



TRANSITIONING INTO THE DIGITAL TEACHING, LEARNING AND ASSESSMENT ENVIRONMENT: AN OVERVIEW OF CANVAS

Presented by Peggy Maki in Collaboration with
A.T. Still University's Online Learning Experts

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WITH THANKS TO THE FOLLOWING ATSU PLANNERS:

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- Brent Rasmussen
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FOCI

- Part I: The Digital Learning Environment within The Context of Research on Teaching, Learning and Assessment of Student Learning and Developments in Technology
- Part II: An Overview of Major Canvas Tools/Capabilities
- Part III: An Overview of Principles of Designing Learner-centered Online Courses or Modules



PART I: RESEARCH ON LEARNING

“Learning is a **dynamic, ongoing process** that is simultaneously biological and cultural. Each **individual learner** functions within a complex developmental, cognitive, physical, social, and cultural system.”

National Academies of Sciences, Engineering, and Medicine. 2018. *How People Learn II: Learners, Contexts, and Cultures*. National Academies Press, p. 9.

HAS LED TO THE NEED TO...

- Close time gaps in between teaching, learning, and assessment of learning in order to:
 - Monitor each student's patterns of performance along the trajectory of a course or module and address individual learning needs as they emerge in real time
 - Identify teaching and learning strategies, software, and learning resources to meet the needs of our diverse student demographics
 - Develop adaptive, evidence-based, research-informed teachers and reflective, self-regulated learners

SOFTWARE IN CANVAS THAT ENABLES FACULTY TO MEET THOSE NEEDS

Algorithmic-based New Analytics---software that mines and reports students' patterns of behaviors related to course activities and performance levels based on tests, quizzes, and authentic assignments scored with rubrics



Emily Boone

History 101 MWF, History 101

Course Grade

1

Weekly Online Activity

Communication

2

343 Total Page Views

23 Total Participations

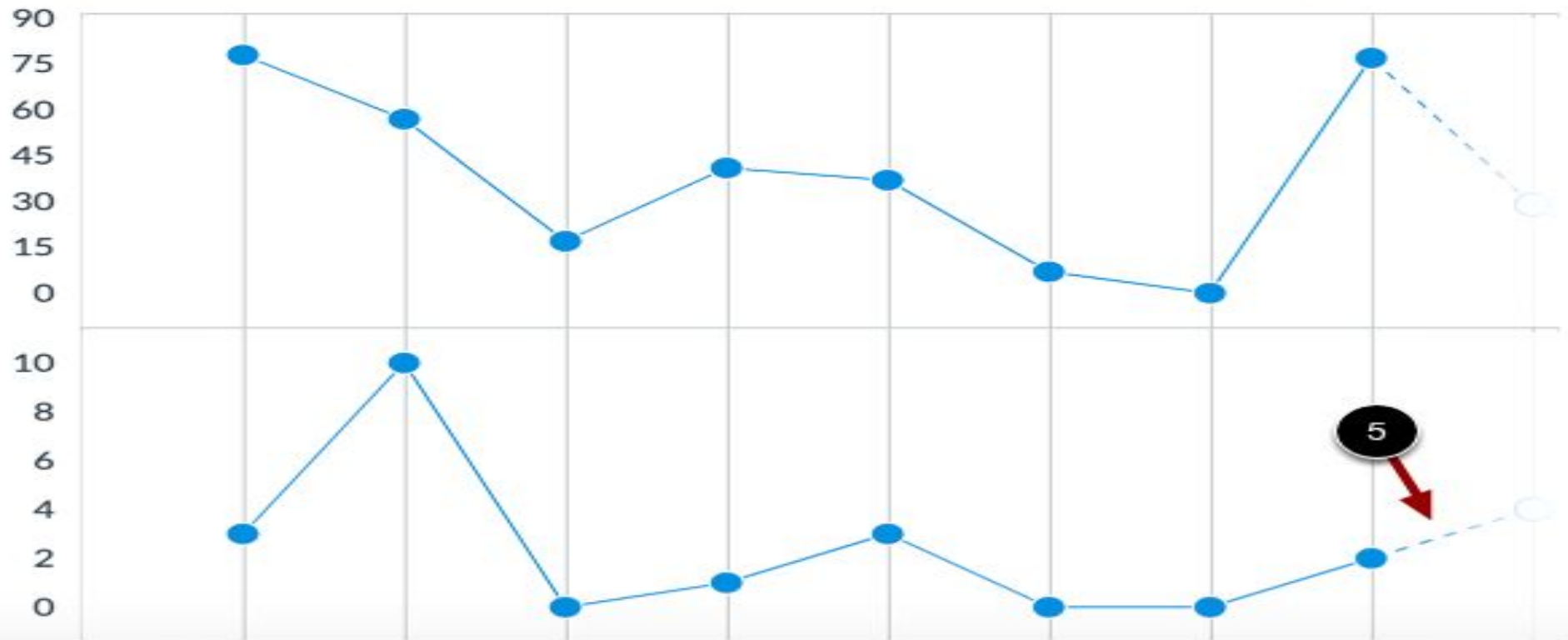
As of Oct 20, 1:48 PM MDT

6



3
Page Views

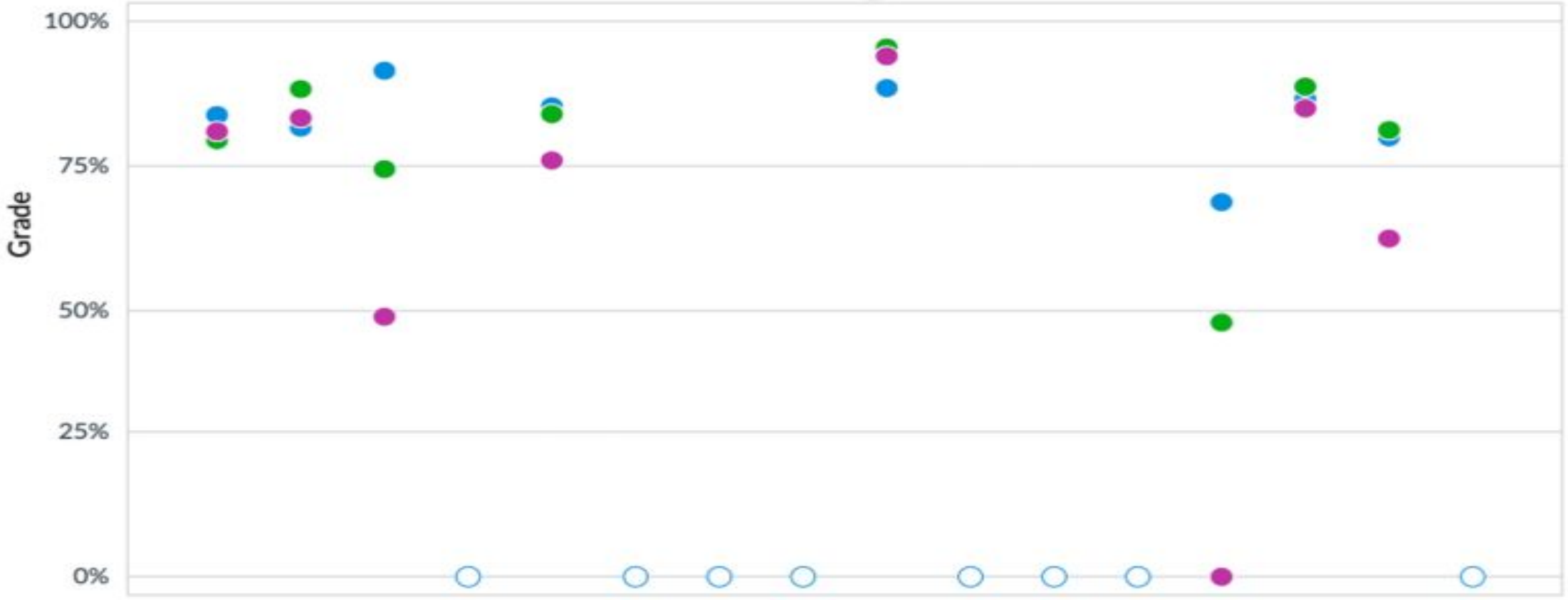
4
Participations



1

 Assignments  Discussions  Quizzes

3



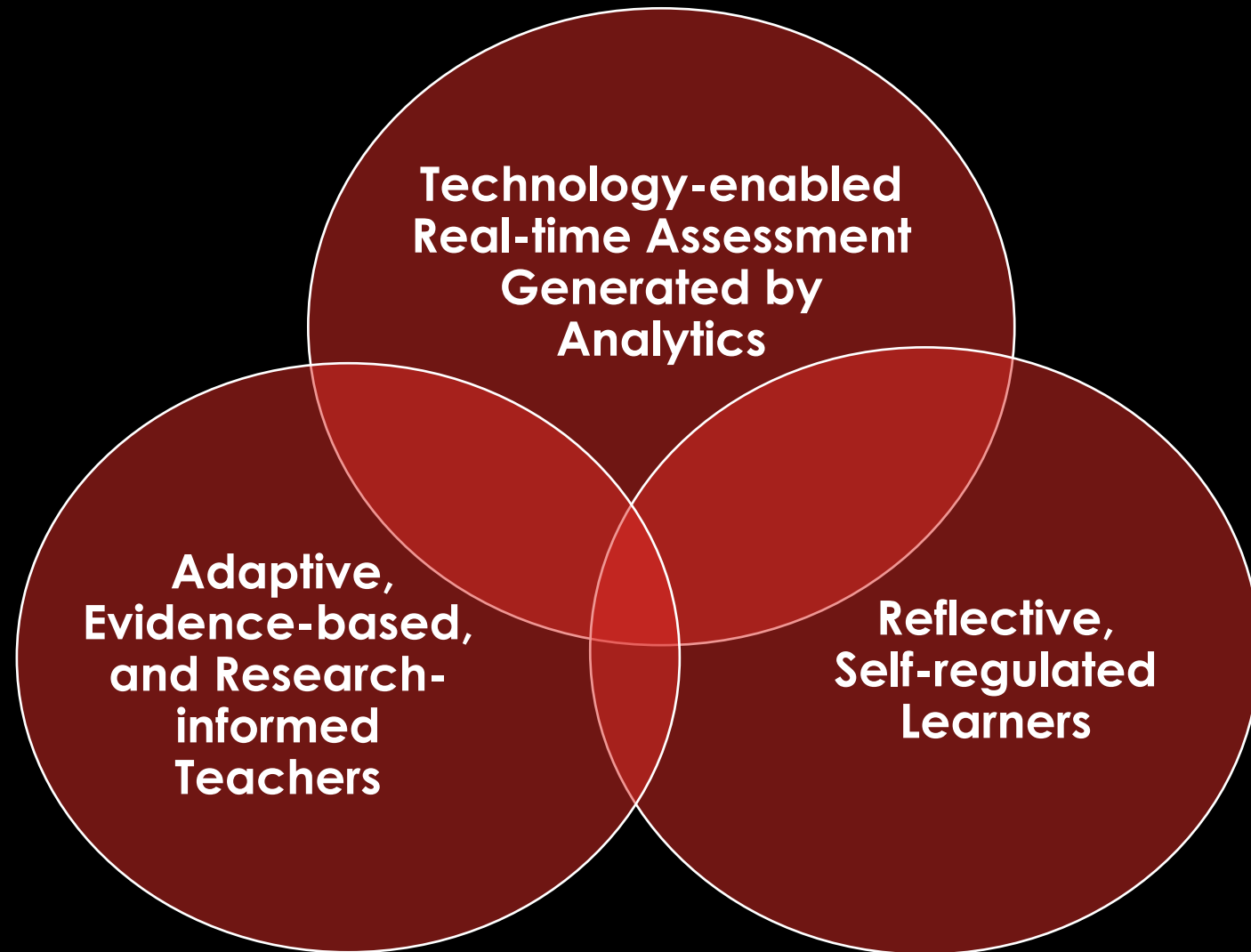
2

THREE MAJOR USES OF NEW ANALYTICS

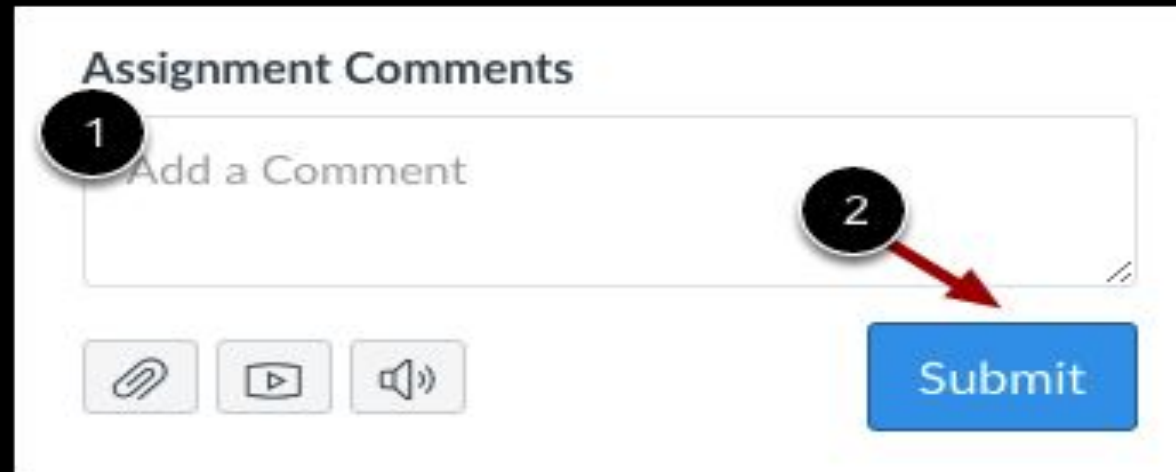
- **Predictive**—flags students at the onset of a course who may be academically at risk. Student actions stored in the event log of Canvas document individual student use of course resources or engagement in an online discussion board. Results of a poll or a survey you administer can also be mined and then reported to you.
- **Formative**—reports each student's performance along the trajectory of a course so you can gauge students' performance and behaviors against your educational practices and students' use of resources, such as an online interactive tutorial
- **Summative**—provides end-point student performance results that also can be viewed against your set of course-based educational practices and student behaviors

The Potential....



SOME ASSESSMENT POSSIBILITIES


- Insert digital feedback into student work submitted online
- Create text, video, and/or audio commentary for the student with Speed Grader:



The screenshot shows the 'Assignment Comments' section of a Speed Grader interface. It features a text input field with the placeholder text 'Add a Comment'. A black circle with the number '1' is positioned at the top left of the input field. A second black circle with the number '2' is positioned at the bottom right of the input field, with a red arrow pointing from it to a blue 'Submit' button located below the input field. Below the input field, there are three icons: a paperclip for attachments, a play button for video, and a speaker for audio. The 'Submit' button is a blue rectangle with white text.

USE RUBRIC BUILDER

Essay Rubric

| Criteria | Ratings | Pts |
|--|---|---------------------------------|
| Length | Comments <input type="text"/> <input type="checkbox"/> Save this comment for reuse | <input type="text"/> / 5 pts |
| Completeness | Comments <input type="text"/> <input type="checkbox"/> Save this comment for reuse | <input type="text"/> / 5 pts |
|  Assignment Outcome view longer description threshold: 3 | Comments <input type="text"/> <input type="checkbox"/> Save this comment for reuse | <input type="text"/> / 5 pts |

Total Points: 0 out of 15

00:04 | 00:10 - 01:30

**Develop Video Exercises or Questions:
Bongo technology**



Question 3

STOP

AUDIO LEVEL

LARGE-SCALE EFFORTS TO INTEGRATE ANALYTICS INTO DIGITAL OPTIONS

Interactive video presentations such as Echo 360 that enable faculty to query students during a lecture to identify learning challenges or obstacles in real time before they take hold.

E-textbooks

Courseware

Display That Enables a Teacher to Identify Students Who Have Achieved a Task and Those Who Need Additional Help . Used with Permission from DiCerbo

15

Overview Performance Game Class Activities

Group 1 ▾

Watch Outs (3) Shout Outs (4)

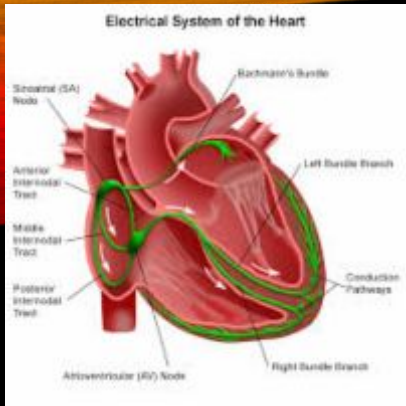
Who needs help? How can I Help?

| Name ▾ | Trouble understanding formula | Leaves spaces between units | Confuses perimeter and area |
|------------------|-------------------------------|-----------------------------|-----------------------------|
| Dennim, John | ⚠ | | |
| Jackson, Susanne | | ⚠ | |
| Swanson, Mary | | ⚠ | ⚠ |

◀

Two Major Resources to Build Teaching and Learning Strategies to Address Students' Diverse Needs:

1. Open Educational Resources (OER)
2. Website that Reports Research Findings about Teaching and Learning, such as MIT's Open Learning website, "Research-Based Learning Findings" (openlearning.mit.edu)



OPEN EDUCATIONAL RESOURCES ON MERLOT: UNDER HEALTH SCIENCES

Blaufuss Multimedia Heart Sounds and Cardiac Arrhythmias Tutorial

The SVT Tutorial is an interactive online program that uses computer animations to explain arrhythmia mechanisms and their associated electrocardiographic findings for the following examples including AV Node Reentry, AV Reentry, Atrial Tachycardia, Atrial Flutter, and Atrial Fibrillation. Student examines patient by moving a virtual stethoscope over patient's chest. Integrates an Interactive quiz

<https://www.merlot.org/merlot/viewMaterial.htm?id=82497> (Medical Multimedia Laboratories)

OPEN EDUCATIONAL RESOURCES ON MERLOT: UNDER DENTAL EDUCATION

Learning exercise for laptops that provides 360 degree views of the lower jaw, allowing users to peel down layers to reveal muscles, blood vessels, facial nerves and skeletal structures. Users can also view each type of tooth individually -- with cross sections and superior and inferior views. Additionally, each pinned structure includes detailed descriptions and audio pronunciations.

<https://www.merlot.org/merlot/viewMaterial.htm?id=880577>

[3D4Medical.com, LLC](https://www.3D4Medical.com)



PART II: AN OVERVIEW OF MAJOR CANVAS TOOLS/CAPABILITIES

Presented by Brent Rasmussen.

Please refer to the following handout:

“Getting Started with Canvas in 10 Steps”

PART III: AN OVERVIEW OF PRINCIPLES OF DESIGNING LEARNER-CENTERED ONLINE COURSES OR MODULES

Presented by Beth Thompson.

Please Refer to the following Handouts:

EPID Syllabus

Canvas Screen Shots

SOME MAJOR RESOURCES

Major Resource from the National Institute of Learning Outcomes Assessment on Assessment Technologies

<https://www.learningoutcomesassessment.org/wp-content/uploads/2019/08/Assessment-Related-Technologies-081219.pdf>

Good Initial Resource on Guiding Principles for Online Course Design

<https://veterans.columbia.edu/news/applying-learning-principles-online-course-design>

- An online *Chronicle* publication focused on various ways to assess students, including different digital tools that are available for free or at cost: Fiock, H., and Garcia, H. (2019). *How to give your students better feedback with technology: Advice guide*. *The Chronicle of Higher Education*.

<https://www.chronicle.com/interactives/20191108-Advice-Feedback>

- A website focused on applying criteria for faculty and other professionals in educational technology to evaluate current and emerging educational technologies, including those based on research on learning: The Interactive Courseware in Context website (CWIC):
cwic.learnplatform.com

- Forthcoming resource on emerging learning technologies to which A T Still University contributed a chapter:

Maki, P. and Shea, P. Co-editors. (January, 2021). *Transforming Digital Learning and Assessment*. Sterling, VA: Stylus Publishing. Focuses on the emergence of evidence-based technologies based on research on learning and applications of Artificial Intelligence such as Algorithms that provide faculty and students real-time evidence of students' learning in learning analytics- and adaptive-based platforms or other digital options. These developments are also being gradually integrated into immersive learning environments, such as Labster, where students perform procedures in real-time.

REFERENCES

Bongolearn.com

DiCerbo, K. (2017). In Maki, P. *Real-time Student Assessment*. Sterling, VA: Stylus Publishing.

[Echo 360.com](http://Echo360.com)

National Academies of Sciences, Engineering, and Medicine. 2018. *How People Learn II: Learners, Contexts, and Cultures*. Washington, D.C.: National Academies Press.

openlearning.mit.edu