



# The Dietetics Pipeline: Insight from the Learning Sciences to Inform Dietitian Education and Credentialing

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## Introduction

As a dietetics education researcher and a social scientist with a focus on equity and diversity within the field of dietetics, I have observed a pipeline to become a registered dietitian nutritionist (RDN). As a white, middle class woman I recognize more woman like me become a RDN. In the United States, 76 percent of RDNs are White and 89 percent are women (Commission on Dietetic Registration [CDR], 2018a). This overrepresentation of one racial group is cause for attention and critical examination of the pathway to become a RDN. Consider aspiring candidates must have a bachelor's degree, apply to and if accepted complete 1200 hours of supervised practice in a competitive internship, and successfully pass an increasingly difficult national examination. Currently in the U.S., only about half of applicants from a bachelor's degree program enter a dietetic internship. Navigating this pipeline will only become more difficult. In 2024, a Master's degree will become the minimum degree for entry to the profession (CDR, 2018b). This pipeline to become a RDN is problematic and will exaggerate the already disparate representation of underrepresented women and men in the field.

Through my journey as a doctoral student I confronted how racial and ethnic disparities in the field of dietetics are not merely due to a lack of interest in the profession (Whelan, 2017; Whelan, Ridgeway, & Yerrick, 2017). More specifically, Latina and Black women in my research did not identify with the dietetics major and

profession due to the perception that one must match the stereotypical model for body image, physical fitness and healthy eating to be effective in practice. Through my readings of authors like Jill White, who uses critical race theory to position her work, I contend the current educational pipeline to become a RDN ensures power and privilege is afforded to those that have succeeded in the academy (White, 2013). The convoluted educational path to become a RDN serves as a gate to keep underrepresented men and women out of the field. With inclusion in mind, I call others to join me in taking a critical view of the educational pipeline for RDNs. I look to the interdisciplinary field of the learning sciences to provide evidence for educational practice and consideration to alternative educational methods to rethink dietetic education (Sawyer, 2006, p. xi). I borrow from Sawyer (2006) as I define the learning sciences as an interdisciplinary field focused on understanding the social, cognitive, and psychological dimensions of teaching and knowledge formation to enhance learning (Sawyer, 2008). A comprehensive explanation of the learning sciences can be found in the Cambridge Handbook of the Learning Sciences first published by Sawyer in 2006.

In this article, I will argue that instructionism has influenced the current education and credentialing process for RDNs. I will discuss the impact of the current model of education and credentialing through the learning sciences lens. I will highlight how this pipeline influences diversity within the profession.

## Dietetics Education: A Convoluted Pathway

Instructionism can be described as learning environments where teachers transmit knowledge to students and, in turn, students are responsible to memorize and regurgitate those facts (Sawyer, 2006). The traditional instructionist methods were used to prepare students for the industrialized economy of the early twentieth century and the approach remains pervasive in higher education today. In higher education classrooms you often witness professors transmitting facts and procedures through lectures and assessment of student knowledge by quantitative testing (Sawyer, 2006). Instructionism exists in the first step of the educational pipeline to become a RDN. Students first must apply to and enter a didactic program. Acceptance to a didactic program may be based on performance on standardized exams such as the SAT or ACT. Historically underrepresented men and women do not perform as well as White and Asian counterparts on standardized exams which impacts acceptance to didactic programs (Ladson-Billings, 2009; Martin, 2009). Didactic programs seek to recruit students from diverse backgrounds however students that historically have not performed well on standardized tests may not be accepted.

Students that are accepted to an undergraduate didactic program are expected to master didactic content. Researchers have recognized the negative impact of instructionism on undergraduate education in health profession programs such as nursing, pharmacy, occupational therapy, and dietetics (Galt, 2014; Kardon-Edgren et al., 2011; Lordly, 2008). For example, professors tend to alter curriculum and pedagogy in an effort to teach to the test, encourage students to memorize facts, offer exams in a multiple-choice format, and offer exam preparation coursework (Kardon-Edgren et al., 2011). Furthermore, this separation of didactic teaching and learning from field experience reinforces Gingras' (2009) argument that didactic content knowledge is separated and therefore decontextualized from the social aspects of nutrition practice.

In addition, didactic program educators have pressure to produce students that will apply and gain acceptance to a dietetic internship. A didactic program's "success" in the eyes of the accrediting body is based upon the graduate's entry to the next phase of dietetic pipeline, the dietetic internship. Programs are judged by the accrediting body based on graduate placement in

internships.

In the next phase of the complicated pipeline, graduates of didactic programs apply to a dietetic internship, the next phase of the education pipeline, in hopes to gain the required supervised practice experience in the field to be eligible to sit for the credentialing exam. A mere half of applicants to dietetic internships actually secure an internship since there are more applicants than are internship positions. Only if a graduate is matched and successfully completes an internship will they be able to sit for the high stakes, multiple-choice dietitian credentialing exam. This is problematic. Brady, Hoang, Siswanto, Riesel, and Gingras (2013) contend the internship application and selection process lacks transparency which impacts historically underrepresented students. Furthermore, research by Williams-Hooker (2013), found a strong correlation between Graduate Record Exam (GRE) scores and pass rate on the dietetic registration examination. Program directors may consider literature such as this important to weed out applicants with low GRE scores (Mervis, 2011).

The credentialing exam is a hallmark of instructionism and serves as a final hurdle in the pipeline for entry to dietetic practice. There are many concerns with using a standardized, multiple choice examination as the final assessment for entry to practice. A high stakes, multiple choice, standardized credentialing exam does not explore other cultural models of health and nutrition or call to question test takers own biases (Gay, 2010; Hassel, 2014). Dietitian educators Bode and Gates (2001) found non-white students scored significantly lower on the dietetic technology examination when compared to their white counterparts.

Their findings revealed students with a higher grade point average also scored higher on the credentialing exam (Bode & Gates, 2001). Also noted are negative results in test scores due to anxiety and stress associated with a one-shot exam (Lordly, 2008). In this current pathway to be a RDN, successful test takers may only be able to recall surface knowledge but do not have to reflect on how they can contribute to the field beyond their own cultural context (Whelan, 2017).

Evidence from the learning sciences suggests high-stakes standardized tests are unsound since the tests inherently rely on recall of surface knowledge emphasized by instructionism (Sawyer, 2014). There is little to no evidence that success on the credentialing exam is

associated with safe, competent practice. A review of the literature over the last three decades conducted by medical educators Carraccio, Wolfsthal, Englander, Ferentz, and Martin (2002) noted a paucity of evidence that competency is associated with positive results on credentialing exam scores.

The final credentialing exam seems unfair in light of the evidence from the learning sciences regarding high stakes examinations and failure to confirm competency in practice and the low pass rate. For example, students may meet all competencies in their program and meet supervised practice requirements, yet may not pass the examination and never become credentialed as a dietitian. In the United States, 24.5 percent of test takers failed the registration examination for dietitians in 2016 for both coordinated programs and internship programs (CDR, 2018a). In other words, 24.5 percent of exam takers did not become credentialed. There is little discussion in the literature as to why almost a quarter of test takers fail the credentialing exam.

While there is lack of research on the consequence for individuals that do not pass the examination, the results of the 2013 Dietetics in Practice Audit revealed students with a bachelor's degree only (i.e. non-credentialed dietitians) believed they would remain in the dietetics field while "27 percent employed outside the field, and 19% were not employed" (Sauer & Rogers, 2013, p.1637). Additional research to further assess the consequence of not passing the examination should be explored. However, it may be speculated that those that do not pass the examination are employed in lower paying jobs. Furthermore, those that do not pass the examination may also become the competition for credentialed dietetic practitioners. Brady, et al. (2013) articulated the significant loss to the dietetic profession when a person dedicated to the dietetics field must take their special qualities, personal attributes and nutrition knowledge elsewhere.

While there is concern with the ability to test competency, it is also a concern that the pass rate, on the dietetics credentialing examination, is utilized by the credentialing agency as a means to judge dietetic internship programmatic success. Programs that have a high failure rate, also known as a low pass rate, are negatively impacted. For example, programs may be placed on probation or closed down if pass rates are not at 80 percent. Program directors and faculty therefore become "preoccupied with teaching tested content" to

avoid sanctions from the credentialing agency (Gay, 2010, p.137). As long as programs continue to be evaluated on student pass rate, instructionist methods will continue to be utilized.

The historic underperformance of marginalized students on standardized tests ultimately limits the number of diverse students accepted into a program, which contributes to their underrepresentation in higher education. I believe the issue of equity and diversity in education for all must be addressed. I also believe that instructionism in education adds to the continued predicament in the dietetics field regarding low numbers of non-whites that enter educational pathways and become credentialed providers (White & Beto, 2013).

## Final Thoughts

The need for diverse health care providers, including dietitians, has been recognized as the key to eliminate health disparities and improve quality of care and health outcomes (Rhea & Beetles, 2012; Sullivan, 2004). In our collective effort to increase underrepresented students, we must begin to critically reflect on our current policies and practices which limit student's entry to and retention within dietetics programs. Dietetics educators must recognize that a pipeline exists, for naming the issue begins the necessary conversation. The pipeline limits the ability to recruit, retain and graduate practitioners from diverse backgrounds. I hope to see the diversity of the dietetics landscape change, I believe it is possible. I call on dietetic educators to join the conversation and consider the learning sciences as one option to help inform our work.

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