

Integrating Language and Numeracy in Adult Education Study Circle *Facilitator Guide*

By Amy Vickers, March 2017

atlas ABE Teaching & Learning
Advancement System



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Integrating Language and Numeracy in Adult Education

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Visual Overview

Meeting 1 *the context*: adult numeracy

- What are my strengths as a math teacher?
- What challenges are other teachers facing?
- How does CCRS fit?

Meeting 2 *the science*: analytical planning

- How do I know which math topics to teach my EL learners?
- How do I know when to teach each topic?

Meeting 3 *the art*: intentional design

- How do I incorporate math in a way that that will give all of my students a chance to be challenged as well as successful?
- How can I apply my teaching experience to teaching math?

Background

How can English language teachers in adult education effectively integrate numeracy into their English lessons? As this practice is becoming more common and we now have the *College and Career Readiness Standards for Adult Education (Pimentel, 2013)* to use as a math content resource, the numeracy leaders working with ATLAS determined that a study circle would be an effective way for English teachers to further develop their understanding of integrating language learning and numeracy.

Through this study circle, in addition to considering the context of the numeracy, participants will explore strategies for applying the key instructional shifts of focus and coherence to unit and lesson planning. Teachers will apply rigor as they discuss and create lessons that incorporate conceptual understanding, procedural fluency, and application along with language supports. In addition to learning practical concepts and skills for teaching, the study circle participants will explore their own place, strengths, and questions that each brings to this developing field of language and numeracy.

References and Resources

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Overview

Purpose

The purpose of this study circle is to advance Minnesota ABE teachers' ability to effectively and confidently integrate numeracy instruction into English language classes.

Description

This study circle is a professional learning activity for English language teachers working to improve their ability to integrate numeracy instruction into their language courses. It is appropriate for teachers of all levels of EL learners within Minnesota Adult Basic Education, as teachers will adapt tasks for their own levels and classrooms. Teachers will explore their own place within the field of language and numeracy instruction and the perspectives of their cohort members. Participants will learn about and practice using the *College and Career Readiness Standards for Adult Education* to create meaningful numeracy progressions within the various contexts of an English language learning course. Participants will create or adapt classroom activities to teach numeracy concepts; this numeracy instruction will be supported by intentional language instruction. Participants will be observed and do one observation of a cohort member with the purpose of practicing integrating language and numeracy and having the opportunity for feedback and reflection.

Study Circle Model

The study circle was chosen as the professional development delivery method because it introduces research and related information. It gives participants ample time for testing new ideas in the classroom, thinking, reflecting, and sharing ideas and experiences. A study circle can take place over an extended time, thus allowing for application, observation, and feedback.

For tips on facilitating a study circle, read this NSCALL publication:

http://www.ncsall.net/fileadmin/resources/teach/adult_reading_scg_tips.pdf

Expectations of the Facilitator

The facilitator is expected to notify participants of meeting logistics and expectations and manage the big-picture scheduling of cohort observations. They are expected to be prepared to facilitate each meeting and provide the materials, readings, and support needed for the study circle to be a success. They are expected to facilitate thoughtful, respectful, reflective discussion on the various topics, redirecting participants to research and its connections to the classroom as needed.

Expectations of Participants

Participants are required to attend all three meetings, having prepared by thoughtfully completing the given assignments. Participants will arrange the details of their own observations with their partners. If questions arise about expectations, participants should ask the facilitator for clarification. During meetings, participants are expected to engage actively

and respectfully, with an open mind and a willingness to share their experiences, thoughts, and questions.

Time Commitment

Participants will attend three face-to-face meetings, each lasting three hours. Participants will be assigned media to read or watch and be expected to try related activities in class and reflect on them in preparation for subsequent meetings. Each participant will observe a cohort member in their classroom one time and be observed by a cohort member one time.

Cohort Selection

The pilot cohort will include 12 MN ABE teachers, all alumni of the Minnesota Numeracy Initiative (MNI). Efforts will be made to select 6 teachers with a stronger math and numeracy focus and 6 teachers with a stronger English language focus in order to best utilize existing knowledge and viewpoints. Subsequent cohort selection criteria will be adjusted as needed based on lessons learned and emerging needs of the field.

Study Circle Objectives

Upon conclusion of the study circle, participants will be able to:

1. Articulate a big-picture sense of numeracy and English learning in Adult Basic Education and identify their current role(s) in that work.
2. Use the instructional shifts of focus and coherence and the CCRS mathematics standards when selecting numeracy topics for an English language course.
3. Utilize rigor (conceptual understanding, procedural fluency, and application) and intentional language supports when developing or adapting classroom numeracy activities.

Topics, Media Content, and Tasks by Meeting

Meeting One: *The Context: Adult Numeracy.* Getting to know the pieces and the puzzle. Where do I fit?

Objectives	To prepare (complete before the meeting)	Tasks and activities (during the meeting)
<ol style="list-style-type: none"> 1. Define adult numeracy. 2. Discover your own math teacher identity and the perspectives of other cohort members. 3. Gain a richer understanding of the complexities of teaching numeracy to EL learners. 4. Refresh your knowledge about CCRS. 5. Begin to plan for observations. 	<ul style="list-style-type: none"> • Write a definition for adult numeracy • Complete, score, and answer questions following the Language and Numeracy Knowledge Base Quiz. • Review chapter 5 of the CCRS, <i>The Results: College and Career Readiness Standards for Mathematics</i> 	<ul style="list-style-type: none"> • Welcome and Introductions • Activity 1: Create a shared understanding of adult numeracy • Activity 2: Discuss the Knowledge Base Quiz results • Activity 3: CCRS Refresh; linking CCRS and numeracy • Activity 4: Write and then share a strength and something you are curious about learning more about. • Discuss plan for next meeting.

Meeting Two: *The Science: Analytical Planning.* Creating a Plan for Embedding Numeracy

Objectives	To prepare (complete before the meeting)	Tasks and activities (during the meeting)
<ol style="list-style-type: none"> 1. Articulate the meanings of focus and coherence as they relate to numeracy instruction in a language classroom. 2. Apply focus to prioritize topics when embedding numeracy. <i>Is the math topic in the CCRS math standards?</i> 	<ul style="list-style-type: none"> • Read and make sense of <i>College and Career Readiness Standards for Adult Education Overview Format</i> and how it connects to CCRS Mathematics Standards. • Watch Real Life Math 	<ul style="list-style-type: none"> • Welcome • Check-in activity: share a new language and numeracy experience or idea • Activity 1: Discuss homework, make sense of CCRS Overview as it relates to CCRS Math Standards • Activity 2: Summarize focus and coherence as described in CCRS • Activity 3: Do a sample “Planning Numeracy Topics in an English Language Learning Classroom”

<p>3. Apply coherence when embedding numeracy. <i>Where does the topic fit in a progression?</i></p>	<p>https://www.youtube.com/watch?v=HtqIIVN9bh8</p>	<ul style="list-style-type: none"> • Activity 4: Carousel Activity: in pairs, complete a “Planning Numeracy Topics in an English Language Learning Classroom” sheet. Discuss reflections. • Discuss observations and plan for next meeting.
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Meeting Three: The Art: Intentional Design. Developing Classroom Activities to Support Language and Numeracy

Objectives	To prepare (complete before the meeting)	Tasks and activities (during the meeting)
<ol style="list-style-type: none"> 1. Apply rigor (conceptual understanding, procedural fluency, and application) when embedding numeracy in language classes. 2. Support language development when embedding numeracy in language classes. 3. Design activities that will give learners opportunities to read, write, listen, and speak about numeracy. 	<ul style="list-style-type: none"> • Do observation and complete observation form. • Read <i>Designing Instruction with the Components of Numeracy in Mind</i> • Read <i>Vocabulary Support: Constructing (Not Obstructing) Meaning</i> • Watch Supporting Language and Content Learning in Mathematics: https://www.teachingchannel.org/videos/math-for-newcomers-ousd • Watch Engaging in Productive Struggle: Number Talks: https://www.teachingchannel.org/videos/subtraction-math-lesson-ousd 	<ul style="list-style-type: none"> • Summarize rigor as described in the CCRS • Discuss highlights of homework articles • Share about observations: What activities did you see that you would like to try or adapt? What struck you about those activities? Write each on a sticky note. Group the sticky notes as a large group • Use those groupings to create a checklist for effective strategies for integrating numeracy into language instruction.

Preparation for First Meeting

Email to Participants

Dear Study Circle Participant,

:

Greetings! Welcome to ATLAS's Integrating Language and Numeracy Study Circle. I am _____, the facilitator for the study circle; I look forward to exploring this rich and challenging topic with you over the next few months! Please read this entire email; it includes important details about next steps for our group.

Please add the following meeting information to your calendar:

- Meeting 1 date, time, location, and parking information
- Meeting 2 date, time, location, and parking information
- Meeting 3 date, time, location, and parking information

You will also need to arrange a classroom observation with a fellow study circle member. We will start to figure those details out during our first meeting.

Assignments: to be completed before our first meeting

- Read "Overview of Study Circle for Participants" (*attached*)
- Write your own definition for adult numeracy (*see attached worksheet*)
- Complete, score, and answer discussion questions about the Language and Numeracy Knowledge Base Quiz (*quiz, scoring, and discussion questions attached*)
- Review chapter 5 of the CCRS, *The Results: College and Career Readiness Standards for Mathematics* (*see your blue spiral copy of CCRS or search to find the PDF online*)

Bring to first meeting

- Completed assignments
- *College and Career Readiness Standards for Adult Education* spiral book.
- A laptop

We will work with your completed assignments during our first meeting. I look forward to meeting or seeing you all there! Please email me if you have any questions.

Sincerely,

Meeting One

Materials

- name tags
- handouts: see page titled *Handouts and Materials for Before and During Meeting One*
- extra CCRS books
- flip chart paper
- flip chart markers
- large post-its

Objectives

1. Define adult numeracy.
2. Discover your own math teacher identity and the perspectives of other cohort members.
3. Gain a richer understanding of the complexities of teaching numeracy to EL learners.
4. Refresh your knowledge about CCRS.
5. Begin to plan for observations.

Agenda

1. Welcome and Introductions
2. Activity 1: Create a shared understanding of adult numeracy
3. Activity 2: Discuss the Knowledge Base Quiz results
4. Activity 3: CCRS Refresh: linking CCRS and numeracy
5. Activity 4: Write and then share a strength and something you are curious about learning more about.
6. Discuss plan for next meeting.

Meeting One Facilitator Agenda

Topic	Groupings	Minutes
<p>Welcome by facilitator</p> <ul style="list-style-type: none"> • Thank participants for taking the time to develop and share their knowledge of language and numeracy instruction. • Share the purpose of the study circle and reason that a study circle was chosen as the PD delivery method. • Share an overview of the entire study circle. Refer to <i>Overview for Participants</i> handout as needed. • Share a brief outline of the day including the objectives and the agenda. Start to discuss observations. Ask participants to start to fill out Observation Scheduling sheet. 	Whole group	10
<p>Introductions. Facilitator goes first. Do not rush this; ask follow-up questions as needed. What is your name? Where do you work? What types of classes do you teach? Why are you interested in this study circle?</p>	Whole group	30
<p>Activity 1: In groups of 3, share definitions of numeracy. Create a shared definition. Then share that definition with the whole group. Ask a participant to record key phrases on flip chart paper. No need to wordsmith an exact definition, but going forward, use this shared understanding of numeracy. Explain that numeracy, not just math, is the goal for adult learners.</p> <p>Here is one definition of numeracy that I like: “Numeracy has mathematics as its core. NALA (National Adult Literacy Agency of Ireland) defines numeracy as a life skill that gives adults ‘the confidence to manage the mathematical demands of real-life situations’.”</p> <p>In the discussion, be sure to connect numeracy to literacy.</p>	In groups of 3	5
	then whole group	10
<p>Activity 2: Discuss knowledge base quiz discussion questions Share highlights with whole group.</p>	Groups of 4	20
BREAK		15
<p>Activity 3: CCRS Refresh Return to the group definition of numeracy. In groups of 4, find an example of numeracy in:</p> <ol style="list-style-type: none"> 1. The shifts 2. The mathematical practices 3. The mathematical standards 	Groups of 3	20

<p>It does not need to be the word numeracy, but should be an example of numeracy that supports the shared definition</p> <p>One group shares out for each of the three sections. Other groups can chime in.</p> <p>Facilitator shares any other CCRS highlights that have not yet been discussed.</p>		<p>10</p> <p>10</p>
<p>Activity 4: Closing activity. Facilitator posts these 2 questions:</p> <ul style="list-style-type: none"> • What strengths do you bring to teaching language and numeracy? • What areas pique your curiosity? <p>Participants jot down their answers. They will be asked to share at least one answer to each question in the large group.</p>	<p>Individually</p> <p>Large group</p>	<p>10</p> <p>25</p>
<p>Discuss the assignments and the plan for the next meeting. Give a copy of the <i>CCRS Overview Format</i> to each participant along with the following instructions:</p> <p>Please bring this document with you to our second meeting. Specifically, you should compare the rows and columns of the <i>CCRS Overview Format</i> to the Mathematics Standards of the CCRS and make sense of how the documents fit together. As you read, highlight any words or phrases in the <i>CCRS Overview Format</i> that you don't fully understand. Use the Internet or other resources to make sense of those words or phrases. If you are still lacking understanding after your research, bring those specific words or phrases to the study circle for an explanation.</p> <p>Participants complete the Evaluation and Feedback form.</p>	<p>Large group</p>	<p>15</p>
	<p>TOTAL</p>	<p>180</p>

Preparation for Second Meeting

Email to Participants

Dear Study Circle Participants,

Thank you for the rich discussion that we had during our first meeting! Our next meeting will be on _date at time , in room ___ of the ___ building where we met before.

To prepare for that meeting, carefully read the *College and Career Readiness Standards for Adult Education Overview Format* that I gave you at our first meeting. A copy is also attached to this email. Please bring this document with you to the second meeting. Specifically, you should compare the rows and columns of the *CCRS Overview Format* to the Mathematics Standards of the CCRS and make sense of how the documents fit together. As you read, highlight any words or phrases in the *CCRS Overview Format* that you don't fully understand. Use the Internet or other resources to make sense of those words or phrases. If you are still lacking understanding after your research, bring those specific words or phrases to the study circle for an explanation.

Please remember to bring your blue spiral CCRS book and a laptop to the next meeting.

I'm looking forward to our upcoming meeting in which we will be doing some analytical planning to create a plan for embedding numeracy.

Thank you for your contributions to the group so far!

Sincerely,

Meeting Two

Materials

- Name tags
- Handouts: see page titled *Handouts and Materials for Before and During Meeting Two*

Objectives

1. Articulate the meanings of focus and coherence as they relate to numeracy instruction in a language classroom.
2. Apply focus to prioritize topics when embedding numeracy. *Is the math topic in the CCRS math standards?*
3. Apply coherence when embedding numeracy. *Where does the topic fit in a progression?*

Agenda

1. Welcome
2. Check-in activity: share a new language and numeracy experience or idea
3. Activity 1: Discuss homework, make sense of CCRS Overview as it relates to CCRS Math Standards
4. Activity 2: Summarize focus and coherence as described in CCRS
5. Activity 3: Do a sample “Planning Numeracy Topics in an English Language Learning Classroom”
6. Activity 4: Carousel Activity: in pairs, complete a “Planning Numeracy Topics in an English Language Learning Classroom” sheet. Discuss reflections.
7. Discuss observations and plan for next meeting.

Meeting Two Facilitator Agenda

	Topic	Groupings	Minutes
	Welcome Overview of the plan for the day. Share objectives and agenda.	Large group	5
	Check-in: Discuss in groups of three. Share a language and numeracy experience that you have had since our last meeting. For example, you could share a story from class, a thought or idea, or a new burning question.	Groups of 3	10
	Activity 1: Answer questions from the homework assignment. 1. How does the Overview document connect to the CCRS Mathematics Standards? <i>When answering this, be sure to use CCRS vocabulary like domain, level, and standard.</i> 2. What parts of this document need more explanation? <i>Begin by turning each question to the group. If needed, the facilitator can provide answers. The purpose is to have everyone on the same page with the content of the document.</i>	Large group	30
	Activity 2: Facilitator explains focus and coherence as they make sense in the CCRS. Answer/discuss related questions. Simply... <i>Focus: Is this topic in the standards? (Pay close attention to the verbs in the standard. Notice what each standard is asking students to do.)</i> <i>Coherence: Where does this topic fit in a progression?</i>	Large group	10
	Activity 3: Carousel activity practice. Complete one full sheet together as an example. For this example activity, the group will work together in order to learn the process. Instructions are in a separate handout. Start by stating the purpose of the planning worksheet.	Large group	20
	BREAK		15
	Activity 4: Carousel activity. Each pair begins with their own Planning Numeracy sheet. Facilitator may choose to fill in the first blank of each. Worksheet is completed using a carousel model so that participants will be able to become familiar with multiple progressions. Facilitator will need to be the timekeeper as pairs move through each part of the activity. Times are outlined in the instructions handout.	In pairs	40
	Share out of carousel activity (just share a few of the sheets). Take photos of each and post them in a shared drive so that participants can have 6 examples.	Large group	10

	Discussion: What reflections do you have about the focus and coherence carousel activity? What was familiar? What did you find challenging? What was useful? How will this change the way that you approach this math topic?	Large group	20
	Plan for observations and next meeting. <ul style="list-style-type: none"> • Use “Planning Numeracy Topics in an English Language Learning Classroom” for the lesson for which you will be observed. • Go over Observation and Feedback Form. • Finalize plans with partner. • Tell participants that, in addition to observations, you will email them two articles and two videos to read/watch for the next meeting. • Complete Evaluation and Feedback form 	Large group	20
		TOTAL	180

Preparation for Meeting Three

Email to Participants

Dear Study Circle Participants,

I hope that your observations are going well so far! Our next meeting will be on _date_ at _time_, in room _____ of the _____ building where we met before.

To prepare for that meeting, please do the following:

- Do observation, complete observation form, and reflect on observations with your partner.
- Read *Designing Instruction with the Components of Numeracy in Mind*
- Read *Vocabulary Support: Constructing (Not Obstructing) Meaning*
- Watch Supporting Language and Content Learning in Mathematics:
<https://www.teachingchannel.org/videos/math-for-newcomers-ousd>
- Watch Engaging in Productive Struggle: Number Talks:
<https://www.teachingchannel.org/videos/subtraction-math-lesson-ousd>

During our third and final meeting, you will be applying what you learned from these assignments to develop classroom activities to support language and numeracy. Please bring paper or electronic copies of the articles in case you need to reference them during the discussion.

I'm looking forward to seeing you all there!

Thank you for all the work that you are contributing to this project.

Sincerely,

Meeting Three

Materials

- Large sticky notes
- Markers
- Projector and laptop for creating a Google Doc

Objectives

1. Apply rigor (conceptual understanding, procedural fluency, and application) when embedding numeracy in language classes.
2. Support language development when embedding numeracy in language classes.
3. Design activities that will give learners opportunities to read, write, listen, and speak about numeracy.

Agenda

1. Welcome
2. Activity 1: Highlight effective strategies or approaches from the readings and videos.
3. Activity 2: Highlight effective strategies or approaches from the observations.
4. Activity 3: Group strategies / approaches in a meaningful way so that we can create a checklist of effective strategies for integrating numeracy into language instruction.
5. Activity 4: Closing reflections.
6. Evaluation, CEUs, thank-yous.

Meeting Three Facilitator Agenda

	Topic	Groupings	Minutes
	Welcome Overview of the plan for the day. Share objectives and agenda.	Large group	5
	Facilitator summarizes rigor as described in the CCRS.	Large group	5
	Activity 1: Discuss highlights of homework videos and articles. Name one thing from each video or article that you plan to use in class. (10 minutes for each video or article) Write each activity or strategy that you would like to try on a separate sticky note. Facilitator act as timekeeper during this activity.	Groups of 3	40
	Activity 2: Share about observations: What activities did you see that you would like to try or adapt? What struck you about those activities? Write one strategy or activity as well as what struck you about it on a large sticky note. It is ok to write on multiple sticky notes for multiple activities / strategies. <i>(These could range from sample warm-up activities, to vocabulary supports, to ways to engage learners and encourage discussion—very open-ended).</i>	Groups of 4	30
	BREAK		15
	Activity 3: Group the sticky notes by type of teaching strategy, as defined by study circle participants and facilitator. Example groupings include: language support, rigor (conceptual understanding, procedural fluency, and application), or reading, writing, speaking, and/or listening about math. Use those groupings to create a checklist for effective strategies for integrating numeracy into language instruction. Do this on a Google doc to share. What activities are missing from this list? Where do they belong?	Large group	45
	Activity 4: Final reflections (everyone share one thing), closing, and Observation and Feedback Form		20
		TOTAL	180

Handouts and Materials for Before and During Meeting One

(see following pages)

Email in preparation for first meeting	Instructions for Facilitator
1. Visual Overview and Background	Copy onto a separate document and include it as an attachment to the initial email.
2. Integrating Language and Numeracy Overview for Participants	Copy onto a separate document and include it as an attachment to the initial email.
3. Defining Adult Numeracy	Copy onto a separate document and include it as an attachment to the initial email.
4. Language and Numeracy Knowledge Base Quiz	Copy onto a separate document and include it as an attachment to the initial email.
5. Language and Numeracy Knowledge Base Quiz Discussion Questions	Copy onto a separate document and include it as an attachment to the initial email.
Print for meeting	Instructions for Facilitator
1. Observation Scheduling Sheet	Print and bring to meeting.
2. CCRS Refresh: Linking CCRS and Numeracy	Print one per participant and bring to meeting.
3. Evaluation and Feedback Form	Print one per participant and bring to meeting.
Print and give to participants to prepare for next meeting	Instructions for Facilitator
1. College and Career Readiness Standards for Adult Education Overview Format	Print from file in study circle folder (4 pages). Give to each participant to prepare for next meeting.

Visual Overview

Meeting 1 *the context: adult numeracy*

- What are my strengths as a math teacher?
- What challenges are other teachers facing?
- How does CCRS fit?

Meeting 2 *the science: analytical planning*

- How do I know which math topics to teach my EL learners?
- How do I know when to teach each topic?

Meeting 3 *the art: intentional design*

- How do I incorporate math in a way that that will give all of my students a chance to be challenged as well as successful?
- How can I apply my teaching experience to teaching math?

Background

How can English language teachers in adult education effectively integrate numeracy into their English lessons? As this practice is becoming more common and we now have the *College and Career Readiness Standards for Adult Education (Pimentel, 2013)* to use as a math content resource, the numeracy leaders working with ATLAS determined that a study circle would be an effective way for English teachers to further develop their understanding of integrating language learning and numeracy.

Through this study circle, in addition to considering the context of the numeracy, participants will explore strategies for applying the key instructional shifts of focus and coherence to unit and lesson planning. Teachers will apply rigor as they discuss and create lessons that incorporate conceptual understanding, procedural fluency, and application along with language supports. In addition to learning practical concepts and skills for teaching, the study circle participants will explore their own place, strengths, and questions that each brings to this developing field of language and numeracy.

Integrating Language and Numeracy Overview for Participants

Purpose

The purpose of this study circle is to advance Minnesota ABE teachers' ability to effectively and confidently integrate numeracy instruction into English language classes.

Description

This study circle is a professional learning activity for English language teachers working to improve their ability to integrate numeracy instruction into their language courses. It is appropriate for teachers of all levels of EL learners within Minnesota Adult Basic Education, as teachers will adapt tasks for their own levels and classrooms. Teachers will explore their own place within the field of language and numeracy instruction and the perspectives of their cohort members. Participants will learn about and practice using the *College and Career Readiness Standards for Adult Education* to create meaningful numeracy progressions within the various contexts of an English language learning course. Participants will create or adapt classroom activities to teach numeracy concepts; this numeracy instruction will be supported by intentional language instruction. Participants will be observed and do one observation of a cohort member with the purpose of practicing integrating language and numeracy and having the opportunity for feedback and reflection.

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Expectations of the Facilitator

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Expectations of Participants

Participants are required to attend all three meetings, having prepared by thoughtfully completing the given assignments. Participants will arrange the details of their own observations with their partners. If questions arise about expectations, participants should ask the facilitator for clarification. During meetings, participants are expected to engage actively and respectfully, with an open mind and a willingness to share their experiences, thoughts, and questions.

Time Commitment

Participants will attend three face-to-face meetings, each lasting three hours. Participants will be assigned media to read or watch and be expected to try related activities in class and reflect on them in preparation for subsequent meetings. Each participant will observe a cohort member in their classroom one time and be observed by a cohort member one time.

Study Circle Objectives

Upon conclusion of the study circle, participants will be able to:

1. Articulate a big-picture sense of numeracy and English learning in Adult Basic Education and identify their current role(s) in that work.
2. Use the instructional shifts of focus and coherence and the CCRS mathematics standards when selecting numeracy topics for an English language course.
3. Utilize rigor (conceptual understanding, procedural fluency, and application) and intentional language supports when developing or adapting classroom numeracy activities.

Defining Adult Numeracy

Use resources on the Internet, books, articles, colleagues, or your own experiences to write a simple definition for adult numeracy.

Adult numeracy is...

Language and Numeracy Knowledge Base Quiz

Directions: Think about yourself as a teacher of math and numeracy. Respond to each of the following statements on a scale of 1 – 4.

1 (this does not describe me) **2** (occasionally) **3** (often) **4** (always or most of the time)

Statement	Score (1 – 4)
A. I am able to list the concepts and skills upon which higher level concepts and skills are built.	A.
B. I anticipate anxiety or negative attitudes toward math, and have strategies to engage those learners in a positive way.	B.
C. I break down math and numeracy concepts and skills into manageable chunks.	C.
D. I differentiate instruction in response to learner differences.	D.
E. I explain and/or show math and numeracy concepts and procedures in multiple ways.	E.
F. I have a conceptual understanding of the math content that I teach.	F.
G. I incorporate language supports into my instruction and classroom activities.	G.
H. I insist on a precise use of vocabulary, as appropriate to the level.	H.
I. I intentionally create a welcoming and positive classroom environment.	I.
J. I know how to use mathematical standards or other given content guidelines to create a scope and sequence for my class.	J.
K. I teach the vocabulary associated with math concepts and skills.	K.
L. I trust my own math reasoning skills.	L.
M. I understand why the procedures and algorithms that I teach work.	M.
N. I use a variety of hands-on, visual, auditory, and collaborative classroom activities to engage learners.	N.
O. I watch for academic, culturally specific, and everyday language that may be confusing.	O.
P. My classroom activities link learners to their own knowledge and experiences.	P.

Scoring

Write the score that you gave yourself for each letter in its corresponding box below.

Math Pedagogy	Math Content	Language Use & Development	Learner Complexities
C	A	G	B
E	F	H	D
J	L	K	I
N	M	O	P
TOTAL	TOTAL	TOTAL	TOTAL

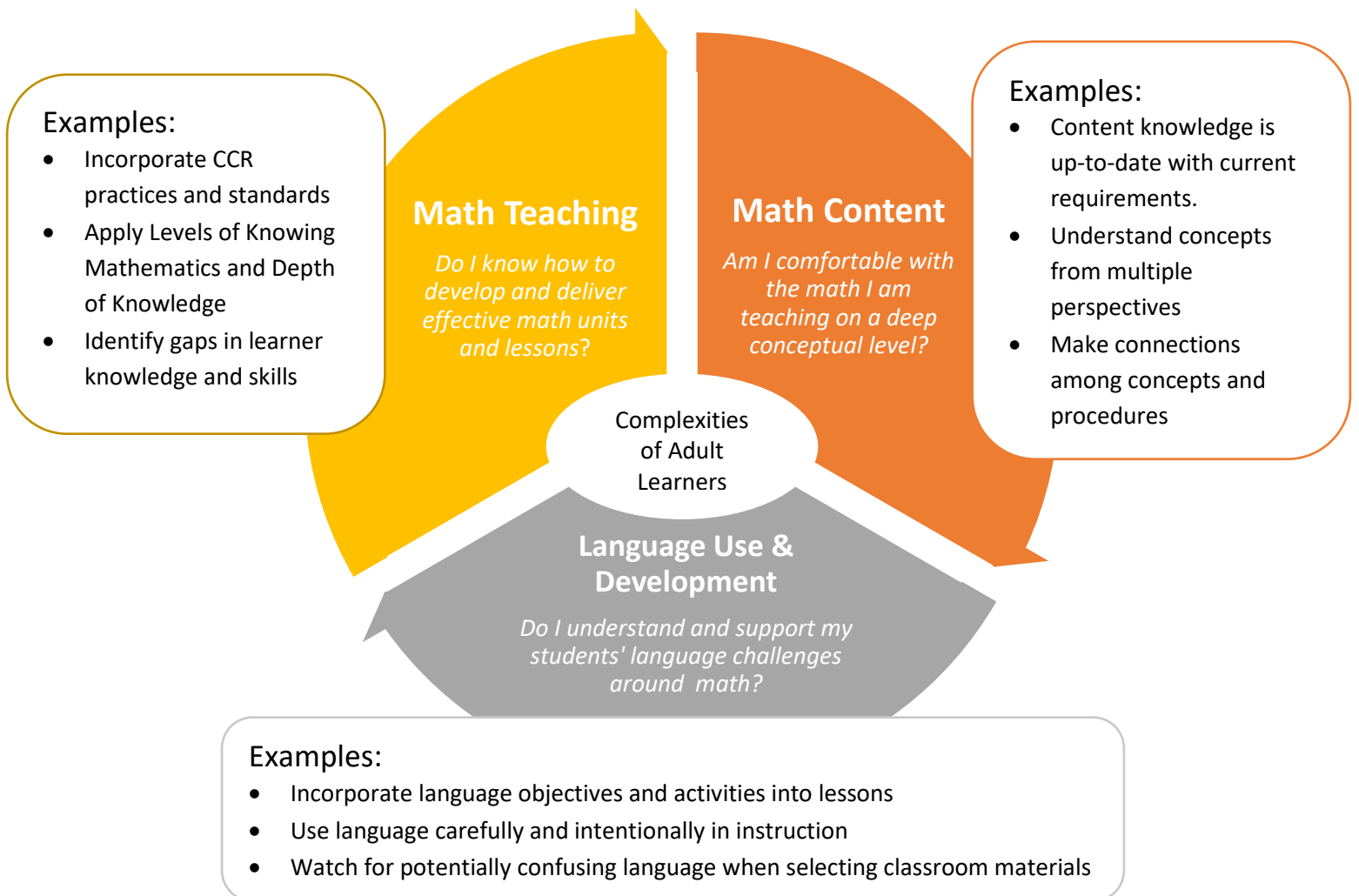
The highest possible score in each column is 16.

Language and Numeracy Knowledge Base Quiz Discussion Questions

Use the Knowledge Base Model below and your quiz results to answer the following questions.

1. Of the four categories, which are your areas of strength and in which areas do you need growth?

2. Which of the 16 statements make you curious about learning more?



Observation Scheduling

Name	Program & Location	Class Names and Times	Partner

Evaluation and Feedback Form

Meeting number **1** 2 3

Meeting date _____

1. What did you learn as you prepared for and participated in this meeting?

2. Which components were the best use of time?

3. Which components were not an effective use of time? Why?

4. What suggestions do you have to improve this meeting or subsequent meetings?

Handouts and Materials for Before and During Meeting Two

(see following pages)

Material	Instructions for Facilitator
1. <i>CCRS Overview Document</i>	Include as an attachment to the pre-meeting email and bring a few extra copies to the meeting.
2. Carousel Activity Instructions	Print one copy for the facilitator
3. Planning Numeracy Topics in an English Language Learning Classroom	Print 3 copies for each participant: one for practice exercise, one for the main activity, and a blank one to take with them.
4. Classroom Observation Form	Print one per participant. Go over at end of meeting. To be used during observation.

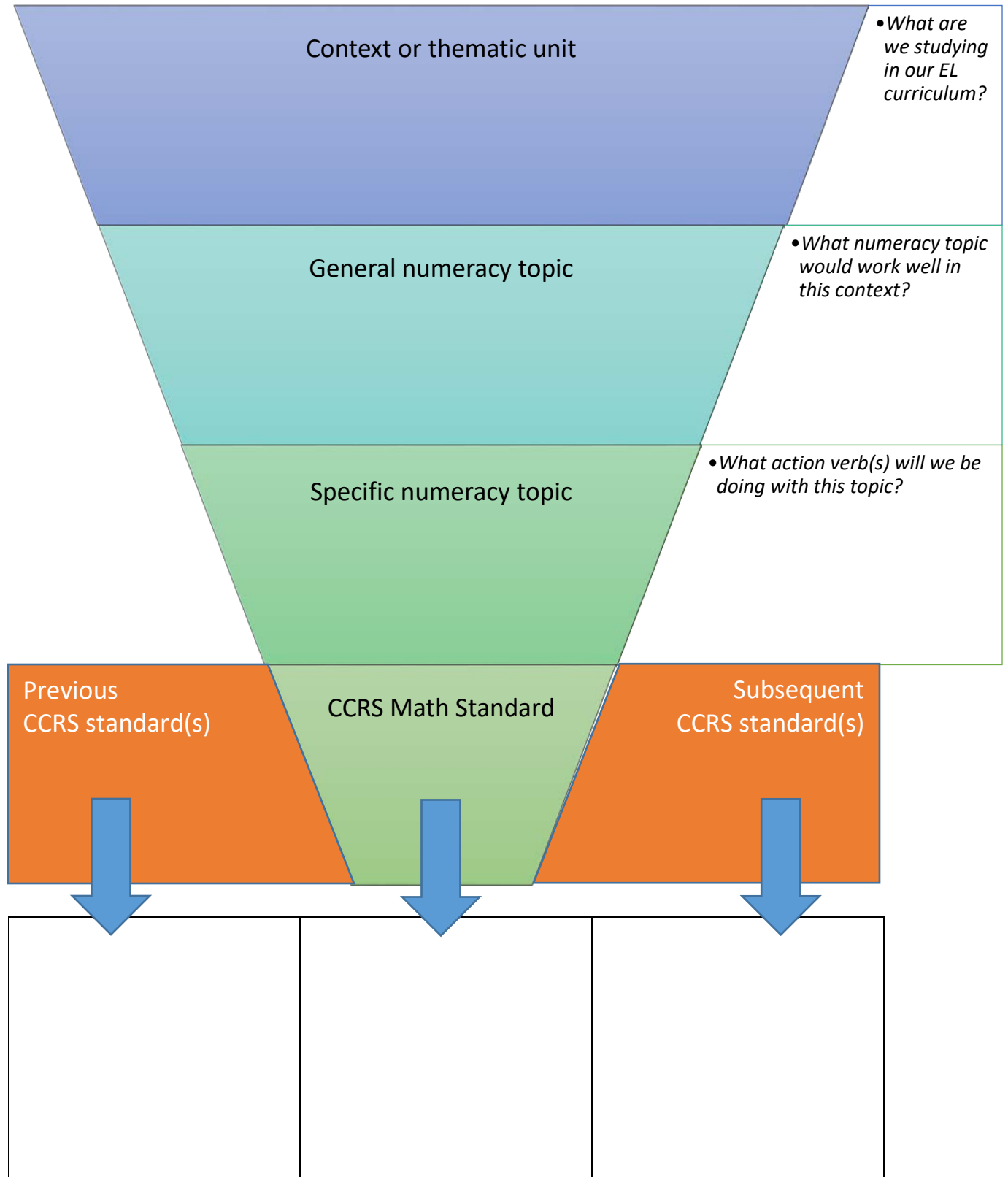
Carousel Activity Instructions

Planning Numeracy Topics in an English Language Learning Classroom
Knowing what to teach when

Directions: Use *Planning Numeracy Topics in an English Language Learning Classroom* to complete this activity. Complete the top row. After the given time has elapsed, hand your paper to the right. Fill in the next row on that paper. Continue this process until the carousel activity is complete.

1. Context or Thematic Unit	2 minutes
2. General Numeracy Topic (what numeracy would work well in this context?)	2 minutes
3. Specific Numeracy Topic (use action verb)	5 minutes
4. CCRS Mathematics Standard (apply focus). Start with CCRS for Adult Education Overview Format. Then refer to CCRS Mathematics Standards in order to be as specific as possible.	10 minutes
5. Preceding CCRS Mathematics Standard(s) (apply coherence). Start with CCRS for Adult Education Overview Format. Then refer to CCRS Mathematics Standards in order to be as specific as possible. No need to be perfect here. You will get a better sense with more experience. <i>Think: What standard(s) would be very helpful for the student to know so that they could succeed with learning this standard?</i>	10 minutes
6. Subsequent CCRS Mathematics Standard(s) (apply coherence). Start with CCRS for Adult Education Overview Format. Then refer to CCRS Mathematics Standards in order to be as specific as possible. No need to be perfect here. You will get a better sense with more experience. <i>Think: What standard(s) am I preparing students to learn?</i>	10 minutes

Planning Numeracy Topics in an English Language Learning Classroom



Classroom Observation Form

Teacher observed	Observer	Date
Class description		
CCRS Mathematics Standard re-written as an objective		
What activities did the teacher use to teach the objective?		
What do you observe that supports language development?		
What do you observe that teaches <ul style="list-style-type: none">• conceptual understanding,• procedural fluency, or• application of the standard?		
How did the students read, write, listen to, or speak about numeracy topics?		
Highlights from the observation		

Evaluation and Feedback Form

Meeting number 1 **2** 3

Meeting date _____

1. What did you learn as you prepared for and participated in this meeting?

2. Which components were the best use of time?

3. Which components were not an effective use of time? Why?

4. What suggestions do you have to improve this meeting or subsequent meetings?

Handouts and Materials for Before and During Meeting Three

(see following page)

Material	Instructions for Facilitator
1. Evaluation and Feedback Form	Print one per participant to complete at end of meeting.

Evaluation and Feedback Form

Meeting number 1 2 **3**

Meeting date _____

5. What did you learn as you prepared for and participated in this meeting?

6. Which components were the best use of time?

7. Which components were not an effective use of time? Why?

8. What suggestions do you have to improve this meeting or subsequent meetings?