George Mason University
College of Education and Human Development
Teaching Culturally & Linguistically Diverse and Exceptional Learners

EDUC 513.6F1 – Teaching Elementary Mathematics in International Settings
3 Credits, Summer 2019
July 17-26, 2019 Monday – Friday 8:30 a.m. – 3:20 p.m.
Thompson Hall L019 – Fairfax Campus

Faculty

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Prerequisites/Corequisites

Admission to GSE and enrollment in the TCLDEL program.
Recommended prerequisites: EDUC 511 and EDRD 515.

University Catalog Course Description

Addresses interrelationship of instruction, curriculum, and assessment in international schools. Includes review of research and effective practice.
Presents topics in school mathematics with particular emphasis on developing common PK-6 strands for application in international schools. Focuses on exploring, verifying, and explaining concepts using concrete materials. Requires 20 hours of PK-6 classroom fieldwork. Offered by Graduate School of Education. May not be repeated for credit.

Course Overview

This course is an introduction to methods for teaching developmentally appropriate topics in numbers and operations, algebra, geometry, measurement, and data analysis and probability to students in international schools. Students focus on mathematical thinking in an activity-based, workshop-oriented experience. Students work with manipulatives and technology to explore mathematics, solve problems, and learn ways to teach mathematics content to elementary children. This course is approved for the sequence of courses in the George Mason University IB certificate program. Field experience is required.

Course Delivery Method

This course is delivered through a variety of instructional strategies. Session formats will vary and will include lecture, interactive hands-on activities, large and small group discussions, student presentations, and cooperative learning groups.

Learner Outcomes or Objectives

This course is designed to enable students to do the following:

1. Know what constitute the essential topics in mathematics of the modern K-6 international classroom.
2. Identify and use selected manipulatives and technology such as linking cubes, attribute blocks, geoboards, base-10 blocks, fraction circles, tangrams, calculators, and computers to teach appropriate mathematics content topics in grades K-6.
3. Identify and use various instructional strategies and techniques (cooperative and peer group learning, activity centers, laboratories and workshops, teacher-directed presentations, etc.) to implement standards-based lessons of mathematical content topics appropriate for the students in grades K-6, including those from non-mainstreamed populations.
4. Identify and use alternative methods for assessing students' work in mathematics in grades K-6.
5. Solve problems in the mathematical content areas of logic, number theory, geometry, algebra, probability, and statistics appropriate for adaptation to grades K-6.
6. Know and explain the learning progression in relation to the standards-based mathematics curriculum, the key elements of the National Council of Teachers of Mathematics Principles and Standards for School Mathematics, and the key elements of the Virginia Standards of Learning for Mathematics.

Professional Standards (National Council of Teachers of Mathematics, International Society for Technology in Education National Education Technology Standards, and INTASC**)**

Upon completion of this course, students will have met the following professional standards:

Course Student Outcomes (above)	**NCTM Principles and Standards ***	**ISTE NETS ****	**INTASC *****
1	S1, S2, S3, S4, S5	SI	P1, P7
2	S10	SII	P1, P2, P6
3	P1, P2, P3, P4, P6	SII	P1, P2, P3, P4
4	P5	SIV	P3, P8
5	S1, S2, S3, S5, S6	SI	P4, P6
6	S1-10, P1-6	SI	P1, P7, P9

*NCTM Principles and Standards = National Council of Teachers of Mathematics Principles and Standards for School Mathematics (2000), where P = principles and S = standards.

**ISTE NETS = International Society for Technology in Education National Education Technology Standards 2000, where S = standard number

***INTASC = Standards for Licensing Beginning Teachers, where P = principles

The following Primary Years Program (PYP) Areas and domains relevant to teaching K-6 mathematics in international schools are addressed:

Area of inquiry 1: Curriculum processes

A: International education and the role and philosophy of the IBO programmes: What is international education and how does the IBO's mission and PYP philosophy promote it?

A consideration of aims and development of international education, the values and mission of the IBO and the beliefs and values of the PYP programme including the:

- PYP perspective on internationalism
- the centrality of the learner profile
- criteria for assessing international mindedness in the school environment.

Area of inquiry 2: Teaching and learning

E. Learning theories, strategies and styles: What is constructivist learning and how is this exemplified in PYP practice?
   - the centrality of structured, purposeful inquiry and the engagement of students actively in their own learning.
   - the role of the planner in supporting the planning and development of authentic PYP transdisciplinary learning.
   - the value and role of collaboration and reflection in the development of authentic PYP transdisciplinary learning.
   - criteria for the planning and evaluation of the effectiveness of authentic PYP transdisciplinary learning.

F. Teaching methodologies and the support of learning: What learning activities and teaching strategies support PYP learning outcomes?
   - The centrality of using a range and balance of teaching strategies that incorporate student inquiry as an integral part of the learning process and demonstrate appropriate teaching strategies to develop meaningful and relevant inquiry.

G. Differentiated teaching strategies: How does the PYP enable the learning needs of all students to be supported?

An appreciation of how differing teaching strategies impact and address the needs of students:

- with different levels of competency, types of ability, learning styles and learning difficulties
- for whom the language of instruction is not the mother tongue.

H. Selection and evaluation of teaching and learning materials: What learning resources support PYP practice and how are they selected?

Criteria for the selection and evaluation of appropriate teaching and learning resources to:

- support the achievement of PYP learning outcomes
- represent multiple perspectives and diverse cultures that exist in school and global communities
- meet the needs of students operating in languages other than their own
- meet the needs of students with special learning needs.

Area of inquiry 3: Assessment and learning

I. The principles of assessment: What is the role of assessment in PYP practice?

J. Developing assessment strategies: How are assessment strategies designed and implemented to support PYP practice?

- strategies enable effective assessment of broad and specific PYP learning outcomes.
- strategies enable evidence from a variety of contexts to be gathered using a range of techniques according to the nature of what is being assessed.

L. Effective feedback: How is student-learning progress effectively communicated to students and parents?

M. The design and implementation of alternative procedures for:

- recording authentic student achievement
- providing feedback to students and parents about learning progress and outcomes.

Area of Inquiry 4: Professional Learning

N. The principles and processes of reflective practice: What is reflective practice and how it supports programme implementation and enhance PYP practice?

- the process of reflective practice and its role in improving teaching and learning in the PYP context.
- current standards and practices pertaining to the implementation of PYP programme.
- current innovations and ideas in the area of international education and other educational contexts and how these can apply to enhancing the implementation of the PYP.
- PYP authorization and evaluation processes.
- PYP curriculum review process.

O. Collaborative working: planning, implementation and evaluation: What is the role of collaborative working practice in supporting the PYP learning outcomes?

The PYP programme requirements regarding the desirability of effective collaborative planning, instructional design and evaluation in that they:

- address assessment issues throughout the planning process
- address all of the essential elements (concepts, skills, knowledge, attitudes and action)
- emphasize the connections between transdisciplinary and subject disciplinary teaching and learning
- recognize a variety of levels of language competency
- accommodate a range of individual learning needs and styles

Required Text

Van De Walle, J., Karp, K. S., & Bay-Williams, J. M. (2018). *Elementary and middle school mathematics: Teaching developmentally.* (10th edition) New York: Allyn & Bacon.

Recommended Texts

Smith, M. S. & Stein, M. K. (2011). *5 Practices for Orchestrating Productive Mathematics Discussions*. Reston, VA: NCTM.

Sullivan, P. & Lilburn, P. (2005). *Good Questions for Math Teaching: Why Ask Them and What to Ask.* (Grades K-6). California: Math Solutions.

Course Performance Evaluation

Students are expected to submit all assignments on time in the manner outlined by the instructor (e.g., Blackboard, Tk20, hard copy).

The assignments across the course are intended to further your understandings of what it means to teach, learn, and assess mathematics in light of current reforms in mathematics education. All assignments are to be turned in to your instructor on time. Late work will not be accepted for full credit. If the student makes prior arrangements with the instructor, assignments turned in late will receive a 10% deduction from the grade per late day or any fraction thereof (including weekends and holidays).

TK20 PERFORMANCE-BASED ASSESSMENT SUBMISSION REQUIREMENT (*Student Mathematics Interview and Action Plan*)

Every student registered for any Teaching Culturally, Linguistically Diverse & Exceptional Learners program course with a required performance-based assessment is required to submit this assessment and the Fieldwork Log of Hours and Evaluation Form to Tk20 through Blackboard (regardless of whether the student is taking the course as an elective, a one-time course or as part of an undergraduate minor). Evaluation of the performance-based assessment by the course instructor will also be completed in Tk20 through Blackboard. Failure to submit the assessment to Tk20 (through Blackboard) will result in the course instructor reporting the course grade as Incomplete (IN). Unless the IN grade is changed upon completion of the required Tk20 submission, the IN will convert to an F nine weeks into the following semester.

FIELDWORK REQUIREMENT

Field Experience Record and Evaluation (*Student Mathematics Interview and Action Plan*)

The **field experience is a required component** of the teacher preparation program at George Mason University. All students will complete a minimum of **20 hours in field experience** for this course. Documentation of your field experience is required as well as a signed statement from your field experience teacher(s) or supervisor(s). If you are taking more than one course in a semester, you must complete 20 hours per course (e.g., two courses require 40 hours of field experience). This means you may be completing different tasks for different courses in the same placement. Materials

and products used for one course cannot be used for another course (e.g., videos, lesson plans, activities, etc.)

***TCLDEL Fieldwork Log of Hours and Evaluation Form must be uploaded to TK20 on Blackboard**. The form is located on Blackboard in your TCLDEL organization site in the "Fieldwork" page.

In-service teachers: Field experience can often be conducted in your own classroom if you have access to the population of students required for the PBAs and other assignments. Please consult your instructor if you have questions about the viability of your classroom for fieldwork in this class. You must register for your school as your field experience site in the online Field Experience Request form available here: https://cehd.gmu.edu/endorse/ferf. You will check the box indicating that: *"I will arrange my own field experiences (observations and/or case studies) because I am a full-time contracted school system employee and will complete field experience at my workplace."* The deadline to submit your field experience placement is Week 2 of class. Failure to do so will result in an unsatisfactory grade for your fieldwork assignment. If you are taking this course as part of a cohort program, please indicate "TCLDEL Cohort" on your request form FIRST, then select your program and placement location. HINT: Cohort courses have section numbers beginning with "6F" (e.g. EDUC 511.6F1).

Pre-service teachers: If you are not currently working in a K-12 school, you will need to be placed in an appropriate fieldwork setting to complete your required PBAs and fieldwork hours. You must request a fieldwork site using the online Field Experience Request form available here: https://cehd.gmu.edu/endorse/ferf. You will check the box indicating that: I will need George Mason (Clinical Practice Specialist) to arrange a placement for my field experiences (including observations and/or case studies). The deadline to submit your field experience placement is Week 2 of class. Failure to do so will result in an unsatisfactory grade for your fieldwork assignment. If you are taking this course as part of a cohort program, please indicate "TCLDEL Cohort" on your request form, then select your program and placement location. HINT: Cohort courses have section numbers beginning with "6F" (e.g. EDUC 511.6F1).

Virginia state or county cohort teachers: Cohort students are required by their district and by TCLDEL to complete field experiences as required by the Virginia Department of Education for this program. Each district has arranged for candidates to be able to work at K-12 grade levels in order to complete all licensure requirements. Please contact your district coordinator for further information.

TCLDEL Fieldwork Log of Hours and Evaluation Assessment

	Status of Student Work	
	1	0
Fieldwork Log of Hours demonstrates 20 hours of fieldwork completed, with a teacher-mentor or supervisor signature.	Complete	Not Complete

NOTE: Failure to submit documentation of successful completion of your fieldwork in a timely manner will make you ineligible to register for coursework, be recommended for licensure, or receive a grade for this course.

Assignments

1. **PROBLEM-BASED LESSON STUDY PLAN SUMMARY (15%)**
   You will collaborate with your peers to plan, teach, and complete a formal summary for one mathematics lesson. The lesson will come from the book *GOOD QUESTIONS FOR MATH TEACHING* and will last approximately 40-60 minutes. A planning template will be provided for the lesson that integrates the use of mathematics tools (manipulatives, calculators, computers) and representations (concrete, pictorial, symbolic) to provide children with an interactive mathematics experience with emphasis on conceptual understanding. The lesson plan summaries represent a three-phase process: (1) Design the lesson plan, (2) Teach the lesson, and (3) Collect and report evidence of student learning from the lesson in a reflection.
   DUE: JULY 26, 2019

2. **NUMBER TALK AND REFLECTION (15%)**
   You will individually plan, teach, and complete a reflection for a Number Talk. The 10-15 minute Number Talk will include the essential elements of Number Talks and address a fraction concept. A Number Talk lesson plan template will be provided, to which you will add your anticipated student responses, your expected sequence of questions and follow-up questions, and your reflection.
   DUE: JULY 26, 2019

3. **SUMMATIVE ASSESSMENTS (20%)**
   The Student Strategy Selecting and Sequencing Task (10%) will assess your individual ability to identify student work for the purpose of leading a reflective discussion in a mathematics class. The Problem Solving Task (10%) will assess your collaborative ability to create and connect multiple strategies and representations across K-6 standards within a rich mathematics task.
   DUE: JULY 26, 2019

4. **FIELD EXPERIENCE (10%)**
   Field experience documents (signed logs of hours and signed teacher recommendation) will be part of your final grade. Grades are held until all documents are sent to your instructor; failure to complete your field work will make you ineligible to register for your next class. See field experience information sheets for more information.
   DUE: MARCH 15, 2020

5. **STUDENT MATHEMATICS INTERVIEW & ACTION PLAN (30%)**
   All TCLDEL licensure courses have a required Performance Based Assessment (PBA). The required PBA for this course is a student assessment interview. In order to plan effective instruction, you will need to know how to assess children's knowledge of mathematical concepts. One way to assess children's thinking is a diagnostic interview.

This assignment has two parts: (1) Design a plan for the interview, assessing a specific mathematics topic using concrete, pictorial and abstract representations, (2) Conduct the interview with a child and write a report describing the outcome of the interview. Your PBA must be submitted to TK20, where it will be reviewed and graded, in order to receive credit.
DUE: MARCH 15, 2019

Other Requirements

PARTICIPATION & ATTENDANCE (10%)

PARTICIPATION: Active participation in all activities is expected. Rich, meaningful, problem-based tasks will be assigned in each session. Students are expected to complete these problems and incorporate their thinking about strategies used to solve the problems in class discussion. Work on problem sets will be shared in class and on occasion may be collected and evaluated. For identified class sessions, students will bring to class examples of high-level cognitive demand tasks and low-level cognitive demand tasks. The tasks will be utilized in the specified class sessions to assist students with identifying and modifying higher-level tasks that can be implemented in the elementary classroom for many purposes.

ATTENDANCE: Students are expected to participate in **all full-day class sessions.** In-class participation is important not only to the individual student, but to the class as whole. *Class participation is a factor in grading; instructors may use tardiness or early departure as de facto evidence of nonparticipation and as a result lower the grade as stated in the course syllabus* (GMU 2016).

Grading

At George Mason University course work is measured in terms of quantity and quality. A credit normally represents one hour per week of lecture or recitation or not fewer than two hours per week of laboratory work throughout a semester. The number of credits is a measure of quantity. The grade is a measure of quality. The university-wide system for grading graduate courses is as follows:

Grade	GRADING	Grade Points	Interpretation
A+	=100	4.00	Represents mastery of the subject through effort beyond basic requirements
A	94-99	4.00	
A-	90-93	3.67	
B+	85-89	3.33	Reflects an understanding of and the ability to apply theories and principles at a basic level
B	80-84	3.00	
C*	70-79	2.00	Denotes an unacceptable level of understanding and application of the basic elements of the course
F*	<69	0.00	

Note: "C" is not satisfactory for a licensure course; "F" does not meet requirements of the Graduate School of Education

See the University Catalog for details: http://catalog.gmu.edu/policies/academic/grading/

Honor Code & Integrity of Work

Integrity of Work: TCLDEL students must adhere to the guidelines of the George Mason University Honor Code (http:/oai.gmu.edu/honor-code/). The principle of academic integrity is taken very seriously and violations are treated as such.

Violations of the Honor Code include:

1. Copying a paper or part of a paper from another student (current or past);
2. Reusing work that you have already submitted for another class (unless express permission has been granted by your current professor **before** you submit the work);
3. Copying the words of an author from a textbook or any printed source (including the Internet) or closely paraphrasing without providing a citation to credit the author. For examples of what should be cited, please refer to: https://owl.english.purdue.edu/owl/resource/589/02/
4. You may also not "reuse" fieldwork hours. Each placement must have 20 documented hours that are solely for each course that you are in; you may be at the same site, but the same hours may not be counted towards the same course.

Late Work Policy

At the graduate level all work is expected to be of high quality and submitted on the dates due. *Work submitted late will be reduced one letter grade for every day of delay.* Because we live in uncertain times, if you have any extraordinary circumstances (think flood, earthquake, evacuation) that prevent you from submitting your work in a timely manner, it is your responsibility to contact the instructor as soon as possible after the circumstances occur and make arrangements to complete your work. *It is up to the discretion of the instructor to approve the late/makeup work.*

Course Withdrawal with Dean Approval

For graduate and non-degree students, withdrawal after the last day for dropping a course requires approval by the student's academic dean, and is permitted only for nonacademic reasons that prevent course completion (Mason catalog). *Students must contact an academic advisor* in APTDIE to withdraw after the deadline. There is no guarantee that such withdraws will be permitted.

Incomplete (IN)

This grade may be given to students who are in good standing, but who may be unable to complete scheduled course work for a cause beyond reasonable control. The student must then complete all the requirements by the end of the ninth week of the next semester, not including summer term, and the instructor must turn in the final grade by the end of the 9th week. Unless an explicit written extension is filed with the Registrar's Office by the faculty deadline, the grade of IN is changed by the registrar to an F (Mason catalog). Faculty may grant an incomplete with a contract developed by the student with a reasonable time to complete the course at the discretion of the faculty member. The faculty member does not need to allow up to the following semester for the student to complete the course. A copy of the contract will be kept on file in the APTDIE office.

GMU E-MAIL AND WEB POLICY:

Mason uses electronic mail (https://masonlivelogin.gmu.edu/login) to provide official information to students. Examples include notices from the library, notices about academic standing, financial aid information, class materials, assignments, questions, and instructor feedback. Students are responsible for the content of university communication sent to their Mason e-mail account and are required to activate that account and check it regularly (Mason catalog). All communication sent for this course will be sent to your Mason email account.

ATTENDANCE POLICY:

Class attendance is both important and **required**. If, due to an emergency, you will not be in class, you must contact your instructor prior to class time and provide documentation of the emergency (Mason Catalog 2019). **No absences are permitted during the 8-day summer session. If you cannot attend all 8 days it is best to take the course during another term. Please see your advisor.**

EVALUATION SCHEMA: Determination of the Final Grade

The mathematics education courses in TCLDEL's Elementary Education Program integrate pedagogy and mathematics content appropriate for the elementary school grades. To earn a grade of A in the course, you must demonstrate excellence in *both* the pedagogical knowledge and the content knowledge of the mathematics appropriate at your level of teaching. Thus, the grading in the course is structured to help fairly evaluate student excellence in both areas. Content knowledge is ascertained primarily throughs summative assessments aligned with mathematics content appropriate for the elementary grades. Pedagogical knowledge is ascertained primarily through readings, lesson planning and participation in the course. Therefore, if you demonstrate excellence in both pedagogical knowledge and content knowledge, you will receive an acceptable grade for performance in graduate education.

Class Schedule

The assigned readings are dynamic and flexible to meet the needs of the learners. All readings are subject to change.

Date	Topic/Learning Experiences	Readings & Assignments Due by Start of Class
July 17	What is Problem Solving? Selecting Worthwhile Tasks Planning for Mathematics Instruction	**READINGS** Optional: Skim Chapters 1 and 2 Chapter 3: *Teaching through Problem Solving* Look for: Something different from how you learned math
July 18	Number Sense, Counting, Patterns and Place Value Helping Children Master the Basic Math Facts Developing Strategies for Whole Number Place Value Concepts	**READINGS** Chapter 7*: Early Number Concepts and Number Sense* Chapter 8*: Developing Meanings for the Operations* Chapter 9*: Basic Fact Fluency* Look for: The most important "Big Idea" or take-away **ASSIGNMENTS DUE** Math Autobiography

July 19	Developing Strategies for Whole Number Computation	**READINGS** Chapter 10*: Developing Whole Number Place-Value Concepts* Chapter 11: *Addition and Subtraction* Chapter 12: *Multiplication and Division* Look for: A new strategy **ASSIGNMENTS DUE** Selecting and Sequencing Practice
July 22	Fraction Concepts and Computation Multiple Representations Rational Number Concepts	**READINGS** Chapter 14*: Fractions* Chapter 15*: Fractions Operations* Chapter 16*: Decimals & Percent* Look for: Something that is difficult for you **PRESENTATION** Number Talk 3a or 3b **ASSIGNMENTS IN PROGRESS** Lesson Plan Write-Ups
July 23	Data Analysis Probability Experiments	**READINGS** Chapter 20: Data Analysis Chapter 21: Probability Look for: An effective model or visual **PRESENTATION** Number Talk #2 **ASSIGNMENTS IN PROGRESS** Lesson Plan Write-Ups
July 24	Measurement Geometry	**READINGS** Chapter 18: Measurement Chapter 19: Geometry Look for: An activity or idea that would be most valuable in your classroom **PRESENTATION** Good Questions Lesson **ASSIGNMENTS IN PROGRESS** Lesson Plan Write-Ups
July 25	Algebraic Thinking Integers	**READINGS** Chapter 13: Algebraic Thinking Chapter 22: Integers Look for: A new idea **PRESENTATIONS** Number Talk #3 **ASSIGNMENTS DUE** Student Strategy Selecting and Sequencing Task (Summative Assessment)
July 26	Collaborative Problem Solving (Summative Assessment) Conducting a Diagnostic Interview	**ASSIGNMENTS DUE** All Lesson Plans and Reflections Due (Good Questions & Number Talk Reflections)

Note: Faculty reserves the right to alter the schedule as necessary, with notification to students.

Professional Dispositions

See https://cehd.gmu.edu/students/polices-procedures/undergraduate#profdisp

GMU Policies and Resources for Students

Policies

- Students must adhere to the guidelines of the Mason Honor Code (see https://catalog.gmu.edu/policies/honor-code-system/).
- Students must follow the university policy for Responsible Use of Computing (see http://universitypolicy.gmu.edu/policies/responsible-use-of-computing/).
- Students are responsible for the content of university communications sent to their Mason email account and are required to activate their account and check it regularly. All communication from the university, college, school, and program will be sent to students **solely** through their Mason email account.
- Students with disabilities who seek accommodations in a course must be registered with George Mason University Disability Services. Approved accommodations will begin at the time the written letter from Disability Services is received by the instructor (see http://ods.gmu.edu/).
- Students must silence all sound emitting devices during class unless otherwise authorized by the instructor.

Campus Resources

- Support for submission of assignments to Tk20 should be directed to tk20help@gmu.edu or https://cehd.gmu.edu/aero/tk20. Questions or concerns regarding use of Blackboard should be directed to http://coursessupport.gmu.edu/.
- For information on student support resources on campus, see https://ctfe.gmu.edu/teaching/student-support-resources-on-campus

For additional information on the College of Education and Human Development, please visit our website https://cehd.gmu.edu/students/ .

PBA RUBRIC: Student Mathematics Interview and Action Plan

Criteria	Score			
	4 – Exceeds Standard	3 – Meets Standard	2 – Approaching Standard (Not Met)	1 – Needs Improvement (Not Met)

Design Interview Plan – Applying Knowledge ACEI Standard 3.1 – Integrating and Applying Knowledge	Interview plan uses extensive knowledge of the student, including performance in other academic, social, and behavioral areas, to design appropriate and relevant interview strategies. (Cite references)	Interview plan uses knowledge from some diverse areas to design appropriate interview strategies. Minimal references are cited.	Interview Plan uses minimal knowledge of the student to design specific interview strategies.	Interview Plan uses no knowledge of the student and creates only generic interview strategies.
Design Interview Plan – Developmental Appropriate ACEI Standard 1.0 – Development, Learning & Motivation	Interview plan demonstrates extensive knowledge and theories of child development to design appropriate interview questions. Theories are clearly integrated in interview strategy.	Interview plan uses some knowledge and theories of child development to design interview questions and strategies	Interview plan make little reference to child development to design interview questions	Interview plan contains no references to child development to design interview questions
Conduct Interview – Content Knowledge ACEI Standard 2.3 – Content Mathematics	Interviewer clearly and accurately describes specific and age appropriate mathematical concepts to be evaluated in the interview.	Interviewer describes an appropriate mathematical concept to be evaluated in the interview	Interviewer describes mathematical concept in vague or general terms	Interviewer fails to accurately describe mathematical concept being evaluated
Conduct Interview – Differentiation ACEI Standard 3.2 – Adaptation to Diverse Students	Interviewer uses different forms of representation (pictorial, concrete, and abstract) with different examples of each form to assess child's understanding of mathematic concept. Questions provide extensions for different levels of student performance and are clearly aligned with concept.	Interviewer uses a variety of tasks and questions for each of the forms of representation to assess child's understanding of mathematic concept. Tasks and questions are aligned with concept.	The tasks and questions designed for the interview are only somewhat aligned with the mathematics concept being assessed. Forms of representation are used.	The tasks and questions designed for the interview are not clearly aligned with the mathematics concept being assessed.
Conduct Interview – Critical Thinking ACEI Standard 3.3 – Development of Critical Thinking	Questions require student to engage in critical thinking and communicate about and through mathematics concepts. Questions help students work through their understanding of the concept during the interview.	Questions require critical thinking on mathematics concepts during the interview.	Questions only require minimal critical thinking during the interview.	Questions do not allow for engagement or critical thinking during the interview.
Conduct Interview – Engagement ACEI Standard 3.4 – Active Engagement in Learning	Questions and tasks are designed to creatively engage the child in mathematical concepts. Child responds to tasks enthusiastically and demonstrates motivation throughout the interview (provide transcript).	Questions and tasks are designed to engage child in mathematical concepts with some success throughout the interview.	Questions and tasks are not designed to engage the student during the interview. Child is unenthusiastic or confused during the interview.	No transcript is provided to demonstrate student engagement during the interview
Create Action Plan– Assessment ACEI Standard 4.0 - Assessment	Action plan includes an accurate assessment of child's current level of understanding of the mathematical concept. Assessment is supported with ample evidence including a variety of work samples from the interview.	Action plan includes an assessment of the child's understanding with evidence from the interview to support this.	Action plan includes an assessment of the child's understanding but includes little supporting evidence.	Action plan does not include an assessment or does not include evidence to support the assessment.

Create Action Plan – Collaboration ACEI Standard 5.2 - Collaboration	Action plan uses extended sources on math development including texts, interviews with colleagues, and references to outside agencies or materials to support the assessment and action plan	Action plan includes sufficient supplemental sources to support the assessment and action plan.	Action plan includes minimal evidence of outside sources or collaboration to support the assessment and action plan.	Action plan does not include any outside sources to support the assessment and action plan.
Create Action Plan – Instructional Plan ACEI Standard 3.1 – Integrating and Applying Knowledge for Instruction	Action plan clearly integrates all gathered information to create an instructional plan that works well with the curriculum and is developmentally appropriate.	Action plan integrates most of the gathered information to create an instruction plan that is developmentally appropriate.	Action plan does not clearly demonstrate integration of gathered information or is not developmentally appropriate.	Action plan does not demonstrate integration of gathered information. Plan shows lack of support.
Create Action Plan – Differentiation ACEI Standard 3.2- Adaptation to Diverse Students	Action plan identifies extensive and specific examples of activities and tasks that would further enhance the child's knowledge of the mathematical concept	Action plan identifies satisfactory examples of activities and tasks that enhance the child's knowledge of the mathematical concept	Action plan only includes minimal examples of activities or tasks that could enhance the child's knowledge of the mathematical concept	Action plan examples of activities or tasks that do not appear to enhance the child's knowledge of the mathematical concept
Provide Reflection – Pilot Lesson Plan ACEI Standard 5.1 – Professional Growth, Reflection & Evaluation	Reflection includes a pilot of activities and tasks discussed in the action plan. Action plan is implemented in class or in tutoring environment.	Reflection includes extensive evaluation of how activities discussed in the action plan could be implemented	Reflection includes little discussion of how any activities discussed in the action plan could be implemented	Reflection includes no follow up to the action plan or evidence that these tasks have been evaluated.
Provide Reflection – Self-Evaluation ACEI Standard 5.1 – Professional Growth, Reflection, & Evaluation	Interviewer provides detailed self-reflection and analysis of the interview process. Reflection suggests specific areas for improvement and makes deep connections between activity and overall effective teaching practice.	Interviewer provides a self-evaluation and reflection of the interview process and makes connections between this activity and overall effective teaching practice.	Interviewer provides little reflection or self-evaluation or does not draw connection to overall effective practice.	Interviewer provides no reflection, self-evaluation, or connections to overall teaching practice.