

# Developing Numeracy Tasks & Paths to Completion

# Introduction

- ▶ Our background in Essential Skills and OALCF
  - ▶ Essential Skills Certified Analyst
  - ▶ Task Development in Numeracy
  - ▶ Task Development in Digital Technology
  - ▶ Task Development in Employment Transition (Occupational curricula and assessment)
  - ▶ Essential Skills Check Up Tool (Les)

# Agenda

- ▶ Relating Numeracy in the Essential Skills to the OALCF
- ▶ Hands on practice developing Numeracy tasks and possible solutions

# Understanding Numeracy

- ▶ While it is important to develop solid numeracy tasks, it is even more crucial that we communicate the steps to learners to successfully complete the tasks. This enhances learning and enables learners to complete numeracy tasks in other environments.

# Understanding Numeracy

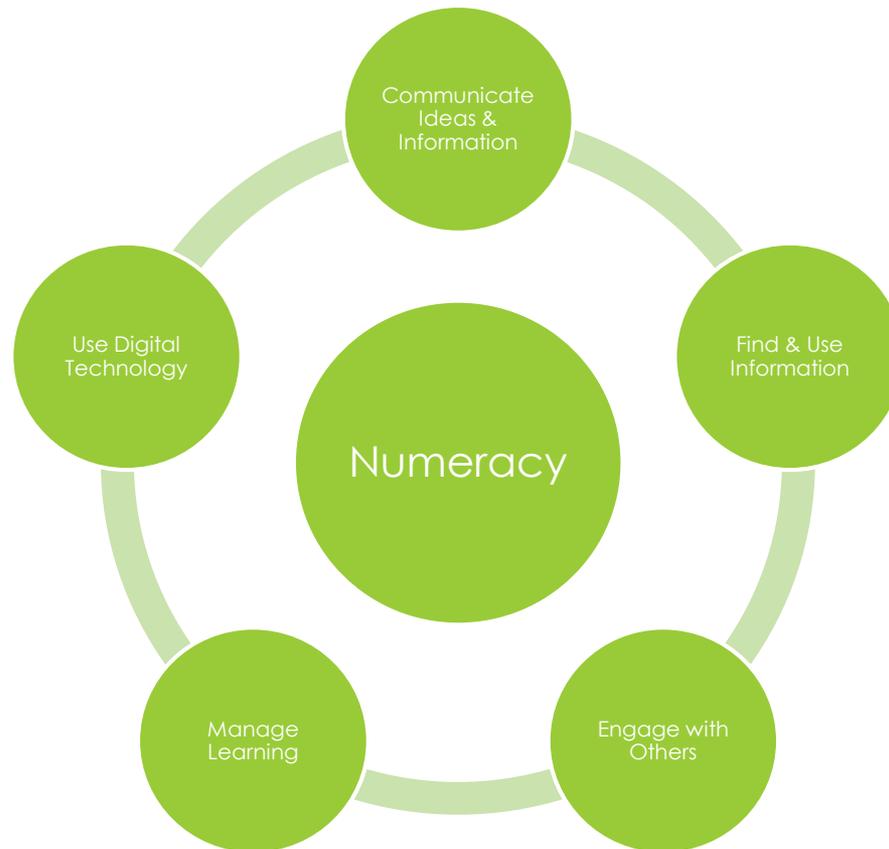
- ▶ It is important that we know that Numeracy doesn't stand in isolation of the OTHER Essential Skills. Numeracy tasks may involve Reading, Document Use, Writing, Thinking Skills, Computer Use, Oral Communications, etc. It certainly includes Continuous Learning.
- ▶ Also, it has to be admitted that LBS has focussed on the other competencies and have done a great job! However, not all Instructors feel numeracy is their strong suit. In LBS, we need to identify best practices, strategies and resources and begin to support each other to feel comfortable with numeracy. After all, our feelings do penetrate the classroom.

# Defining Numeracy

- ▶ Numeracy, although it definitely requires mathematical skills, is more complex and goes beyond the mere act of computation. Numeracy is the ability to reason and apply numerical concepts to our daily lives. It also incorporates problem-solving, decision-making, logical thinking and interpretation of documents such as charts and diagrams. Numeracy skills give us the ability to understand the numbers and data that we all need to live our lives, work effectively and be engaged citizens.

*From: CLO Communique September 2014*

# Circling Numeracy



# Understand & Use Numbers

## ▶ Task Group

- ▶ Manage Money (C1)
- ▶ Manage Time (C2)
- ▶ Use Measures (C3)
- ▶ Manage Data (C4)

## ▶ Level Indicator

- ▶ Level 1
- ▶ Level 2
- ▶ Level 3

# Understand & Use Numbers

- ▶ Performance Descriptors
- ▶ Task Descriptors
- ▶ Examples of tasks

# Task Breakdown – Task information

## Example:

- ▶ Example:
- ▶ Doubling the Measurement on a Recipe
  - ▶ The current recipe provides 10 servings. Calculate the new quantities to serve 20.

## Ingredients

- ▶ 1 (16oz) pkg of macaroni
- ▶ ½ cup of milk
- ▶ 2 eggs
- ▶ 1 tbsp. butter
- ▶ ½ cup of shredded cheese

# Task Breakdown – Determine the level

## Performance Descriptors

- ▶ Adds and subtracts whole number measurements
- ▶ Chooses appropriate units and non standard units
- ▶ Identifies and performs required operation
- ▶ Interprets and represents measures using whole numbers, decimals and simple, common fractions

## Task Descriptors

- ▶ May include unfamiliar elements
- ▶ Requires one-step calculations, which may be repeated; operations are easily inferred
- ▶ May require converting between whole numbers, decimals, fractions, ratios and percentages

# Task Breakdown – Answer Key A

- ▶ Locate the list of *Ingredients*:
  - ▶ 2 eggs
- ▶ Set up the problem to find the quantity of eggs
  - ▶  $2 + 2$
- ▶ Calculate:  $2 + 2 = 4$

## *Performance Descriptors*

*Adds and subtracts whole number measurements*

*Identifies and performs required operation*

- ▶ Set up the problem to find the quantity of shredded cheese
  - ▶  $\frac{1}{2} \times 2$
- ▶ Convert the whole number to a fraction:
  - ▶  $\frac{1}{2} \times 2 = \frac{1}{2} \times \frac{2}{1}$
- ▶ Multiply the fraction:
  - ▶  $\frac{1}{2} \times \frac{2}{1} = \frac{2}{2} = 1$
- ▶ 1 cup of shredded cheese will be needed to double the recipe

# Task Breakdown – Answer Key B

- ▶ Locate the list of *Ingredients*:
  - ▶ 2 eggs
- ▶ Set up the problem to find the quantity of eggs
  - ▶  $2 \times 2$
- ▶ Calculate:  $2 \times 2 = 4$

## *Performance Descriptors*

*Adds and subtracts whole number measurements*

*Identifies and performs required operation*

- ▶ Set up the problem to find the quantity of shredded cheese
  - ▶  $\frac{1}{2} \times 2$
- ▶ Convert the whole number to a fraction:
  - ▶  $\frac{1}{2} \times 2 = \frac{1}{2} \times \frac{2}{1}$
- ▶ Multiply the fraction:
  - ▶  $\frac{1}{2} \times \frac{2}{1} = \frac{2}{2} = 1$
- ▶ 1 cup of shredded cheese will be needed to double the recipe

# Thinking Strategy Template

- ▶ **Identify** what is required to complete the task
- ▶ **Scan** the document using key words
- ▶ **Locate** this information in the document
- ▶ **Recognize** that you need to understand general information
- ▶ **Decide** that you have the information you need from the document
- ▶ **Set up the problem** to calculate the answer
- ▶ **Calculate** the answer
- ▶ **Decide** that your answer is the information requested in the task

# Your turn

- ▶ Now it's your turn. Take 20 minutes to develop your task. You will briefly present your work to the group.
- ▶ At your table, develop 3 'realistic' Numeracy tasks for a learner. Describe the materials required, the competencies/levels and Goal Path
- ▶ Write the steps for one way to complete the task (there is always more than one way to complete the task!!)
- ▶ Is there a way to estimate the result? If so, provide the way.

# Discussion

- ▶ Not all learners will use the same steps you have outlined to successfully complete a Numeracy task. What will you do?
- ▶ Not all learners will get the same answer. What will you do?
- ▶ How will you determine success with a Numeracy task?

# Discussion

- ▶ How do you feel about Numeracy? Is it as rigid as you may have thought? Why?
- ▶ How is teaching Numeracy affected by differing learning styles? How do these affect how Numeracy is taught?
- ▶ What can the East Region LBS Networks do to support your efforts instructing Numeracy?



Thank you for participating