

# BLISS Branched Learning for Innovating Student Success

## Project Overview

Online courses have a number of assessment methods however, improving the pedagogy of the online environment is an ongoing process which changes over time. Learning is best achieved when multiple teaching methods, visual, auditory, didactic and experiential, are included in the delivery of course content.

This project developed and implemented two branched scenario learning lessons on nutrition focused topics of Diabetes and Weight Management, to improve student outcomes. The lessons were delivered to two fully online HUN1201 Human Nutrition Courses taught by the same instructor.

## Problem / Question

Traditional online courses limit learners to linear learning methods. Students in allied health pathways need to learn critical thinking skills and cultural sensitivity which is best learned through self directed learning modalities.

## Results

	Linear DM		Branched DM		Question Focus
	Correct	% Correct	Correct	% Correct	
Question 53	11	24	36020	20	Culturally appropriate meal
Question 54	16	35	23604	11	Medication for glucose control
Question 55	21	46	29965	16	Best time to check blood glucose level
Question 57	24	37	25325	18	Exercise is best for glucose control
Question 58	32	70	29479	20	Need for Referral to Dietitian

	Linear WM		Branched WM		Question Focus
	Correct	% Correct	Correct	%Correct	
Question 59	30	65	23380	11	Appropriate healthy diet
Question 61	32	69	23828	8	Differentiates between Bariatric surgery, Low calorie and very low calorie diets
Question 62	33	72	24127	11	Culturally appropriate meal

## Hypothesis

This project will improve fully-online allied healthcare students' ability to make culturally sensitive and clinically appropriate decisions when challenged with a hypothetical nutrition related problem.

## Methodology

- Using Adobe Captivate 2017, branched learning lessons were developed which incorporate short videos, podcasts, diagrams and images. IRB approval obtained. Informed consent was obtained using Qualtrics.
- Expert speakers, and Registered Nurse, Dental Assistant, Registered Dietitian and of different disciplines for each of the three lessons were contracted to create materials for videos and podcasts that were used in the development of the Branched Scenario lessons.
- This new content was incorporated into two online HUN1201 Human Nutrition sections and one used the Branched Scenario Learning lessons and one used traditional linear methods.
- Assessments were conducted in both sections to determine if Branched Scenario lessons show a greater improvement in learning outcomes than traditional linear lessons by comparing question scores.

## Demographics

Cultural Identity			Age Ranges			Enrollment Status		
African American	14	30%	18-24	19	41%	FT	22	48 %
White	23	50%	25-34	20	43%	PT	24	52 %
Asian	1	2%	35-43	4	9%	Area of Study		
Other	8	17%	44>	1	2%	NUR	37	80 %
Gender			Employment Status			DIE	2	4%
Female	42	91%	EPT	22	48%	HYG	5	11%
Male	4	9%	ETF	14	30%	O	8	17%
			U	10	22%			

## Outcomes

- Demographically, most students, 80%, identified their ethnic identity as African American or White. Most of the students (90%) were female between the ages of 18-34 years of age. Seventy eight percent were employed either full or part time and only 22% were unemployed. Half of the students reported being enrolled at Broward College full time and half, part time.
- Eighty percent of the students were nursing students, other allied health professions included dental hygienist (22%) and four percent were dietetics students.
- Result showed higher scores for all questions in both the Diabetes Highlight Lesson and the Weight Management Highlight Lesson in the branched learning lessons as compared to the linear lessons.
- Branched learning lessons may have resulted in higher assessment question scores compared to linear course content due to the interactive nature of branched lessons.
- Higher scores were identified on culturally specific questions for both the diabetes lesson which focused on the Hispanic culture and weight management which focused on the Asian culture.
- Both groups responses indicated they would refer to a dietitian for nutrition education and counseling however the Branched Learning group results were higher 90% than for the control group 70%.
- Critical thinking interactions were included as a part of the progression through the lessons and were not specifically measured.

## Conclusion

- The process of developing nutrition lessons which were delivered in the branched scenario format has been an exciting process which has fostered opportunities to develop inter-professional contribution to nutrition focused learning lessons.
- Challenges were experienced with implementing the branched lessons into the D2L LMS which resulted in a more complex data analysis process.
- Due to delays in obtaining all resources in a timely manner, two lessons were developed and implemented however the Nutrition and Dental Health was developed but not implemented in the courses.
- Branched learning, nutrition lessons have not previously been used in HUN1201 Human Nutrition courses to deliver content at Broward College. The development of additional branched learning lessons to improve nutrition content in online courses could enhance the ability of allied health students understanding of nutrition related health concerns.
- In addition to these research outcomes, this innovative, interactive learning modality which encompasses cultural and critical thinking challenges may further enrich the ability of allied health students to provide a higher quality of health care in our diverse community.

## Works Cited

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