

TQOV PROJECT

A grant for the Teachers of the Okanogan Valley that focuses on empowerment, engagement, effectiveness, and efficiency.

Summer Institute Information

Dates to Remember:

*PD May 15
*Summer Institute August 6-8, 2008



Central Washington University

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Itinerary for TQOV Grant Participants

All events will take place in Chelan, WA.

	August 6, 2008 Wednesday	August 7, 2008 Thursday	August 8, 2008 Friday
7am-8am	Orientation & Refreshments	Review Agenda & Refreshments	Review Agenda & Refreshments
8am-12pm	Conference Workshops	Conference Workshops	Conference Workshops
12pm-2pm	Catered Lunch & Activity	Catered Lunch & Activity	Catered Lunch & Activity
2pm-6pm	Conference Workshops	Conference Workshops	Conclusion Presentations
7pm-8pm	Optional Dinner	Optional Dinner	

Registration:

Every participant needs to register, whether you have been a part of the TQOV grant previously or you are a new participant. Contact Sellie Clark (information listed below) to register. Information needed for registration includes getting your name, address, phone number, meal RSVP and mileage reimbursement information.

Register by July 1, 2008.

Lodging:

We have a block of 25 rooms available at the Midtowner Motel (www.midtowner.com) at a first come, first served basis for the nights of August 6 and August 7. To make a reservation call 509-682-4051 and inform them you are part of the TQOV GRANT. A credit card will be required for incidentals, but the grant will pay for the block of rooms as a whole. Rooms are only being held for us until July 1. Make your reservation as soon as possible. To qualify, you must reside at least 25 miles from Chelan, WA.

Meals:

The refreshments, catered lunch and optional dinners will all be provided free of charge via grant funding. Family members of grant participants are invited to attend the optional dinners, but are expected to pay separately from grant funding.

Mileage:

Mileage will be reimbursed at the state government rate of .505 cents a mile.

Stipend/Clock Hours/Credit:

The participant stipend is \$73 per day. Clock hours or credit may be purchased, if desired. The professional development credit is listed as Math 500 for 2 credits at a cost of \$100. Clock hours are \$3 per hour.

Contact:

Please direct questions to Sellie Clark at sclark@cwu.edu or 509-963-2296.



Some Resources we would like to share with you:

Visit http://content.scholastic.com/content/collateral_resources/pdf/l/lessonplans_graphicorg_pdfs_beforereading.pdf to view a checklist of strategies students use before reading.

Visit <http://www.colorincolorado.org/educators/content/comprehension> to view reading comprehension strategies for content learning.

CRAFTing Connection:

C: Personal Connection motivates students' interest.
R: Adding a 4 Ps chart supplements your text materials.
A: Directly teaching comprehension in modeling chart.
F: Students are making connections and predictions while comprehending the material
T: Identifies background knowledge on key terms. Encourages verbal and written discussion of material.

Featured Tool: Before Reading Strategies (4 P's Chart)

What is it?

A **4 P's CHART** combines the use of four **Before Reading Comprehension Strategies** that support effective student engagement and interaction with written information (mathematics texts, readings or written problems). Before Reading Strategies prepare students for active learning and set the stage for understanding new concepts or problems. Learners are able to activate prior knowledge, anticipate meaning, and guide their reading with purpose. These processes strengthen comprehension by engaging student interest and existing knowledge and tying these directly to written material they will be reading. A **4 P's chart** effectively supports memory retrieval and provides an organized framework for building understanding throughout the reading process. The chart helps students keep track of their thoughts while using these "four P's" strategies.

Why it works?

1. By using these strategies (Previewing, Predicting, Prior Knowledge and Purpose) students actively bring their background knowledge to the forefront. Teachers can easily assess if skill gaps exist.
2. The 4 P's chart provides a means for students to organize and clearly show their comprehension processes. Teachers can use a 4 P's Chart to explicitly model a "think aloud" demonstrating each of the processes used during before reading a problem or text selection.
3. Student connections, interest, and motivation can be addressed when using these strategies.
4. Conscious use of before reading strategies supports self-awareness to monitor comprehension and understanding while reading.
5. Memory and retention are enhanced. Students use conscious retrieval strategies to link and store new or applied information.
6. Research supports that teachers who spend even a little time activating students' schema prior to instruction/learning positively impact student comprehension skills.

Getting Started: (See pp. 126-127 in your TQOV book: Teaching Reading in Mathematics (2nd ed.) by Barton and Heidema)

1. Provide each student a copy of the 4P's chart and the written material or problem. Ensure you also have one displayed visually for the whole class to view.
2. Identify the upcoming section or text chapter, reading material or problem to be used. Provide a rationale for using before reading strategies and the 4 P's chart (Example: *"By using the chart and strategies, students have shown better understanding and memory of the concepts we've been learning."*)
3. Model and lead the use of the 4 P's Chart. In initial use, depending on the literacy needs of your class, you may wish to use or model only one section/strategy at a time. Then allow for interactive use before adding the next before reading strategy on the 4 P's chart. To model 1) Give a brief description of the reading/problem; 2) State what strategy you will be using (Example: *"First I'm going to preview the reading. What do the headings tell me? The headings tell me this selection is about adding unlike fractions."* Write in your responses on the chart. Continue as relevant showing students how you use each of the strategies.
4. Allow for interactive strategy demonstration Provide as much guidance or support you believe is necessary for your students with prompting or scaffolds. Allow students to utilize questions and respond on their charts. Discuss responses found, clarify any misunderstandings, and confirm strategies used.
5. Keep it relevant but short. For leading and interactive use of the strategy a 5-10 minute time frame should be sufficient.
6. Use the reading or problem as intended. At the end of the lesson, reading or problem revisit the 4 P's chart. Through discussion you can review, summarize and assist students in making connections to the concepts covered.

A 4 P chart involves four related Before Reading Strategies.

These include:

- 1) **Previewing:** Previewing involves scanning a written selection to find out about the math concept/topic or problem. It allows the learner to grab information quickly that will be covered. This helps the student set general expectations about what they will be reading and types of information they will be covering. Important questions for students are: , “What do the titles and headings tell me about this topic?” “Do the beginning and ending sentences or paragraphs give me clues or information?” “Is this topic interesting, easy or harder for me?” “Do the graphs, symbols or illustrations tell me anything about what I will be learning or solving?”
- 2) **Predicting:** Predicting allows students to organize the information and ideas gathered during the preview. Students refine their expectations for reading a math problem or text selection. They ask, “Where is the problem or information taking me?” “What will I be learning?” “What am I expected to solve?”
- 3) **Prior Knowledge:** Activating prior knowledge requires the student to retrieve information and experiences already gained on a topic or concept. By retrieving known information students will construct a deliberate bridge to new concepts and applied math problems. Important questions students ask themselves are, “What do I know about the topic? Have I solved a similar problem in the past?”
- 4) **Purpose:** Setting a purpose for reading a text/problem clarifies and guides reading. Using the information gained when previewing, predicting and accessing prior knowledge, students can set a general purpose for reading the text/problem. They set targets for reading by asking questions such as, “What is my reason for reading this? What do I want to accomplish in solving this problem? What is my purpose for learning about this topic?”

Problem: (adapted from *Finite Mathematics* by Owen & Cutlip)

Thirty-one pizza eaters reveal their topping preferences. Sixteen like strawberries; sixteen like liver; 12 like anchovies. Ten like strawberries and liver; four enjoy liver and anchovies; five like strawberries and anchovies. Three like none of these toppings, preferring something bizarre. How many like only strawberries on their pizza? How many like only liver on their pizza? How many like only anchovies on their pizza?

Sample 4-P CHART:

4-P CHART			
1. Preview	2. Predict	3. Prior Knowledge	4. Purpose
<i>What are the title, subheads, definitions, theorems, pictures and graphics?</i>	<i>What am I going to learn? What will my final answer look like?</i>	<i>What do I already know about topic? How does it relate to previous lessons?</i>	<i>Why is this important? How will it help? How is it used?</i>
<i>It is about pizza and toppings preferences. Problem comes from “sorting a population” chapter.</i>	<i>I will figure out how many like single topping pizzas and their preference.</i>	<i>A visual that aids in these problems is a Venn Diagram. Each person is an element that will be in one or more subsets and the overall set (population).</i>	<i>Helps in distinguishing sets and the union of sets. More practice with Venn Diagram.</i>

*Illuminations

<http://illuminations.nctm.org>

*Eric Weisstein's World of Science

www.mathworld.wolfram.com

*Study Sphere

www.studysphere.com/Site/Sphere_787.html

*The Algebra Project

www.algebra.org/

*Math and Literature: Perfect Together

www.mrsmcgowan.com/math/math_and_literature.htm

*Mathematics Lessons That Are Fun, Fun, Fun

www.math.rice.edu/~lanius/Lessons/

*SCORE Mathematics Lessons

<http://score.kings.k12.ca.us/lessons.html>

*goEnc.com

www.goenc.com/

*Technology

www.teach-nology.com/teachers/lesson_plans/math/

*Math.com

www.math.com/

*Numbers

www.weallusematheveryday.com/tools/waumed/home.htm

*Purple Math

www.purplemath.com/

*Internet4Classrooms

www.internet4classrooms.com/brain_teasers.htm

*Clay Mathematics Institute

www.claymath.org/millennium/

*Texas Instruments

www.education.ti.com/exchange

Technology Information:

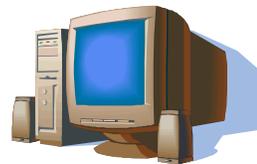
Calculator Activity: Graphing (The Ups and Downs)

When teaching how to graph a line we “traditionally” teach the equation “ $y=mx+b$ ”, explain that ‘m’ represents slope and ‘b’ represents the y-intercept. Then we show the students how apply this knowing the slope and y-intercept. As the students practice and get better we start alternating the questions by maybe providing either the slope or the y-intercept and a point and then have them write the equation for the line. Or even give them a set of points and have the students come up with the equation for the line.

Anyway, this is all great stuff, but this activity summary tries something different. Instead of “telling” the students what ‘m’ and ‘b’ represent, help guide them to figure it out. Perhaps you have tried this, maybe not. Either way, the calculator and view screen can make this easier.

1. Set up the calculator and viewscreen as directed in the previous newsletter.
2. Press the “y=” button (uppermost left). The screen says “Y1=” with a flashing cursor (plots are not highlighted).
3. Type in “ $2x+1$ ”. (Note: ‘x’ is button marked “X,T, θ , n”).
4. Press “graph” button (uppermost right). If axis are not centered, press “zoom” (middle top) and then “6” (zstandard).
5. Have students sketch the graph on paper to represent what is shown on the view screen. To zoom in closer press “zoom” and the appropriate zoom command.
6. Try several graphs, deleting the original “Y1=” each time. Try changing just the y-intercept first until they figure out what the ‘b’ is in the equation. Try negative numbers as well as positive numbers.
7. Then try changing the slope. Try negative numbers as well as positive numbers. May also try fractional slopes.
8. If desired you may want to enter another equation in the “Y2=” section for comparison purposes. For example, “ $Y1=2x+1$ ” and “ $Y2=-2x+1$ ”. Ask what is similar and different.

This is just one way to use your calculator and view screen. Try to graph a few lines and maybe even lead a class discussion. Note that you could do this with various lessons and graphs, this is just one specific opportunity.



Coming Soon:

How to take a screen shot from the calculator and put it in a Word Document.

Inspire Data:

Check out <http://www.inspiration.com/productinfo/inspiredata/index.cfm>

There will be a demonstration of this program at the next professional development day, May 15.