Successes Adapting Existing Teaching Tools and Techniques to Support Hybrid/Hyflex Course Delivery

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Introduction

HyFlex delivery challenges the instructor to prepare and execute course delivery in two or three modalities simultaneously for the same class:
(1) in-person instruction and (2) online instruction (asynchronous, and possibly synchronous)

HyFlex instruction benefits:

- HyFlex preserves the in-person active-learning experience while extending accessibility to those who cannot participate in-person.
- Salina Campus leverages HyFlex instruction to support student work-study internship partnerships with industry.

Literature Highlights

The "**Four Principles of HyFlex Course Design**" by Brian Beatty [1] are broadly adopted:

- **Learner Choice:** Students choose a participation mode, typically at any time during the course.
- **Equivalency:** Activities in all participation modes lead to the same learning outcomes.
- **Reusability:** Utilize artifacts from learning activities in each participation mode.
- **Accessibility:** Equip students with technical skills and equitable access in all participation modes.

Objective

This study examines the effectiveness of adapting existing course materials, techniques, and technologies to deliver the multiple modalities of HyFlex instruction.

Methods

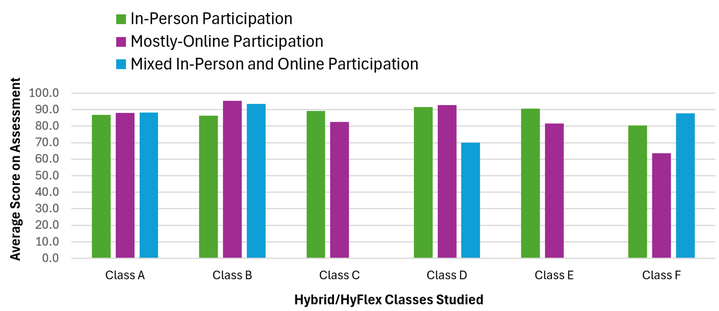
Existing Teaching Tools and Techniques were adapted to present learning activities and resources for both in-person and online students in the same class:

- **Zoom recordings** of the in-person class.
- **Flexible presentation technologies** that enable interactivity.
- **In-class activity worksheets** adapted for asynchronous participation.
- **Existing flipped-classroom activities and resources**.
- **Resources for self-help and review** that assist both in-person and asynchronous students.

Results

Student Performance: In the six hybrid/HyFlex courses that implemented adapted teaching techniques, student outcomes assessments revealed that the mostly-online students and the mixed modality students generally performed on par with their in-person counterparts.

Table 1. Assessment of Student Performance by Modality



Conclusions

- Instructors find that existing teaching materials and techniques easily adapt to support HyFlex learning modalities.
- Asynchronous students achieve outcomes comparable to, or even surpassing, those of their in-person counterparts.
- Student assessments and teaching evaluations indicate high satisfaction and appreciation for the additional resources and accessibility provided by hybrid/HyFlex options.

Selected References

1) Beatty, B. J. (2019). *Hybrid-Flexible Course Design* (1st ed.). EdTech Books. https://edtechbooks.org/hyflex.
2) Morse, J. L. & Plett, E. (2025, June), *Practical Approaches to Hybrid/HyFlex Delivery for Manufacturing and Automation-Related Courses to Accommodate Work-Study Internships.* Paper presented at 2025 ASEE Annual Conference & Exposition, Montreal, Canada.
3) Fidan, I., & Gupta, A., & Hasanov, S., & Henrie, A., & Fidan, P. (2022, August), *Flipped Classroom to Increase the Student Success in Manufacturing Courses* Paper presented at 2022 ASEE Annual Conference & Exposition, Minneapolis, MN.

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