As a result, some exceptionally able students view formalized education as boring and uninspiring. Exceptionally able or gifted students are likely to:

- Demonstrate a high degree of intellectual, creative, artistic, or physical ability
- Possess exceptional communication and leadership skills
- Excel in specific fields
- Function above grade level

Exceptionally able students may demonstrate the ability to grasp concepts rapidly and/or intuitively. Many of these students are intensely curious about principles and how things work and are able to produce products that express insight, creativity, and/or excellence. Exceptionally able students may generate theories and hypotheses and pursue methods of inquiry beyond the expectations of students of their age or grade level. Students gifted in the physical domain may demonstrate motor skills well beyond their developmental level.

Most people still associate the term “gifted” with people who achieve high scores on I.Q. tests. However, neuroscience has expanded and clarified the definition of intelligence to include other dimensions. As now described in the literature, giftedness reflects a multifaceted, multicultural, and multidimensional perspective defined by aptitude, traits, and behaviors rather than changeless test performance. Teachers need to be aware of indicators that signal special abilities and aptitude and design instructional programs that challenge and motivate exceptionally able students.

STRATEGIES FOR THE EXCEPTIONALLY ABLE LEARNER

Health and physical education teachers commonly “differentiate the curriculum”. The very nature of physical education requires that program adaptations be made to accommodate the wide range of student developmental levels and abilities. Differentiating the curriculum requires the teacher to make appropriate adjustments to content and adjust teaching strategies to meet student needs. Teachers need to modify expectations of student mastery based on the student’s developmental starting point and adjust the instructional scope and sequence to meet the emerging needs, growth patterns, and developmental changes of students. Gifted students are more likely to develop skills, acquire valuable knowledge, experience success and struggle, and feel challenged in a classroom setting that fosters student experiences designed to meet the learning needs of all students.

Comprehensive health and physical education teachers can adapt program content and methodology in a number of ways. Listed below are some of the more frequently used adaptive strategies for the exceptionally able student. These include:

- Interdisciplinary and problem-based assignments
- Advanced, accelerated, or compacted content
- Abstract and advanced higher level thinking
- Allowance for individual student interests
- Assignments geared to development in areas of affect, creativity, cognition, and research skills
- Complex, in-depth assignments
- Diverse enrichment that broadens learning
- Variety in types of resources
- Community involvement
- Internship, mentorship, and apprenticeship

Program modifications usually fall into one of three categories: **acceleration**, **enrichment**, or **grouping**. Students who are **accelerated** move through the instructional program at a more rapid pace, usually by skipping a grade, substituting non-school activities for credit, or by completing content requirements in less than the prescribed time allotment (e.g., college courses for credit in lieu of district requirements, AP coursework, early admission to college). Flexible pacing may allow students to participate based on their ability to be challenged as well as their ability to handle the work assignments. Content acceleration allows a student to participate at a higher grade level.

Flexible pacing and **content acceleration** may not always be appropriate in health and physical education without significant modifications to the instructional program. For example, the factual content of family life education may be easy for a 10-year old gifted student to grasp; however, the

negotiation and assertiveness skills, sexual situations, and social context may not be developmentally appropriate or relevant for a 10-year old. In the same context, placing that same cognitively talented 10-year old student in a high school physical education class presents numerous developmental and safety issues unless the student has exceptional ability in the area of study (e.g., gymnastics, dance, swimming). In such cases, the instructional program must be modified to reflect the needs of the student.

Program requirements can be accomplished via **compacting** (also known as **telescoping**) which allows a student to cover the curriculum in a shorter period of time. Previously mastered content is pre-evaluated and eliminated from coursework. Multi-age classrooms allow a student to accelerate through self-pacing. Some students may benefit from early entrance to school. Eligibility for early entrance should be evaluated in terms of the child's degree of advancement in relation to peers, the number of areas of advancement, and the student's self-concept not just the child's chronological age.

Enrichment is another way to meet the differentiated needs of exceptionally able students. Well-articulated assignments that require cognitive processing, in-depth content, well-defined skills, and alternate modes of communication can be effective and stimulating. Enrichment programs often include alternate learning activities. Alternate assignments provide students with opportunities to engage in new learning and avoid the boredom of repetitive practice. Physical education teachers use this strategy when providing a number of progressive skill stations, enabling students to move through a series of skills more quickly and at a higher level.

Students can be encouraged to pursue independent study, self-directed research projects carefully monitored by the teacher. Research can be conducted using materials from a more advanced level or from college libraries, businesses, laboratories, and community agencies. Every student should be challenged to think intuitively, using higher order thinking skills such as analysis, synthesis, and evaluation. In health classes, the 10-year old exceptionally able student might explore the psychosocial aspects of puberty and early adolescence in more depth than his/her 10-year old classmates. The student might assist a college professor conducting research in this area or spend time shadowing a pediatrician. Mentors provide students with access to expertise beyond the scope of the instructor and without the limitations of school resources. Additionally, students may enrich their educational experience by studying abroad or in another state or community.

Grouping students of like-ability together in homogeneous arrangements (e.g., special classes, clustering in the same classroom) allows for more appropriate, rapid, and advanced instruction without isolating the exceptionally able student. Research indicates that gifted students are more likely to socialize "normally" when they are with students who share their interests and learning style. Flexible grouping in the regular classroom enables the exceptionally able student to develop advanced skills and provides the student with time for advanced work and independent study.

Students may be grouped in self-contained classes with other exceptionally able students, enabling them to be challenged in every content area, to be stimulated by their intellectual peers, and to have guidance from teachers with experience in sequential, integrated curriculum for the exceptionally able. Students in these classes may participate in seminars, take field trips to research centers, and develop intensive projects with real world applications. Pull out programs combine regular class integration and homogeneous grouping on a part-time, regular basis. In order for a student to feel

empowered by a pull-out program (rather than over-burdened by duplicative instruction) careful coordination, collaboration, and communication among all content area instructors is essential. Within the regular classroom students can be clustered, permitting homogeneous and heterogeneous grouping according to student interests and achievement. Honors and enrichment classes enable students to explore more in-depth content and skills and foster the use of higher order thinking skills and creativity. Elective and/or honors level health and physical education classes offer students opportunities to expand knowledge and develop skills at a higher level than normally required.

IMPLICATIONS FOR COMPREHENSIVE HEALTH AND PHYSICAL EDUCATION

Gardner's Theory of Multiple Intelligences proposes that each person has capacities in seven different areas. The seven intelligences function together in ways that are unique to each individual. Most people are highly developed in some intelligences, modestly developed in others, and underdeveloped in a few intelligences. Keeping this in mind, teachers of comprehensive health and physical education play an important role in the identification of students with inclinations towards specific intelligences. The simplest and perhaps most accurate method of assessing a student's abilities and inclinations is simple observation. (Armstrong, 1994) Teachers of health and physical education record anecdotal notes or checklists of student behavior, skills, and content knowledge that are useful to school teams charged with evaluating exceptionally able students and planning an instructional course for them. Health and physical educators are keenly aware of developmental changes that impact a student's progress in both motor skill acquisition and social development.

Educators and school administrators must clearly delineate the distinction between athletics and physical education. Interscholastic athletic programs provide students with valuable skills and knowledge. However, physical education is an instructional program for all students, designed to meet mutually-agreed upon *Standards*. The *Comprehensive Health Education and Physical Education Standards* establish the requisite skills and knowledge to enable all students to seek a healthy lifestyle. Problems arise when a physical education program evolves into a quasi-athletic program or a loosely structured recreation program, rather than an instructional program. "Contemporary physical educators are moving away from the one-model-fits-all pattern of restrictive physical education toward programs that are adjusted, adapted, and designed specifically to match the abilities, interests, and needs of individual children." (Buschner, 1994, p.19) Advanced level courses (e.g., sports injury prevention, technology and healthcare), out-of-school opportunities (e.g., internships, community service projects), and individualized instruction support comprehensive health and physical education as a challenging, academic core subject.

Clearly, health educators and physical educators have an important role in the identification of exceptionally able students. Program modifications for these students, including alternative forms of assessment, are essential to the acquisition of life-enhancing skills and knowledge. Many of the sample learning activities found in *Chapter 8* of this *Framework* provide adaptations (listed as **Variations**) that can be used as enrichment or alternative activities for exceptionally able students. The sample activities and variations provide teachers with ideas to restructure or redesign their own classroom strategies to enhance learning for the gifted student.

Summary

There are two kinds of attitudes and perceptions that impact learning. For the exceptionally able student, the learning climate is extremely important. The learning climate may include internal and external factors that influence the student's ability to participate and learn. Exceptionally able students need a sense of order and a sense of acceptance in order to be successful learners. For many exceptional students, being accepted by one's peers is a struggle. The teacher needs to foster the student's sense of acceptance by involving the student in activities and allowing him/her opportunities to participate as both leaders and as followers. Exceptionally able students should have access to resources in the classroom that offer challenges, are of high interest, and provide opportunities for more in-depth reading or research. The teacher needs to resist the temptation to structure the learning environment in a manner comfortable for him/her but not necessarily for the students. Exceptionally able students can play an active role in classroom organization and structure. Meeting the needs of the exceptionally able student in the health and physical education classroom poses different problems but none that can't be overcome. Teachers, sensitive to the needs of students, must design programs that will cognitively, socially, and physically challenge these students.

Following are additional suggestions to enhance instruction for exceptionally able students.

TEACHING TIPS: EXCEPTIONALLY ABLE LEARNERS

- ✓ Observe student behavior and social interaction and keep anecdotal notes.
- ✓ Observe student skill development and keep anecdotal notes or visual recording.
- ✓ Tune in to student vocabulary, language use, and communication skills.
- ✓ Know how students spend their free time, in school and outside school. Talk with parents, coaches, counselors, and administrators to plan an appropriate program.
- ✓ Examine school records for evidence of trends, interests, and scores.
- ✓ Talk with your colleagues and compare notes.
- ✓ Try new strategies to generate interest and note student reactions. Remember, if a student participates in an activity 5-6 days per week outside school, they might want to try something else!
- ✓ Vary your teaching style.
- ✓ Collaborate with colleagues to plan more challenging activities for those students with special abilities.
- ✓ Talk with your students' parents/guardians.
- ✓ Talk with your students about their interests, activities, and self-perceived strengths and weaknesses. Don't always ask the talented athlete to demonstrate skills—some students may not wish to “perform” on command.
- ✓ Issue challenges to all students. Allow students to design challenges.
- ✓ Provide feedback. More advanced students require more specific feedback.
- ✓ Teach to multiple intelligences.
- ✓ Allow students to design and expand assignments to meet their interests and needs.
- ✓ A student may want to explore a particular activity not normally offered as part of class. Discuss possible options.
- ✓ If you do not have expertise in the student's sport or activity (e.g., skating, diving, gymnastics, shooting) don't try to “fake it”. Ask the student for a resource (book, video) or visit the student at practice to get a better understanding of the rigors and demands of the sport.
- ✓ Don't underestimate the demands of out-of-school activity. Some very talented dancers, swimmers, or gymnasts spend as much time training as they do in school.
- ✓ Don't make unnecessary demands of a gifted athlete the day of a major competition (e.g., don't ask your fastest distance runner to run for time during physical education class the day of the state meet).
- ✓ Work with a gifted student's coach or instructor to provide physical education experiences that support and compliment their training (e.g., weight training, individualized fitness plan).
- ✓ Allow students to evaluate your teaching style and course offerings. Use student input to design meaningful experiences for all students.

Chapter 10

TECHNOLOGY

In our vision of communities of understanding, digital technologies are used to interweave school, homes, workplaces, libraries, museums, and social services to reintegrate education into the fabric of the community. Learning is no longer encapsulated by time, place, and age but has become a pervasive activity and attitude that continues throughout life and is supported by all segments of society.

DEDE, 1998



TECHNOLOGY

To meet the demands of the 21st century, students need to acquire a whole new set of skills. Students need to be able to use a variety of tools to search and organize information, to generate new data, to analyze and interpret meaning, and eventually transform this into something new. What role does technology play in this “information transformation”? How does the use of technology impact instruction in health and physical education? This chapter focuses on some of the technological advances that currently impact instruction in health and physical education.

TECHNOLOGY: MORE THAN COMPUTERS

New technology-based models of teaching and learning have the power to dramatically improve educational outcomes. Unfortunately, the cost of technology, its rapid evolution, and the special knowledge and skills required for its use pose significant barriers to its implementation (Dede, 1998). Implementing technology-based models of teaching must begin with the development of a district-wide technology plan created by a committee of teachers and school administrators, parents and students, and business and community leaders. Without substantial and extended professional development in the innovative models of technology-based instruction, many educators do not use the devices to their full potential. Additionally, school districts must consider the maintenance and upgrading of technological devices as part of the overall plan.

The Internet already connects schools with one another, with homes, businesses, libraries, museums, and community resources. It allows teachers to draw on the resources of other teachers and to tap a wide range of technical and business experts. For teachers of health and physical education, the Internet opens doors to current health data. It allows a physical education teacher to choose a pre-designed step aerobic routine for today’s class. Students can research the latest advances in the treatment of Alzheimer’s Disease, investigate product safety claims, and plan a fitness day with thousands of students from around the world.

Technology is more than computers. Technology helps teachers and students solve problems. Project-based learning enables students to investigate a problem of personal interest and allows the student to track his/her own progress. Using **problem-solving software** students design flow charts and algorithms, create data-bases, and incorporate the information into project designs and reports. Using technology, students exchange electronic documents (e.g., up to the-minute reports from CDC), transmit audio and digital video, and shop on-line. In addition, emerging advances in **simulation technology** and **computational power** will allow students to participate in situational learning via **immersive virtual reality**. Advances in virtual reality devices (e.g., special glasses, hand-held wands) enhance the life-like effects of the environment and allow learners to collaboratively interact with the simulation (Dede, 1998). Far more advanced than the driving simulators still used in a number of school districts, these devices will enable students to experience and react to real-life situations (e.g., driving under the influence).

Health and physical education teachers regularly incorporate visual technology into classroom instruction. **Video cassettes and laser disks** can be used to:

- Introduce new concepts, review prior knowledge, or trigger discussion (e.g. an open-ended vignette on violence)
- Demonstrate model performances (e.g., tennis serve in fast and slow motion)
- Demonstrate game/sport strategies (e.g., diagramming plays)
- Analyze movement skills (e.g., frame-to-frame analysis of a runner)
- Provide stimulus for mental imagery (e.g., visualizing the perfect golf swing)
- Administering tests and quizzes (e.g., identifying critical errors in a golf swing)
- Create a medium for student projects

Camcorders and digital cameras allow students to see themselves in action. Students can compare their performance to model performances. In addition, students can use the devices to create their own video projects. These cameras can be used to:

- Provide skill feedback and self analysis (e.g. critiquing a role play of refusal skills)
- Analyze and compare the use of movement principles and concepts (e.g. comparing the speed of approach and body position in long jump)
- Support student projects (e.g., creating a musical ad for a health product)
- Assess learning (e.g., comparing skill development from the beginning to the end of the year)
- Monitor student behavior and activity (e.g., recording activity of one group while working with another)

Health and physical education teachers can use **computers** for a variety of purposes. Teachers and students can use software to produce health and physical education newsletters, create calendars and puzzles, and develop signs, posters, and illustrations for the classroom or gymnasium. Using specialized software, students can participate in a cardiovascular risk assessment, analyze their nutritional intake, or determine their fitness level. In addition, students can design an individualized weight/strength program, analyze their body composition, or create a simulated health history. Electronic portfolios can help students compile evidence of learning over time. In addition, teachers and students can use Internet sites and listservs for updated information, research, and teaching ideas. A list of Websites can be found in Appendix A.

Computer-assisted instruction (CAI) allows students to proceed at a rate that is appropriate and meaningful to them. There are several kinds of CAI software available for use in health and physical education programs. They include the following:

- Drill and practice (e.g., learning the names of muscles or rules of a sport)
- Tutorials (e.g. learning the parts of the heart and taking one's pulse)
- Programmed instruction (e.g., learning the key elements of a tennis serve and volley, one step at a time)
- Educational games (e.g., learning the rules of football while playing a simulated game)
- Simulations (e.g., determining the effects of alcohol consumption at a party) (Mohnsen, 1995)

Health and physical education teachers frequently use technological devices as a matter of course in the instructional setting. Such devices might include:

- **Digital Blood Pressure Machines**
Provides visual representation of the student's pulse and blood pressure
- **Body Composition Analysis**
Informs student of his/her percent of body fat
- **Automatic Skinfold Calipers**
Uses a built-in computer to calculate and display the percent of body fat
- **Heart Monitor**
Records pulse rate during exercise
- **Timing Devices**
Stores times and numbers, provides split times, lap times, and places
Transfers information to computer for print-out (Mohnsen, 1995)
- **Handheld Recording Devices**
Includes pen-based and handheld computing devices used to collect information in an outdoor setting
Includes electronic clipboards and message pads (Dorman, 1998)

Finally, technological advances have led to exercise devices that work specific muscle groups. Research has enabled the creation of safe and efficient exercise equipment designed to maximize workout time with minimal chance for misuse or injury. This equipment makes it easier for teachers and students to focus on fitness strengths and weaknesses. Innovative fitness technology equipment can be found at most large fitness centers or college training centers. Generally, this equipment is very expensive. For this reason, many students do not have unlimited access to the most modern exercise equipment available on the market today. In some schools, such equipment is only made

available to students who participate in interscholastic athletic programs. Having this equipment available as part of the regular health and physical education program significantly amplifies student interest and enhances the instructional program.

ASSISTIVE TECHNOLOGY FOR STUDENTS WITH SPECIAL NEEDS

Technology can be a great equalizer for children with disabilities. For students with impaired vision, hearing, or mobility the benefits are obvious. The benefits can be just as powerful for students with limited cognition or perception. Technological tools enable teachers to provide new and more effective learning experiences while individualizing instruction to meet a broader range of student needs. Here are some examples of the ways assistive technology can enhance health and physical education learning experiences for children with disabilities.

- Improvements in sensor controls enable subtle motor movements to control mobility devices such as wheelchairs. This allows the student increased independent movement in the school and enables participation in a wider range of activities, especially in the physical education setting.
- For a person who is blind, text can be read electronically by a digitized voice synthesizer.
- Amplification devices can filter extraneous background noise (e.g., on the playground, gym) for the hearing impaired.
- Word processing editing, spelling, and grammar checks assist students to perform in regular classroom environments.
- Larger computer screens (e.g., 20 inch), cameras with zoom lenses, and enhancement software can enlarge video images.
- Braille can be translated to and from text, making communication between users and non-users possible.
- Telecommunications Devices for the Deaf (TDDs) and Teletypewriters (TTYs) act much like electronic mail.
- Vibrating pagers, motion detectors, and visual indicators (e.g., lights for telephone rings) can signal students for certain activities.
- Larger control buttons on keyboards and remote devices promote independence.
- Voice recognition devices enable a high-level quadriplegic complete control of computer software.
- Touch screen monitors, adaptive switches (e.g. joysticks), and a trackball can be used to activate a computer, thus enabling a child to take part in a sport simulation (Behrmann, 1998).

Chapter 9 of this Framework proposed sample adaptations for students with diverse learning needs. Many of the tools mentioned in this chapter can be used to enhance and support the instructional

methodologies described throughout this document. The possibilities are endless with advances in technology. These technological adaptations enable each student to fulfill his/her potential, actively engaged in the school community.

SUMMARY

At the present time, many health and physical education teachers may not have access to the technological devices discussed in this chapter. However, the use of technology is important for students in all disciplines. Students need to see how technology is used within a real-world context. Technology can be used to enhance and support instruction for all students, creating student interest and providing students with valuable skills. As students and teachers prepare for the new millennium, technology and the community it creates grow as vital parts of educational reform. Health and physical education teachers need to increase their efforts to become technologically fluent and to incorporate various technological devices into their instructional program.