Tech Snacks: The Role of Online Learning

Have you ever wondered whether online courses are as effective as face-to-face courses, or which modality students prefer? Do you know what percentage of courses at MSUN are taught online or what proportion of our students are enrolled only online? Are you curious about the number of Montana residents who are enrolled in online programs at out-of-state institutions each year? It's hard to grasp the exact role and potential of online learning at this moment in history, but data might be able to help us get a clearer picture of the trends.

Note: for the purposes of this discussion, an "online course" is defined as a course that is delivered via an LMS in an asynchronous format.

MSU-Northern data regarding online learning

On the IRVM website (https://irvm.msun.edu/) under "MSUN Metrics," you'll find data regarding:

- Student headcount, by term, separated by: online, F2F, and mixed enrollment
- Total credits taught, by term, separated by: online and F2F section codes

OCHE data regarding online learning in Montana

Each fall, there is an "eLearning update at the Board of Regents meeting, which addresses eLearning trends across the state. Presentations from the last 2 years can be found here:

- ARSA e-Learning update 2021:
  https://www.mus.edu/board/meetings/2021/september/arsa/online-update-Sept21.pdf
- ARSA e-Learning update 2022:
  https://www.mus.edu/board/meetings/2022/september/arsa/elearning-Sept22.pdf

Online SOTL research findings, 2016-2022

Below are links to select articles from the past 6 years in the following journals: *American Journal of Distance Education (AJDE), Distance Education (Journal of the Open and Distance Learning Association of Australia), Online Learning Journal (OLJ), Quarterly Review of Distance Education, Educational Technology Research and Development (ETRD)*

Effectiveness of online vs. face-to-face teaching

- ❖ Examining Students' Online Course Perceptions and Comparing Student Performance Outcomes in Online and Face-to-Face Classrooms
- ❖ Online vs. traditional learning in teacher education: a comparison of student progress
- ❖ Transitioning From On-Campus to Online in a Master of Science Nursing Program: a Comparative Study of Academic Success

- ❖ The Effect of Online Core Courses Enrollment on Student Success: The Case of University System of Georgia
- ❖ Integrating Work–Life Balance with 24/7 Information and Communication Technologies: The Experience of Adult Students With Online Learning
- ❖ Comparing the Outcomes of the Different Teaching Modes: All-in-Person, Hybrid, and Online, for Different Student Demographic Groups in a Business School
- ❖ Effects of Online Course Load on Degree Completion, Transfer, and Dropout among Community College Students of the State University of New York
- ❖ Blended learning effectiveness: the relationship between student characteristics, design features and outcomes

Student characteristics affecting online course success

- ❖ The Relationship between Students' Characteristics and Their Impressions of Online Courses
- ❖ Does Class Size Matter? An Exploration into Faculty Perceptions of Teaching High-Enrollment Online Courses
- ❖ Persistence Model of Non-traditional Online Learners: Self-Efficacy, Self-Regulation, and Self-Direction
- ❖ Online Learning Readiness
- ❖ Active Duty Military Learners and Distance Education: Factors of Persistence and Attrition
- ❖ Temporal flexibility, gender, and online learning completion
- ❖ Validation of the Online Learning Readiness Self-Check survey, The Self-Efficacy Questionnaire for Online Learning (SeQoL)
- ❖ Barriers to learning online experienced by students with a mental health disability
- ❖ Student Performance in Online Classes at a Hispanic-Serving Institution: A Study of the Impact of Student Characteristics in Online Learning

Course modality preferences among students

- ❖ Online Postsecondary Adult Learners: An Analysis of Adult Learner Characteristics and Online Course Taking Preferences
- ❖ The Effect of Age and Employment on Students' Perceptions of Online Course Quality
- ❖ Impact of Personality on Choice of Instructional Delivery and Students' Performance
- ❖ Exploring Differences in Business Undergraduate Perceptions by Preferred Classroom Delivery Mode
- ❖ Online or face-to-face learning? Exploring the personal factors that predict students' choice of instructional format

#1: Effectiveness of online vs. traditional learning

Spencer, D., & Temple, T. (2021). **Examining students' online course perceptions and comparing student performance outcomes in online and face-to-face classrooms.** *Online Learning*, 25(2), 233-261. https://doi.org/10.24059/olj.v25i2.2227

Abstract – Through the use of existing grade and student survey data, this study investigated online courses offered at a public four-year university. Specifically, the study explored differences in student success rates between online and face-to-face courses for traditional undergraduate students as well as the climate of student perceptions towards online courses. Our general results suggest that students performed better in, and had higher levels of preference toward, traditional face-to-face formats. However, overall perceptions of online courses were positive, with students viewing instructional technologies as reliable and easy to use, as well as reporting that online technologies facilitated prompt feedback, enhanced their problem-solving skills, and met their learning needs. Alongside this, students exhibited positive views towards their instructors' skill level and use of technology to support academic success. Logistic regression analyses of differences in student success across instructional formats revealed interaction effects with variables of age (nontraditional/traditional), aid status and whether or not courses were taken to fulfill general education or major requirements, suggesting a more complex effect of instructional format across student subpopulations. The variability in the results observed in the current study warrant further exploration before definitive conclusions on the impact of instructional format on student outcomes and perceptions can be made.

Daewoo Lee & Nathan Combes (2020) **The Effect of Online Core Courses Enrollment on Student Success: The Case of University System of Georgia**, American Journal of Distance Education, 34:4, 260-279, DOI: 10.1080/08923647.2020.1768817

Abstract – This study examines the impact of online core courses on students' academic and financial outcomes of postsecondary students. To do so, we analyzed data from a large sample of students in the University System of Georgia (USG), governing agency of Georgia's 26 public universities and colleges. Since 2001, USG has offered "eCore" courses: lower-division core curriculum courses that are offered fully online to students enrolled in either face-to-face or fully online programs, and satisfy requirements at any USG institution. Our dataset contains students seeking associate degrees (N = 103,684) and bachelor's degrees (N = 238,648) analyzed independently. Our research investigates the impact that eCore has on student retention, graduation, and loan accumulation. Our findings show that students who took eCore courses enrolled in more semesters regardless of the degree being sought. Associate-seeking students who enrolled in eCore courses were more likely to graduate and took on fewer loans on average.

#2: Student characteristics affecting online success

Tanya Joosten & Rachel Cusatis (2020) **Online Learning Readiness**, American Journal of Distance Education, 34:3, 180-193, DOI: 10.1080/08923647.2020.1726167

Abstract – This paper examines the relationship between student characteristics of online learning readiness and student outcomes in online courses at two higher educational institution. Data were collected from student surveys (student characteristics of readiness and outcomes) and merged with institutional student information systems data (e.g., demographics and course grades). Multiple regression analyses revealed that several student characteristics of online learning readiness significantly influenced student outcomes. MANOVA analyses were conducted to examine between group differences of each student characteristics among underrepresented student groups. Significant findings are reported for minorities and for students with disabilities.

Jongpil Cheon, Jiaming Cheng & Moon-Heum Cho (2021) **Validation of the Online Learning Readiness Self-Check Survey**, Distance Education, 42:4, 599-619,

Abstract – The purpose of this study was to examine the psychometric properties of the Self-Efficacy Questionnaire for Online Learning (SeQoL; Shen et al., 2013). Using two samples of college students, this study examined evidence of construct validity, concurrent validity, convergent validity, and reliability for the SeQoL. Confirmatory factor analysis and latent profiles analysis were conducted to provide different aspects of construct validity evidence. Our results suggest the SeQoL consistently measures the five dimensions of online learning self-efficacy found in Shen et al.'s original study. We flagged five items from the original scale for further examination. In the current study, strong construct validity and reliability evidence were observed across two different samples, analytical approaches, and related measures. Online learners with higher online learning self-efficacy were found to have higher learning satisfaction and expect better grades. Interpretations and implications of the findings are discussed.

#3: Course modality preferences among students

Alexander C. Gardner, Heather N. Maietta, Philip D. Gardner & Niki Perkins (2022) **Online Postsecondary Adult Learners: An Analysis of Adult Learner Characteristics and Online Course Taking Preferences**, American Journal of Distance Education, 36:3, 176-192,

Abstract – This study reports the development and validation of the Online Learning Readiness Self-Check (OLRSC), a self-report survey designed to examine nontraditional students' readiness for online learning. A total of 505 prospective online learners with diverse background participated in the study. Data from 252 randomly selected participants were used to conduct the exploratory factor analysis, which extracted six factors of online learning readiness. Data from the remaining 253 participants were used for the confirmatory factor analysis, which supported the six-factor structure of the OLRSC with a reduction of 39 to 23 items. This instrument about online learning readiness can be used for prospective online learners to identify their strength and weakness. The diagnostic information can also be used to provide meaningful guides or aids to future nontraditional students.

Svetlana Chesser, William Murrah & Sean Alan Forbes (2020) **Impact of Personality on Choice of Instructional Delivery and Students' Performance**, American Journal of Distance Education, 34:3, 211-223,

Abstract – This study was designed to investigate how college students' personality characteristics relate to their choice of instructional delivery (online or face-to-face) and whether this choice mediates the relationship between personality and academic performance. One hundred eighty-eight undergraduate students were given a choice between taking the same general education course online or face-to-face. Students completed the Big Five Inventory (BFI) upon the conclusion of this course. Using a Bayesian regression course modeling framework, we found that Conscientiousness and Agreeableness were related to the choice of instructional delivery. Students scoring higher on Conscientiousness and lower on Agreeableness tended to choose the online environment. Conscientiousness also was a direct predictor of academic achievement regardless of the course environment. These results suggest that in order to find the best fit between student and the learning environment, it is important to identify personality characteristics indicative of success in online and traditional face-to-face courses to help students to become more efficient learners and assist faculty in designing quality courses to meet students' needs.