



CREATING DYNAMIC LEARNING COMMUNITIES
at school • at home • at work



Summer Institute

June 14-16, 2009

Concept In a Day


Presented by Sue Pearson

2009 Summer Institute – Granlibakken, Lake Tahoe, California

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Highly Effective Teaching

**CONCEPT IN A DAY:
I Can Divide and Conquer**



HET Summer Institute 2009:
 Professional Development Session
 Sue Pearson: susanpiti@aol.com

WHY?
 • HET Learning Principles
 • Patterns and Programs

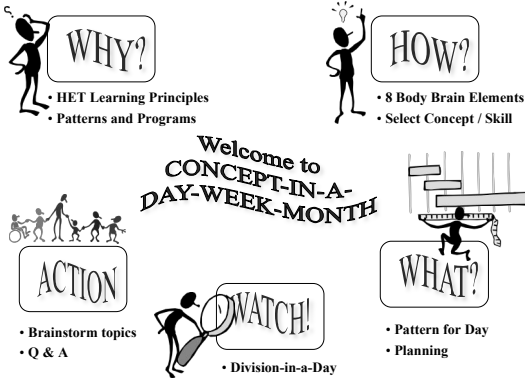
HOW?
 • 8 Body Brain Elements
 • Select Concept / Skill

Welcome to
CONCEPT-IN-A-DAY-WEEK-MONTH

ACTION
 • Brainstorm topics
 • Q & A

WATCH!
 • Division-in-a-Day
 • Find Patterns


WHAT?
 • Pattern for Day
 • Planning



HET PRINCIPLES

Intelligence is a function of experience.

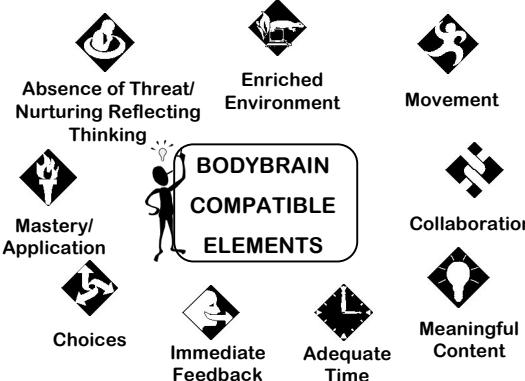
- Learning is an inseparable partnership between brain and body.
 - Emotion is the gatekeeper to learning and performance
 - Movement enhances learning
- There are multiple intelligences.
- Learning is a two-step process:
 - Step One: Making meaning through pattern seeking
 - Step Two: Developing a mental program for using what we understand and wiring it into long term memory



BODYBRAIN COMPATIBLE ELEMENTS


- Absence of Threat/ Nurturing Reflecting Thinking
- Enriched Environment
- Movement
- Mastery/ Application
- Collaboration
- Choices
- Immediate Feedback
- Adequate Time
- Meaningful Content

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CONCEPT IN A DAY

LIFELONG GUIDELINES & LIFESKILLS "IT'S A GREAT LIFE"	POLITICAL ACTION "THE BUCK STOPS HERE!"	PETITION FOR ... "HEY, MR. POSTMAN"
EARTH DAY "PARK IT HERE!"	PUNCTUATION "GET THE POINT?"	COMMUNITY PROJECT "WE ARE FAMILY"
FRACTION DAY "LET'S ALL GO TO PIECES"	SERVICE "IT WAS THE BEST OF TIMES, IT WAS THE WORST OF TIMES"	MULTIPLICATION WEEK "IT'S ABOUT TIMES"



**HET:
I Can Divide and Conquer**

- Division facts are introduced in 3rd grade-sometimes 2nd grade
- Algorithm in 4th
- And again in 5th and 6th
- Yet we have junior high students/adults who cannot divide!
- What we are doing isn't working for all!





Concept in a Day: Maximizing Input to the Brain

- Appeals to a variety of intelligences
- Problem on board and in passport/handbook
- Manipulatives to “see” and work with the problem
- Adult explains problem; student uses “math speak” to explain
- Hand jive
- Pre-/Post-testing



Concept in a Day: Maximizing Input to the Brain

- Each of the 26 stations uses different manipulatives based on problem
- Real life problems
- Movement activities: Division P.E., division art, division music
- Choices: art, music, drama, technology, flexible breaks, one-on-one help-2 sessions
- Students arrived early; stayed late



Methods of Orchestrating Learning

- Provide a healthy snack station-manned by parents (fruit, water)
- Work through recess; take breaks as needed
- Organize students into groups of 5
- Recruit and train at least 15 adults to help-we had over 100 volunteer!
- Solicit seed money-grants, PTA



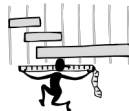
Methods of Orchestrating Learning

- Using specialists -media, PE, music, art, technology
- Reading books-*The King's Chessboard*, *The Doorbell Rang*, *One Hundred Ants*, *Remainder of One*
- Providing many different stations, each with concrete examples
- Providing choices at stations
- Adhering to the *Lifelong Guidelines and LIFESKILLS* for the day

Public Relations

Invite:

- Teachers from your own district
- Teachers from other districts
- Parents/PTA
- District Office
- Newspaper/TV
- College students/professors
- Former students hosted w/adults



Elements Used to Promote Positive Performance

- By invitation-had to know multiplication facts (Computer program tracked this)
- Students receives immediate feedback
- Goodie bag with work items-pencil, etc.
- Divided into groups of 5-adopted a famous mathematician for the day
- Incentives at every station: mini-stickers were given to anyone asking for help; Goodie box (pencil etc.)
- Direct instruction: 11-16 minutes hour



D-Day Invitation

You have shown perseverance by learning the multiplication tables with accuracy and speed therefore you are invited to attend:



"I Can Divide and Conquer"

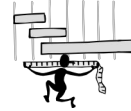
On April 21, 2008

From 8 AM until 3:30 PM

R.S.V.P. To Mrs. Pearson by March 21st

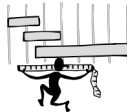
Elements Used to Promote Positive Performance

- Station: group work-45 minutes
- Relaxation periods throughout day
- Lunch provided by parents/pizza lunch
- Many adults available to provide instruction and feedback
- Each student received an "I Can Divide and Conquer" badge and certificate at the end of the day



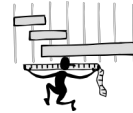
Pattern for the Day

- Direct instruction-short division
Stations: visit 2-3 stations
Break: snack
- Direct Instruction: long division
Stations: visit 2-3 stations
- Direct Instruction: long division with remainders
Stations: 2-3 visits
- Afternoon-Choice of the arts



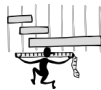
Parent Partners

- Learning Club Guides
- D'Day guides (at stations)
- Hosts/Hostesses
- Snack/lunch providers
- Health/safety providers
- Public Relations Representative
- Arts Leaders (visual, drama, music, technology, movement)
- Photographer/camcorder (could also be older student)



Parent Training


- 4 weeks before-send out parent survey
- Plan training 2-3 weeks before the BIG day
- 1-3 hour session
- Provide snacks, nametags, community-building activity
- Demonstrate stations-parent participation
- Assign tasks (based on survey)
- Parents practice; take materials home



Learning Clubs

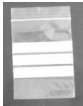
- Mixed grade levels
- Mixed math levels
- Personality/temperament input
- Special needs students
- Set schedule in goodie bag





Student Goodie Bag

- Personal passport w/photo
- Name tag with Learning Club sticker
- Learning Club Schedule/leader
- Pencil w/ "I can Divide and Conquer" printed on it
- Chalk
- Famous Mathematician info sheet
- Graph paper
- Fine point marker
- Tissues
- Marker/highlighter
- Bathroom pass-add name
- Lunch ticket w/choice

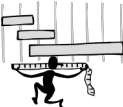


Adult Goodie Bag

- Station format sheet
- Famous mathematician
- Personal group and/or station schedule
- Names of children in own group
- Puzzle for LC to solve
- Names of children in rotating groups*
- Nametag with LC sticker
- Sharpened pencil
- Graph paper
- Marker
- 4-6 sets of gifts in plastic bags: A-F*


Other Materials

- Handout for guests (TV, newspapers, education reps)
- Individual chalkboards
- Magic Slates
- Puzzles
- Extra goody bag items
- First Aid kit





Famous Mathematician Mascots

- Sir Isaac Newton
- David Rittenhouse
- Johannes Kepler
- Carl Frederich Gauss
- Albert Einstein
- Ada Byron
- Benjamin Banneker
- Nathaniel Bowditch
- Lise Meitner
- Archimedes
- Steven Hawking
- Florence Nightingale







COMMUNITY BUILDING:

- Movement (PE): Division Day Tag
- Dividing into Learning Clubs by matching stickers on name tags
- Finding parent guide
- Solving a Math Puzzle Together
- Station Work
- Arts

Station Format

4 STEP PROCESS

- Tell 
- Show 
- Solve 
- Check 



Station Format

- **TELL**
 - All read problem aloud
 - Discuss problem in own words
 - Point out DIVIDEND and DIVISOR
 - Visualize problem
 - Introduce manipulatives

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Station Format

- **SHOW**
 - Students work through problem using the manipulatives-great to have one set per child
 - Repeat problem 2 or more times if necessary until students can show with confidence
 - Identify “quotient” and “remainders”; locate place to put remainder

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Station Format

- **SOLVE**
 - Demonstrate how a problem is written as a number sentence
 - Identify terms
 - Begin a step by step approach to the algorithm-divide, multiply, compare, bring down (repeat) and relate to manipulatives: Hand jive
 - Work problem out on graph paper for accuracy
 - Each student turns his/her partner and in “mathspeak” explains problem.



Station Format

- **CHECK**
 - Demonstrate how to check by multiplying and adding remainder
 - Make variations of the problem for students to solve.
 - Write a comment in each student’s passport
 - Need more help? Extra time, free-choice time, roving helper
 - Repeat center for next group

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DIVISION HAND JIVE

- Divide (clap twice)
- Multiply (“x” twice)
- Subtract (slash twice)
- Compare (point to eyes)
- Bring down (fists pull down)



Division Rap

- I’m your teacher and I’m here to say
- A division rap and it goes this way
- Divide, multiply, subtract and bring down
- I said “Divide, multiply, subtract and bring down!”

- I’m your teacher and I’m on the scene
- With a division rap that’s truly mean
- Divide, Multiply, Subtract and bring down
- I said “Divide, multiply, subtract and bring down.”



Division Rap

- Now you can do it wrong, or you can do it right
- But if you do it **WRONG**, you could be here all night
- **SO Divide, Multiply, Subtract and bring down**
- I said "Divide, Multiply, Subtract and Bring Down!"

Rap at:
<http://www.youtube.com/watch?v=PfOJNzkZVLY>

Afternoon: Choice Sessions/Closure

Choices

- ✓ Music: learning division song/rap; dividing a song into measures
- ✓ Art: working with division art project
- ✓ Drama: writing and acting out division problems (costumes/props)
- ✓ Technology: using math programs focused on division

Closure

- ✓ Sharing of afternoon sessions
- ✓ Certificate/badge/button (parents, too)



Certificate of Achievement



This is to certify that

_____ has been introduced to the
**CONCEPT and COMPUTATION of
LONG DIVISION**

at _____ on _____

_____ teacher

My Personal Concept Day Plan

- **Start small!**
- **Select a concept/skill.** _____
- **Determine readiness (pre-test)**
- **Develop direct instruction.**
- **Plan stations (pattern practice).**
- **Include movement, art, music, technology.**
- **Plan closure (certificate, badge)**



Available Training Materials

Books for Educators

<http://www.books4educ.com/>



DVD and manual
\$29.95



DVD
\$21.95

Contact Sue Pearson - susanpiti@aol.com

"Nothing is particularly hard if you divide it into small jobs."

~ Henry Ford ~

