

THE IMPACT OF INSTRUCTIONAL PRACTICES ON STUDENT PERFORMANCE AND PERCEPTION

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As instructors, we strive to present educational material in a manner that is both engaging and digestible. When creating our courses, we also consider the different learning styles of our students and possible barriers to comprehension. These can be more difficult to identify when we do not interact in person with our students. In online education, we aim to create courses that are tailored for all learners while maintaining best standards in instructional practices. We create videos and interactive activities, incorporate humor, imagery, and hands-on applications when available, and connect with all our students by using multiple methods of interaction and communication. The University of Arizona Global Campus (UAGC) requires faculty to meet standard instructional expectations (SIEs) to ensure students receive instructional support. However, there is limited research regarding which practices effectively support student success. That said, UAGC collects substantial quantities of data on instructor practices and student performance. This is especially true in the Division of Human and Behavioral Performance Professions, which takes a very detailed approach to its Instructional Quality Review (IQR) of faculty teaching. This data has historically been utilized by the university to make decisions regarding faculty course assignments and to provide “snapshots” of a course to plan course uplifts and revisions. Thus, this faculty fellows project aims to explore the effectiveness of specific teaching practices on student performance, as measured by course learning outcomes, grade point average, and course progression, and student perception of teaching. How do specific instructional practices impact student learning?

With the assistance of Faculty Affairs, particularly Assessment Specialist Kaitlyn Sproat, who is passionate about assessment research and is my partner in this endeavor, we are conducting this study. Together, we are investigating the following research questions:

1. Does a multimedia approach improve student performance?
2. Is there a difference in student performance and student perceptions based on the type of feedback received (in-text, summary, none)?
3. How does the quality (substantive, format only, none) of feedback affect student success/performance?

To answer these questions, we are in the process of collecting and compiling a master data set comprised of data regarding specific instructional practices and measures of student performance and perception. Available data for this endeavor includes IQRs, end of course surveys (EOCS), course learning outcomes (CLOs), and various dashboards for key course metrics, such as grade point average (GPA) and progression, from the 2024-2025 academic year. The IQRs from the Department of Human Behavioral and Performance Professions have been selected for this investigation because of the detailed nature of their approach, which also tracks Waypoint activity to assess instructor activity. The 2024-2025 IQR survey is composed of 5 major assessment areas that evaluate multiple practices using checked boxes to

create a score for each section. For example, three separate items on the IQR specifically focus on multimedia components within the course. For this project, multimedia is defined as instruction that includes the use of instructor-created videos or other academic videos (e.g., TED-Ed, YouTube), images and/ or illustrations, links to activities, information, and scientific articles. As three items in the IQR assess this variable, we scored it on a scale of 0-3 based on how many boxes were checked in the IQR. Thus, if they did not incorporate any multimedia, the score was assigned to zero, and if two of the three boxes were checked, they were assigned a 2. The variable, type of feedback, is measured on the IQR with one box for the use of in-text feedback. Using a 0-1 scale to quantitatively assess this variable, a score of 0 indicates a lack of in-text feedback from the instructor and a score of 1 indicates the instructor utilized in-text feedback tools within Waypoint. The third variable, quality of feedback, is assessed using 2 boxes on the IQR. These boxes identify whether the instructor has included substantive feedback about the content of the assignment, feedback regarding format and mechanics, or if feedback is absent.

We initially started with a small pilot data set of 15 courses to determine if we were asking the right questions. Initial analyses suggested a positive relationship between overall IQR scores and student evaluation of their instructors on end of course survey (EOCS) questions related to instructional practices. These findings encouraged us to build a larger dataset so that we could ask more interesting questions with greater power in the analysis. For those who may be unfamiliar with research practices, the experimental power increases as the sample size gets larger, meaning that we are more likely to detect a finding if one exists (Serdar, Cihan, Yucel, & Serdar, 2021). We started building the data set in September and expect to finalize our data set this December. Once the data set is complete, we will statistically analyze the data in the new year.

Statistical analysis of the data will allow us to map specific teaching practices to learning outcomes, which, to our knowledge, has not been done before. This information can inform evidence-based decisions when developing SIEs, new faculty training, and other processes related to instructional practices. Ultimately, these findings can be used to improve course development, teaching practices, student learning outcomes, and degree completion. If we understand how instructor practices impact student learning, we can create more specific instructional strategies, expectations, and models to assess the effectiveness of our teaching practices. We are excited to share our future results with faculty, staff, and leadership. Finally, we would like to expand the study to incorporate additional metrics, such as the use of Signalz, and additional factors impacting course progression.

References

Serdar, C. C., Cihan, M., Yücel, D., & Serdar, M. A. (2021). Sample size, power and effect size revisited: simplified and practical approaches in pre-clinical, clinical and laboratory studies. *Biochemia Medica*, 31(1), 010502. <https://doi.org/10.11613/BM.2021.010502>