P110 (continued)

Use of Theory or Research: Earning a D, F, W, or I in a course has a negative effect on a student's progression towards completion of a degree. While enrollment in online courses continues to increase, student retention rates continue to decrease. One strategy suggested to increase retention, and by extension decrease DFWI rates, is using an electronic textbook with computer-based learning resources and activities that promote active learning.

Target Audience: Undergraduate students enrolled in an online introductory nutrition course at a Midwestern urban university from August 2012-December 2018.

Program Description: From Fall 2012-Spring 2017, students used a hard copy textbook (HCT). Beginning Fall 2017, students used an interactive electronic textbook (ET) with inclusive (anytime/anywhere) access that included integrated videos, online ability to highlight/take notes, and online adaptive learning-by-doing activities (study guides, diet analysis, meal planning, etc). All semesters used publisher PowerPoint presentations and test bank.

Evaluation Methods: The data set, with prior approval from the university Institutional Research, Assessment and Testing team, was generated using university DFWI reports. Grade and academic level data from 1034 undergraduate introductory nutrition course students ($n = 810$; HCT, $n = 224$; ET) were examined.

Results: Students in the ET course had statistically significant lower DFWI rates ($9.4 \pm 2.0\%$; range 6.1-11.3%) than HCT students ($19.8 \pm 8.2\%$; range 9.9-35.1%), $P < .05$. There was no significant difference in the academic level between HCT and ET students.

Conclusions: Electronic textbooks with inclusive (anytime/anywhere) access on multiple digital platforms facilitate incorporating adaptive learning experiences into courses. Nutrition educators should consider this strategy to foster active student engagement in mastering basic food and nutrition knowledge with the added benefit of decreasing DFWI rates.

Funding: None.

P111 Australian Nutrition and Dietetic Students' Familiarity with Dimensions of Sustainability

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Background: There is increased focus on integrating sustainability in University level nutrition and dietetic curriculum, however developing relevant learning activities and assessment can be challenging due to varied experiences and views of this topic. Understanding the student perspective can provide interesting and important insights which may identify current curriculum needs and student knowledge gaps.

Objective: To describe a cohort of Australian nutrition and dietetic (N&D) students' familiarity with dimensions of sustainability.

Study Design, Settings, Participants: An observational cross-sectional study was undertaken using a self-administered online survey completed by 95 N&D students enrolled in a nutrition or dietetic undergraduate course at a regional Australian University.

Measurable Outcome/Analysis: Familiarity with sustainability and related concepts of social development, environmental integrity, economic resilience and cross-cutting issues (relating to social, economic and environmental sustainability), were measured on a five-point Likert scale (1: very familiar - 5: not at all familiar). Descriptive statistics were calculated.

Results: Most students reported being very familiar (28%), quite familiar (45%), or familiar (23%) with the term sustainability. A greater proportion of students were very or quite familiar with the term environmental sustainability (75%), compared to economic (47%) and social (22%) sustainability. The sustainability related issue of widespread availability of highly processed foods (environmental integrity concept) and secure livelihoods (economic resilience concept) had the highest level of familiarity (90.5% and 80% very or quite familiar respectively), while least reported familiarity was living conditions of farm labourers (social development concept) and the use of food and agricultural policies (cross-cutting concept) (41% somewhat or not at all familiar respectively).

Conclusions: Students reported varying levels of familiarity with terminology and concepts of sustainability. Identification of gaps and areas of student interest may assist with the design of curriculum and associated learning, teaching and assessment resources.

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P112 Can Food-Based Learning Activities Improve Head Start Preschool Children's Vegetable Intake?

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Background: Low vegetable consumption is often observed among low-resource families who are also at risk for overweight/obesity. Repeated exposure to vegetables in the preschool setting has been shown to increase vegetable intake and decrease neophobia among children.

Objective: The purpose of this study was to examine the effect of hands-on, food-based learning activities on Head Start (HS) children's (aged 3-5) vegetable intake as mea-

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