

Bridging the Gap

Literacy and Mathematics

Cheryl S. Latiolais

Literacy Issues

- Mathematics involves the usage of a very precise and unique language.

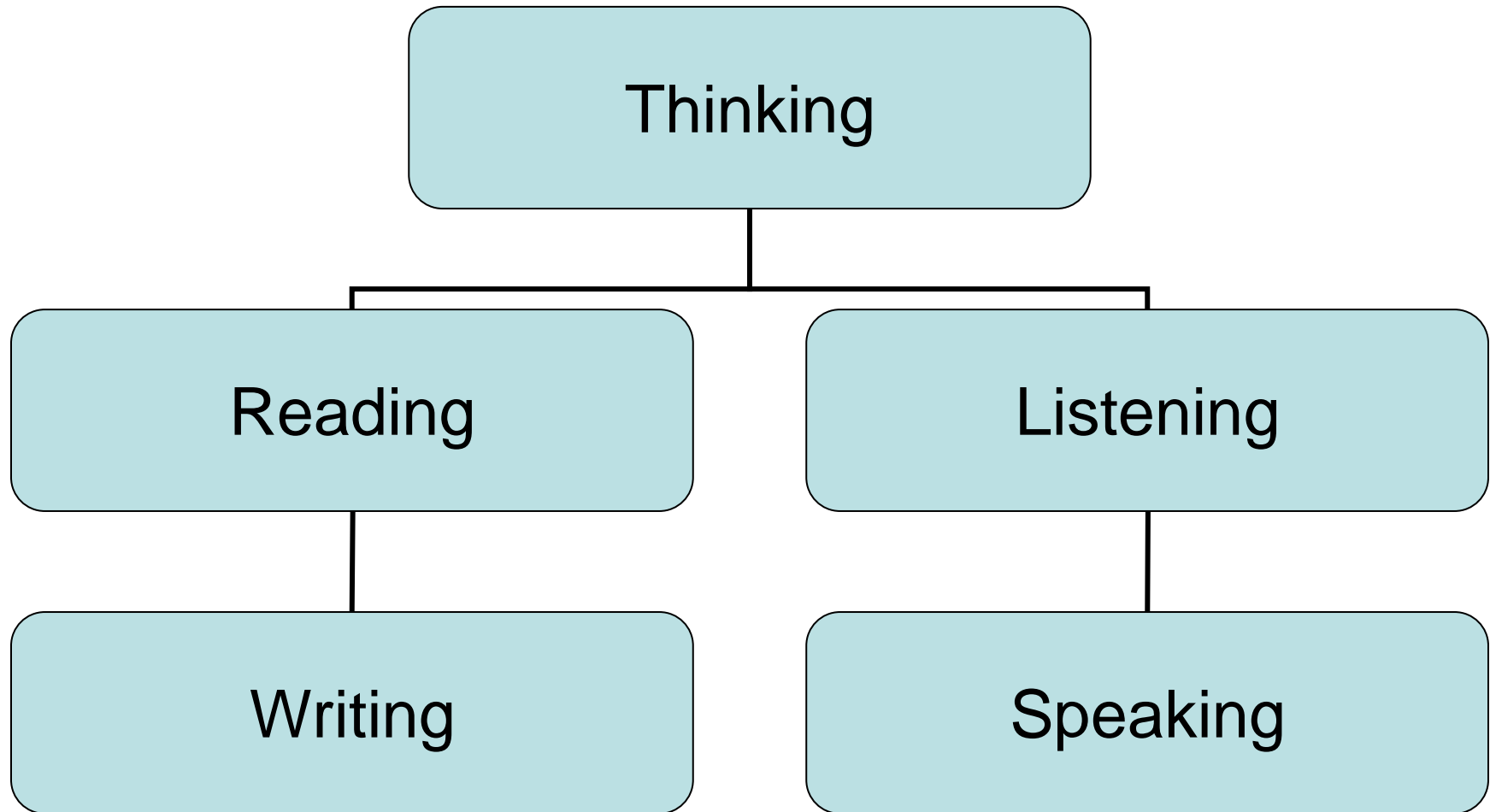
Literacy Issues

- Contextually based problems draw from a wide variety of applications which the students may not be familiar with in their own lives.

Literacy Issues

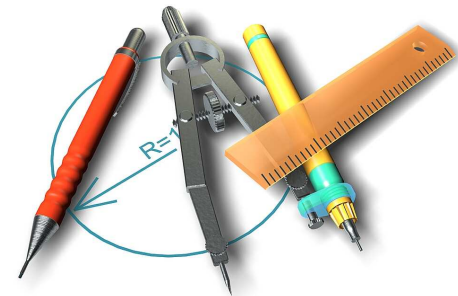
- Teachers of mathematics must actively pursue literacy strategies to assist students in becoming mathematically literate.

The Elements of Literacy



The Elements of Math

- Mathematical Reasoning
 - Technology
 - Symbolic representation
 - Tools of measurement



What has this got to do with us?

- In urban settings achievement in literacy and mathematics often lags...
 - Greater incidence of the following contributing factors.
 - Low socio-economic status
 - English as a second language
 - Special education and 504

How do we help all students?

- Incorporating English Learner Strategies in Mathematics Courses for Teachers.

– Jacobs & Winicki-Landman

Mathematics as a Second Language

- Reform-based curricular materials set mathematics instruction deeply within contextually based problems

– Wilson, et al

Selected Strategies for Mathematics Instruction

-Castillo and Peraza

	Strategy	Description
1	Predictable Routines and Signals	Reducing anxiety non-language based classroom management
2		
3		
4		
5		
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6	Vocabulary Development Word Walls, Dictionaries	Displaying and organizing words for easy access.

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14	Modified assessment	Less paper and pencil assessment

Scaffolding Mathematics Instruction

-Aida Walqui

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- Modeling

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- Bridging

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- Contextualization

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- Schema Building

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Scaffolding Mathematics Instruction

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- Metacognitive Development

A Method We Can Use

- S-W-B-S
 - Someone wants to know... but..., so... .

Someone wants to know...,
but..., so... .

Vicki works as a salesclerk in a clothing store. She earns \$10.00 per hour plus a commission of 6% of her total sales. Which equation represents e , her total earnings when she works h hours and sells a total of d dollars in merchandise?

Someone wants to know..., but...,
so... .

- Commission

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-Vicki wants to know her total earnings...

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But...?

Writing the **but** statement forces students to articulate what is confusing to them...

2 INDEPENDENT VARIABLES

But...?

but,we only know how that she earns 10 dollars per hour, *and* .06 commission on total sales...

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so... .

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SO...

- Writing the **so** statement forces students to think about and articulate how to solve.

WRITING THE EQUATION IN WORDS...

So..

so, how much Vicki earns depends on how much she earns per hour *plus* her commission on how much she sells.

$$e = 10h + .06d$$

Acknowledgements

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