ADEA Micro-credential: Technology Integration in Didactic Teaching

Overall Goal

This micro-credential is a demonstration of the individual's ability to integrate contemporary technology effectively in didactic teaching, and recognition of their achievement and contribution to advancing collaborative efforts in the area of technology-enhanced learning in dental education.

Objectives and Outcomes

- Apply technology to support active and collaborative learning and promote critical thinking.
- Customize technology to accommodate diverse learners.
- Assess the effectiveness of technology integration.
- Keep abreast of the latest development in educational technology for didactic teaching.

Rationale and Supporting Research

Effective technology integration could make learning more flexible and personalized, support social interactions and collaboration, and provide students with access to rich learning resources (Han, Yeo, Kim, et al., 2019). The 2021 Educause Horizon Report identified increased use of digital technology as one of the trends that will shape the future of higher education. Technology has become an integral part of students' learning experience. It is critical for health professions educators to embrace technology in their teaching to support students' success and prepare them to practice in a digitalized healthcare environment (Freidman, Doanldson, and Vantsevich, 2016).

EDUCAUSE Horizon Report: Teaching and Learning Edition. 2021.
https://library.educause.edu/resources/2021/4/2021-educause-horizon-report-teaching-and-learning-edition

Friedman, C. P., Donaldson, K. M., & Vantsevich, A. V. (2016). Educating medical students in the era of ubiquitous information. Medical teacher, 38(5), 504-509.

Han, E. R., Yeo, S., Kim, M. J., Lee, Y. H., Park, K. H., & Roh, H. (2019). Medical education trends for future physicians in the era of advanced technology and artificial intelligence: an integrative review. BMC medical education, 19(1), 1-15.

Sample Resources

1. Bower, M. & Torrington, J. (2020). Typology of free web-based learning technologies [PDF*]

https://library.educause.edu/resources/2020/4/typology-of-free-web-based-learning-technologies

Overview: This paper provides a list of 226 technologies categorized into 40 types that instructors can use to promote active learning.

2. The SAMR model for technology integration [Video]
   https://www.commonsense.org/education/videos/introduction-to-the-samr-model

   Overview: The SAMR model developed by Dr. Ruben Puentedura can help instructors evaluate and reflect on how they are integrating technology. It guides instructors to use technology in innovative ways to transform student learning.

3. Keengwe, J. (Ed.). (2015). Handbook of research on educational technology integration and active learning. IGI Global.
   https://www.google.com/books/edition/Handbook_of_Research_on_Educational_Tech/IC51CQAAQBAJ?hl=en&gbpv=1&dq=benefits+of+technology+integration+in+higher+education&printsec=frontcover

   Overview: This book contains a series of case report studies on how technology is integrated across disciplines and grade levels.

Submission Criteria and Evaluation Guidelines

Section 1: Overview Questions (See Grading Rubric for Evaluation Criteria)

1. *Motivation*: Why is this micro-credential meaningful for you? Please discuss the value this micro-credential has for you as a dental educator, with a special focus on how this micro-credential supports or enhances your professional development within dental education.

   [Your response can be in text, audio or video format. Text: 200-300 words. Audio or video:2-3 minutes.]

2. *Training*: Provide the three most significant resources that you used to develop your knowledge and skill of technology integration in didactic teaching. Examples include, but are not limited to, learning communities, activities, training, courses, research, study of literature or other formal or informal professional development experiences that you participated in. Describe each activity/resource and explain how it supported your learning and skill development in this area. You must include at least three examples and include citations or links for any resources that you cite whenever applicable. To the extent possible, demonstrate variety in the format or type of learning experiences that you discuss.

   [Your response can be in text, audio or video format. Text: 200-300 words. Audio or video: 2-3 minutes.]

3. *Action:* How could technology integration augment and transform student learning experience in the didactic teaching context? Please focus your discussion on how technology could be used to support active learning and engagement, foster social interactions and collaboration, develop students' higher level cognitive skills (e.g., critical thinking and problem solving), enhance assessment practice, and so on. Provide supporting examples and citations whenever applicable.

   [Your response can be in text, audio or video format. Text: 200-300 words. Audio or video:2-3 minutes.]

4. *Reasoning*: What did you take into consideration when integrating a new technology in teaching? What measures did you take to integrate the new technology with existing teaching and learning resources? What steps did you take to ensure that the new technology supports the learning needs of diverse learners? Provide citations to support your response whenever applicable.

   [Your response can be in text, audio or video format. Text: 200-300 words. Audio or video: 2-3 minutes.]

5. *Community Engagement*: All applications must also include evidence of community engagement within the topic area. Please provide evidence that demonstrate your community engagement within the area of technology integration in dental education. Acceptable evidence includes but are not limited to the following:
   a. Actively participate in local, regional or national professional learning communities (e.g., ADEA Connect).
   b. Actively participate in ADEA and/or other professional organizations.
   c. Actively participate at conferences, webinars or other professional development events.
   d. Actively participate in cross-institutional and cross-disciplinary collaboration.
   e. Others (as applicable).

   [You may include written descriptions and/or links as evidence of your participation in these activities.]

Section 2: Reflection Questions (See Grading Rubric for Evaluation Criteria)

1. *Critical Assessment of Portfolio Work*: Provide a self-assessment of your submitted portfolio artifacts. Address the following aspects:
   a. What was your primary purpose or goal in creating this work? Who were the learners for this work and what was the intended use or application?
   b. How was your work informed by current research and practices in technology integration? Provide the supporting references and citations.
   c. How have you been able to (or how will you) assess the effectiveness or impact of this work? Share evidence of effectiveness if available.
   d. What are your next steps?

   [Your response must be text based and between 600-800 words.]

2. *Relevant Ethical Considerations*: Describe relevant ethical considerations in the area of technology integration and describe how you have addressed (or might address) these ethical challenges. Things you can highlight include but are not limited to particular student populations at risk of being disadvantaged in the technology-enhanced learning (TEL) environment; challenges and risks associated with data collection, maintenance or use; copyright issues; or other ethical consideration such as IRB approval and HIPAA compliance.

   [Your response must be text based and between 200-400 words.]

3. *Supporting Diversity, Equity and Inclusion*: In what ways can technology integration in your content area support diversity, equity and inclusion efforts? Provide specific, actionable suggestions or recommendations. You may focus on the application of these efforts towards learners' learning experience; towards policies or practices that directly support diversity, equity and inclusion efforts; or other relevant applications.

   [Your response must be text based and between 200-400 words.]

Section 3: Portfolio Artifact (See Grading Rubric for Evaluation Criteria)

Submission Criteria: Submit **at least two** portfolio artifacts that demonstrate your knowledge and skill of technology integration in didactic teaching. Examples of portfolio artifacts that you could submit include, but are not limited to, lesson plans, instructional materials, videos, learning activities, lecture recordings, assessment tools (questions, rubrics, etc.), links to technology platforms, students' work samples or peer-reviewed manuscripts. The two artifacts should be the focus of your previous responses in Sections 1 and 2.