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

**EDUC 514.6F1: Teaching Elementary Science in International Schools**
**3 credits, Summer 2017 (CRN 42349)**
**July 7 – 18, 8:30 a.m. – 3:20 p.m., Thompson 2020 (July 7, 10, 12, 14, 17); Thompson L013 (July 11, 13, 18)**

| | |
|---|---|
| **Professor:** | Nancy Holincheck, Ph.D., N.B.C.T. |
| | Assistant Professor of Education |
| **Office Hours:** | After class or by appointment |
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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

Covers the theory and practices of effective teaching of PK-6 science in international schools. Uses laboratory and discovery techniques to design essential science components and integrate them with other disciplines. Introduces students to the design and implementation of activities for developing concepts, solving problems, and strengthening thinking skills in PK-6 science. Requires 20 hours of PK-6 classroom fieldwork.

## Course Overview

Explores the theory and practices of effective teaching of PK-6 science in international schools

## Course Delivery Method

Course delivery will be accomplished in a variety of ways in order to meet the needs and styles of all learners. Methods of instruction will include:
- Presentations assisted by Power Point
- Whole group and small group discussions
- Cooperative learning groups
- Student presentations
- Field projects
- Video presentations
- Textbooks and journal articles
- Blackboard

**Learner Outcomes or Objectives**

This course is designed to enable students to do the following:
1. Understand how children learn and develop
2. Understand the central concepts, tools of inquiry, applications, and structures of science
3. Understand how students differ in their approaches to learning
4. Understand the importance of individual and group motivation and behavior to create a learning environment that encourages positive social interaction, active engagement in learning, and self-motivation
5. Plan instruction based upon knowledge of subject matter, students, the community, and curriculum goals
6. Understand the uses of formal and informal assessment strategies to evaluate and ensure the continuous intellectual, social, and physical development of the learner
7. Be a reflective practitioner who continually evaluates the effects of his/her choices and actions on others and who actively seeks out opportunities to grow professionally
8. Foster relationships with school colleagues, parents, and agencies in the larger community to support students' learning and well-being
9. Develop an understanding and appreciation of the organization and excitement of science
10. Build a repertoire of science teaching and assessment strategies by reading, writing, observing, participating and reflecting on the teaching of science
11. Develop strategies to help students to become scientifically literate, think critically and creatively, and see relationships among science, technology and society
12. Create and teach a unit plan (PYP) that contains science lessons/activities that include:
    o Learning experiences that make aspects of content meaningful to students (*National Standards, Constructivism, and Experimental Design*)
    o Learning opportunities that support students intellectual, social, and personal development (*Science Process Skills, Constructivism, and Cooperative Learning*)
    o Instructional opportunities that are adapted to diverse learners (*Multiple Intelligences and Science Integration*)
    o Instructional strategies to encourage students' development of critical thinking, problem solving, and performance skills (*Problem Solving & Thinking Skills*)
    o A learning environment that encourages positive social interaction, active engagement in learning, and self-motivation (*Hands-On Learning and Cooperative Learning*)
    o Foster active inquiry, collaboration, and supportive interaction in the classroom (*Questioning Strategies, Classroom Management, and Cooperative Learning*)
    o Formal and informal assessment strategies to evaluate and ensure the continuous intellectual, social, and physical development of the learner (*Assessment and Evaluation*)
    o Integration of science with other subject areas
    o Highlight safety issues
    o Real world application
    o A cohesive unit of study
    o Strengthening existing knowledge of science content through hands-on investigations, reading, writing, and communicating

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- Working cooperatively with peers to teach and discuss science and science teaching
- Identifying past, present, and future movements in science education

**Professional Standards** (GSE / ACEI / INTASC)

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

**Graduate School of Education Goals**
**Diversity**
- Infuse diversity into the experience, training, and practice of students, faculty, and staff
- Provide support and mentoring of minority students, faculty, and staff
- Enhance recruitment and retention of minority students, faculty, and staff
- Ensure that diverse issues are reflected in curriculum and syllabi
- Ensure that diverse issues are reflected in GSE partnerships with schools, communities, and families

**Reflective, Research-based Practice**
- Encourage reflective and research-based practice for GSE faculty and for our students in their own practice

**Relationship to the following ACEI Standards: www.acei.org**
1.0 Development, Learning and Motivation
2.2 Science Content and Process
2.6 Health Education
3.1 Integrating and Applying Knowledge for instruction
3.2 Adaptation to Diverse Learners
3.4 Active Engagement in Learning
4.0 Assessment
5.1 Professionalism

**Correlation Charts:**
INTASC Standards for Beginning Teacher Licensing and Development to EDUC 514 Course

| INTASC Standards | Course Topics | Class Assignments |
|---|---|---|
| **Principle 1: Content** <br> *The teacher understands the central concepts, tools of inquiry, applications, and structures of science and of the science disciplines he or she teaches and can create learning experiences that make these aspects of content meaningful to students.* | Constructivism <br> Hands-On Learning <br> Science Process Skills <br> National Science Standards <br> Inquiry/Questioning Strategies <br> Assessment & Evaluation <br> Problem Solving & Thinking Skills <br> Multiple Intelligences <br> Experimental Design <br> Science Integration <br> Science Connections-Technology | Unit Plan <br> Evaluation of Teacher Guides <br> Articles & Readings <br> Field Experience |

| | | |
|---|---|---|
| **Principle 2: Student Development**<br>*The teacher understands how children learn and develop and can provide learning opportunities that support their intellectual, social, and personal development.* | Constructivism<br>Hands-On Learning<br>Science Process Skills<br>Inquiry/Questioning Strategies<br>Assessment & Evaluation<br>Problem Solving & Thinking Skills<br>Multiple Intelligences<br>Cooperative Learning | Unit Plan<br>Evaluation of Teacher Guides<br>Articles & Readings<br>Field Experience |
| **Principle 3: Student Diversity**<br>*The teacher understands how students differ in their approaches to learning and creates instructional opportunities that are adapted to diverse learners* | Assessment & Evaluation<br>Problem Solving & Thinking Skills<br>Multiple Intelligences<br>Cooperative Learning<br>Science Integration<br>Science Connections - Technology | Unit Plan<br>Evaluation of Teacher Guides<br>Field Experience<br>Articles & Readings |
| **Principle 4: Instructional Variety**<br>*The teacher understands and uses a variety of instructional strategies to encourage students' development of critical thinking, problem solving, and performance skills.* | Science Process Skills<br>Inquiry/Questioning Strategies<br>Problem Solving & Thinking Skills<br>Multiple Intelligences<br>Experimental Design<br>Cooperative Learning | Unit Plan<br>Evaluation of Teacher Guides<br>Field Experience<br>Articles & Readings |
| **Principle 5: Learning Environment**<br>*The teacher uses an understanding of individual and group motivation and behavior to create a learning environment that encourages positive social interaction, active engagement in learning, and self-motivation.* | Constructivism<br>Hands-On Learning<br>Science Process Skills<br>Inquiry/Questioning Strategies<br>Multiple Intelligences<br>Science Safety<br>Classroom Management<br>Cooperative Learning<br>Science Connections - Technology | Unit Plan<br>Field Experience<br>Articles & Readings |

## PYP Practitioner Award Programme Requirements

| Course | Curriculum | Teach/Learn | Assessment | Professional |
|---|---|---|---|---|
| Teaching Elementary Science in International Schools | A, B, C, D | E, F, G, H | I, J, K, L, M | N, O |

## Required Texts

Contant, T. L., Bass, J. L., Tweed, A. A., & Carin, A. A. (2017). *Teaching Science Through Inquiry-based Instruction: 13th Edition*. Saddle River, NJ: Pearson.

(NOTE: You may alternately use the 10th, 11th, or 12th editions of this text, but pay careful attention to new/old text chapter reading assignments in the course schedule.)

**Recommended Texts:**

Achieve, Inc. (2013). *Next generation science standards*. Retrieved from
http://www.nextgenscience.org/print/121
*(Note: Not recommended to print)*

National Research Council (1996). *National science education standards.* Washington, DC:
National Academy Press. Retrieved from http://www.nap.edu/openbook.php?record_id=4962
*(Note: Not recommended to print)*

**IB Primary Years Program Documents:**

| Publication | URL |
|---|---|
| Making the PYP Happen:  A curriculum framework for international primary education | http://occ.ibo.org/ibis/documents/pyp/p_0_pypxx_mph_0912_2_e.pdf |
| Making the PYP Happen:  Pedagogical leadership in a PYP school | http://occ.ibo.org/ibis/documents/pyp/p_0_pypxx_mph_0912_1_e.pdf |
| Programme standards and practices | http://occ.ibo.org/ibis/documents/general/g_0_iboxx_amo_0509_1_e.pdf |
| A continuum of international education (2009)* | http://www.ibo.org/communications/powerpoint/index.cfm |
| IB Learner Profile Booklet and Video* | http://www.ibo.org/programmes/documents/learner_profile_en.pdf<br>http://www.ibo.org/programmes/profile/ |
| A basis for practice: the Primary Years Programme | http://occ.ibo.org/ibis/documents/pyp/p_0_pypxx_mon_0108_1_e.pdf |
| Learning in a language other than mother tongue in IB programmes* | http://occ.ibo.org/ibis/documents/general/g_0_iboxx_amo_0804_1_e.pdf<br>http://publication-service.ibo.org/g_0_iboxx_amo_0804_1_e |
| Developing a transdisciplinary programme of inquiry | http://occ.ibo.org/ibis/documents/pyp/p_0_pypxx_poi_0801_1_e.pdf |
| PYP Exhibition Guidelines | http://occ.ibo.org/ibis/documents/pyp/p_0_pypxx_exg_0807_2_e.pdf |
| The PYP as a model of transdisciplinary learning | http://occ.ibo.org/ibis/documents/pyp/p_0_pypxx_poi_1002_1_e.pdf |

All elementary candidates have been enrolled in the online curriculum center for IB and should
reference this in their work.  Log in is at: http://occ.ibo.org/ibis/occ/guest/home.cfm

**Relevant Websites:**

International Baccalaureate Organization – Online Curriculum Center (OCC)
        http://www.ibo.org/
American Psychological Association
        http://www/apa.org

**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).

**TK20 PERFORMANCE-BASED ASSESSMENT SUBMISSION REQUIREMENT**
**(Science Inquiry Unit Plan & Video Tape Analysis)**
Every student registered for any Teaching Culturally, Linguistically Diverse & Exceptional Learners program course <u>with a required performance-based assessment</u> 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.


## <u>FIELDWORK REQUIREMENT</u>

**Field Experience Record and Evaluation** (*Science Inquiry Unit Plan & Video Tape Analysis*)
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 and/or Examinations**

| *Assignment Description* | *Grade %* | *Due Date* |
|---|---|---|
| Participation | 20% | Ongoing |
| Electronic Journals/Article Critiques | 10% | 7/10/17, 11:59 pm |
| School-to-Home Cultural Connections to Science | 10% | 7/14/17, 11:59 pm |
| Microteaching: Inquiry mini-lesson | 10% | 7/17/17, in class |
| Final Take Home Exam | 10% | 7/18/17, 3:20 pm |
| Field Project | 30% | 1/15/2018 |
| Field Experience | 10% | 1/15/2018 |

*More detailed descriptions of assignments and rubrics are shown at the end of the syllabus.*

- **Other Requirements**
  Attendance policy:
  TCLDEL students are expected to attend *all* class periods of courses for which they register. 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 absence, tardiness, or early departure as de facto evidence of nonparticipation and as a result lower the grade as stated in the course syllabus (Mason Catalog).  Any unexcused absences will result in a 10 - point deduction from your participation grade.

- **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:

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.

**Online Participation/Attendance Policy**

Students are expected to attend all classes. **Students with one or more absences will not receive credit for the course.**

**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.

**Professional Dispositions**

Students are expected to exhibit professional behaviors and dispositions at all times.

**Core Values Commitment**

The College of Education and Human Development is committed to collaboration, ethical leadership, innovation, research-based practice, and social justice.  Students are expected to adhere to these principles: http://cehd.gmu.edu/values/.

**GMU Policies and Resources for Students**

*Policies*

- Students must adhere to the guidelines of the Mason Honor Code (see http://oai.gmu.edu/the-mason-honor-code/).

- 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 follow the university policy stating that all sound emitting devices shall be silenced 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/.

- The Writing Center provides a variety of resources and services (e.g., tutoring, workshops, writing guides, handbooks) intended to support students as they work to construct and share knowledge through writing (see http://writingcenter.gmu.edu/).

- The Counseling and Psychological Services (CAPS) staff consists of professional counseling and clinical psychologists, social workers, and counselors who offer a wide range of services (e.g., individual and group counseling, workshops and outreach programs) to enhance students' personal experience and academic performance (see http://caps.gmu.edu/).

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- The Student Support & Advocacy Center staff helps students develop and maintain healthy lifestyles through confidential one-on-one support as well as through interactive programs and resources.  Some of the topics they address are healthy relationships, stress management, nutrition, sexual assault, drug and alcohol use, and sexual health (see http://ssac.gmu.edu/).  Students in need of these services may contact the office by phone at 703-993-3686.  Concerned students, faculty and staff may also make a referral to express concern for the safety or well-being of a Mason student or the community by going to http://ssac.gmu.edu/make-a-referral/.

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

**GMU E-MAIL AND WEB POLICY:**

Mason uses electronic mail (**www.gmu.edu/email**) 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.

All communication sent for this course will be sent to your Mason email account.  I will respond to emails as soon as I can, but always within 24 hours.

## Schedule of Topics, Assignments and Readings

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

| Day | Date | Class Topic & Readings to complete prior to class *New Text = Contant, Bass, Tweed & Carin 13th Edition* *Old Text: Contant, Bass & Carin 10th, 11th, or 12th Editions* | |
|-----|------|------------------------------------------------|---|
| | | **MORNING (8:30-11:30)** | **AFTERNOON (12:30-3:20)** |
| 1 | Fri. 7/7 | TOPIC: Inquiry, Science Ed Policy & Problems <br> • NGSS, cross-cutting concepts, modeling <br> **READ:** No readings assigned | TOPIC: Inquiry & Nature of Science <br> **READ:** New/Old Text Ch. 1: Science and Science Education **AND** NOS Article on Bb |
| 2 | Mon 7/10 | TOPIC: Inquiry Processes & Strategies <br> • Focus on IB's inquiry stance & compatibility <br> **READ:** New/Old Text Ch. 2 | TOPIC: Planning for a Positive Classroom Environment <br> **READ:** New Text Ch. 3/Old Text Ch. 6 |
| | | *-Article Critique due by 11:59 pm today to Bb* | |
| 3 | Tues 7/11 | TOPIC: Learning Cycles, Learning with Understanding <br> **READ:** New Text Ch. 4/Old Text Ch. 3: Learning Science with Understanding | TOPIC: Teaching for Understanding, 5E Model of Instruction, Science Talks <br> **READ:** New Text Ch. 5/Old Text Ch. 4: Engaging Inquiry-Based Instruction and Using the 5-E Model |
| 4 | Wed 7/12 | TOPIC: Effective questioning in science for teachers & students <br> **READ:** New Text Ch. 6/Old Text Ch 7: Questioning Effectively AND Article posted on blackboard | TOPIC: Metacognition, misconceptions <br> **READ:** Metacognition & misconception articles posted to Blackboard |
| 5 | Thurs 7/13 | TOPIC: Assessment of Science Learning <br> **READ:** New Text Ch. 7/Old Text Ch 5: Assessing Science Learning | TOPIC: Scientific Argumentation & Discourse <br> **READ:** Argumentation & Discourse Articles posted to Blackboard |
| | | *Unit exploration: Bring one lesson plan from your unit to class today for peer feedback* | |
| 6 | Fri 7/14 | TOPIC: Science for All Learners <br> **READ:** New/Old Text Ch. 10: Making Science Accessible for All Learners | TOPIC: Differentiated Instruction in Science <br> **READ:** Differentiation articles posted to Blackboard |
| | | *-Home-School Cultural Connections Assignment due by 11:59 pm today via Blackboard* | |
| 7 | 7/17 | TOPIC: Technology Tools & Resources for Inquiry Science <br> **READ:** New/Old Text Using Technology Tools and Resources for Science Learning <br> *-Microteaching-Group 1* | TOPIC: Interdisciplinary Connections: Connecting Science with Other Subjects <br> **READ**: New/Old Text Ch. 9: Connecting Science with Other Subjects <br> *Microteaching-Groups 2 & 3* |
| 8 | 7/18 | TOPIC: Bringing it all together <br> **READ:** JIGSAW readings (read assigned reading from list on blackboard, come prepared to share & teach) | *Work time:* <br> *Final Exam due by 3:20 pm via Blackboard* |

# COURSE PERFORMANCE EVALUATION

All assignments should be turned in on the due date indicated in the schedule below via Blackboard. The submission deadline for assignments is 11:59 pm EST of the due date indicated for each assignment. All projects must be typed, in a legible 12-point font, with one-inch margins, and double-spaced. **All writing assignments should be submitted as Word documents, or a word processor based format.** Writing quality (including mechanics, organization, and content) is figured into the overall points for each writing assignment, so please proofread carefully. Late papers and projects will not be accepted without penalty, except for in extraordinary circumstances. I am happy to clarify and lend assistance on projects and assignments, but please contact me within a reasonable timeframe

## 1. Participation                                                                                   20%

Students will be expected to actively participate in class by questioning, commenting and critically analyzing relevant issues and topics.  Students will make a presentation and lead a discussion on a journal or research article.  Students will read, participate in activities, and perform reflective observations and journaling during class time.

TCLDEL students are expected to attend *all* class periods of courses for which they register.  In-class participation is important not only to the individual student, but to the class as a whole.  Class participation is a factor in grading; instructors may use absence, tardiness, or early departure as de facto evidence of nonparticipation and as a result lower the grade as stated in the course syllabus (Mason Catalog).

Mason uses electronic mail 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).

## 2. Article Critique                                                                                10%

Students will submit one article critique, regarding an article from an outside source.  At least one citation from the textbook or assigned articles should be included in the critique, as well as an assessment of the article, as explained in the rubric.  The article should relate to teaching elementary science. APA citations & references should be included.

## 3. Microteaching: Inquiry mini-lesson                                                10%

Students will work collaboratively in grade level groups to plan & implement an inquiry activity with their peers in the EDUC 514 class.  Students are encouraged to draw from the activities provided in the second half of the textbook, but may draw from other resources, as well.  Students should identify the relevant VA SOL or NGSS standard(s) that are met by the activity and discuss.

## 4. School-to-Home Cultural Connections to Science                          10%

Teachers of elementary children are particularly responsible for initiating and encouraging

communication between their students' families and the school. It is vital that teachers create relationships with families and the community, particularly when teaching in a school with cultural and linguistic diversity (whether in the U.S. or around the world).

The student will develop **one** of the following, and will include citations of at least two course readings to support work:

- A one-page newsletter/handout with ideas for families to extend science development that builds on classroom activities on a particular topic or concept. The newsletter must provide opportunities for the child to bring back products done with family members at home.
- A detailed plan for a "skill backpack". The backpack can remediate or extend a mathematics or science skill that students often have a difficult time developing or provide an extension of a classroom activity for students with advanced proficiency. The backpack must provide opportunities for the child to bring back products done with family members at home.
- A detailed plan for a classroom or school family science night. The plan should include how the student will involve parents and what activities will be done.

**Field Project**                                                                                  **30%**

**A.**      All TCLDEL licensure courses have a required Performance Based Assessment (PBA). The Field Project is the PBA for this course, the **Science Inquiry Unit Plan & Video Tape Analysis**. Students will design an integrated, inquiry-based, hands-on science unit (minimum of six connected lessons) that demonstrates an understanding of topics presented during the semester. Units may be based on National or State Standards K-6.  Students also need to complete a PYP Planner. Students will post the Unit Plans to TK20 for review and grade assignment.  Be sure to identify your cohort.

**B.**      Students will teach at least two lessons from their unit and reflect on their experience with respect to student learning as part of their unit submission.  A peer or administrator should observe both of the lessons taught and complete a Science Teaching Feedback Form on each lesson for a total of two completed forms. Feedback from these two forms should be incorporated during your reflections. Please see the Science Teaching Feedback Form in this syllabus.

**5.  Field Experience**                                                                              **10%**
All TCLDEL courses require 20 hours of field experience in elementary classrooms.  For this course, teaching the two science lessons and submitting two Science Teaching Feedback Forms in this syllabus along with the Reflective Paper on your field placement site's physical environment, learning climate, the teacher, and the students; TCLDEL Field Experience Record (includes log of hours); and TCLDEL Field Experience Evaluation Form can be considered the field experience component of the class.

If you cannot teach the two science lessons during your regularly scheduled field work, you will need to make arrangements to complete the science teaching assignments at another time. After a "satisfactory" completion of Field Experience a course grade will be provided. Signed documents must be submitted to the instructor.  All field experience documents must be loaded into TK20. Also, please see EDUC 514 Field Experience Assessment Rubric in this syllabus.

**6.  Final Project**                                                                                 **20%**

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Take home final exam.  Students will select two topics to address that show understanding of issues that are presented during the semester.  Responses should be limited to two to three pages, double-spaced.

All assignments should be in APA format.

*If you need access to students in a classroom setting to conduct your Field Project, you can either join a teacher in this class or see me to make arrangements no later than the first week of class.*

## Class Participation Rubric

| Unsatisfactory (<70) | Minimal (70-79) | Competent (80-89) | Excellent (90-100) |
|---|---|---|---|
| Does not ask questions or make any observations that indicate reading of assigned material. Does not participate in small groups and is frequently tardy or absent. | Does not ask questions or make any observations that indicate reading of assigned material. Does not participate in small groups and is frequently tardy or absent. | Frequently asks questions or makes observations that indicate reflection and some reading of assigned material. Participates very actively in small groups or class discussions. May be tardy two or three times or one unexcused absence. | Consistently asks thoughtful, analytic questions or makes astute observations that indicate reflection and reading of assigned material. Participates very actively in small groups or class discussions. Attends class regularly and on time. |

## Article Critique Rubric

|  | Outstanding (90-100) | Above Expectations (80-89) | Meets Expectations (70-79) | Does Not Meet Expectations (0-69) |
|---|---|---|---|---|
| **Relevance** | Relates personal reactions and/or raises relevant questions throughout response. | Relates a few personal reactions and/or raises relevant questions to elementary science. | May relate personal reactions and/or raises relevant questions to elementary science. | Stretches to raise relevant questions and/or make a relevant personal reaction to elementary science. |
| **Summary** | Summarizes article clearly, articulately and briefly. | Summarizes article clearly and briefly. | Summarizes article briefly with some coherence. | Summary is unclear and poorly written. |
| **Critique** | Critique is expressed clearly and supported with reference(s). | Critique is expressed clearly and supported with a reference. | Critique is expressed clearly. | Critique is unclear. |
| **Due Date** | Instructor receives critique before or on due date. | Instructor receives critique before or on due date. | Instructor receives critique on due date. | Instructor receives critique after due date. |

## Rubric: School to Home Cultural Connections to Mathematics and Science

|  | Exceeds Expectation | Meets Expectations | Does Not Meet Expectations |
|---|---|---|---|
| **Directions** | Provides clear, parent friendly directions for family members to engage child in mathematics and/ or science development | Provides parent friendly directions for family members to engage child in mathematics and/ or science development | Provides limited or unclear directions to engage child in mathematics and/ or science developmqent |
| **Communication** | Provides opportunities and encouragement for parent-child-school communication | Provides limited opportunities or encouragement for parent-child-school communication | Provides limited or no opportunities or encouragement for parent-child-school communication |
| **Readings** | Shows clear evidence of incorporating at least two readings (includes citations) | Shows some evidence of incorporating at least two readings (includes citations) | Limited or ineffective incorporation of course readings |

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# EDUC 514 PBA Rubric

| Criteria & Standard | Score | | | |
|---|---|---|---|---|
| | **Does not meet standard**<br>**0 - 1** | **Approaches standard**<br>**2** | **Meets standard**<br>**3** | **Exceeds standard**<br>**4** |
| **Unit Content**<br>**Science**<br>*ACEI Standard 2.2 – Science Content Knowledge*<br><br>*InTASC 4(c)* | The candidate **does not** engage learners in applying methods of inquiry and standards of evidence used in science. | The candidate engages learners in applying methods of inquiry **but disregards the standards of evidence** used in science, which may include nature of science. | The candidate **engages** learners in applying methods of inquiry and the **appropriate** standards of evidence used in science, including the nature of science. | The candidate engages learners in applying **multiple methods** of inquiry and **appropriate** standards of evidence used in science by implementing **authentic tasks** and meaningfully conveying the nature of science to students. |
| **Unit Content**<br>**Instructional Differentiation**<br>*ACEI Standard 3.2 Adaptation to Diverse Learners*<br><br>*InTASC 2(a)* | The candidate **does not** design, adapt, or deliver instruction to address each student's diverse learning strengths and needs and **did not** create opportunities for students to demonstrate their learning in different ways. | The candidate designs, adapts, and delivers instruction to address **some student's** diverse learning strengths and needs and creates **few opportunities** for some students to demonstrate their learning in different ways. | The candidate designs, adapts, and delivers instruction to address **each student's** diverse learning strengths and needs and creates opportunities for students to demonstrate their learning in different ways. | The candidate designs, adapts, and delivers **student-centered instruction** that addresses **each student's** diverse learning strengths and needs and creates **multiple opportunities** for students to demonstrate their learning in different ways. |
| **Unit Content**<br>**Manages Learning Environment**<br><br><br>*InTASC 3(d)* | The candidate **does not plan** ways to manage the learning environment to actively **and/or** equitably engage learners. The candidate **does not** show evidence of organizing, allocating, and coordinating the resources of time, space, and learner's attention. | The candidate plans ways to **marginally** manage the learning environment to actively **and** equitably engage **some** learners by organizing, allocating, and coordinating the resources of time, space, and learner's attention. | The candidate plans ways to **effectively** manage the learning environment to actively and equitably engage **the majority** of learners by organizing, allocating, and coordinating the resources of time, space, and learner's attention. | The candidate plans ways to **effectively** manage the learning environment to actively and equitably engage **all** learners by **creatively** organizing, allocating, and coordinating the resources of time, space, and learner's attention. |

| Criteria & Standard | Score | | | |
|---|---|---|---|---|
| | Does not meet standard<br><br>0 - 1 | Approaches standard<br><br>2 | Meets standard<br><br>3 | Exceeds standard<br><br>4 |
| **Unit Content - Integration of Science**<br>*ACEI Standard 3.1 Integrating & Applying Knowledge for Instruction* | The candidate **does not** design instruction that integrates science topics with other s subject. | The candidate designs instruction that integrates science topics with one other subject. | The candidate designs instruction that integrates science topics with several other subjects clearly to create meaning for students. | The candidate designs instruction that integrates science topics with several other subjects skillfully and creatively to make meaning for students |
| **Unit Content Assessment**<br><br>*ACEI Standard 4.0 Assessment for Instruction*<br><br>*InTASC 8(b)* | The candidate **does not** provide evidence of monitoring student learning, **and/or does not** engage learners in assessing their progress, **and/or does not** provide evidence of adjusting instruction in response to student learning needs. | The candidate provides **minimal** evidence of monitoring student learning and engaging learners in assessing their progress, but the candidate rarely adjusts instruction in response to student learning needs. | The candidate provides **consistent** evidence of monitoring student learning, engaging learners in assessing their progress, and adjusts instruction in response to student learning needs. | The candidate provides **substantial** evidence of continuously monitoring student learning, engaging learners in assessing their progress, and **innovatively** adjusts instruction in response to student learning needs. |
| **Unit Content**<br>**Health and Safety**<br>*ACEI Standard 2.6 Health Education* | The candidate **does not** address health or safety issues. | The candidate addresses health and safety issues minimally but fails to address misconceptions or real world applications | The candidate addresses potentially dangerous health and safety issues in **all** unit activities to help students clarify misconceptions and bring real world applications to the unit | The candidate highlights potentially dangerous health and safety issues in **all** unit activities to help students clarify misconceptions and bring extensive real world applications to the unit |
| **Unit Content**<br>**Adapts Instruction**<br><br>*InTASC 8(a)* | The candidate **does not** adapt instruction to the needs of individuals and groups of learners. | The candidate adapts instruction to the needs of **some individuals** and groups of learners but **seldom** incorporates appropriate strategies or resources. | The candidate uses appropriate strategies and resources to adapt instruction to the needs of individuals and groups of learners. | The candidate uses appropriate and **creative** strategies and resources within **authentic tasks** to adapt instruction to the needs of individuals and groups of learners. |

| Criteria & Standard | Score | | | |
|---|---|---|---|---|
| | Does not meet standard<br><br>0 - 1 | Approaches standard<br><br>2 | Meets standard<br><br>3 | Exceeds standard<br><br>4 |
| **Lesson Plan Content**<br>**Science Inquiry Process**<br><br>*ACEI Standard 3.3 Development of Critical Thinking and Problem Solving*<br><br>*InTASC 8(f)* | The candidate **does not** engage learners in developing higher order questioning skills **or** metacognitive processes. Lesson content, objectives, and standards do not require students to demonstrate critical thinking or problem solving skills | The candidate engages **some learners** in developing higher order questioning skills **or** metacognitive processes. Lesson content, objectives, and standards requires students to demonstrate critical thinking and problem solving skills only in some cases | The candidate engages **most** learners in developing higher order questioning skills **and** metacognitive processes. Lesson content, objectives, and standards requires students to demonstrate critical thinking and problem solving skills | The candidate engages **all** learners in developing higher order questioning skills **and** metacognitive processes within authentic science learning situations. Lesson content, objectives and standards requires students to repeatedly demonstrate critical thinking and extensive problems solving skills |
| **Lesson Plan Content**<br><br>**Stimulates learner reflection**<br><br><br><br>*InTASC 4(d)* | The candidate **does not** stimulate learner reflection on prior content knowledge, does not link new concepts to familiar concepts, and does not make connections to learners' experiences. | The candidate stimulates learner reflection on prior content knowledge, **but neither links new concepts** to familiar concepts **nor makes connections** to learners' experiences. | The candidate stimulates learner reflection on prior content knowledge, links new concepts to familiar concepts, and makes connections to learners' experiences. | The candidate **creatively** stimulates learner reflection on prior content knowledge, links new concepts to familiar concepts, and makes connections to learners' experiences **using student-centered instruction.** |
| **Lesson Plan Content**<br>**Questioning to Promote Inquiry**<br><br><br><br>*InTASC 8(i)* | The candidate **does not** ask questions to stimulate discussion. | The candidate **asks** questions to stimulate discussion but the purposes tend to be **low level**. | The candidate asks **appropriate** questions to stimulate discussion that serves different purposes (e.g., probing for learner understanding, helping learners articulate their ideas and thinking processes, stimulating curiosity, and helping learners to question). | The candidate asks **varied** questions to stimulate discussion that serves different purposes (e.g., probing for learner understanding, helping learners articulate their ideas and thinking processes, stimulating curiosity, and helping learners to question) **within authentic learning situations.** |

| Criteria & Standard | Score | | | |
|---|---|---|---|---|
| | Does not meet standard<br><br>0 - 1 | Approaches standard<br><br>2 | Meets standard<br><br>3 | Exceeds standard<br><br>4 |
| **Lesson Plan Content Developmental Appropriateness**<br>*ACEI Standard 1.0 Development, Learning & Motivation*<br><br>*InTASC 1(b)* | The candidate's instruction **does not** take into account individual learners' strengths, interests, and needs and **does not** enable learners to advance and accelerate his/her learning. | The candidate creates instruction that takes into account **some students'** strengths, interests, and needs and that **enables some learners** to advance and accelerate his/her learning. | The candidate creates **developmentally appropriate instruction** that takes into account individual learners' strengths, interests, and needs and that **enables each learner** to advance and accelerate his/her learning. | The candidate creates **student-centered instruction** that is **developmentally appropriate** and takes into account individual learners' strengths, interests, and needs and that **enables each learner** to advance and accelerate his/her learning. |
| **Lesson Plan Content Critical thinking and problem solving**<br>*ACEI Standard 3.3 Development of critical thinking and problem solving* | The candidate does not provide authentic opportunities for students to engage in critical thinking and problem solving | The candidate provides few opportunities for students to engage in critical thinking and problem solving | The candidate provides some opportunities for students to engage in critical thinking and problem solving | The candidate provides multiple opportunities for students to engage in critical thinking and problem solving |
| **Lesson Plan Content Active Engagement**<br>*ACEI Standard 3.4 Active engagement in Learning* | The candidate does not incorporate any hands-on activities to engage learners in inquiry. | The candidate incorporates some low-quality activities | The candidate incorporates at least one engaging hands-on science activity or experiment. | The candidate incorporates at least one high quality, engaging hands-on science activity or experiment that is designed to engage learners in inquiry. |
| **Lesson Plan Content Varies Instruction Role**<br><br>*InTASC 8(d)* | The candidate **does not** vary his/her role in the instructional process (e.g. instructor, facilitator, coach, audience). | The candidate **sometimes** varies his/her role in the instructional process (e.g. instructor, facilitator, coach, audience) but it is in relation to **neither** the content **nor** the purpose of instruction nor the needs of learners. | The candidate **varies** his/her role in the instructional process (e.g. instructor, facilitator, coach, audience) in relation to the content and purpose of instruction and the needs of learners. | The candidate **consistently** varies his/her role in engaging instructional processes (e.g. instructor, facilitator, coach, audience) in relation to the content and purpose of instruction and the needs of learners. |

| Criteria & Standard | Score | | | |
|---|---|---|---|---|
| | Does not meet standard<br><br>0 - 1 | Approaches standard<br><br>2 | Meets standard<br><br>3 | Exceeds standard<br><br>4 |
| **Video Clip & Reflective Analysis**<br><br>**Technology to support instruction**<br><br>*InTASC 9(d)* | The candidate **does not use technology** to support analysis, reflection, and problem-solving strategies for instruction. | The candidate **ineffectively uses technology** to support analysis, reflection, or problem-solving strategies for instruction. | The candidate **uses technology** to support analysis, reflection,<br><br>and problem-solving strategies for instruction. | The candidate **effectively uses technology** to support a **thorough** use of analysis, reflection, and problem-solving strategies for instruction. |
| **Video Clip & Reflective Analysis**<br>**Ongoing Learning**<br><br>*InTASC 9(a)* | There was **no evidence** that the candidate engages in ongoing learning opportunities to plan to improve teaching and learning. | There was **minimal evidence** that the candidate engages in ongoing learning opportunities to plan to improve teaching and learning. | There was **evidence** that the candidate **effectively** engages in ongoing learning opportunities to plan to improve teaching and learning. | There was **extensive evidence** that the candidate **effectively** engages in ongoing learning opportunities to plan to improve teaching and learning. |
| **Video Clip & Reflective Analysis**<br><br>**Individual Differences**<br><br><br><br><br><br>*InTASC 9(e)* | There is **no evidence** that the candidate reflects on his/her personal biases. The candidate did not access resources to deepen his/her own understanding of a variety of individual differences to build relationships and create more relevant learning experiences. | The candidate provides evidence that he/she reflects on his/her personal biases and accesses resources to deepen his/her own understanding of **limited** individual differences to build relationships and create relevant learning experiences. | The candidate provides evidence that he/she reflects on personal biases<br><br>and accesses **appropriate** resources to deepen his/her own understanding of a **variety of individual differences** to build relationships and create more relevant learning experiences. | The candidate provides evidence that he/she **effectively** reflects on personal biases and accesses **multiple resources** to deepen his/her own understanding of a **variety of individual differences** to build relationships and create **engaging**, relevant learning experiences. |
| **Holistic Reflection**<br>**Professional Learning Experiences**<br><br><br><br>*InTASC 9(b)* | The candidate **does not** take responsibility for promoting the learners' growth and development in a reflective statement. The statement does not specifically address any of the critical levels of reflections. | The candidate takes responsibility for promoting the learners' growth and development in a reflective statement, but **does not address all** of the levels of critical reflection. | The candidate takes responsibility for promoting the learners' growth and development in a reflective statement that includes **all of the levels of critical reflection**. | The candidate takes responsibility for promoting the learners' growth and development in a **well-written and insightful** reflective statement that includes **all of the levels of critical reflection**. |

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| Criteria & Standard | Score | | | |
|---|---|---|---|---|
| | Does not meet standard 0 - 1 | Approaches standard 2 | Meets standard 3 | Exceeds standard 4 |
| **Holistic Reflection Effective Use of Data** _InTASC 9(c)_ | The candidate **does not** use a variety of data to evaluate the outcomes of teaching and learning and to adapt planning and practice. | The candidate **uses a variety of data** to evaluate the outcomes of teaching and learning but does not provide strategies to adapt planning and/or practice. | The candidate **uses a variety of data** to evaluate the outcomes of teaching and learning and to adapt planning and practice. | The candidate **effectively uses a variety of data** to evaluate the outcomes of teaching and learning and to appropriately adapt planning and practice. |
| **Holistic Reflection Ongoing Analysis & Reflection** _InTASC 9(l)_ | There was **no evidence** that the candidate used ongoing analysis and/or reflection to improve planning and practice. The candidate does not provide ideas for follow-up on the two lessons observed by teacher/supervisor. | The candidate **uses marginal analysis and reflection strategies** to improve planning and practice. The candidate provides ideas for follow-up on the two lessons observed by teacher/supervisor, but they do not stem from the feedback form or classroom assessments | The candidate uses **ongoing analysis and reflection** to improve planning and practice. The candidate provides ideas for follow-up on the two lessons observed by teacher/supervisor that stem from the feedback form and classroom assessments. | The candidate **effectively uses ongoing analysis and deep reflection** to improve planning and practice. The candidate provides **robust and specific** ideas for follow-up on the two lessons observed by teacher/supervisor that stem from the feedback form and classroom assessments. |

Science Teaching Feedback Form
Please use this form OR another relevant teacher feedback form. Evaluator feedback does not influence the teacher's course grade in EDUC 514.  This form should be completed twice, once *each* for two different lessons.

Teacher: _____ Date: _____

Observer: _____ Title: _____

School: _____ Grade/Subject(s): _____

Lesson Observed:_____

Please score the teacher on the following aspects based on your observation of their teaching two lessons from their science unit completed as a portion of their course requirements for EDUC 514. This form should be completed for <u>each</u> observation so that you have completed the form <u>twice</u>. It is not required that the same person complete both forms. <u>Please note that the content of your feedback does not influence the teacher's course grade in EDUC 514</u>. Instead, the teacher is requested to reflect on your feedback as a valuable opportunity to grow as a professional educator, and the quality of their reflection is scored as part of their final grade on their unit assignment.

| Criteria | Exceeds Standard – 4 | Meets Standard – 3 | Approaches Standard - 2 | Needs Improvement - 1 |
|---|---|---|---|---|
| <u>Lesson</u> Content – Science Inquiry Process<br><br>*ACEI 2.2* | Lesson content, objectives and standards requires students to repeatedly demonstrate critical thinking and extensive problems solving skills | Lesson content, objectives, and standards requires students to demonstrate critical thinking and problem solving skills | Lesson content, objectives, and standards requires students to demonstrate critical thinking and problem solving skills only in some cases | Lesson content, objectives, and standards do not require students to demonstrate critical thinking or problem solving skills |
| <u>Lesson</u> Content – Developmental Appropriateness<br><br>*ACEI 1.0* | Lesson content, objectives, and standards are developmentally appropriate | Lesson content, objectives, and standards are developmentally appropriate in most cases | Lesson content, objectives, and standards are developmentally appropriate only in some cases | Lesson content, objectives, and standards are not developmentally appropriate |
| <u>Lesson Content – Critical thinking and problem solving</u><br><br><u>*ACEI 3.3*</u> | Includes extended opportunities for students to engage in critical thinking and problem solving | Includes sufficient opportunities for students to engage in critical thinking and problem solving | Includes minimal opportunities for students to engage in critical thinking and problem solving | No authentic opportunities are provided for students to engage in critical thinking and problem solving |
| <u>Lesson</u> Content – Active Engagement<br><br>*ACEI 3.4* | Includes extended high quality, engaging hands-on/minds-on activities/experiments | Includes sufficient high quality, engaging hands-on/minds-on activities/experiments | Includes minimal hands-on/minds-on activities/experiment | Includes a low-quality, unengaging hands-on/minds-on activity/experiment(s) |

| Lesson – Content – Communication to Foster Collaboration ACEI 3.5 | Models effective written and oral communication conveying ideas and information to students extending their understanding of science | Models effective written and oral communication to convey information to students | Models good communication skills written and orally to share information with students | Models poor communication skills in written and oral forms; lacks clarity and often confuses students |
|---|---|---|---|---|
| Lesson – Content – Communication to Foster Communication ACEI 3.5 | Models effective questioning strategies including using higher level questioning, restating ideas, drawing connections and using cues with active student engagement | Models effective questioning strategies using higher level questions, some student engagement | Good use of questioning strategies, some attempt to ask higher level questions, some student involvement | Poor use of questioning strategies; asks low level questions with little or no student engagement |
| Lesson Content - Health and Safety ACEI 2.6 | Highlights potentially dangerous health and safety issues in all unit activities to help students clarify misconceptions to bring extensive real world applications to the unit | Mentions potentially dangerous health and safety issues in all unit activities to help students clarify misconceptions to bring extensive real world applications to the unit | Some health and safety issues are addressed in the unit but without addressing misconceptions or real world applications | No health or safety issues are addressed |

Additionally, please use the space below to provide feedback to the teacher in following areas:

PREPARATION and PLANNING:

INSTRUCTIONAL METHODS and MANAGEMENT:

ASSESSMENT:

PROFESSIONALISM:

RECOMMENDATIONS:

Observer's Signature _____ Date _____

Teacher's Signature _____ Date _____

Observers: When completing the second page of the Science Teaching Feedback Form please consider the following list of characteristics and practices of effective teachers.

**An effective teacher…**

Planning and Preparation:
- Uses curriculum guidelines and learning standards during planning to meet the needs of learners
- Develops unit and lesson plans to meet the developmental and academic needs of diverse learners.
- Plans a sequence of engaging activities, which are focused on achievement of the instructional objective(s).
- Selects learning experiences, technology and materials to accommodate different styles and levels of learning.
- Relates activities to students' culture, interests, knowledge, and experiences.
- Integrates materials and activities that are sensitive to culture, disabilities and gender.
- Gathers, creates and organizes materials and equipment in advance.
- Plans for using various methods to assess students' learning.
- Collaborates with other teachers and specialists in planning.

Instructional Methods and Management:
- Uses a variety of teaching methods, techniques and strategies.
- Consistently presents accurate content.
- Consistently provides clear instruction.
- Provides opportunities for learners to participate actively and successfully at different levels.
- Provides opportunities for learners to work independently and in cooperative groups.
- Encourages critical thinking and problem solving.
- Appropriately uses a variety of materials, technology and other media to achieve instructional objectives.
- Motivates students through interesting and challenging activities.
- Communicates high expectations while respecting individual differences and cultural diversity.
- Creates and/or uses established routines to provide an orderly and supportive environment.
- Creates and/or uses established routines to provide an orderly and supportive environment.
- Demonstrates courtesy and caring in relationships with students.
- Manages time, space and materials to keep students productively involved in learning.
- Demonstrates ability to manage 2/+ classroom activities simultaneously, with evidence of attention to each.
- Works toward developing a positive classroom community.
- Handles disruptive or destructive behavior firmly and fairly.

Assessment:
- Uses assessment that matches the objective.
- Uses assessment to inform future instruction.
- Adapts pacing, methods and materials using feedback from students.
- Assesses for understanding and mastery through observation of students' performance.
- Assesses for understanding and mastery through evaluation of students' work.
- Assesses for understanding and mastery through evaluation of students' work.
- Keeps records of students' progress and problems.
- Communicates with students to inform them of their progress.
- Gathers, organizes, and analyzes student data to communicate progress to others.

Professionalism:
- Possesses the basic skills and knowledge needed to guide students' learning.
- Demonstrates effort to continue learning both content and pedagogy.
- Reflects on his/her professional practice.
- Welcomes assistance for improvement.
- Implements suggestions and recommendations for improvement.
- Can develop and explain professional judgments.
- Engages in productive relationships with professional colleagues and support staff.
- Demonstrates stamina, flexibility and a positive attitude.
- Is responsible, dependable and observant of school policies and procedures.
- Demonstrates dispositions associated with an effective career educator.
- Projects a professional image in terms of demeanor and appearance.

## Field Experience: Documentation of Fieldwork Experiences

All TCLDEL courses require 20 hours of field experience in elementary classrooms. All those observing in a classroom are required to submit a **TCLDEL Field Experience Record (includes log of hours) and TCLDEL Field Experience Evaluation Form** to your **instructor** via Tk20 no later than **the last date of the semester** of your fieldwork (or by the relevant extended summer deadline). The documents **must have signatures from either their teachers/or supervisors before submission.** Those conducting fieldwork in their own schools should provide the **principal/head's permission**.

Additionally, for this course you must teach two science lessons from your unit and submit two completed Science Teaching Feedback Forms from this syllabus along with the Reflective Paper. If you cannot teach the two science lessons during your regularly scheduled field work, you will need to make arrangements to complete the science teaching assignments at another time.

## EDUC 514 Field Experience Assessment Rubric

**Checklist: Are all items Submitted?**
____ **Signed TCLDEL Field Experience Record (includes log of hours)**
____ **Signed TCLDEL Field Experience Evaluation Form**
____ **Two signed Science Teaching Feedback Forms (OR similar teaching feedback forms) on two**
      **lessons taught from unit**
____ **Reflective paper on observations and teaching experiences**

**Excellent**
- Completed 20 hours of Field Experience
- Unit Plan (including IB Planner) is complete and thoughtfully created; Reflective paper connects meaningfully to instructional changes for the future
- Writes clearly with few stylistic and grammatical errors
- Organizes paper in deliberate manner
- Reflects thoughtfully for all areas
- Supports analysis and application by frequently citing class content
- Applies knowledge to future teaching situations

**Satisfactory**
- Completed 20 hours of Field Experience
- Unit Plan and reflective paper (including IB Planner) is mostly complete
- May write with some lack of clarity and/or consistent stylistic or grammatical errors
- May organize paper in loose fashion that is difficult to follow
- May not reflect for all areas or does not reflect with depth
- Supports analysis by citing class content inaccurately or using few citations
- May not apply knowledge to future teaching situations

**Unsatisfactory**
- Did not complete 20 hours of Field Experience
- Unit Plan and reflective paper (including IB Planner) is lacking in specific details
- Writes with some lack of clarity and/or many stylistic and grammatical errors
- Organizes paper in fashion that is difficult or impossible to follow
- Does not reflect for all areas or does not reflect with depth
- Does not support analysis by citing class content
- Does not apply knowledge to future teaching situations

**Evaluator's Comments**

The following common assessment for the College of Education and Human Development will be administered during the course.

<div align="center">

**Video Analysis Assessment Task**
**(In EDCI 514 this is embedded within your final Field Project)**

</div>

**Assessment Objectives**

- The candidate will use knowledge of learning differences and assessment to develop an instructional plan including a plan for assessing the student progress.

- The candidate will implement this plan and video record his/her teaching,

- The candidate will use all three levels of critical reflection to analyze an instructional episode to make connections between situations they encounter and the broader social, political, and economic forces that influence those events.

- The candidate will review his/her teaching, and select and edit vignettes to use in critical reflection.

- The candidate will reflect upon a "critical incident" from a lesson and propose alternative ways of addressing the incident to impact future teaching.

**Research Base**

According to John Dewey (1933) reflection is an active, persistent, and careful consideration of any belief or supposed form of knowledge in light of the grounds supporting it and future conclusions to which it tends. Critical reflection delves even more deeply. Critical reflection allows candidates to make teaching decisions on the basis of a conscious awareness and careful consideration of the assumptions on which the decisions are based, and the technical, educational, and ethical consequences of those decisions. The end result of critical reflection for the individual is cognitive change (Yost et al., 2011).

Van Manen (1977) describes three hierarchical levels of reflection:
- **Technical reflection** – focuses on effective application of skills and knowledge in the classroom so reflection focuses on analyzing the effects of strategies used.
- **Practical reflection** – focuses on the assumptions underlying a specific practice and the consequences of that practice on student learning. It implies the assessment of the educational implications of actions and beliefs.
- **Critical reflection** – includes emphases from technical and practical reflection and goes deeper. It focuses on questioning moral and ethical dimensions of decisions related, directly or indirectly, to the classroom. Candidates make connections between situations they encounter and the broader social, political, and economic forces that influence those events.

Brookfield (1990) noted that a "critical incident" is a 'vividly remembered event which is

unplanned and unanticipated' (pg 84). Reflecting upon a critical incident can affect change in:

- your thinking,
- your practice,
- your attitudes, and
- your understanding.

A critical incident might be an interaction with a student; it might be part of a teaching episode; it could be a parent interaction or just a solitary "ah-ha" moment. Your analysis will focus on what you learn from reflecting on this event.

**Video Analysis Assessment Task**

This assignment requires you to reflect at all three levels of reflection. During your internship you will record yourself teaching a lesson for which you have developed a detailed lesson plan. **Prior to recording, be sure to obtain appropriate permissions from school system, school, and families as needed in your specific context.**

This assignment consists of three parts: (a) a **lesson plan**, (b) **the holistic reflection,** and (c) **critical incident video clip and analysis**.

You will submit:

- **A Lesson Plan for the Recorded Lesson**
  Develop a lesson plan using the standard lesson plan format for your program and/or school placement. Make arrangements to videotape the lesson for use in analyzing a "critical incident." Teach the lesson. (After reflecting on the lesson you will be asked to identify a "critical incident" in the lesson and highlight that section of the lesson before submitting it for this assignment.)

- **Holistic Reflection of the Lesson**
  After teaching the lesson, write a reflective statement about the teaching episode that includes each of the following levels of reflection: technical, practical, and critical.

- **Critical Incident Video Clip and Analysis**
  After reflecting on the lesson, select a segment of the lesson video (approximately 5-10 minutes in length) that contains a critical incident. Highlight the section of the lesson plan that you select as your critical incident.

The following should be used to guide your description and analysis of the critical teaching incident captured within your videotaped lesson:
   a. Provide a brief description of what is happening in the selected clip.
   b. Explain why this particular segment was selected.
   c. Briefly describe what went well and what aspects of the lesson you would like to revise.
   d. Propose alternative ways of handling the critical incident. You should draw upon your readings, knowledge of best practice, observations, and course work for support.
   e. Summarize what was learned and how it will impact your future teaching.


*The Video Analysis Assessment Task Rubric is embedded within the PBA rubric.*