Hybrid Flexible (HyFlex) Instruction in Nutrition Education: What, How, Why and When to Use?

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Objective: Our objective was to implement the HyFlex model of teaching and study the impact on student perceptions, stress related to academics and COVID-19, student engagement, and overall satisfaction with the course. HyFlex instruction allows students the flexibility to choose their mode of instruction: in-person, asynchronous, or synchronous via Zoom.

Use of Theory or Research: We used the ARCS (attention, relevance, confidence, and satisfaction) Model motivation strategies on motivation and academic achievement levels.

Target Audience: We surveyed ~750 undergraduate and graduate students in courses using HyFlex learning at NCSU. Undergraduate and graduate students spanned 6 courses in 3 colleges, including physiology, nutrition, computer science, and business.

Course/Curriculum Description: Nutrition courses included Public Health Nutrition and Maternal and Infant Nutrition. Students could choose from attending in-person, asynchronous, or synchronous.

Evaluation Methods: We measured student perceptions across 6 learning modalities: online synchronous, in-person, asynchronous, flexibility to choose modality, instructor access outside of class, and help resources. The perceptions of learning modalities measured the effectiveness, importance, ease of use (using a Likert scale of 1 to 5), and actual use (using a semantic scale of 1 to 5 and inspired by the Technology Acceptance Model). Student engagement was measured using a modified Student Course Engagement Questionnaire.

Results: The main findings are summarized as follows: flexibility to choose among different learning modalities is effective for learning and important to achieve students’ academic goals; the preferred option was asynchronous learning; and in-person learning positively predicted students’ performance engagement and online asynchronous learning negatively predicted the same.

Conclusion: Students who chose real-time learning modalities had lower emotional engagement but higher skill and performance engagement. Different learning modalities may help with student engagement with the course. Students can be made aware of the contributions of learning modalities to their course engagement so they can find a balance that best fits their needs.

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