Impact of Flexible Competency-Based Learning Model in an Online Food Science Course

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Abstracts

Introduction:

Competency-based education (CBE) allows students to progress at their own pact, providing flexibility that accommodates diverse needs such as work schedules, internships, and health-related constraints. This study examines student perceptions of a CBE model in an online introductory food science course, where only two deadlines – one mid-course and one at the end – were implemented.

Methods:

The main research question explored how students perceived this flexible structure in terms of engagement, learning outcomes, and overall satisfaction. An end-of-semester survey was given to 25 students enrolled in a pilot CBE section of FOS2001 Man's Food ("Gator-Paced"), and the data were analyzed, assessing instructional clarity, flexibility, and effectiveness in fostering a positive learning environment.

Results:

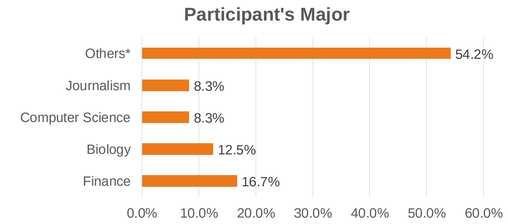
Results indicated high satisfaction with course organization and clarity (mean = 4/3/5.0), with 80% of students preferring the self-paced format. Additionally, 80% of students agreed that the flexible format improved their ability to balance coursework with other commitments. Open-ended responses highlighted benefits such as reduced stress and the ability to engage with content more meaningfully. However, some students expressed a preference for more structured deadlines to mitigate procrastination. The majority of students (52%) rated the overall course experience as "very Good", while 36% rated it as "Good".

Conclusions:

Findings suggest that a competency-based format supports diverse learners while maintaining instructional quality. The study underscores the potential for broader adoption of CBE models in online education, particularly for non-traditional students. Future research should explore strategies to balance flexibility with scaffolding to optimize learning outcomes.

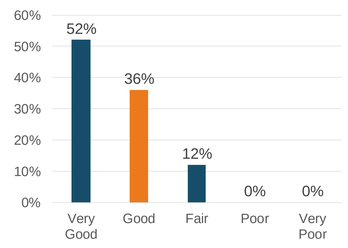
Survey Participant Demographic

Number of Participants	25 (100%)
Grade Level	Freshman (27%); Sophomore (18%); Junior (18%); Senior (36%)
Gender	Male (45%) / Female (36%)/ Prefer not to answer or No answer (18%)



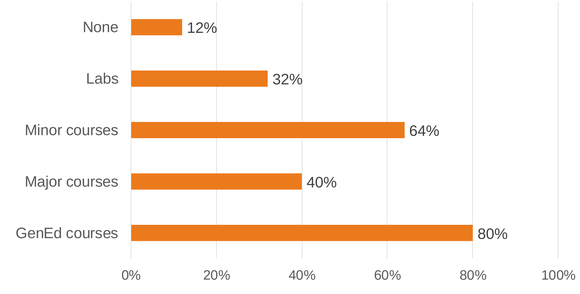
Format-Specific Findings

How would you rate your overall experience in this course?



Which structure would you prefer for an online course?

Which of the following courses would you like to be offered in the self-paced format?



Student-identified Benefits of Self-Paced Format

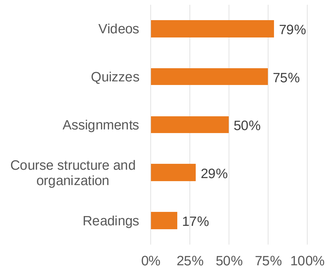
Ability to balance workload across other courses	80%
Ability to attend to obligations outside of class	76%
Ability to work ahead and move faster through course materials	68%
Ability to complete an internship or pursue professional opportunity	32%
None	8%

Student-identified Challenges of Self-Paced Format

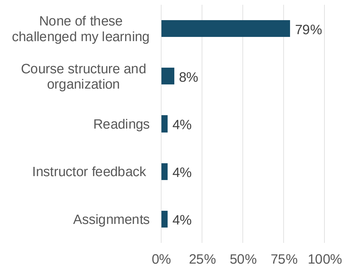
None	48%
Scheduling time for assignments	40%
Managing workload	16%
Turn-around time for instructor feedback	12%
Instructor presence and availability	8%

Course-Specific Findings

Which course components helped your learning?



Did you experience difficulties with any of the course components?



Student Feedback/Commentary

Summary & References

- The pilot course was generally well-received for its structure, content, and practical value.
- While a self-paced format can provide flexibility in learning, feelings of disengagement and time management are the main challenges.
- Strategies to engage students and a well-organized structure are critical for student's success in a self-paced course.

(Reference) On the effectiveness of self-paced learning, Tullis, J.G. and A.S. Benjamin. 2011. J. Mem. Lang. 64(2), p.109-118 (https://doi.org/10.1016/j.jml.2010.11.002)