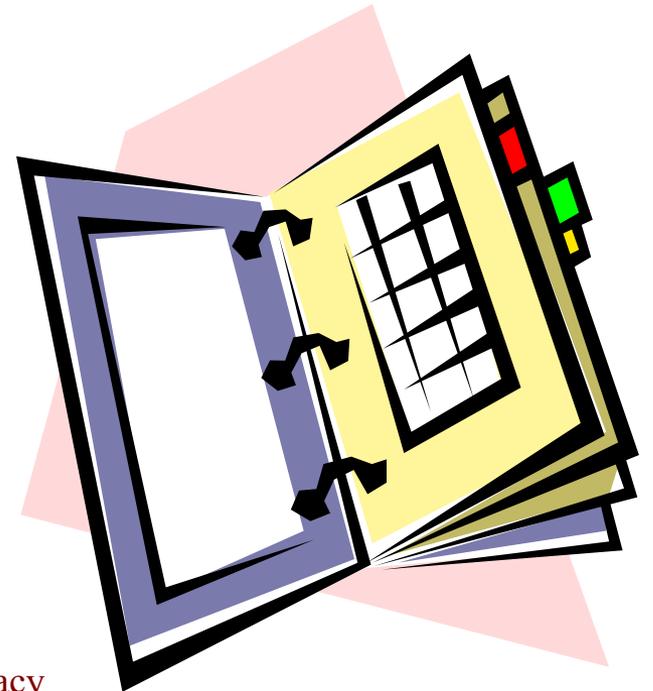


Numeracy and Literacy Gains for Youth

US DOL Conference,
Newport, RI
May 14, 2003

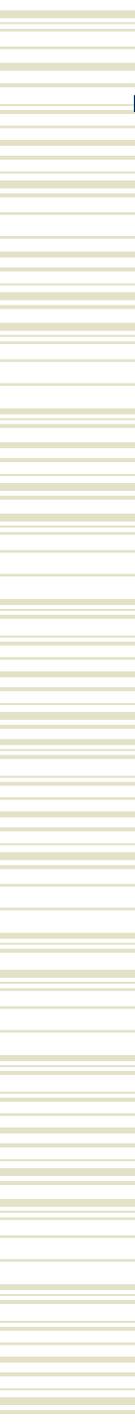
Bill Diehl & Terry Grobe
Center for Youth Development and
Education, Commonwealth Corporation



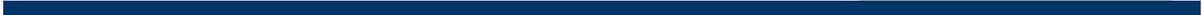
Numeracy and Literacy
Gains for Youth, CYDE at
CommCorp

WIA Reauthorization

- ◆ 70% OSY
- ◆ Youth = OSY up to 24; ISY = 16-21
- ◆ Four COMMON measures:
 - entry into employment, education, advanced training, military service
 - attainment of diploma or equivalent
 - **attainment of literacy or numeracy skills**
 - efficiency of program in meeting above outcomes



KWL (Know, Want to Know, Learned)



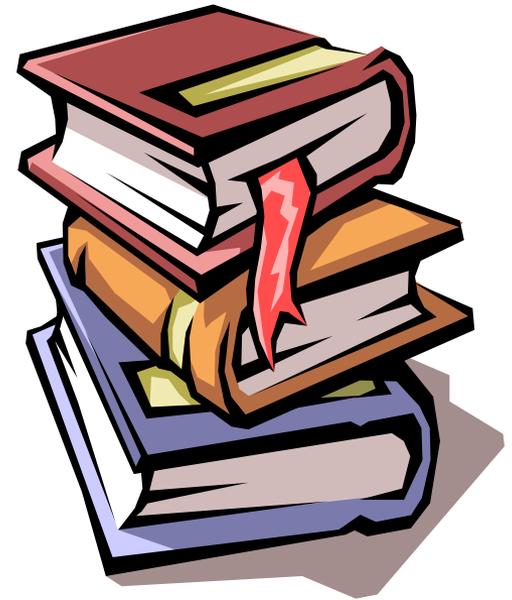
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What is Literacy?

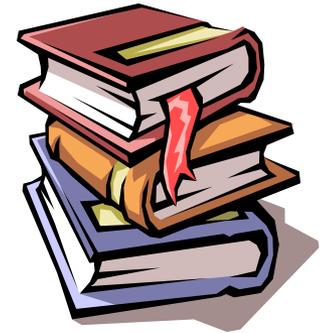
- ◆ **BASIC:** Ability to read & write a simple sentence in any language
- ◆ **FUNCTIONAL:** Ability to perform literacy tasks necessary for success in life (and in jobs)
- ◆ **NEW BASIC SKILLS:** Solve complex problems, think critically, communicate effectively, use computers and other technology



What is Literacy?

The "Equipped for the Future" (EFF) (National Institute for Literacy)

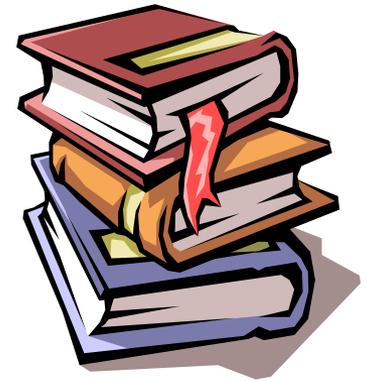
- Read with Understanding
- Convey Ideas in Writing
- Speak So Others Can Understand
- Listen Actively
- Observe Critically
- Use Math to Solve Problems and Communicate
- Solve Problems and Make Decisions
- Plan



What is Literacy?

◆ EFF:

- Cooperate with Others
- Advocate and Influence
- Resolve Conflict and Negotiate
- Guide Others
- Take Responsibility for Learning
- Reflect and Evaluate
- Learn through Research
- Use Information and Communications Technology



What is Numeracy?

◆ Broad:

- Relevance/Connections
- Communication

◆ Numeracy-Specific:

- Number and Number Sense
- Problem-Solving/Reasoning/Decision-Making
- Data
- Geometry: Spatial Sense & Measurement
- Algebra: Patterns and Functions



Wow! This is BROAD!

- ◆ What exactly are we trying to achieve?
- ◆ How will we know?
- ◆ How do we promote improved performance?

What are we trying to achieve?

◆ THINK:

- about a complex sport, hobby, or set of skills you learned as an adult.
- What did the learning involve?
- What helped you attain needed skills?
- How do you KNOW you attained the skills?

◆ SHARE:

- With a partner.
- Try to come up with some generalizations

What are we trying to achieve?

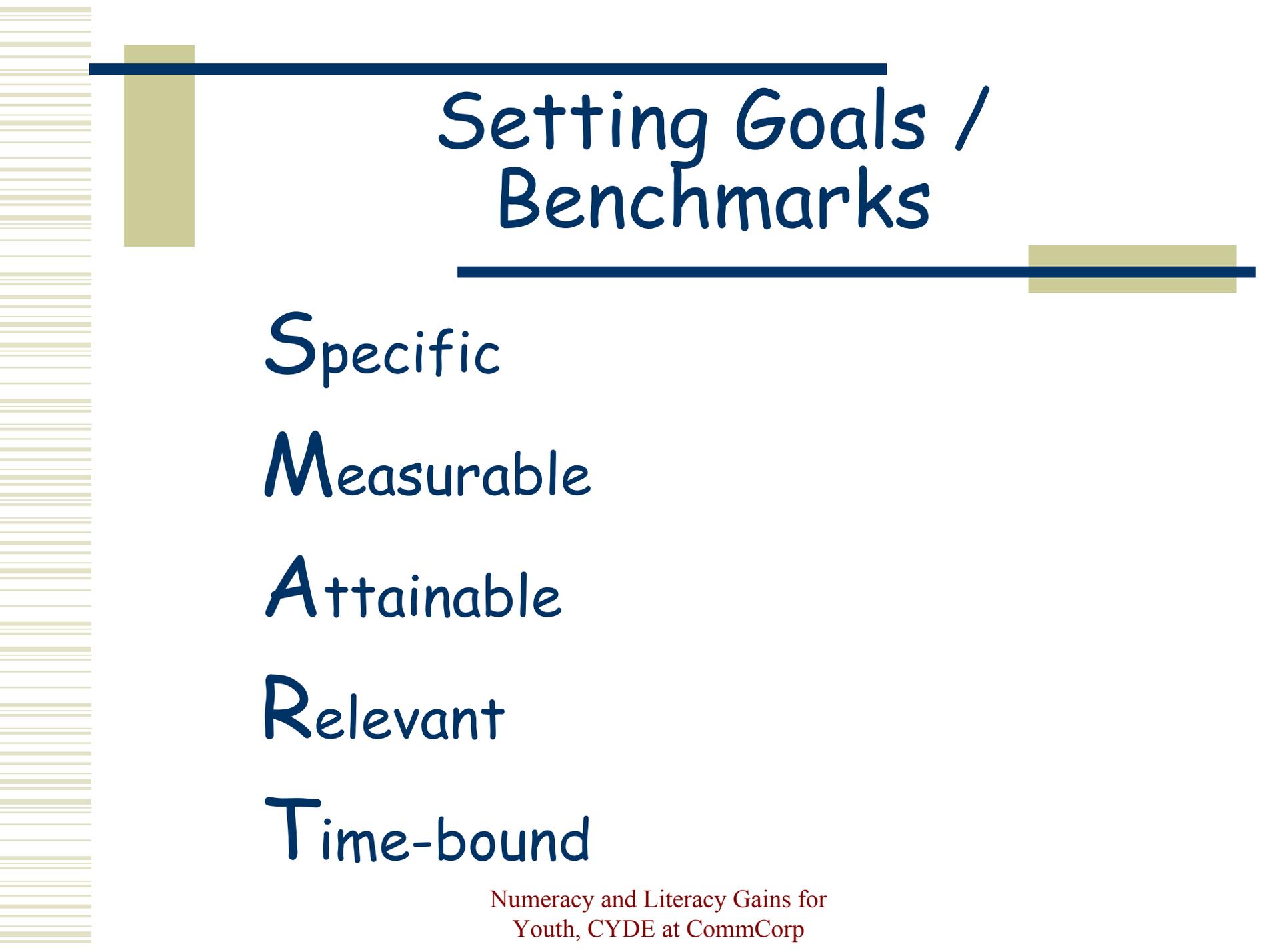
- ◆ Develops NEW skills in literacy/numeracy
- ◆ Expands existing skills
- ◆ Develops skills to a new level/new benchmark
- ◆ Learns to use skills in new situations
- ◆ Learns to apply skills in real life
- ◆ Uses skills to acquire new knowledge
- ◆ Uses skills to make connections or for communication

How Will We Know?

- Need a beginning point - baseline
- Need a framework of skills and benchmarks
- Need goals for moving from baseline to higher attainment in skills / benchmarks
- Need intervention / support strategies
- Need assessment of growth

How Will We Know?

- Grade level / course attainment
- Standardized tests
 - Score
 - Grade equivalency
 - Measurement of specific skills
- Informal assessments of skills & habits
 - e.g. knowledge of set of vocab words; ability to figure area of circle; amount of independent reading
- Demonstration/documentation (e.g. portfolio)



Setting Goals / Benchmarks

Specific

Measurable

Attainable

Relevant

Time-bound

Setting Goals / Benchmarks

- Ricardo scored in "Needs Improvement" on the state test
- Scores at a 6.7 reading and 5.5 math score on the TABE
- Tests show special difficulty with: finding the main idea in written materials; completing long division

Setting Goals / Benchmarks

- Informal assessment shows he doesn't know all the vocabulary needed for XXX job
- Informal assessment indicated he rarely reads a book for pleasure
- Actual work products indicate specific weaknesses in meeting identified standards (e.g. in conveying written information, in spelling, in understanding graphs, in applying math principles to a problem)

How Can We Promote Skill Attainment in WIA, YOG, etc?

- ◆ Incorporate literacy/ numeracy in all our contacts with youth
- ◆ Encourage service providers, worksite supervisors, mentors to incorporate in activities
- ◆ Include in Individual Service Strategy
- ◆ Encourage alternative ed and adult ed providers to convert to standards-based approaches
- ◆ Include literacy / numeracy in our assessments

What We Want to Focus On

- ◆ ENGAGING dis-engaged youth
- ◆ Developing INTEREST & MOTIVATION
- ◆ Developing FLUENCY
- ◆ Making it easier for students to ACCESS literacy
- ◆ Specific SKILLS and STRATEGIES for youth programs and non-school settings

Why is it Important for US?

- ◆ It's in non-traditional settings that:
 - young people can see and learn the adult applications of literacy and numeracy (contextualized)
 - motivation can be built for "turned-off" learners
 - life-long skills for learning can be cultivated

Five Ways to Promote Literacy/Numeracy

◆ Be a role model

- Read, write, use math, and use computers in the presence of young people
- Use literacy and numeracy to solve problems and complete tasks in the presence of young people

◆ Be a mentor

- Talk about (show) how you use literacy / numeracy to solve problems, to get information, and for your enjoyment and personal growth

Five Ways to Promote Literacy/Numeracy

◆ Be a cheerleader

- Talk about specific things you've read, what you've liked, what you've learned, how it's influenced you
- Be enthusiastic about anything the youth has read, written, or done using math or a computer

Five Ways to Promote Literacy/Numeracy

- ◆ Be a literacy/numeracy developer
 - Include in all the activities you do with young people - contextualize learning
 - Incorporate specific strategies to increase achievement
- ◆ When needed, make referrals
 - Observe the skills of young people
 - Know when to make referrals and to where

OVERALL

Make reading, writing, numeracy and computing rewarded and valued

- ⊗ Incorporate in ISS
- ⊗ Ask mentors and service providers to incorporate strategies
- ⊗ Keep track and reward efforts
- ⊗ Make this part of what youth “give back” to community

OVERALL

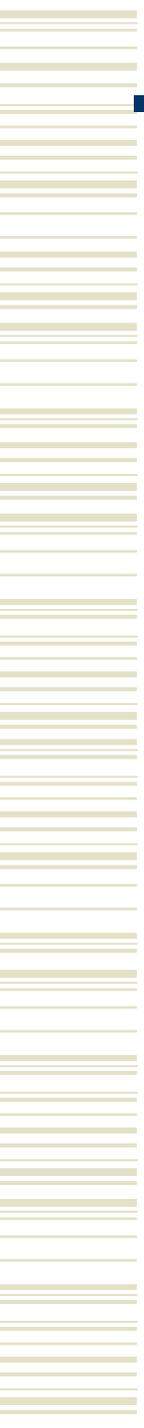
◆ Program Goals:

- Literacy and numeracy levels assessed and appropriate materials made available
- Specific strategies to motivate youth to read, write & compute are built into programs/services
- Adult mentors trained on ways to promote literacy and numeracy and engage in 3 activities with their youth

OVERALL

◆ Youth Goals:

- As part of XYZ work experience, youth read and do written reflection on 1 book or 3 articles related to their career interests
- As part of ABC experience, youth successfully complete 2 real world math problems



OVERALL



- ◆ Program Goals:

- ◆ Youth Goals:

Incorporate in Program Goals and ISS

- ◆ Identifying similarities and differences (45%)
- ◆ Summarizing and note-taking (34%)
- ◆ Reinforcing effort and providing recognition (29%)

from "Classroom Instruction That Works: Research-Based Strategies For Increasing Student Achievement";
Marzano, Pickering, and Pollock, ASCD, 2001



Identifying Similarities and Differences

- ◆ Explicit modeling
- ◆ Comparing -- talk aloud; Venn diagrams; comparison matrix
- ◆ Classifying -- categories; graphic organizers

Identifying Similarities and Differences

◆ Program Goals:

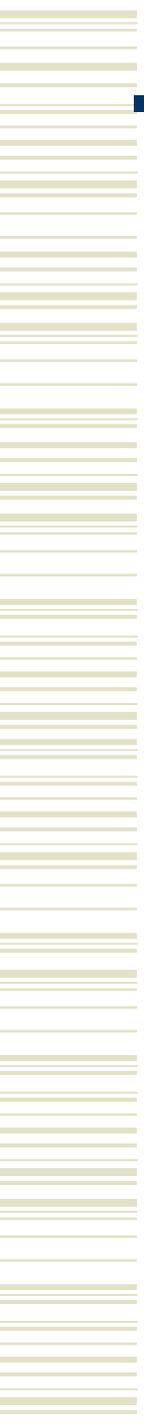
- Incorporate compare/contrast with 25% of new activities
- Post and talk-through c/c for all major new concepts or activities

◆ Youth Goals:

- As part of XYZ, youth completes 5 comparison activities
- In reflection journal about work experience, youth compares/contrasts with other work, school experiences, etc.

Summarizing

- ◆ Major part of reflection - critical to learning
- ◆ Could involve: key points / ideas, key learnings, key parts of experience, key personal responses



Summarizing

- ◆ Program Goals:

- ◆ Youth Goals:

Summarizing

◆ Program Goals:

- youth keep reflection journals / logs for at least 50% of days. Reflection summarizes: what was done, what was learned, where else information could be used

◆ Youth Goals:

- As part of XYZ, youth completes 5 summaries of what was done and learned. Strong topic sentence must be included
- Reflection journal with summaries kept for 50% of days

Reinforcing Effort and Providing Recognition

- ◆ Reasons given for success:
 - Ability
 - Effort
 - Other people
 - Luck
- ◆ Three of these four reasons **INHIBIT** achievement

Reinforcing Effort and Providing Recognition

- ◆ We have to help young people realize and believe in the importance of EFFORT
- ◆ Effort - Achievement Chart
- ◆ Effective praise
- ◆ Personalize recognition
- ◆ Pause - Prompt - Praise

Reinforcing Effort and Providing Recognition

◆ Program Goals:

- Program has XYZ incentives, rewards, feedback built in to reinforce that effort leads to achievement
- Program keeps a chart of effort; constructive feedback given to youth

◆ Youth Goals:

- Effort - Achievement chart as part of reflection
- Interview mentor about how s/he became successful; present to other youth

Literacy: 4-stage model

- ◆ Building decoding skills & basic word recognition
- ◆ Building fluency and increasing word recognition
- ◆ Building vocabulary and meaning
- ◆ Building comprehension and study skills

#1 - Decoding skills & Basic word recognition

- Learning to break the "code" of written language
- Building on verbal skills
- Includes phonics and sight words
- K-3rd grade level; if youth has not mastered, may have a learning disability

#1 - Decoding skills & Basic word recognition

➤ WHAT TO DO?

- Make referrals and be an advocate
- Is there an IEP? Can you support some of its components?
- Work on oral language skills
- Strategies for decoding and word recognition
- Computer assisted instruction

#1 - Decoding skills & Basic word recognition

➤ Strategies

- Language Experience Approach (LEA)
- Build phonics using LEA
- Use multiple modalities
 - Visual-Audio-Kinetic-Tactile

#2-Fluency & building word recognition

- 4th-6th grade level
- Mastered basics, but oral language more sophisticated than written language skills
- Building on literacy & verbal skills
- LOTS of reading and writing with appropriate materials

#2-Fluency & building word recognition

➤ WHAT TO DO?

- Encourage lots of reading and writing -- high-interest / low-level materials
- Work on oral language skills
- Make referrals and be an advocate
- Strategies for fluency
- Computer assisted instruction

#2-Fluency & building word recognition

➤ Strategies

- Read-alouds and variations
- High-interest / low-level materials
- USSR and USSW
- Use reflection tools

#3 - Vocabulary and Meaning

- 6th-8th grade level
- Mastered basics; oral language and written language equal in sophistication
- Task is **USING** literacy to learn

#3 - Vocabulary and Meaning

➤ WHAT TO DO?

- Encourage lots of reading and writing with materials that can be handled independently
- Strategies for vocabulary and meaning
- Computer assisted instruction

#3 - Vocabulary and Meaning

- Strategies
 - Vocabulary builders
 - Graphic organizers for concepts
 - CSSD

#4-Comprehension and Study Skills

- 8th grade & higher level
- Written language skills equal to / greater than oral language
- Task is USING literacy to understand and to learn

#4-Comprehension and Study Skills

➤ WHAT TO DO?

- Encourage lots of reading and writing with materials that can be handled independently
- Stress "Before-During-After"
- Encourage application
- Strategies for comprehension & study skills

#4-Comprehension and Study Skills

➤ Strategies

- to build on existing knowledge (Word Splash)
- to help structure learning of nonfiction (KWL, I-charts, Fact Pyramid)
- to help structure learning of fiction (story maps, story star, attribute web)
- Study techniques (BCA; SQ3R)

"Level 4" Youth (8th and above)

- ◆ Program Goals:

- ◆ Youth Goals:

Education Providers - Using Standards-Based Approach

- Identify Standards, Competencies and Benchmarks
- Cross-walk Curriculum to competencies
- Identify and fill gaps

Education Providers - Using Standards-Based Approach

- Identify assignments, products, etc that can show evidence
- Identify how to assess evidence (rubric)
- Track progress through developmental portfolio