Creating Effective Learning Environments at a Distance

Paula Talley – Manager, Professional Learning, Charles A. Dana Center

July 31, 2020

@dcmathpathways   #mathpathways   @utdanacenter

Tech Norms for Virtual Collaborative Work

- Mute audio line when not talking.

- Click "Participants" if you want to:
  - Rename your image (Hover over your name and click Rename.)
  - Raise your hand, etc.

- Use the "chat" feature when you have additional remarks to add but the conversation has moved on

- Speak clearly

- Join a breakout room when you are invited to it.

- When possible:
  - Select "start video" (especially when in breakout groups)
  - Minimize background distractions.
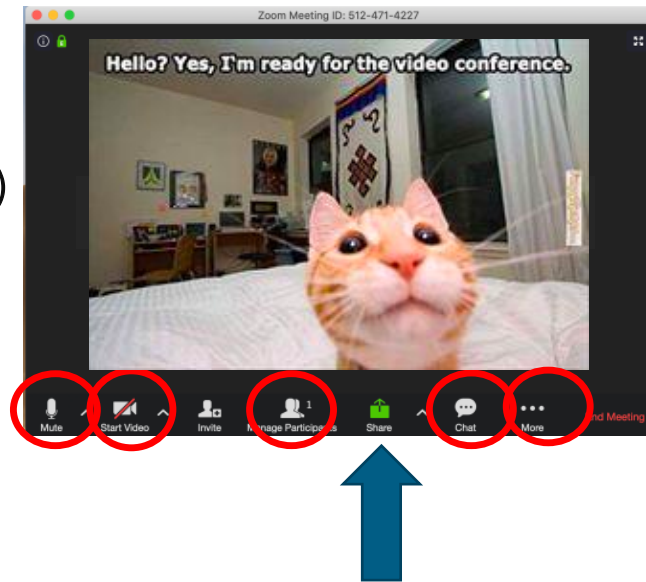
Group Norms

Make equity central.

Focus on fulfilling our charge.

Understand that those who work, learn.

Seek clarification in language and ideas.

Look for solutions, not blame.

Focus on systems, not people.

Recognize that everyone has expertise.

Be honest.

Share talk time.

Objectives of the session:

- Explore strategies for creating an effective virtual learning environment through content and pedagogy.

Icebreaker!

Go get an object that in some way symbolizes you.

You have 60 seconds.

GO!

Breakout 1: Object that symbolizes you

- Quick introductions.
- What object did you choose and why?
- Choose a timekeeper.

Benefits of icebreakers:

1. Reduces both student and instructor anxiety prior to introducing the course.
2. Fosters in a powerful way both student-student and faculty-student interactions.
3. Creates an environment where the learner is expected to participate and the instructor is willing to listen.
4. Actively engages students from the onset.
5. Conveys the message that the instructor cares about getting to know the students.
6. Makes it easier for students to form relationships early in the semester so they can work together both in and out of class.

- Lansing Community College Center for Teaching Excellence

Tools

"It's easy to look around a college campus and think – there's no digital divide here…. [But] the divide has shifted from one of technology access to one of technology maintenance… ."

"[And] college students who have older, less-reliable technology also have lower grades and higher stress levels."

Calarco, J. blog post (2020).
See also Gonzales, A., Calarco, J., & Lynch, T. (2020)

BYOT: Students may have:

- Machine differences: laptops, tablets, cell phone only
- No or outdated machines
- No or slow internet access
- No webcam or microphone
- No printer
- No access to software applications such as Microsoft Word
- No private area for joining synchronously

Top-Level Considerations for Technologies:

- What does it cost? (Instructors OR students)

- Does it work on a smartphone? How well?

- Does it meet accessibility requirements for all learners?

- What are your campus guidelines?

- Does it embed in your LMS?

- Is it sustainable?

# Student Engagement and Instruction

Good Practice in Undergraduate Education

- Encourages contacts between students and faculty.

- Develops reciprocity and cooperation among students.

- Uses active learning techniques.

- Gives prompt feedback.

- Emphasizes time on task.

- Communicates high expectations.

- Respects diverse talents and ways of learning.

Chickering, A., & Gamson, Z. (1987)

Chickering, A., & Ehrmann, S. (1996)

Community of Inquiry
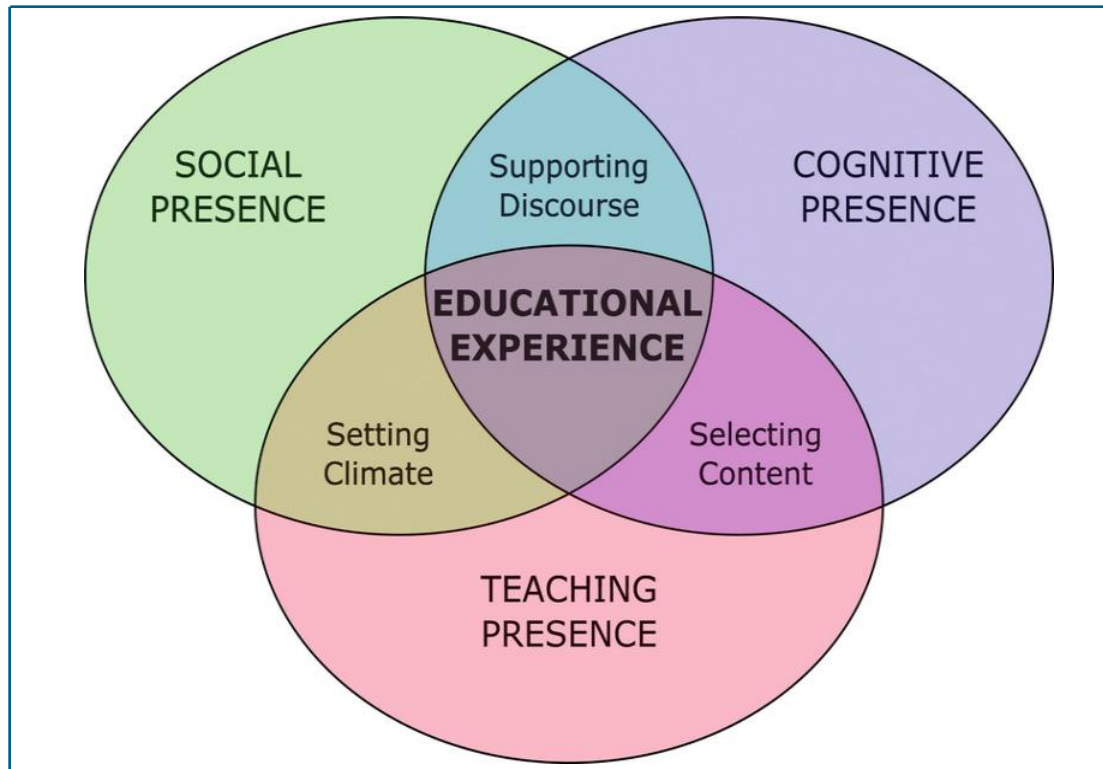
Garrison, Anderson, Archer, 1999

Teaching Presence

- Design and Organization
- Facilitating Discourse
- Direct Instruction

Assessment

Garrison (1999)

Teaching Presence

Embedding course design with scaffolded learning and formative assessment

If you want students to….

1. Upload a photo of handwritten work for their first exam

2. Create a video presentation as part of a major project

3. Email you through the class LMS when they have an issue

First, ask them to….

1. Upload a photo of a homework problem during week 1

2. ?

Darby https://www.chronicle.com/interactives/advice-online-teaching

Cognitive Presence is enhanced by teachers:

- Providing feedback through multimedia

- Encouraging students to peer facilitate

- Prompting construction:

  - Problem-based or project-based prompts

  - Debate prompts

  - Challenging stance

* Careful assessment guidelines should be set!*

Creating Teaching and Cognitive Presence

- **Create a dialog between the instructor and student**
  - Module introduction videos
  - Provide opportunities for instructor feedback and share with students when to expect feedback
  - Checking in reports or muddiest point
- **Present material in "chunks"**
  - Record short videos and then be available at least once a week to answer questions during online office hours
- **Provide multiple avenues to contact the instructor**
  - Respond in a timely manner (i.e. within 24 – 48 hours)

Macro-level Instructional Strategies:

1. Ignite – Getting the brain's attention
2. Chunk – Making information digestible
3. Chew – Actively processing the information
4. Review – Having a chance to apply new learning

Each chunk is 5-7 minutes.

There is **one** takeaway.

Hammond, Z., (2015, p.128).

Sample template:

Exhibit 3.2: Sample Course Template Menu

Content

Course Home Page
Syllabus and Schedule
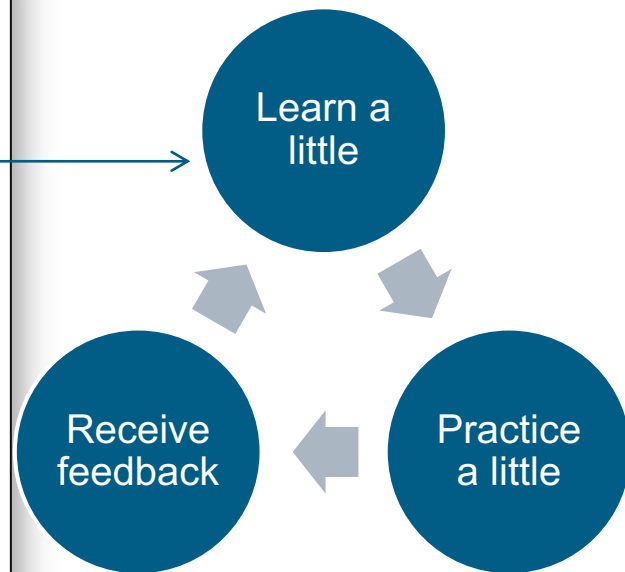Weekly Folders
MY GRADES

Communication Tools

Online Office
Announcements
E-mail
MY GROUP

Support Resources

Student Support Services
Blackboard Help

Instructor Areas

Instructor Guide
Online Course Design Standards
Course Notifications
Discussion Forums
Tools

Nilson & Goodson (2018, p.43)

Learn a little

Practice a little

Receive feedback

Breakout 2: Teaching and Cognitive Presence

- Quick introductions if needed.
- The reporter is the person whose first name comes first in the alphabet
- The timekeeper is the person whose first name comes last.
- The timekeeper also ensures everyone gets a chance to speak.

What are strategies you use for teaching and cognitive presence?

Share-out 2: Teaching and Cognitive Presence

- Reporters:

  What strategies are you using for teaching and cognitive presence?

Other participants:

- If there are any important ideas that haven't yet been mentioned, please type them in the chat box.

10 min

Creating Social Presence

Provide opportunities for discussion
- Create a "Virtual Cafe" space
- Create an "Ask Questions" space
- Use discussion forums or other collaborative tools to share time management and other study skill strategies

Assign "support groups" to meet once a week
- Encourage video

Psychosocial Factors

Capability

  Growth Mindsets (Dweck)

  Self-efficacy (Bandura)

Purpose

  Relevance to program of study

  Relevance to self/lives/family/community

Belonging

  To the class

  To the institution

  To the field

Psychosocial Factors

I depicted myself in a suit of armor to reflect the way I feel in being at this school; too shy to connect with my peers, and not very open about my life outside of my studies. The shield raised in front of my body is also a reflection of my stubbornness to open up to people. The tower and castle walls in the background are representative of my school life, as well as my worklife surrounding me, as I "do my duty" to both each day. You may have noticed the dragon in the skies above. I like to think the dragon represents my free spirit, and emulates my excitement when it comes to thinking about what's next for me and what my future could hold.

Developing Learner Strategies

Provide explicit instruction in:

How the brain learns.

What it means to come to class prepared.

When and how to seek help.
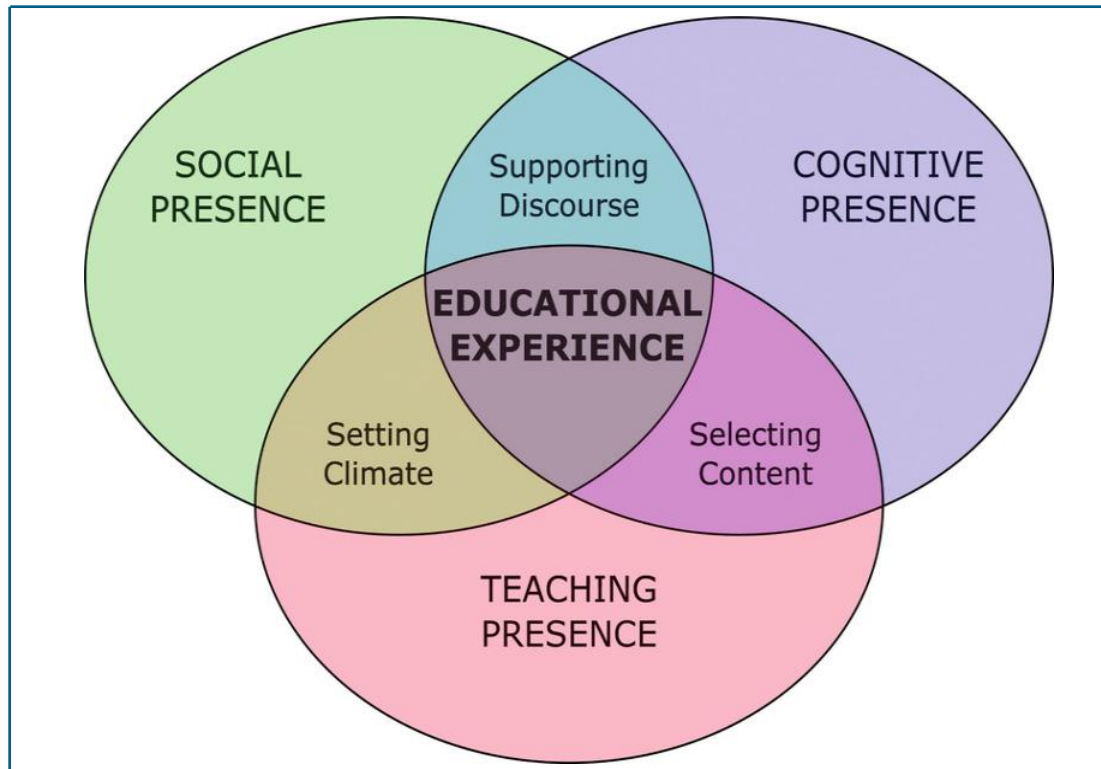
How to monitor your own learning.

Strategies to Create Community & Social Presence

Share in the chat box:

How do you create community and social presence?

Community of Inquiry

SOCIAL PRESENCE

COGNITIVE PRESENCE

Supporting Discourse

EDUCATIONAL EXPERIENCE

Setting Climate

Selecting Content

TEACHING PRESENCE

Equity Presence

Garrison, Anderson, Archer, 1999
Adapted by Harris and Wood, 2020

Five Equity-Minded Practices for Teaching Online

Harris and Wood, 2020

Cognitive Frames

Deficit Cognitive Frame

- Inequality is attributed to cultural stereotypes, cultural deficits, inadequate socialization, or lack of student motivation and self-initiative
- Inequality is attributed to external causes beyond the control of practitioners.

Equity Cognitive Frame

- Inequality is viewed as unnatural and as a problem of institutional accountability
- Inequality is viewed as a product of unconscious racism in practices and beliefs
- Inequality is viewed as solvable by practitioners

Bensimon (2006)

Universal Design for Learning

Universal design for learning is a framework to improve and optimize teaching and learning for all people based on scientific insights into how humans learn… . As part of its mission to bust all barriers to learning, CAST researches and develops innovative solutions to make education more inclusive and effective.

www.cast.org

Universal Design for Learning

- Providing multiple means of engagement

- Providing multiple means of representation

- Provide multiple means of action and expression

After this session, think about an assignment or learning outcome with which your students have routinely had challenges. How could you redesign that assignment or outcome by adding another stream?
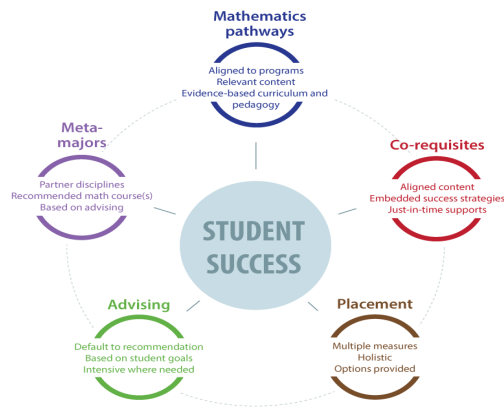
Comprehensive Redesign
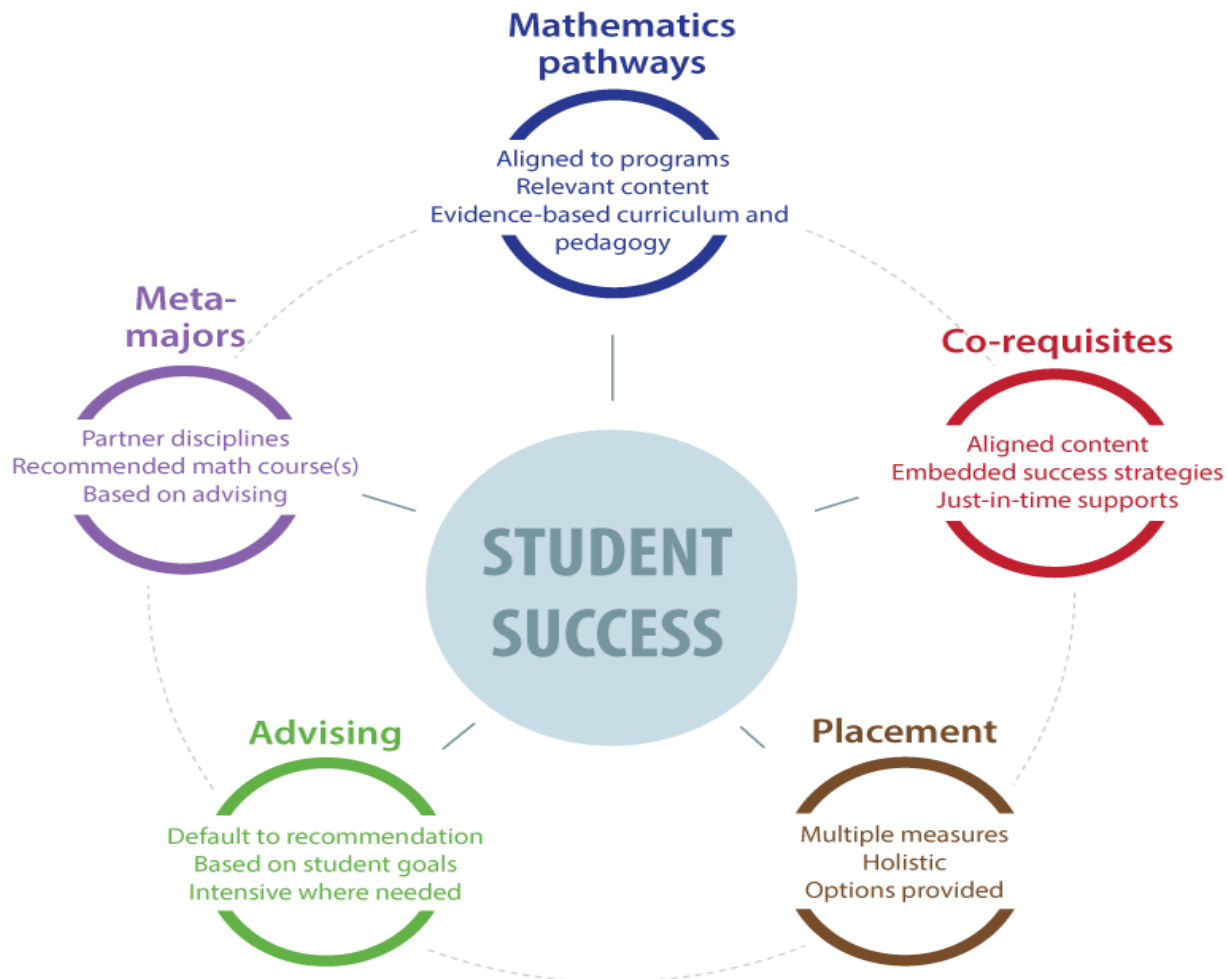
Course redesign considerations

- Evidence-based curriculum and pedagogy

- Relevant content (alignment to programs)

- Attention to learning science and psychosocial factors

- Co-requisite content:
    - Aligned to gateway course
    - Just-in-time
    - Embedded success strategies

Best Practices for Co-Requisites

Adopt:	Avoid:
❑ Align content so that students are truly getting just-in-time remediation.	❑ Run a traditional Intermediate Algebra course side-by-side with the college-level course.
❑ Provide a sufficient number of hours of support, based on student need.	❑ Determine hours of support based on what is easiest to schedule.
❑ Require structured content.	❑ Run an unstructured homework hour.
❑ Run side-by-side or embedded remediation.	❑ Focus solely on individual course pass rates (rather, inspect throughput).
❑ Inspect data regularly.	

Backward mapping to define content

- What are the readiness outcomes for each gateway course?
- What will help underprepared students achieve readiness for the college-level course?

  - Mathematical/English content

  - Learner success strategies

Ensuring Support: Aligned Course Calendar

Introduction to Statistics and Co-requisite Support Course Sample Timeline
Adapted from and with thanks to Roane State Community College

Day	Co-requisite Notebook Topics	On-line Lab	*Essentials of Statistics* Triola 5th ed.		MyLabsPlus Assignment
1	Orientation, study habits, time mgmt.; converting between fractions, decimals, percentages; finding a percentage of a number	1	1.1 – 1.2	Orientation; introduction to statistical terms and statistical thinking	1
2	Rounding; estimating; calculating means,	2	1.3 – 1.4	Types of data; collecting sample data	2
3	Decimals, ratios, percent, conversions	3	2.2 – 2.3	Frequency distributions; histograms	3
4	Applications of percent, squares, square roots; order of operations	4	2.4	Graphs that enlighten and graphs that deceive	4
5	Operations on real numbers	5	3.2	Measures of center	5
6	Review of types of data, sampling methods, types of graphs	6	3.3 – 3.4	Measures of variation; measures of relative standing and boxplots	6
7	Review of measures of center and variation	7	Practice Test 1		
8	Comprehensive review of chapters 1 – 3 & basic skills	8	**Test 1**		

Factors of an effective virtual learning environment

- Creating a community.

- Promoting active learning and student engagement.

- Ensuring inclusivity and access for every student.

- Leveraging research-based instructional design.

- Addressing student needs.

- Evaluating tools for appropriateness and effectiveness.

- Supporting faculty in continuous improvement.
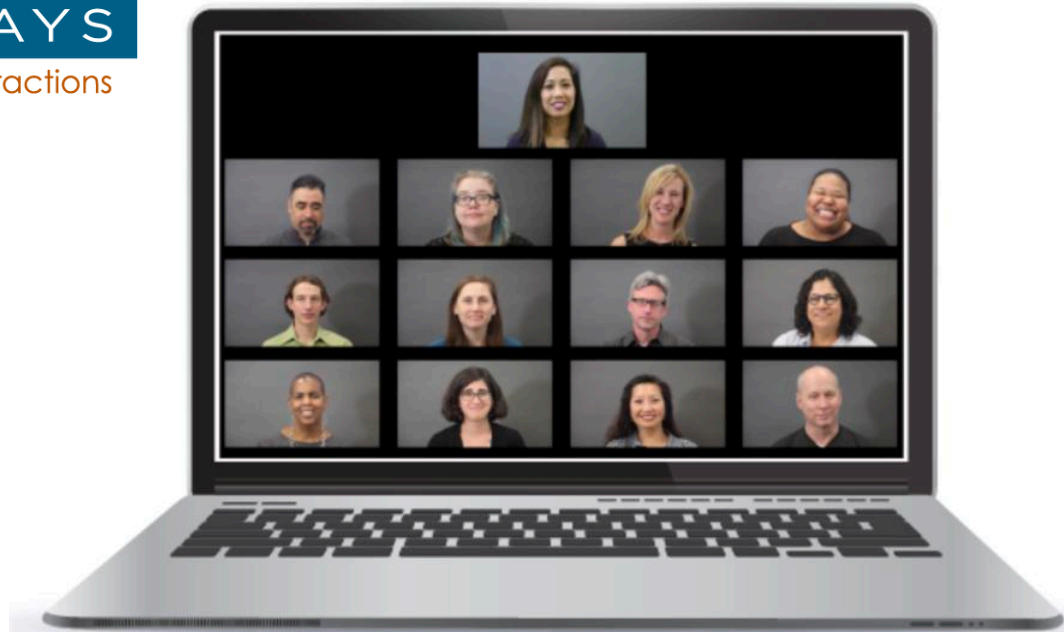
Our goal is departmental engagement

- Shared learnings with colleagues
- Implement practices
- Create a framework of continuous improvement

Our strategy is collegial learning distributed over time

- Six virtual meetings, two hours each
- Interactive
    - Facilitated
    - Peer-to-peer small group discussions
- Assignments in between
    - Digging into research
    - Put research into practice

Open upcoming series......

Series 4: Creating Effective Learning Experiences at a Distance
        Fostering a Community of Engaged Learners in a Virtual Environment

www.UTDanaCenter.org/foci

What questions or comments do you have?

Paula Talley

paulatalley@austin.utexas.edu

UTDanaCenter.org/foci

Facebook.com/utdanacenter

Twitter.com/DCMathPathways/

Selected Citations and Additional Reading

- California Community Colleges California Virtual Campus – Online Education Initiative. *Online Course Design Standards.* https://cvc.edu/professional-development/online-course-design-standards/

- Chickering, A., & Gamson, Z. (1987). *Seven principles for good practice in undergraduate education.* American Association for Higher Education Bulletin, 40(3), pp. 3-7.

- Darby, F., & Lang, J. (2019). *Small Teaching Online: Applying Learning Science in Online Classes.* San Francisco, CA: Jossey-Bass.

- Darby, F. *How to be a better online teacher.* The Chronicle of Higher Education, https://www.chronicle.com/interactives/advice-online-teaching

- Dreon, O. (2013). *Applying the Seven Principles for Good Practice to the Online Classroom.* https://www.facultyfocus.com/articles/online-education/applying-the-seven-principles-for-good-practice-to-the-online-classroom

- Chavez, A., & Longerbeam, S. (2016). *Teaching Across Cultural Strengths: A Guide to Balancing Integrated and Individuated Cultural Frameworks in College Teaching.* Sterling, VA: Stylus Publishing, LLC.

Selected Citations and Additional Reading

- Garrison, D.R., Anderson, T., Archer W. (1999). *Critical inquiry in a text-based environment: Computer conferencing in higher education*. The Internet and Higher Education, 2(2-3), pp. 87-105. https://doi.org/10.1016/S1096-7516(00)00016-6

- Garrison, D.R. (2007). *Online community of inquiry review: Social, cognitive, and teaching presence issues*. Journal of Asynchronous Learning Networks, 11(1),p. 61-72. https://eric.ed.gov/?id=EJ842688

- Johnson, E. (2009). *Using online discussion boards to foster mathematical dialogue*. Electronic proceedings of the International Conference on Technology in Collegiate Mathematics, New Orleans, LA. March 12-15, 2009.

- Lang, J. (2013). *Cheating Lessons: Learning from Academic Dishonesty.* Cambridge, MA: Harvard University Press.

- Lang, J. (2013). *Cheating lessons part 1.* The Chronicle of Higher Education, https://www.chronicle.com/article/cheating-lessons-part-1/139453

- WCET. (2009). *Best Practice Strategies to Promote Academic Integrity in Online Education.* https://wcet.wiche.edu/sites/default/files/docs/resources/Best-Practices-Promote-Academic-Integrity-2009.pdf

Selected Citations and Additional Reading

- Ambrose, S., Bridges, M., DiPietro, M., Lovett, M., Norman, M. (2010). *How Learning Works: Seven Research-Based Principles for Smart Teaching.* San Francisco, CA: Jossey-Bass.

- Habley, W. R., Bloom, J. L., & Robbins, S. B. (2012). *Increasing Persistence: Research-Based Strategies for College Student Success.* San Francisco, CA: Jossey-Bass.

- Hammond, Z. (2015). *Culturally Responsive Teaching and the Brain: Promoting Authentic Engagement and Rigor among Culturally and Linguistically Diverse Students.* Thousand Oaks, CA: Corwin.

- Kalir, R. (n.d.-a). Annotate your syllabus. Retrieved from http://remikalir.com/courses/annotate-your-syllabus/

- Kalir, R. (n.d.-b). Annotate your syllabus 2.0. Retrieved from http://remikalir.com/courses/annotate-your-syllabus-2-0/

- Bensimon, E. (2006). Learning equity-mindedness: Equality in educational outcomes. The Academic Workplace, 1(17), 2-21.

- Harris, F., & Wood, L. (2020, March 27). *Employing equity-minded and culturally affirming teaching and learning practices in virtual learning communities* [webinar]. CORA Learning. Retrieved from https://www.youtube.com/watch?v=aMrf_MC5COk   (In particular, the five principles and associated strategies start at about minute 28.)

- McNair, T., Bensimon, E., & Malcolm-Piqueux, L. (2020). *From Equity Talk to Equity Walk: Expanding Practitioner Knowledge for Racial Justice in Higher Education.* Association of American Colleges and Universities and the Center for Urban Education. Hoboken, NJ: Jossey-Bass.

- Meyer, A., Rose, D. & Gordon, D. (2014). *Universal Design of Learning: Theory and Practice*, CAST Professional Publishing, Wakefield, MA.

- Peralta Community College District. (2019). *Peralta Online Equity Rubric* v.2.0, https://web.peralta.edu/de/equity-initiative/equity/

- Robertson, R., & Riggs, S. (2018). Collaborative assignments and projects. In K. Linder & C. Hayes (Eds.), *High-impact practices in online education* (pp. 71-84). Sterling, VA: Stylus Publishing.

- Tobin, T., & Behling, K. (2018). *Reach everyone, teach everyone: Universal design for learning in higher education*. Morgantown, WV: West Virginia University Press.

- Video: Implicit Bias in Action. (2018). *How Implicit Bias Creates Racial Inequality.* Center for Urban Education, University of Southern California, Rossier School of Education.https://www.youtube.com/watch?v=u3aCKTfei_4

Additional UDL Resources from cast.org

Universal Design for Learning: Theory & Practice -- http://udltheorypractice.cast.org

CAST Science Writer -- http://sciencewriter.cast.org

CAST UDL Editions -- http://udleditions.cast.org/

iSolveIt math puzzles -- http://isolveit.cast.org

UDL Curriculum Toolkit -- http://udl-toolkit.cast.org

UDL Book Builder -- http://bookbuilder.cast.org

UDL Curriculum Self-Check -- http://udlselfcheck.cast.org

UDL Exchange -- http://udlexchange.cast.org

UDL Journal -- http://udljournal.cast.org

UDL Studio -- http://udlstudio.cast.org

Selected Citations and Additional Reading

- Nilson, L., & Goodson, L., (2018). *Online Teaching at Its Best: Merging Instructional Design with Teaching and Learning Research.* San Francisco, CA: Jossey-Bass.

- Ryan, R., & Deci, E. (2020). Intrinsic and extrinsic motivation from a self-determination theory perspective: Definitions, theory, practices, and future directions. *Contemporary Educational Psychology,* (in press).

- Tinto, V. (2019). Learning better together. In *Transitioning Students into Higher Education: Philosophy Pedagogy, and Practice.* Jones, A., Olds, A., & Lisciandro, J. (Eds.). London: Routledge.