

# What is a Culinologist? An Evaluation of the Core Competencies of a Bachelor of Science Degree in Culinology®

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## ABSTRACT

*This study explores the effectiveness of the Bachelor of Science in Culinology degree competencies in meeting the needs of graduates and employers. Culinology is characterized by the blending of food science and culinary arts. Due to the uniqueness of this degree, it is necessary to evaluate industry as well as academic needs in order to ensure that the needs of the industry are met by graduates of Culinology programs. Culinologists will have to possess the skills of a food technologist as well as chef in order to be successful. This study will provide Culinology program administrators and educators with a basis for curriculum development or expansion, as well as program growth. This study is also valuable to current Culinology® students, as it can serve as an advisory reference in understanding what knowledge or competencies the food product development industry is seeking in graduates, especially in a competitive marketplace.*

**Keywords:** *Competencies, Culinary Arts, Culinology, Food Science, Food Product Development*

## INTRODUCTION

Culinology® is a trademarked term originated by the Research Chefs Association (RCA). The RCA is “the leading professional community for food research and development. Its members are the pioneers of the discipline of Culinology®, the blending of culinary arts and the science of food” (RCA, 2010a). The RCA believes that “culinologists can incorporate their knowledge of taste and texture with a scientific knowledge of food production to make nutritious, “ready-made” products that more closely resemble their “from-scratch” originals” (Blanck, 2007). The essence of Culinology® is found in the rigorous knowledge, aesthetic, and experimental sensory expressions that scholars and practitioners develop, as well as the emotional excitement, love, fun, and theatre experienced while engaging with the study of the culinary field (Hegarty, 2005). The development of the framework for a Culinology® curriculum in 2000 was achieved by analyzing the courses that were required for a culinary arts degree and a food science degree. A benchmark study by Birdir (2000) was used to guide the formation of the curriculum. The resulting curriculum was adopted by the RCA in 2001 as the

minimum standards that specified the courses needed to make up an undergraduate Culinology® program. These standards included recommendations for facilities, faculty, and budget. To date, there are nine institutions that have RCA-approved Culinology® degree programs, as shown in Table 1 (RCA, 2010b). However, there is a paucity in the literature on the effectiveness of the RCA’s Bachelor of Science in Culinology® Core Competencies in preparing graduates for employment as culinologists in this bold, new discipline.

**Table 1**  
**RCA-Approved Culinology® Programs**

Year of RCA Approval	Institution	Location
2001	University of Nebraska-Lincoln	Lincoln, NE
2002	Clemson University	Clemson, SC
2002	University of Cincinnati	Cincinnati, OH
2003	Dominican University	Chicago, IL
2004	California State Polytechnic University, Pomona	Pomona, CA
2005	University of Massachusetts Amherst	Amherst, MA
2005	Southwest Minnesota State University	Marshall, MN
2006	California State University, Fresno	Fresno, CA
2007	Rutgers, The State University of New Jersey	New Brunswick, NJ

### **Competencies in education**

Research on competencies in hospitality management has generated a multitude of studies since Tas’s (1988) seminal work on identifying the competencies needed by a manager trainee, as determined by the general managers of 75 top U.S. hotels. Since then, a significant body of knowledge has been generated over the past 20 years, with the majority of the studies focusing on either the hotel industry itself, or the overall hospitality industry. Millar, Mao, & Moreo (2010) reported that very few studies focused solely on the food service industry. Many professional organizations have defined the competencies that are required for successful performance on the job. The competencies may involve knowledge, skills, ability, attitude, behavior, or judgment in relation to an established set of criteria for a position (Mariampolski, Spear, & Vaden, 1980). A competency is a skill, ability or attitude that is required for successful performance in a specific position (Mayo & Thomas-Haybert, 2005). A working definition of competency in education is defined as “a general statement detailing the desired knowledge and skills of students graduating from our course or program” (Hartel & Foegeding, 2004). As stated by Mayo & Thomas-Haybert (2005), competency-based education is a process that calls for observable objectives, individual feedback, use of different learning styles, and a variety of assessment measures.

The literature is rich on competencies assessment of hospitality graduates’ abilities to meet the needs of the hospitality industry (Horng & Lu, 2006; Kay & Russette, 2000; Lin, 2002), but no comparable research exists for Culinology® graduates. The literature lists the competencies of the practicing research chef (Birdir & Pearson, 2000), and is validated by McMeen (2003), resulting in the formation of 43 core competencies for the practicing culinologist. Bissett, Cheng, and Brannan (2010) surveyed RCA members in six different

membership categories to rate their knowledge levels for each of the identified core competency. McMeen (2003) affirmed that the identified competencies from the Birdir (2000) study that were used in the formation of the original minimum standards for Culinology® curriculums are still relevant and applicable to the field of Culinology® today. Bissett et al. (2010) concluded that RCA members from the Culinology® category understand both culinary arts and food science competencies, but not at the level of RCA members who self identify as chef members or as food science and technology members. It is important to note here that membership categories within the RCA are self-identified by the members, and the Culinology® membership category was only recently created in 2006. There is no assumption made that graduates of Culinology® degree programs would self-select Culinology® as their membership category, although that would seem to be the most logical choice.

There is paucity in the literature on the competencies associated with the work of a research chef or culinologist. As stated by Zopiatis (2010), “the Chefs’ profession receives little attention by academic scholars worldwide”. This research will add to the body of knowledge on Culinology® and incorporate two new dimensions of research in Culinology® competencies assessment; the employer’s and the graduate’s.

### **Statement of the problem**

As interest in Culinology® continues to climb and the number of graduates continues to increase yearly, the lack of empirical data on Culinology® graduates in the industry as well as the effectiveness of the RCA’s Bachelor of Science in Culinology® Core Competencies provides an opportunity for research into this area. It is important that Culinology® graduates be able to function effectively as culinologists when they enter the food product development industry. As the RCA believes, in order to develop successful products, tomorrow’s product development expert must know both the culinary arts and the science of food product development. “Companies are seeking employees who can offer that competitive edge through experience and proven competencies in both culinary arts and food science.” (RCA, 2010a).

The development of the Culinology® core competencies thus far has not been validated by any post-graduate assessments. The competencies were developed using a theoretical framework based on the logic model, drawing from the culinary arts and food science disciplines. However, there is little investigation into the effectiveness of the Culinology® core competencies in preparing graduates for employment as culinologists in this bold, new discipline. While there have been three studies conducted thus far on the competencies of practicing culinologists, none have focused on the Culinology® graduate.

### **PURPOSE OF THE STUDY**

The purpose of this study is to evaluate the effectiveness of the RCA’s Bachelor of Science in Culinology® core competencies in preparing graduates of Culinology® programs for entry-level positions in food product development. The theoretical development of the Culinology® curriculum is well established. A gap exists, however, in the applied body of knowledge regarding validation of Culinology® as a viable and integral academic discipline. As Culinology® education continues to evolve and mature, it is critical that the early adopters of the Culinology® curriculum as prescribed by the RCA remain on the forefront of this new and

innovative discipline. As culinologists are supposed to be trend-seers for the companies that they work for, it is imperative that they are able to stay abreast of current and upcoming trends in the restaurant industry and to translate those into consumer ready foods (Spinelli, Jr., 2003). On average, the typical new food product takes between nine and 18 months to go from ideation to commercialization. Because of this significant investment in the product before it even begins its life cycle in the consumer market, the culinologist has to be certain that his/her creations are relevant and viable. This requires that the training culinologists receive during their academic studies incorporate skills and competencies valued by the industry.

The outcomes will serve as recommendations to Culinology® educators and the RCA in order to improve the current Culinology® curriculum. The study is considerably valuable to the RCA and all the Culinology® educators as it can also be used to develop a program assessment tool that serves to further refine the approval and quality assurance process currently used by the RCA. This study will provide academic program administrators and educators with a basis for curriculum development or expansion, as well as program growth. This study is also valuable to current Culinology® students, as it can serve as an advisory reference in understanding what knowledge or competencies the food product development industry is seeking in graduates. Lastly, the outcome of this study will be of considerable importance to the food product development industry as it will ensure that graduates from Culinology® programs will possess the requisite skills needed for successful product development in a competitive marketplace. Additionally, the originality of this research itself will make a contribution to the Culinology® body of knowledge.

### **Description and scope of the research**

The purpose of this research is to determine whether the core competencies of the RCA's Bachelor of Science in Culinology® prepares graduates to meet the needs of the food product development industry. The objectives of this research are to (a) examine whether these competencies meet the needs of the current employers of Culinology® graduates; (b) evaluate the graduates' self assessment of these competencies in relation to their preparedness for employment in their current position; and (c) explore the correlation between the employer's and the graduate's self assessment and its implications for curricular reform in Culinology® education.

Specifically, this research will survey two different subsets of Culinology® practitioners, (a) those who graduated from a Culinology® degree program, as opposed to practitioners who were trained in the culinary arts, food science, a combination of both, or a related field, and (b) the employers of Culinology® graduates. Due to the relative short existence of Culinology® degree programs and limited number of graduates, the sample size will be the total population. Because the entire population of Culinology® graduates will be surveyed, the results will be generalizable, and applicable to the entire population of Culinology® graduates, both current and future. The decision to use a questionnaire as the survey instrument has its roots in the social exchange theory. Dillman (2000) stated that people are more likely to complete and return self-administered questionnaires if they trust that the rewards of doing so will, in the long run, outweigh the costs they expect to incur.

For this research, a single-stage, cross-sectional sampling procedure will be employed. A questionnaire consisting of three parts will be developed to assess the effectiveness of the Culinology® graduates' performance in the food product development industry, as determined by the graduates' employers and the graduates themselves. Part I will consist of questions related to the survey participants' characteristics. Those characteristics included: name of the institution from which they graduated, the year of graduation, current employment information, years of work experience, position title, and gender. Part II will consist of questions intended to measure the graduates' perception of the importance and frequency of use for each of the identified core competencies. A five-point Likert-type scale (1 = none, 5 = critical) will be used to measure importance, and a five-point Likert-type scale (1 = never, 5 = always) will be used to measure frequency of use in this part of the instrument. Part III will consist of open-ended questions intended to solicit additional insights into the competencies that are necessary for a Culinology® graduate to be successful.

The study will be conducted in five different phases. Phase One (Original Instrument Construction), involves the construction of initial items for the instrument. Phase Two (Draft Instrument), will be conducted to establish face and content validity by a panel of experts. Phase Three (Pilot Study Instrument), will focus on revision of the instrument as a result of internal consistency reliability testing. Phase Four will consist of data collection, and Phase Five will include data analysis.

## SUMMARY

Culinology® educators are concerned about the quality of students' learning. The RCA is concerned about the validity of the Bachelor of Science in Culinology® competencies. The food product development industry is concerned about maintaining quality while remaining competitive in the global marketplace. At the same time, they are also faced with a shortage of qualified individuals that understand the scientific underpinnings of food product development and are skilled in the culinary arts as well. According to [foodprocessing-technology.com](http://foodprocessing-technology.com) (2008), “. . . areas like new product development are uniquely rewarding because of the high degree of creative input they require”. Therefore, it is crucial for Culinology® educators and employers to have an alignment in the competencies that are needed for a culinologist as they prepare to enter the food product development industry. Since Culinology® is a trademarked term by the RCA (Blanck, 2007), they also have a vested interest in validating their Bachelor of Science in Culinology® competencies.

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