

**GEORGE MASON UNIVERSITY
COLLEGE OF EDUCATION AND HUMAN DEVELOPMENT
DIVISION ELEMENTARY, LITERACY AND SECONDARY EDUCATION**

**EDPD502: Supporting English Language Learners in Developing Proportional Reasoning
in Grades 6-8
Summer/2014
June 23 – 27, 2014
Godwin Middle School - Library
Prince William County Schools**

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COURSE DESCRIPTION:

Using the content of proportional reasoning as a context for discussion, teachers will examine specific supports for English Language Learners in the math classroom and will share ideas for implementation with colleagues.

LEARNER OUTCOMES OR OBJECTIVES:

This course is designed to enable students to:

- Identify the mathematical ideas that support a full understanding of proportional reasoning
- Incorporate specific structures into lesson plans to support English Language Learners
- Tailor support structures to ESOL students of different levels
- Evaluate lesson plans through the lens of the mathematical ideas embedded
- Evaluate lesson plans through the lens of access and growth for ESOL students

PROFESSIONAL STANDARDS (TESOL Standards):

3.a.3. Plan differentiated learning experiences based on assessment of students' English and L1 proficiency, learning styles, and prior formal educational experiences and knowledge.

3.a.5 Plan for instruction that embeds assessment, includes scaffolding, and provides reteaching when necessary for students to successfully meet learning objectives.

3.b.1. Organize learning around standards-based subject matter and language learning objectives.

3.b.2. Incorporate activities, tasks, and assignments that develop authentic uses of language as students learn academic vocabulary and content-area material.

- 3.b.3.** Provide activities and materials that integrate listening, speaking, reading, and writing.
- 3.b.6.** Provide standards-based instruction that builds on students’ oral English to support learning to read and write.

REQUIRED TEXTS:

(Provided free of charge to enrolled participants)

Melanese, K., Chung, L. and Forbes, C. (2011). *Supporting English Language Learners in Math Class, Grades 6-8*. Sausalito, CA: Math Solutions Publishing.

Supplemental Text:

Van de Walle, J.A., Karp, K.S. and Bay-Williams, J.M. (2013). *Elementary and Middle School Mathematics: Teaching Developmentally, The Professional Development Edition*. Boston, MA. Pearson Education, Inc.

For Further Reading:

Carr, J. et. al. (2009). *Making Mathematics Accessible to English Learners: a Guidebook for Teachers*. San Francisco, CA. WestEd.

Coggins, D. et al. (2007). *English Language Learners in the Mathematics Classroom*. Thousand Oaks, CA. Corwin Press.

Johnson, A. (2010). *Teaching Mathematics to Culturally and Linguistically Diverse Learners*. Boston, MA. Pearson Education, Inc.

Kersaint, G., Thompson, D. and Petkova, M. (2009). *Teaching Mathematics to English Language Learners*. New York, NY. Routledge.

Lamon, S. (2012). *Teaching Fractions and Ratios for Understanding*. New York, NY. Routledge.

Lobato, J. and Ellis, A. (2010). *Developing Essential Understanding of Ratios, Proportions and Proportional Reasoning, Grades 6-8*. Reston, VA. National Council of Teachers of Mathematics.

Wise, C. (Ed.) (2010). *Making Math Accessible to English Language Learners: Practical Tips and Suggestions, Grades 6-8*. Bloomington, IL. Solution Tree.

COURSE REQUIREMENTS, PERFORMANCE-BASED ASSESSMENTS, EVALUATION CRITERIA, AND GRADING SCALE:

1. Class Participation – (50%)

Due to the discussion based nature of the course, students are expected to participate fully with in-class activities. This includes preparing to participate by engaging with the assigned readings prior to class, engaging with mathematical tasks to support a full understanding of the ideas, and contributing

meaningful comments in small group discussions. Participants who are fully engaged also help support the learning of those around them.

2. Written Reflections (3) – (15% total)

Participants will submit 3 written reflections based on assigned readings. These responses will explain how the participant's thinking has been affected by the reading. This might include implications for classroom practice, incorporating a new idea into practice, revisiting ideas to strengthen understanding of content or pedagogy.

3. Adapted Lesson Plan with Rationale – (15%)

Each group of participants will submit one lesson plan in a choice of formats that includes a description of how the participants envision the lesson unfolding, and any supporting documents such as student activity sheets. The attached rationale page should describe the essential mathematical ideas students are intended to understand as a result of the lesson, as well as a description of how various structures or facilitation techniques built into the lesson are intentionally designed to support the English language learner, either through providing access to the content or increasing opportunities for language production and development.

4. Group Presentation – (10%)

Each group will present their lesson to the class, with every member contributing to the presentation. This presentation should last 15-20 minutes and should engage participants in the content in order to allow them to consider how the structures and techniques employed might support English language learners. There will be a short time for questions to allow the class to ask about any aspect of the group's rationale that is not immediately apparent through the presentation.

5. Final In-Class Essay – (10%)

On the final day of the course, participants will respond to a brief prompt about the implementation of a specific technique or structure used to support English language learners in the math classroom. Responses should discuss the strengths and limitations of the technique and how or when it might be used effectively.

Grading Scale:

90 - 100 = A

80 - 89 = B

70 - 79 = C

Below 70 = F

COLLEGE OF EDUCATION AND HUMAN DEVELOPMENT STATEMENT OF EXPECTATIONS:

The Graduate School of Education (GSE) expects that all students abide by the following:

Students are expected to exhibit professional behavior and dispositions. See gse.gmu.edu for a listing of these dispositions.

Students must follow the guidelines of the University Honor Code. See http://www.gmu.edu/catalog/apolicies/#TOC_H12 for the full honor code.

Students must agree to abide by the university policy for Responsible Use of Computing. See <http://mail.gmu.edu> and click on Responsible Use of Computing at the bottom of the screen.

Students with disabilities who seek accommodations in a course must be registered with the GMU Disability Resource Center (DRC) and inform the instructor, in writing, at the beginning of the semester. See www.gmu.edu/student/drc or call 703-993-2474 to access the DRC.

PRINCE WILLIAM COUNTY SCHOOLS MATH DEPARTMENT STATEMENT OF RESPONSIBILITY:

Teachers taking graduate level classes paid for by the PWCS Math Department will be expected to attend all classes and to complete all assignments. Anyone dropping a class after it has started, failing a class, or not attending after registering in the online catalogue will not be permitted to take any other class paid for by the Mathematics office. Dropping a class from the online catalogue must occur at least 48 hours prior to the start of the first class or this penalty will be in effect.

If, for some extraordinary reason, it is necessary to drop the class after it has begun, GMU withdrawal procedures must be followed. Failure to drop with GMU within their guidelines will result in an F for the class.

Proposed Class Schedule

Supporting English Language Learners in Developing Proportional Reasoning in Grades 6-8

All classes will take place from 9am – 12pm.

*Topics may be adjusted at the discretion of the instructor. Any adjustments will be announced in class.

Session	Date	Topic/Learning Experience	Follow-Up/Assignments
1	June 23	<ol style="list-style-type: none"> 1. Learning about the ELL experience 2. Fundamental ideas of proportional reasoning 	<ul style="list-style-type: none"> • Read Chapter 1 • Read Van de Walle • Reflection #1
2	June 24	<ol style="list-style-type: none"> 1. Make content accessible for ELLs 2. Reasoning up and down 	<ul style="list-style-type: none"> • Read Chapter 6 • Read Chapter 8 • Reflection #2
3	June 25	<ol style="list-style-type: none"> 1. Incorporating word charts and sentence frames 2. Similarity and percentages 	<ul style="list-style-type: none"> • Find a lesson • Read handouts • Reflection #3
4	June 26	<ol style="list-style-type: none"> 1. Utilizing group and partner work 2. Lesson Preparation 	<ul style="list-style-type: none"> • Prepare for group presentation • <u>Adapted lesson plan</u>
5	June 27	<ol style="list-style-type: none"> 1. Group Presentations 2. Final Essay 	

ASSESSMENT RUBRIC(S):

Participation – 10 points per day

9 - 10 points	<ul style="list-style-type: none"> • Participant is on time. • Participant willingly engages with class activities. • Participant engages in productive group discussions.
7 - 8 points	Participant does not accomplish one of the above (Ex, works on math activity, but then checks email while partners discuss.)
6 points or below	Participant is not actively engaged with course activities.

Written Reflections – 5 points each

5 points	<ul style="list-style-type: none">• Reflection shows connection to personal practice or current thinking.• Reflection includes quotes or informal references to reading passages.• Writing mechanics do not interfere with content.
4 points	Writing shows some thought, but may not be grounded in the readings, or may not show evidence of personal reflection.
3 points	Writing may be off topic, or merely a summary of the reading.
2 points or below	Little evidence of personal reflection or that passage was read.

Group Lesson Plan – 15 points

14 - 15 points	<ul style="list-style-type: none">• Lesson plan is detailed enough to allow the reader to facilitate the lesson.• All ancillary materials included/listed.• Both math and language goals are clearly articulated and appropriate for the task.• Rationale page shows intentionality behind decisions, and gives insight into the group's thinking/planning process.
12 - 13 points	One aspect from above is lacking: <ul style="list-style-type: none">• Lesson plan may be somewhat detailed, but does not give enough information for a colleague to use it 'as it is'.• Group may not be clear on math or language goals, or goals do not seem to align to the task chosen.• Rationale page does not provide clarity as to why certain strategies or structures were chosen.
10 - 11 points	More than one aspect mentioned above is not fully satisfied.
9 points or below	Group lesson plan does not meet requirements.

Group Presentation – 10 points

9 - 10 points	<ul style="list-style-type: none">• All members are involved.• The math ideas of the lesson are clear to the audience.• The ELL adaptations are clear to the audience.• Presenters actively engaged the class in thinking about the activity and ideas.• Length of presentation is within guidelines.
7 - 8 points	One aspect from above is not completely satisfied.
5 - 6 points	Two aspects from above are not completely satisfied.
4 points or below	Group presentation does not meet requirements.

Final Essay – 10 points

9 - 10 points	<ul style="list-style-type: none">• Essay demonstrates a strong understanding of the intended outcomes of the strategy discussed.• Essay demonstrates a strong understanding of the conditions under which a specific strategy might be helpful.
7 - 8 points	Essay shows evidence of some understanding about the use of ELL structures, but may not include evidence of a depth of awareness of its limitations.
5 - 6 points	Essay demonstrates a limited understanding of the structure itself, its purpose and limitations.
4 points or below	Essay does not demonstrate a clear understanding of the ELL strategy.