



The Learning Tree Professional Development Network, LLC
Course Syllabus

Course Title: Literacy in Mathematics

Credits: 3 credits

Class Type: Accelerated Fully Online

CATALOG DESCRIPTION:

Reading and writing in mathematics are of particular interest to educators because these processes are essential to both problem solving and concept development in mathematics. This course will expose participants to various strategies for incorporating literacy into math lessons in order to meet Common Core State Standards and accelerate student success in grades K through 8. Strategies for teaching literacy in math will be explored through the topics of vocabulary, speaking and listening skills in math, using literary and expository texts in math, mathematical reading comprehension, assessments, and writing about math.

COURSE PREREQUISITES: None

LEARNING OUTCOMES:

GLOBAL GOALS OF THE COURSE:

1. Describe, critique, and apply theories of incorporating literacy into mathematics lessons.
2. Analyze and apply principles of literacy strategies in mathematics lessons and teaching.

INSTRUCTIONAL OBJECTIVES:

1. Develop a knowledge of the basic and current issues in literacy in mathematics and be able to evaluate and apply current learning theories.
2. Implement Common Core State Standards in mathematics lessons.
3. Determine and select appropriate literacy techniques/strategies to incorporate into mathematics lessons.
4. Construct a math lesson that incorporates literacy in order to further student learning.
5. Analyze and apply principles of written language in mathematics.

TEACHING/LEARNING ACTIVITIES:

Video clips, PowerPoints, readings, graphic organizers, teaching tools, sample lessons, classroom discussion, lecture, etc. will all be implemented to demonstrate concepts.

STUDENT LEARNING OUTCOMES (SLOs):

This course addresses the following student learning outcomes to the degree shown in the table.

Degree Addressed is rated according to the following scale:

1=Basic, 2=Developing, 3=Proficient, 4=Advanced

Student Learning Outcome	Degree Addressed
1. Demonstrate growth in content knowledge related to teaching assignment and the application of content knowledge to classroom instruction and assessment.	3
2. Understand scientifically-based practices in teaching and learning, including strategies in literacy education, instructional technology, differentiation of instruction, and apply them to raise student achievement.	2
3. Demonstrate multiple means of assessing and evaluating student learning and use them to change teaching and learning.	2
4. Locate, interpret, synthesize, and apply educational research in best practices in teaching.	2
5. Understand models for professional change, including teacher collaboration, professional learning communities, strategies for mentoring and coaching to facilitate change, and effective professional development.	1
6. Demonstrate understanding of reflective practice that results in improved classroom teaching and learning, including teacher reflection, use of technology in self-assessment, collaboration for change, and self-management of change.	2
7. Demonstrate understanding of system and organizational change in education, including models for school change and current research and trends in school change.	1
8. Demonstrate responsibility for student learning at high levels.	3
9. Demonstrate responsibility for school reform and leadership in school change.	1

REQUIRED READINGS:

Burns, M. (2004). Writing In Math. Educational Leadership, 62(2), 30-33.

Kenney, J. (2005). Chapter 2: Reading in the Mathematics Classroom. In Literacy strategies for improving mathematics instruction. Alexandria, Va.: Association for Supervision and Curriculum Development.

EVALUATION METHODS:

1. **One Page Response Journals:** Some week participants will be given a required article to read. Participants should write a one page response to each article on particular weeks when journals are assigned. Participants should respond to the article, not summarize it. How does it affect you as an educator? How can you implement this in your own educational setting? Would you want to implement it?

One Page Response Journals Rubric (Online Response Journal Rubric)

Article Content has been incorporated: journal response is mindful of article's content (25 pts)

Reflection: journal response demonstrates participant's reaction to the article's content (25 pts)

Course Concepts have been integrated: journal response is reflective of course content (25 pts)

Journal Requirements have been met: journal response is a minimum of one page (25 pts)

2. **Online Discussions:** Participants are asked to discuss assignments. These discussions can include **meaningful** questions, stories, examples, concerns, ideas, etc. To get full credit for these discussions, a participant must post a response, question, story, etc. at least once during the assigned week.

Online Discussions Rubric (Discussion Board Rubric)

Discussion Content: discussion post is reflective of assignment week's topic AND discussion post contributes meaningfully to the discussion and participant learning (50 pts)

Journal Requirements: discussion post is a response, question, story, or reflection to assigned week's topic AND participant posted at least one post to assigned week's discussion board (50 pts)

3. **Final Assignment:** For the final assignment, participants will be required to choose one Common Core State Standard in Mathematics at any grade level. Participants will then need to write a one to three page paper describing literacy activities that he/she would incorporate into a lesson or unit on the chosen standard.

Literacy in Mathematics Final Assignment Rubric	
Paper incorporates concepts reviewed in the course.	___ / 25

Appropriate literacy activities have been selected that match the chosen Common Core State Standard and grade level.	___ / 25
Chosen literacy activities enhance the teaching and learning of the selected Mathematics Common Core State Standard.	___ / 25
Paper requirements have been met: -1-3 pages, double spaced in 12 point Times New Roman font AND -one Common Core State Standard in Mathematics at any grade level has been chosen	___ / 25

TESTING AND GRADING:

- 40% Written assignments (one page response journals)
- 20% Online discussions
- 40% Final Assignment

Final Grading:

A = 4.0 (93-100)	C = 2.0 (73-76)
A- = 3.7 (90-92)	C- = 1.7 (70-72)
B+ = 3.3 (87-89)	D+ = 1.3 (67-69)
B = 3.0 (83-86)	D = 1.0 (63-66)
B- = 2.7 (80-82)	D- = 0.7 (60-62)
C+ = 2.3 (77-79)	F = 0.0 (Below 60)
	IN = Incomplete

This course will follow CSU-Pueblo's policy for incomplete grades.

The Learning Tree PDN will process and evaluate your work within 2 business days of receipt. Once evaluated, grades will be sent to CSU-Pueblo for processing. Grades may be posted sooner than 7 days depending on the time in the term and the volume of work being submitted to the instructor. After the grades have been entered into the system by the CSU-Pueblo, you can check your grades through your PAWS account. You may also request an official transcript to be sent from your PAWS account. If taking more than one course, it is recommended to wait until all grade reports are received from CSU-Pueblo before requesting transcripts. CSU-Pueblo transcript information can be found at <https://www.csupueblo.edu/registrar/transcripts.html>

Accommodations

Colorado State University-Pueblo abides by the Americans with Disabilities Act and Section 504 of the Rehabilitation Act of 1973, which stipulates that no student shall be denied the benefits of an education "solely by reason of a handicap." If you have a documented disability that may impact your work in this class and for which you may require accommodations, please see the Disability Resource & Support Center as soon as possible to arrange accommodations. In order to receive accommodations, you must be registered with and provide documentation of your disability to the Disability Resource & Support Center, which is located in the Library and Academic Resources Center, Suite 169.

Academic Dishonesty

Academic dishonesty is any form of cheating which results in students giving or receiving unauthorized assistance in an academic exercise or receiving credit for work which is not their own. In cases of academic dishonesty, the instructor will inform the chair of the department prior to implementation of punitive action. Academic dishonesty is grounds for disciplinary action by both the instructor and the

Dean of Student Services and Enrollment Management. Any student judged to have engaged in academic dishonesty may receive a failing grade for the work in question, a failing grade for the course, or any other lesser penalty which the instructor finds appropriate. To dispute an accusation of academic dishonesty, the student should first consult with the instructor. If the dispute remains unresolved, the student may then state his or her case to the department chair (or the dean if the department chair is the instructor of the course).

Mandatory Reporting

Colorado State University-Pueblo is committed to maintaining respectful, safe, and nonthreatening educational, working, and living environments. As part of this commitment, and in order to comply with federal law, the University has adopted a Policy on Discrimination, Protected Class Harassment, Sexual Misconduct, Intimate Partner Violence, Stalking, & Retaliation. You can find information regarding this policy, how to report violations of this policy, and resources available to you, on the Office of Institutional Equity's website (www.csupueblo.edu/institutional-equity).

Please familiarize yourself with the reporting requirements of this policy. Because faculty and staff at CSU-Pueblo are "Responsible Employees," we have to report to the Director of the Office of Institutional Equity if you tell us that you were subjected to, or engaged in, any of the following acts: discrimination, protected class harassment, sexual misconduct, intimate partner violence, stalking, and retaliation.

Course Credit Guidelines

For a graduate three credit course, students are expected to receive a minimum of 135 hours of instruction and work outside of the class by the conclusion of the course.

6 Week online course - This course is a 3-credit course, which means that students are expected to do at least 22.5 hours of course-related work each week of the 6-week term. This includes work done completing assigned readings, studying for test and examinations, preparing written assignments, and other course-related tasks.

Class attendance is expected of all students up to and including the last day of scheduled classes in the semester. Students must plan accordingly.

TOPICAL TIMELINE

Week One

- Review Syllabus
- Topics Covered:
 - Why Incorporate Literacy in Math?

Required Readings

Kenney, J. (2005). Chapter 2: Reading in the Mathematics Classroom. In Literacy strategies for improving mathematics instruction. Alexandria, Va.: Association for Supervision and Curriculum Development.

Other Assignments

One Page Written Response.

Week Two

- Topics Covered:
 - Vocabulary
 - Speaking & Listening Skills

Other Assignments

Discussion Post.

Week Three

- Topics Covered:
 - o Read Alouds in Math

Other Assignments

Discussion Post.

Week Four

- Topics Covered:
 - o Using Literary Text in Math
 - Reading Comprehension
 - Narrative Math Texts
 - Expository Math Texts

Other Assignments

Discussion Post.

Week Five

- Topics Covered:
 - o Writing About Math

Required Readings

Burns, M. (2004). Writing In Math. Educational Leadership, 62(2), 30-33.

Other Assignments

One Page Written Response.

Week Six

- Topics Covered:
 - o Assessments

Other Assignments

Discussion Post.

Final Assignment.

TOPICAL OUTLINE

Instructional Activity	Description of Activity	Time Spent
<p><u>Week One</u></p> <ul style="list-style-type: none"> • Review Syllabus • Topics Covered: <ul style="list-style-type: none"> o Why Incorporate Literacy in Math? <p>Required Readings Kenney, J. (2005). Chapter 2: Reading in the Mathematics Classroom. In Literacy strategies for improving mathematics instruction. Alexandria, Va.: Association for Supervision and Curriculum Development.</p> <p>Other Assignments One Page Written Response.</p>	<p>Posted Lecture Notes (1 hr), Articles (8 hrs), PowerPoint (3 hrs), and Websites (3 hrs), Discussion Board (4 hrs), Written Response (3 hrs)*</p>	<p>22.5</p>

<p><u>Week Two</u></p> <ul style="list-style-type: none"> • Topics Covered: <ul style="list-style-type: none"> o Vocabulary o Speaking & Listening Skills <p>Other Assignments Discussion Post.</p>	<p>Posted Lecture Notes (1 hr), Articles (8 hrs), PowerPoint (3 hrs), and Websites (3 hrs), Discussion Board (4 hrs), Written Response (3 hrs)*</p>	<p>22.5</p>
<p><u>Week Three</u></p> <ul style="list-style-type: none"> • Topics Covered: <ul style="list-style-type: none"> o Read Alouds in Math <p>Other Assignments Discussion Post.</p>	<p>Posted Lecture Notes (1 hr), Articles (8 hrs), PowerPoint (3 hrs), and Websites (3 hrs), Discussion Board (4 hrs), Written Response (3 hrs)*</p>	<p>22.5</p>
<p><u>Week Four</u></p> <ul style="list-style-type: none"> • Topics Covered: <ul style="list-style-type: none"> o Using Literary Text in Math <ul style="list-style-type: none"> ▪ Reading Comprehension ▪ Narrative Math Texts ▪ Expository Math Texts <p>Other Assignments Discussion Post.</p>	<p>Posted Lecture Notes (1 hr), Articles (8 hrs), PowerPoint (3 hrs), and Websites (3 hrs), Discussion Board (4 hrs), Written Response (3 hrs)*</p>	<p>22.5</p>
<p><u>Week Five</u></p> <ul style="list-style-type: none"> • Topics Covered: <ul style="list-style-type: none"> o Writing About Math <p>Required Readings Burns, M. (2004). Writing In Math. Educational Leadership, 62(2), 30-33.</p> <p>Other Assignments One Page Written Response.</p>	<p>Posted Lecture Notes (1 hr), Articles (8 hrs), PowerPoint (3 hrs), and Websites (3 hrs), Discussion Board (4 hrs), Written Response (3 hrs)*</p>	<p>22.5</p>
<p><u>Week Six</u></p> <ul style="list-style-type: none"> • Topics Covered: <ul style="list-style-type: none"> o Assessments <p>Other Assignments Discussion Post. Final Assignment.</p>	<p>Posted Lecture Notes (1 hr), Articles (8 hrs), PowerPoint (3 hrs), and Websites (3 hrs), Discussion Board (4 hrs), Written Response (3 hrs)*</p>	<p>22.5</p>
	<p>*hrs are estimates</p>	<p>Total 135 hours</p>