



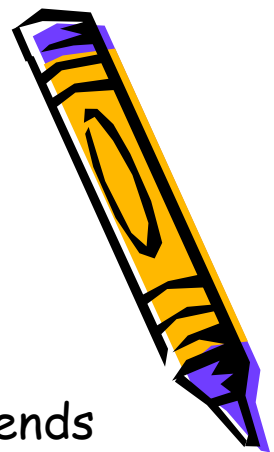
Feuerstein's Mediated Learning Experience and Instrumental Enrichment

Quality Learning Systems International, LLC
4950 West Dickman Road
Battle Creek, MI 40015
www.QLSI.Com email QLSI1.Com
269.965.6339 800.379.2322 Fax 269.965.6620

THANK YOU

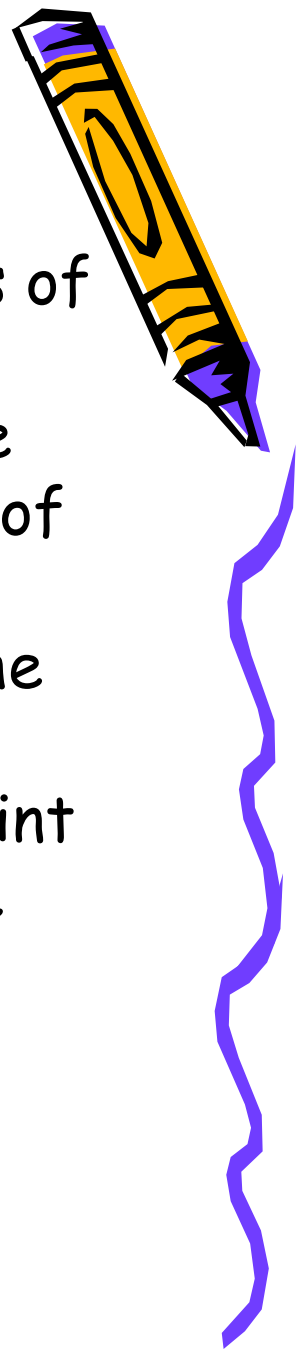
IC&TA (International Consulting & Trade Associates, Inc.)

Wishes to express its gratitude and special thanks to our friends and colleagues: Linda Borsum and Chet Francke for the use of their FIE PowerPoint presentation on the IC&TA website: www.ictaweb.org We also wish to note their extensive expertise, skills, and advanced FIE training in the promotion and implementation of the Feuerstein methodologies through their Authorized Training Center (ATC) - Quality Learning Systems, International. Their ATC introduced FIE staff development for school districts, private/independent schools and other educational & corporate facilities in many areas within North America and elsewhere.



OVERVIEW OF INSTRUMENTS

The Instrumental Enrichment program consists of two versions-Basic and Standard. Each version has a number of instruments, each of which are separate groupings of student activities (some of which are paper-and-pencil), each on a specific cognitive strategy. The Standard version of the program contains 14 instruments, and sample activities are included in the following powerpoint presentation from those instruments which are asterisked, as follows:



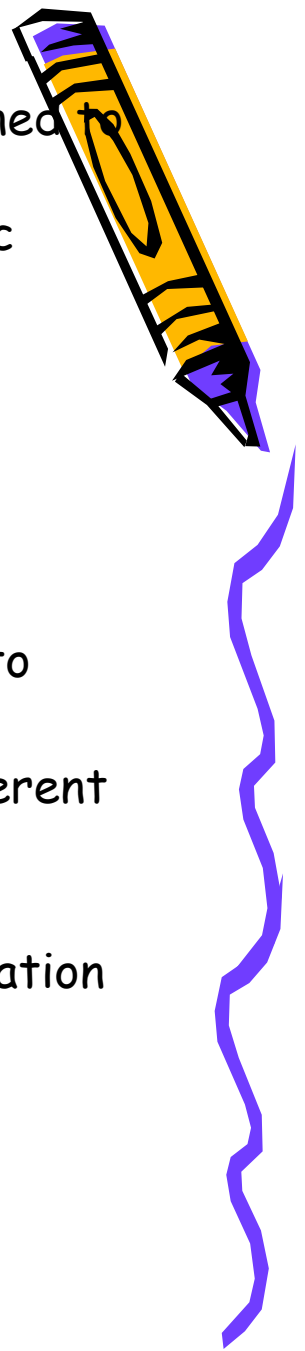
Organization of Dots (Projection of Virtual Relationships)-designed to enable students to identify patterns which are present but not obvious, from clouds of dots in a series of overlapping geometric figures

Orientation in Personal Space-designed to enable students to understand point-of-view and to orient themselves to the four positions of right, left, front, and back when detached from the learner's own point of view

Comparisons-designed to enable students to find similarities and differences using pictorial, geometric, and verbal input, leading to spontaneous comparative behavior

Analytic Perception-designed to enable students to analyze different geometric designs through understanding of the relationships between the whole and parts

*Categorization-designed to enable students to acquire classification processes according to labelled underlying principles



Instructions-designed to enable students to use verbal input to both follow instructions precisely and create precise instructions for others using encoding, decoding, and inference

*Illustrations-designed to enable students to perceive, recognize, and solve situational problems that involve ingenious solutions, understanding what is absurd and/or humorous, and emphasize the need for reflective thinking

*Temporal Relations-designed to enable students to reorient their perceptions of time and increase their capacity to register, process, and sequence different temporal relationships

*Numerical Progressions-designed to enable students to seek rules and laws that form the basis for experienced events and to deduce the relationships between events

*Family Relations-designed to enable students to use the terminology of the family to label and then understand relationships that can be generalized to all people

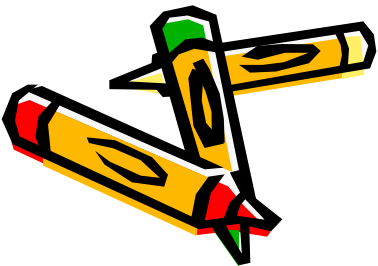


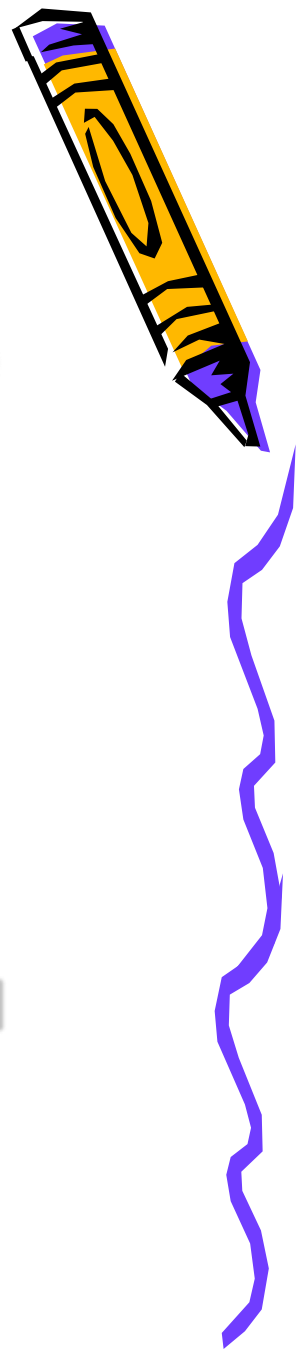
Orientation in Universal Space-designed to enable students to build on their understanding of the relative relationships derived from the Orientation in Personal Space instrument to now grasp the stable system of reference of cardinal directions (north, south, east, west), thus integrating both systems

Transitive Relations-designed to enable students to infer new relationships from those existing between objects or events that are described in terms of greater than, equal to, or greater than, using simple mathematical operations

Syllogisms-designed to enable students to use formal operational logic, using the concept of sets and the laws governing them and their members

Representative Stencil Design-designed to enable students to use all the cognitive strategies acquired in earlier instruments to mentally (not motorically) construct colored composite designs using representations of stencils; students must identify both the individual stencils being used and the order in which they are mentally superimposed on each other.





Bridging Theory

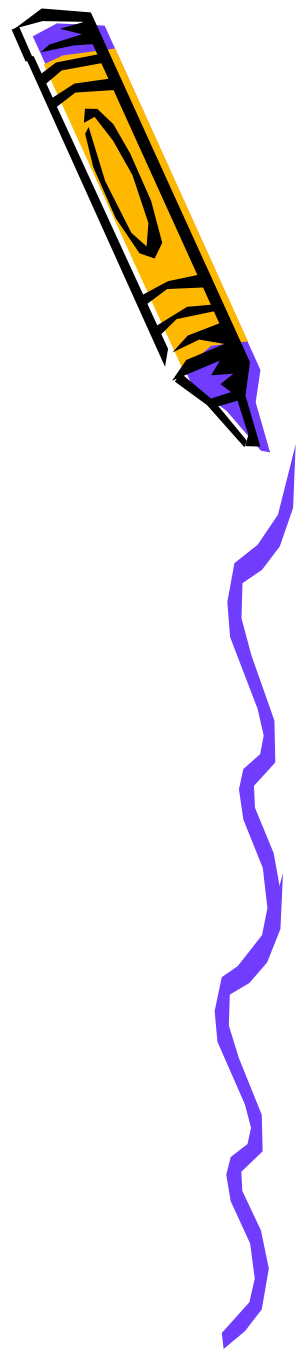
(a framework for understanding poverty)
to Classroom Practice

A presentation by Linda Borsum
Quality Learning Systems International



Problem

Children come to school
unprepared to learn and
participate



There are two ways to learn:

- Direct Learning Experience
- Mediated Learning Experience



Intervention

Mediated Learning Experience is a process focused on helping the individual understand:

...what is or has happened

...what this means

...how to deal with the event



Cognitive Intervention



- Using paper and pencil tasks the mediator can identify cognitive function and dysfunction



Who Is Reuven Feuerstein?



- Cognitive Psychologist
- Developed Mediated Learning and Instrumental Enrichment
- Learning Propensity Assessment Device
- International Center for the Enhancement of Learning Potential Hadassah-WIZO-Canada Research Institute, Jerusalem



Feuerstein's Instrumental Enrichment



- Feuersteins' Instrumental Enrichment is an intervention program designed to develop thinking skills

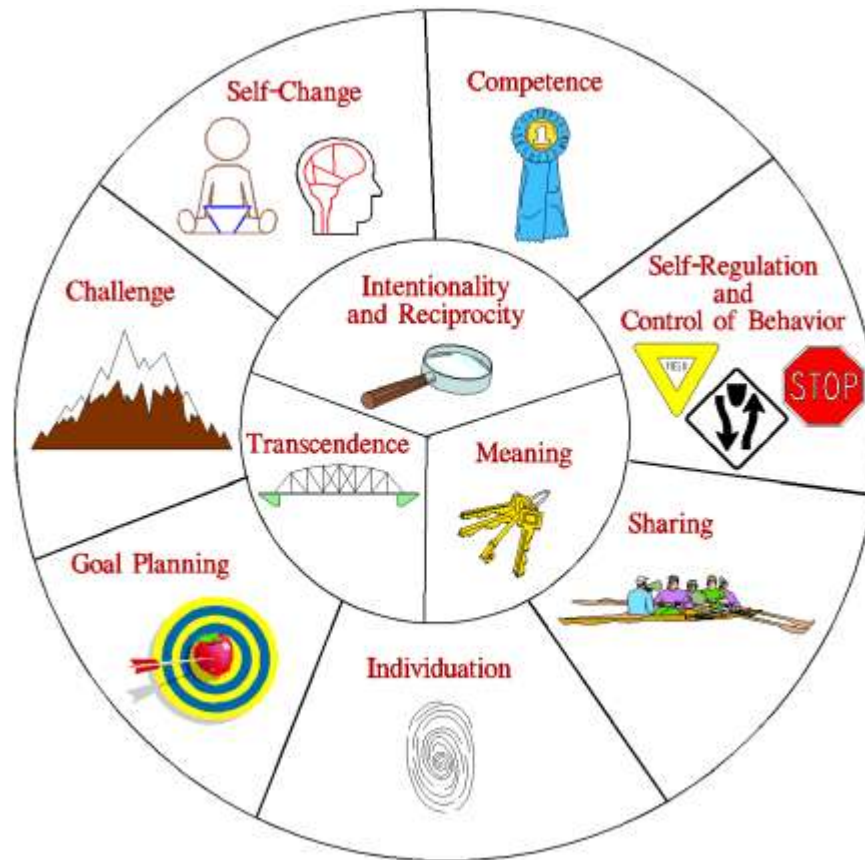




- To achieve success teachers must learn to use techniques for both Mediated Learning Experience (MLE) and Feuerstein's Instrumental Enrichment (FIE)



Ten Criteria of Mediation



The heart of MLE
is

Transcendence

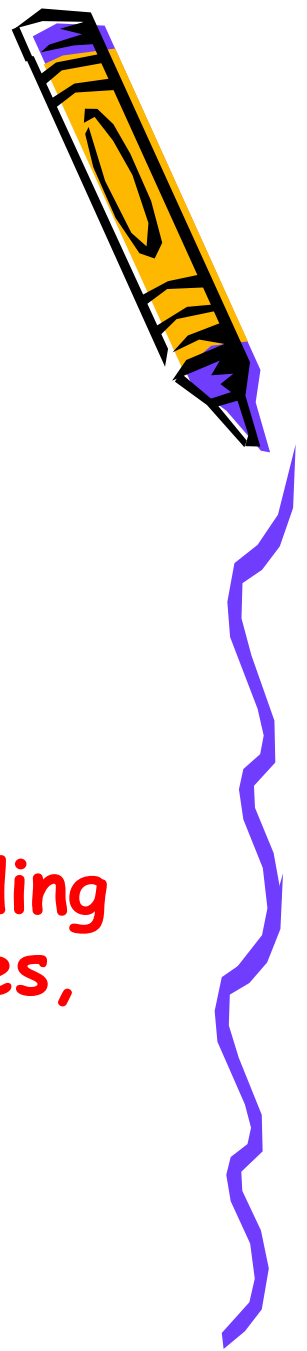
Meaning

Intentionality and
Reciprocity



Goals

- To correct the kind of thinking patterns that impair learning.
- To motivate students to solve problems.
- To make thinking automatic, consistent and permanent.
- To develop insight and understanding of students' own thought processes, and why they succeed or fail to solve problems.

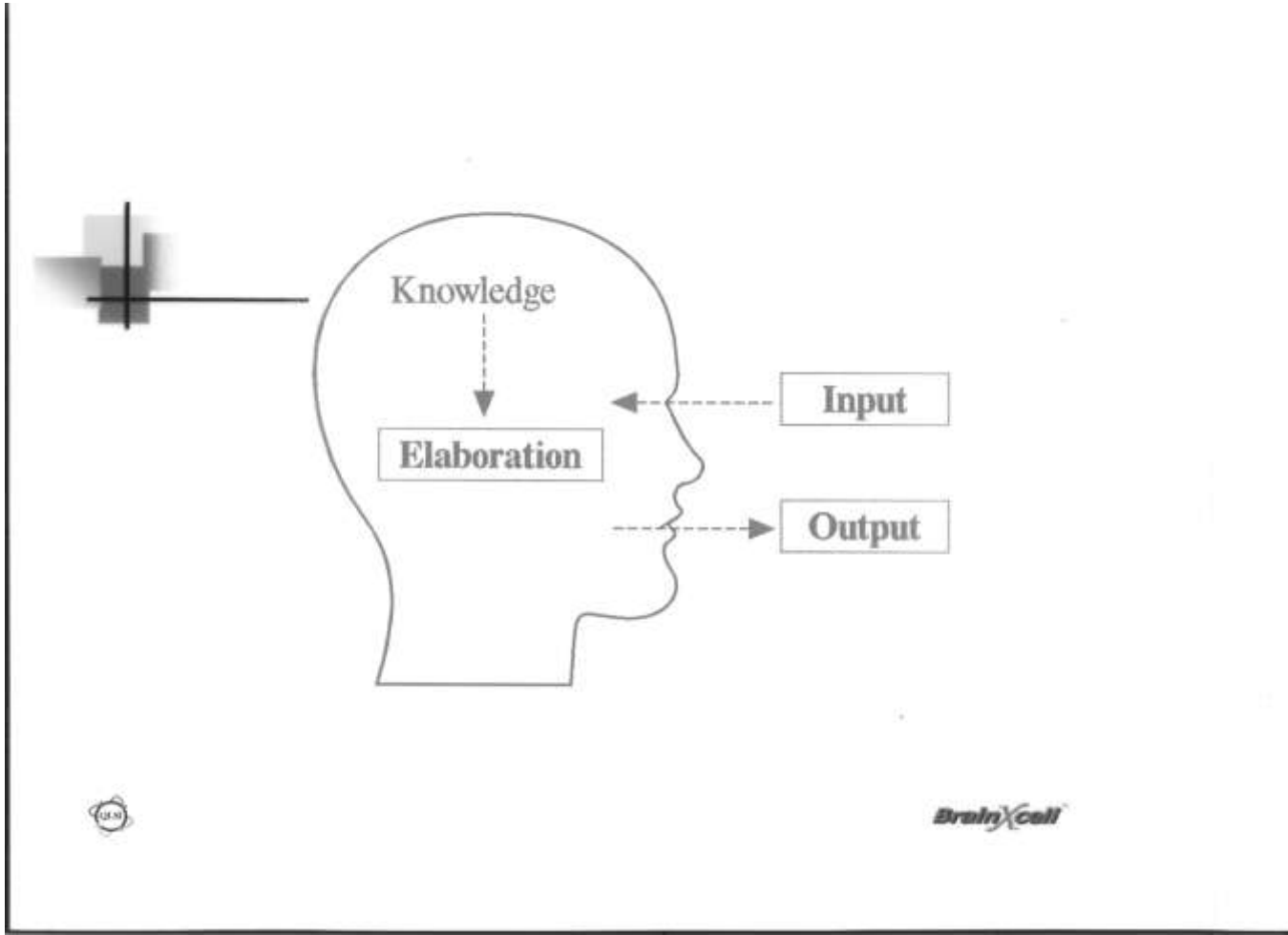


Goals



- To change students' attitudes from passive to active participants and generators of information.
- To enhance communication between student and teacher





Key Elements



- Mediator: language, pace, pitch, and gestures can be varied to enhance intentionality
- Learner: whose attention span, interest level, and availability affect reciprocity
- Stimulus: (Presentation of ideas and material) which can be varied in terms of amplitude, repetition, modality to enhance both intentionality and reciprocity



Key Elements



- The mediator provides a key for understanding the significance of the stimuli. The mediation of meaning assists the learner in interpreting the cultural context in which he/she is situated.
- Meaning is mediated by investing significance at both the cognitive (intellectual) and affective (emotional) levels.
- Values and beliefs are communicated at the cognitive level.
- Energy and enthusiasm are communicated at the affective level.



Key Elements

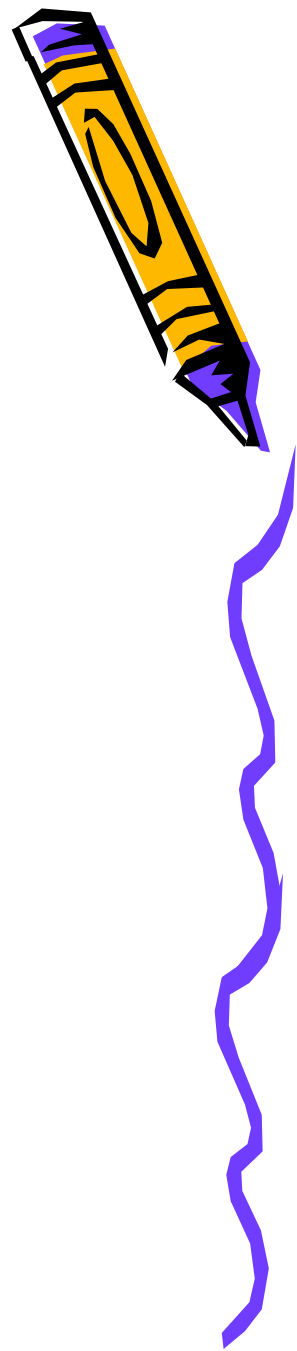


- Finding a general rule that applies to related situations
- Linking events in the present with future and past events
- Engaging in reflective thinking to reach an underlying understanding of a situation
- Thinking laterally about experiences and issues



Input Gathering

- Count
- Describe
- Match
- Name
- Recite
- Recall
- Tell
- Label



Elaboration Processing



- Compare
- Reason
- Contrast
- Sort
- Categorize
- Solve
- Distinguish
- Explain (why)
- Classify
- Infer



Output Applying



- Evaluate
- Imagine
- Judge
- Predict
- Speculate
- Estimate
- Hypothesize
- Forecast



????

Mediation is all about the
kinds of questions you ask!



Organization of Dots

- Identifying relationships
- Attributes of the shape or figure
- Developing strategies for linking events
- Creating a system of information for understanding
- Flexible thinking and approach for problem solving



Organization of Dots



- Tasks that require a plan of approach
- Projecting virtual relationships with given figures
- Searching for meaning among separate phenomena
- Repeated practice
- Progressively more difficult
- Task-intrinsic
- Variety of cognitive functions



Organization of Dots



Mediation of sample task:

- No given clues
- Proximity of the dots
- Number of dots
- Challenge
- Mediation of a feeling of competency
- Regulation and control of behavior

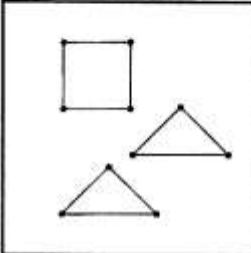


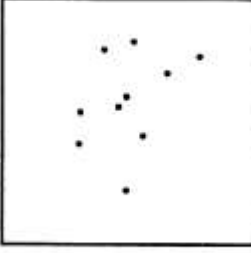

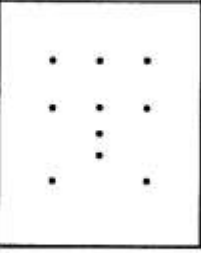


Organization of Dots



Sample Task:

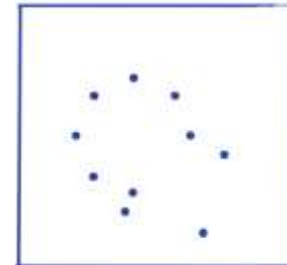
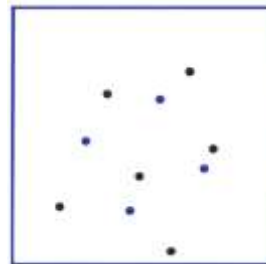
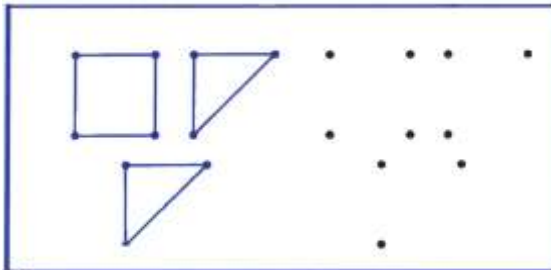
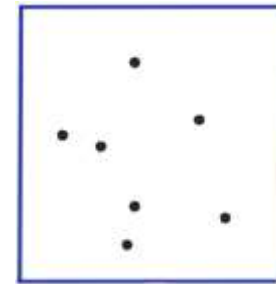
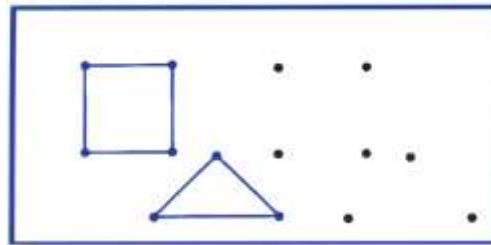
Connect the dots so that the geometric figures in the first frame appear in each of the following frames. The orientation of the figures may be different from the first frame, and the figures may overlap.

©1996 R. Feuerstein, HWCRI, Jerusalem.



Student Instrument Page 1



© 1995 Reuven Feuerstein Organization of Dots

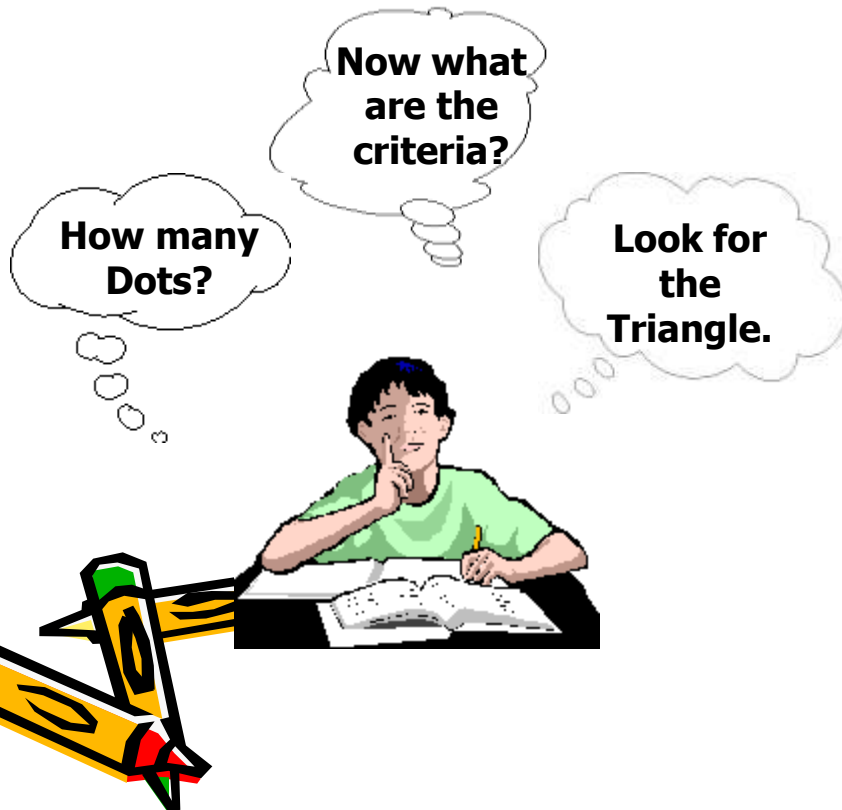


Discussion After Independent Work

★ Awareness of Change

Students Self-Assess

- Accuracy
- Neatness
- Strategy
- Need for strategy change
- Level of difficulty
- What did I learn?



Transcendence

★ Bridging

After the students discuss what they have learned, the mediator directs them to apply their learning to other subject areas.

Spelling

- Neatness
- Accuracy
- Proper letter shape

Reading

- Main idea or problem
- Creating a strategy
- Memory of information

Science

- Analysis of shape or figure
- Labels

Math

- Vocabulary
- Labeling
- Counting

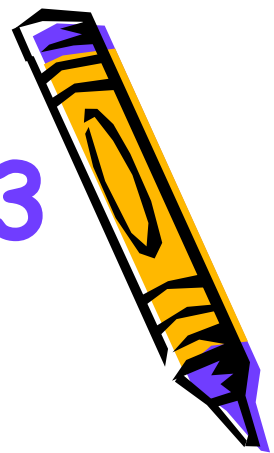


Student Instrument Page 3

Review before mediation:

- Objectives
- Sub goals
- Vocabulary
- Mediation

The mediator is seeking to engage the student in the development of principles, drawing conclusions, creating summary statements and spontaneous bridging.



Student Instrument Page 3

Mediation

This instrument is the first to introduce shapes with *no* universal label.

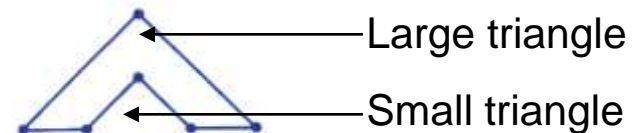
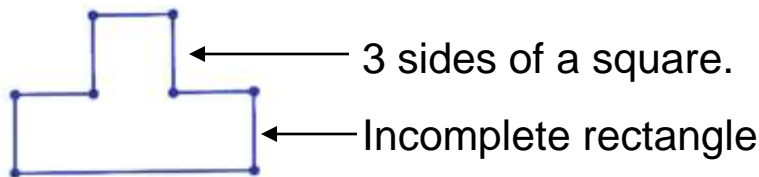
- Encourage students to brainstorm labels for the two shapes in the model.
- Many labels will be idiosyncratic and have meaning to only one student.
- Help students determine a label for each figure that can be used by all.



Mediation of the Process



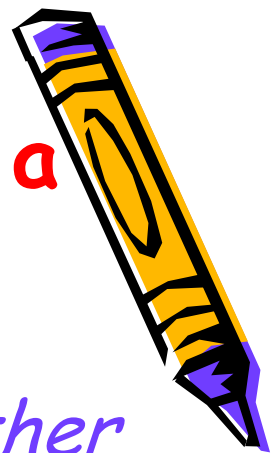
- Create a list of labels for the figures in the model.
- If the figures are labeled hat and tent, discuss the shapes that are within each figure.



* Note the pattern of the base triangle.



Vocabulary Used for Creating a Hypothesis



- At the *input* level the student must *gather* as much data/information as possible.
- Check to see if the hypothesis is *valid* when compared to the data.
- *Analyze* and *evaluate* the strategy developed to solve the problem.
- *Systematically examine* a number of *alternative* hypotheses and choose the most *viable*.



Mediation Techniques

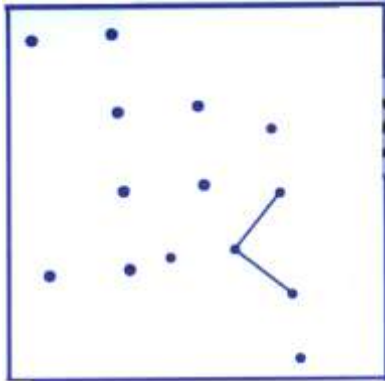


- Elicit from the students that the dots at the base of the inner triangle are reference points.
- Point out that the cues fade or diminish. Relate to real life situation where this happens.
- Have the students write down some of their strategies for this instrument and share with their classmates.
- Through example reinforce the word "apex."

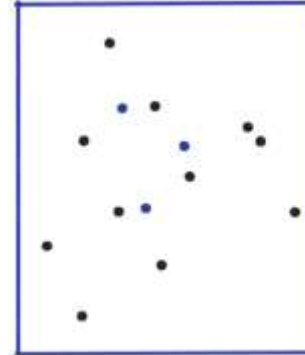
Remind students to write down at least two strategies.



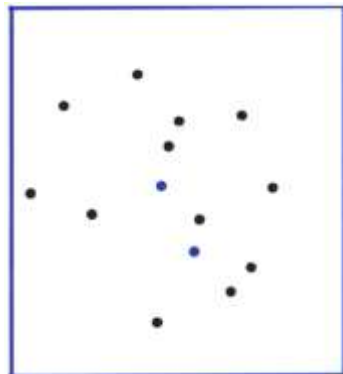
Student Instrument Page 3



R1 C3



R3 C2



R4 C4

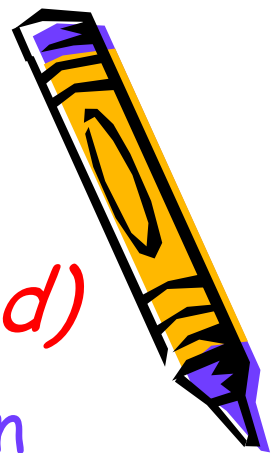


R5 C1



Cognitive Functions (Input)

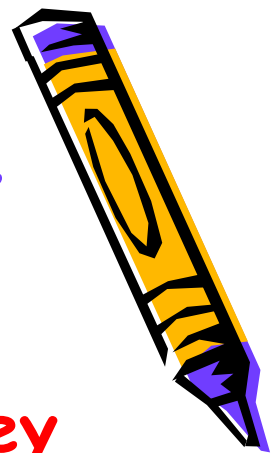
(Gathering all the information we need)



1. Gathering clear and complete information
2. Using a system or plan so that we do not skip or miss something important or repeat ourselves.
3. Labeling our experiences, so that we can remember them more clearly and talk about them.
4. Describing things and events in terms of where and when they occur.



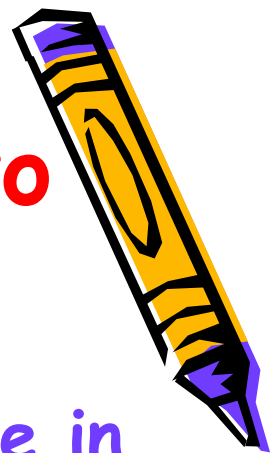
II. Using the Information We Gathered *(Elaboration)*



1. Defining what the problem is, what they are being asked to do, and what we must figure out.
2. Using only that part of the information we have gathered that is relevant. That is, what applies to the problem and ignoring the rest.
3. Having a good picture in our mind of what we are looking for or what we must do.



III. Expressing the Solution to a Problem *(Output)*



1. Being clear and precise in your language in order to be sure that there is no question as to what the answer is. *(Put yourself in the shoes of the listener to be sure that your answer will be understood.)*
2. Think things through before you answer, instead of immediately trying to answer, making a mistake and then trying again.



III. Expressing the Solution to a Problem *(Output)*

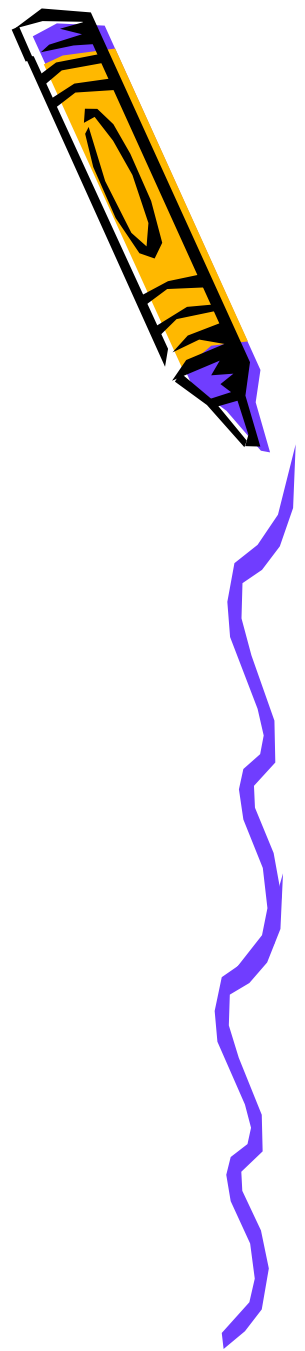


3. Count to ten (at least) so that you don't say or do something you will be sorry for later.
4. If you can't answer a questions for some reason, even though you "know" the answer, don't fret or panic. Leave the question for a little while and then return to it and use a strategy to help find the answer.



Categorization

Level II



Categorization



- Helps students organize items into categories
- Move from relationships among single items to projecting relationships among broader concepts
- Based on comparison, differentiation, and discrimination



Categorization Tasks



- Demonstrates the usefulness of organizing and storing information
- Limit the universe of objects, and look for relationships within that universe
- Differentiate among members of a universe of familiar objects
- Label the set based on commonalities
- Classify items into a set



Mediation of tasks

1 & 2



- Mediation of a feeling of competence when interpreting student responses
- Mediation of transcendence and meaning to make students aware of the implications of their activities





1. List the things you saw in the picture. How many can you remember?

2. Checking: Did you list all the objects?

a. How many objects are there in the table? _____

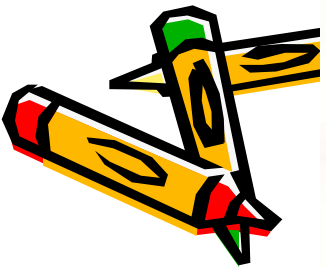
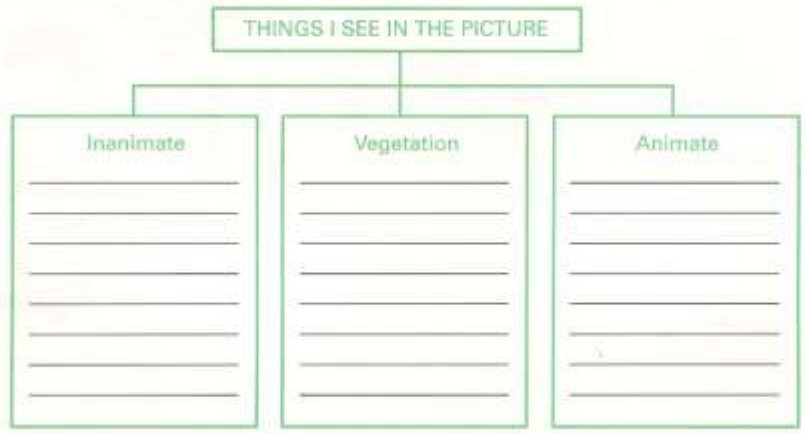
Count:

b. How many names are there in your list? _____

3. Conclusion: There are three possibilities.

a is greater than b a > b	If the number of objects pictured is <i>greater</i> than the number of names on the list, then: _____
a is equal to b a = b	If the number of objects pictured is <i>equal</i> to the number of names on the list, then: _____
a is less than b a < b	If the number of objects pictured is <i>less</i> than the number of names on the list, then: _____

4. Make a table of what you see in the picture.



Discussion for independent work



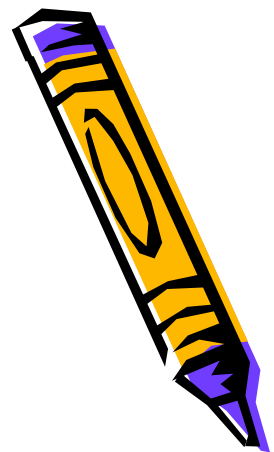
Sharing behavior:

- Students engage in sharing with one another the work they have done independently
- Trust is developed with mutual disclosure



Discussion of independent work (con't.)

- Self concept is strengthened when successes and failures are shared
- Sharing ideas both verbally and in written form develops cognitive processes and clarifies confused thinking



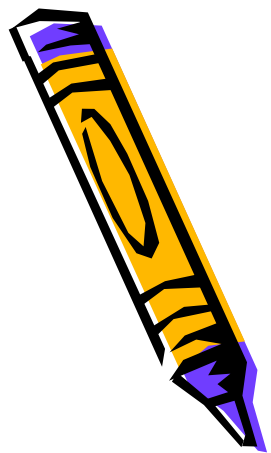
Transcendence

Bridging

After students discuss what they have learned, the mediator directs them to apply their learning to other subject areas.

Spelling

- Share words
- Quiz one another
- Design an game



Reading

Read same book

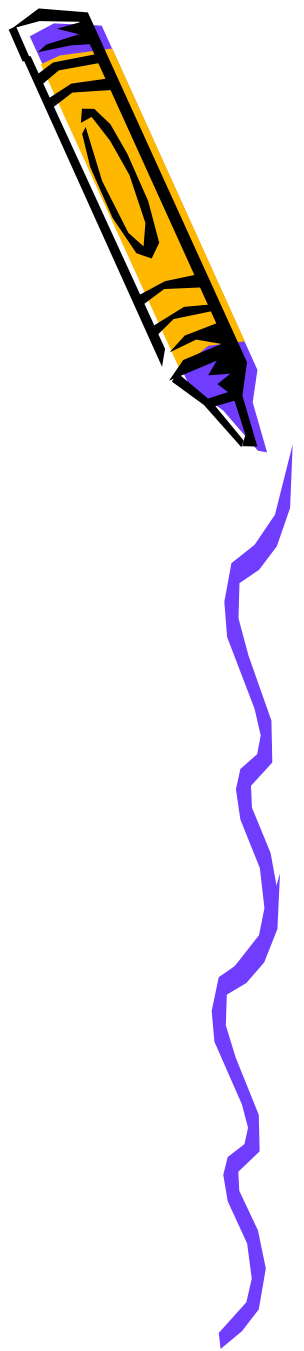
Present pro-con report

Work together to
identify main idea or
theme



Science

- Work in small groups to conduct an experiment
- Brainstorm project ideas
- Create a flow chart of the experiment



Math

Pair-share word problems

Design a lesson to share
with class

Relate the process for
solving a problem



Evaluation



At the end of
Categorization students
will be able to:

- Use comparative behavior to ascertain similarities and differences
- Select relevant attributes
- Use summative behavior
- Project relationships
- Determine cognitive categories



What is Numerical Progression?



Numerical progression is the process for searching and deducing relationships that describe the connections between separate objects or events.

Numerical progression mediates precision, discrimination, and a willingness to use all of the elements to determine a common rule for progression.



The Numerical Progressions



Numerical Progressions helps students:

- Search and deduce relationships
- Draw accurate conclusions based on comparing progressions
- Reason deductively and inductively
- Be precise
- Defer judgment until all the elements have been worked out in the progression



THE NUMERICAL PROGRESSIONS

- Ability to predict future events from an analysis of past events.
- Recognize stable elements of a cycle and the relationship between elements that is constant.



NUMERICAL PROGRESSIONS



- Mediation of a sample task
- Awareness of change in the progression.
- Individuation of mediation in tasks when constructing the formula and progression.



SAMPLE TASK

1 & 2



- Sharing behavior in tasks that require peer cooperation.
- Mediation of vocabulary.
- Practice using the scientific method of investigation: formulation, testing, and affirmation or rejection of a hypothesis.



Numerical Progressions



A progression is a sequence or a succession in which there is a constant relation between each member and the one succeeding it.



Numerical Progressions



A formula is a set form (of words or signs) for stating procedures or a method for doing something.

Looking at the relationship between events



Numerical Progressions



Mediation of goal setting behavior:

- Student has a goal to find the behavior
- Student sets a goal to create a formula

Bridging (transcendence)

- Noticing patterns and cycles
- Predicting events when you find the rule or formula



Numerical Progressions

Transcendence

Bridging

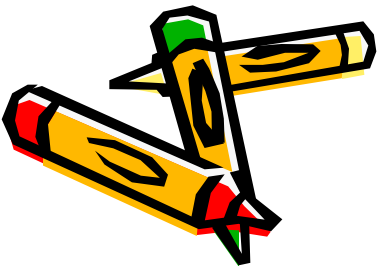
After the students discuss what they have learned, the mediator directs them to apply their learning to other subject areas.

Spelling

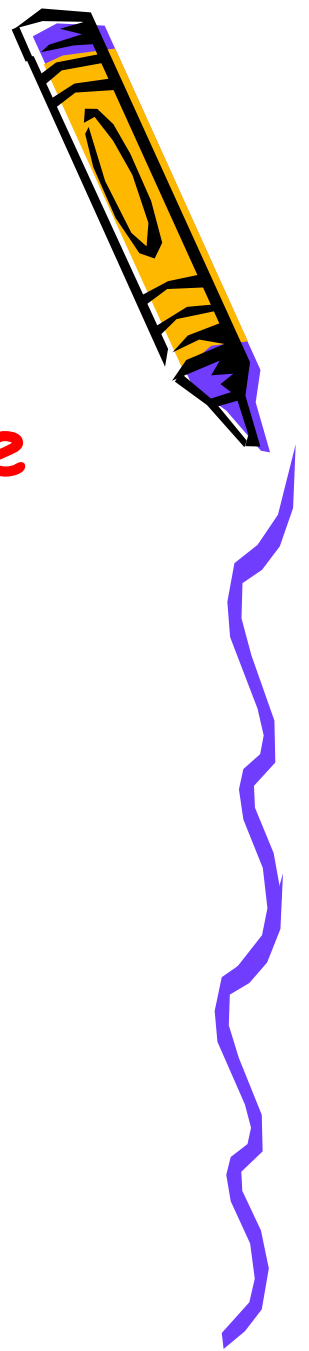
Reading

Science

Math



Elements of a Plan



1. Define objectives...what we hope to accomplish
2. Note what we have, what has been given
3. Plan our strategy



Elements of a Plan

4. Decide on our starting point
5. Determine the rules that govern our activities
6. Devise a way to check our work to be sure that we have attained our goal



Temporal Relations

What is Temporal Relations?

Temporal Relations attempts to reorient the low performer's perception of time.

Temporal Relations helps the student learn how to order time.

Time is an abstract concept and must be taught.



Temporal Relations

Temporal Relations helps students:

- Think abstractly
- Create an awareness of cycles and rhythms to discover principles and laws
- Improve perception of time and the continuity of time
- To understand time by understanding relationships that reflect time



Mediation of Task 2



- The words describe time in terms of its division into intervals
- Each interval has been assigned a constant and stable span (60 seconds equals one minute)
- Discussion of how the intervals were developed. Ex: A month is the length of time it takes the moon to revolve around the earth.



Temporal Relations

Task 6



- To arrange four pictures into their proper temporal sequence.
- To recognize the transformations that occur in the elements of the pictures



Temporal Relations

Task 6 cont.



- To determine the given information that is relevant to the solution to the problem.
- To differentiate between elements that are essential to the construction of a meaningful story and those that are not



Family Relations

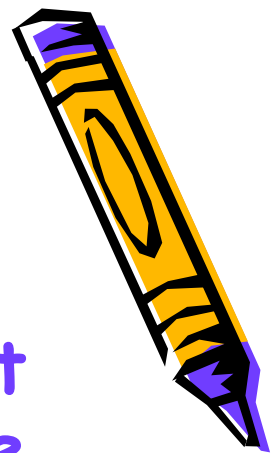
Family Relations uses the code of figures and lines throughout the instrument to symbolize gender, role, and horizontal and vertical relationships that exist in the family hierarchy.



Family Relations

Comparison, the coordination of several sources of information, attention to directionality, and the use of relevant information are necessary to complete the tasks

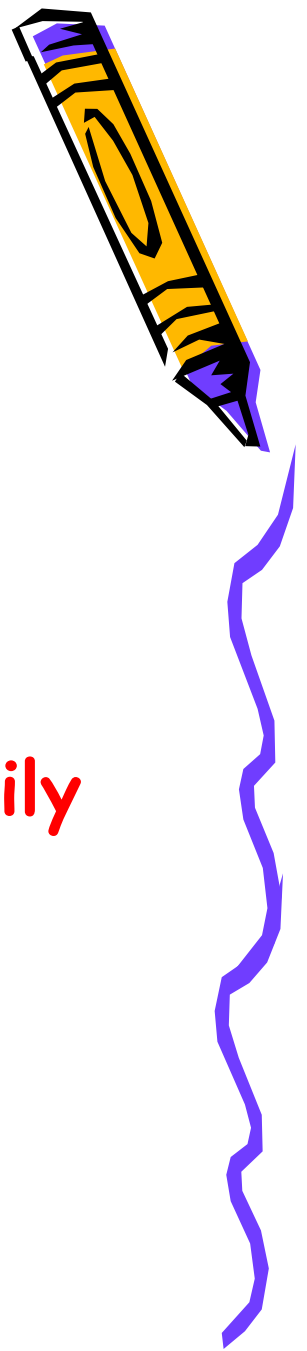
The family has been selected as the subject for teaching abstract elaboration of relationships because it presents many different categories and types of relationships that can be generalized over a whole universe of phenomena



Family Relations

Mediation of Meaning

- Present the family as an objective system of relationships
- Be careful not to assign a value judgment to the paradigm of the family used in the instrument



Family Relations



- Students should be encouraged to seek parallel phenomena outside the realm of the family that demonstrate the different concepts presented in this instrument
- Mediation of a feeling of competence is necessary because of the frequent changes in modality. Information is presented verbally, symbolically, and graphically

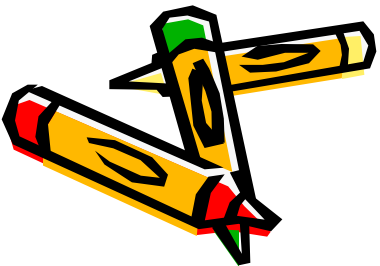


Family Relations

Mediation of Lesson 2

Discuss with students what we know about the family named in the lesson

Create a chart showing Ann, Joseph, and Dan with the various names for their relationship



Family Relations

Ann, Joseph, Dan

- Female male male
- Woman man baby boy
- Wife husband child
- Mother father son



Family Relations

The vertical lines signify hierarchy and will show the status, rank or position in the family or institution.

The horizontal line indicates that individuals on the same level have an equal status in the family structure



Family Relations

Lesson 5



- Precision is required when reading instructions
- Three things must be determined from the information given: gender, status in the hierarchy, and role
- Precision is necessary in order for a code to be meaningful
- In this lesson we have learned a code of signs by which to designate the members of a system and the relationship between them



Family Relations Transcendence

Discuss other hierarchical systems:
social (government, church, army,
industry, education), biological
(plants and animals), physical
(chemistry, geography, astronomy),
and linguistic



Illustrations

Illustrations is a collection of situations in which problems leading to disequilibrium must be perceived and recognized. An attempt must then be made to restore the equilibrium using an appropriate solution to the identified problem.



Illustrations



Awareness of change from frame to frame must exist if the student is to identify the sequence and determine what has happened.

The relationship between events can be thought of as cause and effect.



Illustrations

Inferential thinking and analogical (linear) reasoning are necessary to determine the cause of the changes in state, actions and/or attitudes shown in the illustrated situations.



Illustrations

Mediation of Task 2

Donkeys



Vocabulary Enrichment

Conflict cooperation collaboration
competition gratification tension
solution taut options

Mediation of vocabulary specific to the lesson is present in all FIE lessons



Illustrations

The primary goal of this task is to gather and elaborate information expressed in a pictorial modality

To perceive the relationship between the events shown in the successive frames



Illustrations



Within this lesson the student should be able to:

- Be aware that cooperation is the best way to achieve a common goal
- Understand that gratification can best be achieved by planning
- Think about the value of cooperation in solving the donkey's problem
- Practice regulation and control of behavior by restraining impulsivity and investing effort into finding an appropriate solution to the problem



Illustrations Task 17

Piano Movers



Within this lesson the mediator brings out the following concepts:

- Things that are different are rarely confused. Errors are more frequent among things that are very similar. Being nearly the same is not close enough



Illustrations Task 17



- Instructions should always be checked prior to acting on them in order to ensure that they are clear and complete
- The expenditure of a small amount of time, effort and money before decisions are made may save a greater investment later
- The individual responsible for the mistake is not always the one who suffers the consequences.

