Evidence-Based Teaching with Technology

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Class Number: 6120 C1
September 5, 2018 – June 1, 2019
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COURSE DESCRIPTION
This course is designed to have educators implement, refine, collaborate, reflect, and share effective teaching strategies introduced during professional development sessions attended during the 2018 – 2019 school year. Most of the professional development sessions will focus on using immediately accessible technologies to current evidence-based teaching strategies. The purpose of the course is to provide on-going instructional and technological support to make professional development sessions effective at creating long-term, successful teaching strategies to meet the needs of twenty-first century students.

* 1 graduate hours are available through Professional Development Services, Ashland University, at a cost of $175 per credit hour.

Attending the professional development sessions for graduate credit is not necessary, just a perk for some teachers. You may attend as many PD sessions that you desire. The hope is that some teachers will attend the PD sessions and continue to disseminate meaningful teaching strategies with their hard working colleagues.

COURSE REQUIREMENTS

1. ATTENDANCE
To earn one credit hour, the educator must attend 12.5 hours of professional development hours. The educator is only required to attend 10 of the workshops, including the Teacher-Based Teams. This will earn you 1 graduate hour at a cost to you of $180.

2. ASSIGNMENTS/GRADING
Lesson Development: During the school year, the graduate student must develop lesson, using evidence-based teaching strategies, using two or more of the techniques trained during a professional development sessions, implement the lesson in the classroom, and type a report of the lesson outcome. The report must include:
• Detailed lesson plans, including how the lesson was evidence-based.
• Description of the actual lesson implementation.
• Reflection on the lesson’s success, influence on student growth, and the complex interactions between these.
Due by May 1, 2019

Grading: All assignments are graded pass/fail. All assignments must be completed satisfactorily. If an assignment is not created satisfactorily, it may be revised until it meets the standards of the instructor. All assignments must be typed with perfect spelling and grammar. Hand in your best work first. Earning graduate credit is time dependant. You must attend all professional development opportunities on time to receive credit.
3. STUDENTS WITH SPECIAL NEEDS
Students who have special disabilities and require accommodation should notify the instructor as soon as possible to those needs can appropriately be addressed. It is the student’s responsibility to provide documentation of the disability.

TENTATIVE AGENDA
Link to Google Calendar: tiny.cc/ebtcal19
The agenda will be modified based on teacher demand and need. Times may also be adjusted to meet teacher needs. For example, if you cannot ever attend sessions because of other obligations, and would like to attend some sessions, the instructor will do his best to accommodate you.
All courses will meet on Wednesdays, 3:10-4:10 pm, in my classroom (room 407) unless otherwise specified.

Dates of meetings will vary (4-5), Teacher-Based Teams
Meeting times and agenda will vary based on the different Teacher-Based Teams.

September 5, Google Classroom: Reduce cognitive load
Disseminate, discuss, quiz, and organize the digital resources around the Google Classroom learning management system. Cognitive load is the amount of thinking required for a task. By having students routinely access digital materials, students are less distracted by new tasks and can better focus on the learning goals. That being said clearly telling students what you want them to learn during a lesson has one of the largest impacts on student learning.

September 19, PearDeck: Low-stakes, frequent quizzes
Multiple question types and equitable participation of the audience response system makes PearDeck my favorite tool for formative assessments. Low stakes frequent quizzing not only allows you and your students a check on their understanding, but the process of quizzing is one of the most efficient methods of learning material.

September 26, Google Apps for Education
Practice the skills you want students to master in a whole-class setting, or at their own pace.

October 3, Feedback Strategies
Immediate feedback is one of the most widely cited methods of improving student learning. Discuss multiple methods to provide a range of feedback to help guide your students to improve. Feedback is not praise. Feedback gives students tangible evidence for how they did and provides methods for improvement.

October 8, (In-service) PearDeck: Low-stakes, frequent quizzes
Multiple question types and equitable participation of the audience response system makes PearDeck my favorite tool for formative assessments. Low stakes frequent quizzing not only allows you and your students a check on their understanding, but the process of quizzing is one of the most efficient methods of learning material.

October 24, Re-Representation and Generation: Summarize new learning in a new way
Concept mapping (like flow charts, Venn diagrams, and mind maps) has been repeatedly demonstrated for more than two decades to improve student learning. Students bring information in from the materials we generate (worksheets, books, videos, etc.), and they integrate that information in a variety of ways (which we don’t quite understand). Then, when students are asked to generate information they are forced to struggle with how the new
information can be represented in a different way. Learning that is more of a struggle improves knowledge attainment. (However, tasks that are too challenging do not promote learning.)

**October 31, Simulations for Modeling Critical Thinking**
Simulators, like flight simulators, are not just used by pilots. Computer simulations can be used in a variety of contexts to have students practice critical thinking and reasoning. Simulations in a classroom setting have been shown to simplify complex systems, speed up processing times helping learners experience and observe faster than they would observe in the real world, provide a platforms that are perceptually and spatially rich, and emphasize experience over explanation by allowing users to actively constructing their own learning by incrementally perturbing parameters of the simulation.

**November 28, EdPuzzle: Flipped Classroom for Meaningful Classroom Activities**
Use available resources to have lecture materials viewed by students out of class so more meaningful student activities with teacher interventions can be practiced during class time.

**January 16, Quizzes: Spaced Practice and Retrieval Practice**
Quizzes that regularly contain cumulative course content significantly improve final summative assessments. Frequent, low-stakes assessments that space questions on a topic increase help students learn a skill throughout the school year.

**January 30, Feedback Strategies continued**
Immediate feedback and spaced feedback is one of the most widely cited methods of improving student learning. Discuss multiple methods to provide a range of feedback to help guide your students to improve.

**February 6, Universal Design for Learning - Review Activities**
Universal Designed Learning, Multiple Intelligences, and research from cognitive neuroscience advocate lessons that represent content in multiple forms. Review activities that integrate multiple brain regions help draw connections for students.

**February 20, Active Learning Strategies**
Cooperative learning and project-based learning offer opportunities for students to practice skills, elaborate on personally meaningful interests, and peer-feedback and teacher-feedback.

**March 13, Reflection and Metacognition**
Self-reflection promotes student achievement scores. Many strategies for self-reflection can be implemented in your classrooms. The Dunning-Kruger effect is a cognitive bias in which people of low ability perceive that they understand material as well as those with high abilities. The goal of self-reflection is to better match one’s perceived ability with their actual ability by building self-awareness.

**March 20, Register for Credit Hours with Ashland University**
1. Be clear about what you want your students to learn
2. Tell your students what they need to know & show them what they need to be able to do
3. Use questions to check that your students understand things
4. Have students summarise new information in a graphical way
5. Give your students plenty of practice spaced out over time
6. Provide your students with feedback so they can refine their efforts
7. Allow time for every child to succeed
8. Get students working together in productive ways
9. Teach students ‘strategies’ as well as content
10. Nurture metacognition