

TITLE: A SIGNATURE ASSIGNMENT PUTS VEGETABLES ON THE LINE

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ABSTRACT

Signature Assignments are real-world applications that embed curriculum learning objectives in routine classwork and facilitate assessment of outcomes across classes and disciplines. Signature Assignments coupled with well-designed rubrics provide students with structured feedback, highlight areas where instructors can improve learning outcomes, and generate datasets for curriculum evaluation.

BACKGROUND

Introductory nutrition courses are popular among students particularly when a core curriculum requirement is satisfied as nutrition knowledge is gained. Faculty interested in teaching the “how and why” of nutrition while integrating curriculum learning objectives in projects and creative works find that a Signature Assignment (SA) meets both grading needs and program assessment requirements (Budwig, 2018). As the role of standardized testing in schools was critiqued by Every Student Succeeds Act (ESSA, 2015), it sparked interest among universities in authentic or direct evaluation of student performance. A well-designed SA reveals how effectively student master the knowledge, skills, and values exemplified by course objectives. As such, SAs are a viable alternative to testing that engage faculty in assessment

design, generate common datasets across disciplines, and integrate learning objectives in problem-based activities (Schneider, 2015).

When a baccalaureate degree is awarded by a Texas Institution of Higher Education (IHE) it includes a 42-credit hour core which is transferrable among public colleges, universities, and health related institutions (Texas Higher Education Coordinating Board, 2018). The Texas Core Curriculum (TCC) is composed of eight Foundational Component Areas (communication, mathematics, life and physical sciences, language, philosophy and culture, creative arts, American history, government/political science, social and behavioral sciences) and a Component Area Option. In 2014 the TCC articulated six Core Objectives: critical thinking skills (CT), communication skills (COM), empirical and quantitative skills (EQS), teamwork (TM), social responsibility (SR), and personal responsibility (PR). IHE were directed to incorporate three or four objectives as learning outcomes in each core course.⁵ Principles of Nutrition (PoN) was a core course in the Component Area Option and incorporated CT, COM, EQS and SR as measurable learning outcomes.

SIGNATURE ASSIGNMENT DEVELOPMENT

In 2017 faculty attended a Liberal Education and America's Promise (LEAP) Texas Signature Assignment Institute and worked across disciplines to create student learning experiences that demonstrated knowledge acquisition and real-world application (LEAP Texas Signature Assignments, 2017). LEAP Texas is a collaborative of public colleges and universities that work together to design exercises built around TCC objectives and that can be assessed using standardized rubrics (Di Paolo & Phillips, 2017). During the Institute's three-day workshop, faculty proposed active learning exercises in an ongoing discussion of how to best engage students in problem-centered work constructed as SAs. Finalized SAs were subsequently

embedded in courses and assessed using rubrics previously designed by the university core curriculum committee and based on the Association of American Colleges and Universities (AACU) Valid Assessment of Learning in Undergraduate Education (VALUE) Rubrics (AACU, 2019). Rubrics are roadmaps for both teachers and students with detailed expectations for learning outcomes and performance gradients that indicate level of mastery (Garfalo, 2015). When a SA is assessed by a rubric, students get clear feedback and faculty are alerted to areas where student learning can be improved. Nutrition faculty incorporated the terms “food,” and “least likely vegetables” to relevant rubric descriptions and the SR rubric was made available to students.

IMPLEMENTATION AND RESULTS

In spring 2018 faculty teaching PoN assigned a SA titled, “I Really Should Change My Mind About These Vegetables” (Appendix I) as a graded exercise that was assessed with an established rubric. The purpose was to engage students in introspection about healthy food choices in the context of culture and civic responsibility while demonstrating applications of *ChoseMyPlate.gov* (MyPlate) and *2015-2020 Dietary Guidelines for Americans* (DGA) (U.S. Department of Agriculture, U.S. Department of Health and Human Services)

Prior to writing a reasoned statement, students engaged in “least likely” vegetable discussions that demonstrated self-reflection concerning the personal and social value of vegetables in a healthy diet. A standardized SR rubric (Appendix II) that measured insights into diverse cultures, civic life, and empathy for others was used to score statements where student described the influence that sharing vegetable likes and dislikes had on personal rules and biases. Typical comments included, “there were people from the discussion who did not like some

vegetables that I love [and] it was interesting to see why,” and “I learned that others shared my dislike of sweet peas, so I did not feel so isolated.”

Vegetable texture was frequently mentioned as a factor in dislikes, as well as, childhood experiences: “squash always looked nasty to me and the texture was either too soft or too hard,” and “most of my family had been very set on a carnivorous diet and we never really gave a primarily plant-based diet a chance.” Others voluntarily cited ethnic backgrounds as determining their vegetables exposure in African American, Mexican, Vietnamese, Nigerian, Chinese, and Pakistani households. Limited shopping options in some communities, as well as, a lack of farmer’s markets for fresh vegetables were described as concerns. A minority of students steadfastly held to their dislikes, “discussions didn’t change my stance on these vegetables, but I am willing to try them again if cooked a different way.”

What vegetables made the list of “least likely” to eat? A total of 33 different vegetable were listed in the first 50 statements submitted via Blackboard™. Kale (11) was mentioned the most frequently followed by broccoli (10), dried beans (9), tomato (8), squash (7), Brussel sprouts (7) and mushrooms (7). Beets (5), greens (5), cabbage (4) and celery (4) were listed more often than lettuce (3) eggplant (3), okra (3), bell pepper (3), white potato (3) and cauliflower (3). Others such as artichokes, parsnips, and jicama were mentioned only once or twice.

The instructor and a trained teaching assistant independently scored the same ten reasoned statements and compared results until scoring was consistent on 90% of statements. The SR rubric included five component areas: (1) Acknowledge Perspectives - identifies personal, cultural, intercultural perspectives and describes their influence on vegetable choice, food biases & rules examined. (2) Apply Perspectives - demonstrates a robust grasp of the viewpoints of others in the group and expresses empathy for their opinions and beliefs. (3)

Acknowledge Civic Responsibility - effectively explains how vegetable likes and dislikes occur in the context of communities that influence your choices. (4) Apply Civic Responsibility - accurately analyzes the purpose and benefits of responding to group “least likely” vegetable discussion postings. (5) Personal Development - critically explores shifts in personal attitudes, behaviors, & beliefs because of discussion “least likely” vegetables responses. Each component was scored on a scale from 0 (absent) to 7 (exceptional). The University Internal Review Board reviewed the study protocol and deemed it exempt from further review in accordance with 45 46.101 (b) CFR.

A total of 157 statements were scored. The average score was 33.7 with a range of 12-35 points. Low scores were associated with work done by students who were less engaged in the “least likely” vegetable discussion, failed to follow instructions, or wrote with superficial awareness of personal food biases and rules. Overall, statements revealed rich perspectives on vegetables in the diet and effective application of MyPlate and DGA. Civic responsibility, in terms of relating recommended food choices to healthy communities, was exposed as an area for improving student learning outcomes. Most students responded positively to sharing in discussions and integrating the experience into a statement about the value of vegetables in a healthy diet.

CONCLUSIONS

Teachers gain insight into student reasoning and concept mastery through SAs that generate reliable evidence of learning when standardized rubrics are used for grading and assessment. SAs tied to key learning objectives demonstrate student growth and reveal areas where instructional improvement might be needed. Additionally, SAs tied to curriculum

objectives contribute to program and university understanding of teaching strategies that promote student success.

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