7 Principles of Learning *(Ambrose et al., 2010)*

No.	Principles	Explanations	Teaching Impactions	Technology Tools
1	Prior Knowledge	Students' prior knowledge can help or hinder learning.	• Find out student's prior knowledge • Have students self-assess their familiarity with prior knowledge • Identify errors or misconceptions in student's knowledge (and address them)	• Moodle Quiz • Quizizz • Kahoot • Poll Everywhere • • •
2	Organize Knowledge	How students organize knowledge influences how they learn and apply what they know.	• Help students organize their knowledge in a way that is valid and provide rich connections between important and meaningful concepts, principles, etc.	• Moodle lessons • Articulate Storyline • Camtasia Studio • Squigl • Snagit • •
3	Motivation	Students' motivation determines, directs, and sustains what they do to learn.	• Show enthusiasm • Reward students for achieving outcomes • Demonstrate relevance of content to real-world applications • Aligns outcomes with activities, assessments, etc. • Create supportive environment	• Camtasia Studio • Flipgrid • Zoom • Designrr • Ted talk or other videos • Google Maps • Moodle Forum •

No.	Principles	Explanations	Teaching Impacts	Technology Tools
4	Mastery	To develop mastery, students must acquire component skills, practice integrating them, and know when to apply what they have learned.	• Decompose complex tasks into component skills • Diagnose and provide practice for students in their weaker skills in different context • Include integration of skills in assessments • Have students link contextual learning experiences to general principles	• Camtasia Studio • Squigl • Flipgrid • Moodle lesson • Articulate Storyline • Moodle Quiz • •
5	Goal-directed	Goal - directed practice coupled with targeted feedback enhances the quality of students' learning.	• Start the course by assessing students' performance level and adjust the level of their practice to a reasonable level • Make student's performance goals, criteria, and standards explicit • Scaffold complex tasks in decreasing detail over time • Provide lots of practice opportunities • Show examples of week and strong performance • Incorporate instructors and peer feedback	• Squigl • Moodle lesson • Voicethread • Padlet • • • • •
6	Social, emotional, intellectual climate	Students' current level of development interacts with the social, emotional, and intellectual climate of the course to impact learning.	• Foster safe environment for expression of different points of views, answers to questions, approaches to a problem • Include inclusive content and examples • Model inclusive behavior and language • Personalize the class as much as possible • Have students generate ground rules for interactions • Require students to provide evidence to back up their claim	• Use inclusive images in banners • Flipgrid • Podcast • Squigl • • • •

No.	Principles	Explanations	Teaching Impactions	Technology Tools
7	Self-directed	To become self - directed learners, students must learn to monitor and adjust their approaches to learning.	• Provide opportunities for students to analyze assignments, assessment rubrics, and study examples of both good and bad product • Model metacognition and have students reflect on and answer questions that direct them to self-assess and self-correct their work, assess their peer's work, assess their learning, and assess the effectiveness of their study strategies	• Moodle forum • Flipgrid • Voicethread • Padlet • • • •

References:

Ambrose, S. A., Bridges, M. W., DiPietro, M., Lovett, M. C., & Norman, M.K. (2010). *How learning works: Seven research-based principles for smart teaching.* San Francisco, CA: Jossey-Bass.

Nilson, L. B., & Goodson, L. A. (2018). *Online teaching at its best: Merging instructional design with teaching and learning research.* San Francisco, CA: Jossey-Bass.