

# **Curriculum Analysis and Development for Advanced Foods and Catering Operations: A Study of Facilities and Resources in an Undergraduate Hospitality Class**

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## **Abstract**

The purpose of this study is to analyze curriculum development, hospitality curricula structures and planning for an advanced foods and catering course taught at the undergraduate level. The research presented here are the results of a descriptive study on using a commercial facility to educate undergraduate students in the curriculum areas of advanced foods and catering operations. Theoretical analysis, document analysis, focus groups, in-depth discussion, on-line technology, and questionnaire investigation were implemented as a means of data collection for the research study. In the educational system, the combination of hospitality and food based education is a field with a short history of development but fast increasing subjects and departments. With the attributes of integrated applied science, business management, and culinary arts, this type of modern instruction has developed into a highly variable and divergent form of education. In this context, identification of student needs and industry needs lead logically to the establishment of more sector specific forms of education with assurance of learning being based on training skill standards and the involvement of industry in academic curriculum design. The major findings of this research will provide a basis for curriculum development in advanced foods courses and commercial facilities education management.

**Keywords:** Hospitality, Curriculum development, advanced foods courses, On-site education, Assurance of learning.

## Introduction

In the educational system, hospitality and tourism is a relatively new field of study with a short history of development. This study includes a history of the discipline, the guidelines for accreditation, and an analysis of a newly developed, implemented, and successful program at Robert Morris University. Assistant Professor Richard J. Mills, Ph. D., Professor Denis P. Rudd, Ed. D. and Professor Mark Eschenfelder, Ph. D., have coordinated this important study for Robert Morris University. The course includes: professional hands-on objectives, synthesized knowledge in demonstrated abilities, and skills that were actively engaged in food based laboratory experiences.

## Curriculum development in the hospitality industry

The success of a hospitality program is dependent on many variables; program growth and program development are essential. The curriculum development is guided by the needs and demands of the hospitality industry. Deanne Williams states that the curriculum is viewed as an academic plan that includes decisions about what, why, and how a specific group expects to learn (Stark & Luttaca, 1996). Stark and Lattuca (1996) further define the curriculum within the college or university organization as a micro-plan subject to the broader influences exerted within the academic unit; the university or college from the outside community. Public views interact with student characteristics to form the basis of the educational environment for curriculum planning.

Jeou-Shyan Horng (2004) discusses the developmental trends, hospitality curricula structures and strategies in the development of food and beverage management of the vocational and technological educational system in Taiwan. It is interesting to note that hospitality education in Taiwan faces the same set of criteria of other universities and colleges in the United States. The university programs are relatively new to the university and the vocational and technological programs are growing rapidly. Horng states that hospitality management has been part of the curriculum since 1965, but the growth rate was slow before 1995 (Horng, 2004). Horng further added that, “The establishment of a department’s curriculum should combine a complete system of knowledge and skills, and curriculum structure should have appropriate horizontal and vertical connections to fulfill the functions of career readiness” (Horng, 2004).

Cousins and Foskett discussed in their 1988 article. They consider food production operations in the hospitality industry which can also be used as a basis for comparison with production operations outside the catering industry (Cousins & Foskett, 1988). The emphasis within the program ensures that students engaged in hospitality courses should not perceive operations as different and separate from management itself. By thinking outside the hospitality industry, the students’ focus is broadened within the hospitality field. Cousins and Foskett (1988) also discuss food and beverage service and food production. They claim that food and beverage operations teaching at Eating College should include processing of materials and service with the management of the customer experience. They also conclude that production methods have different sets of skills, knowledge, tasks and duties associated with them (Cousins & Foskett, 1988).

Food and beverage service is approached by traditional application: preparing for service, service, clearing, dish washing, etc. The service process may be seen in two ways: either the traditionally operational point of view or from the customer experience (process) point of view.

Eating has adopted the customer experience or process point of view. The operational sequences as a basis for skill, knowledge, tasks and duty teaching, is related to the customer process; the commonality of skills is readily identified; 90% of all tasks and duties required in food and beverage service are contained within one service group. The intention is to develop an awareness of customer process and the range of operational options to the provider of food and beverage service.

Cousins and Foskett (1988) also include *Food Production* in their curriculum at Eating College. Eight production methods are identified and their model shows the basic flow of materials through the system. They include: Food, Storage, Preparation, Cooking, Holding, Regeneration, and Presentation. The *Food* method separates the different foods to include: fresh, fresh cooked, fresh prepared, canned, frozen, chilled vacuum, dehydrated, smoked, salted, crystallized, acidified, pasteurized, bottled, and UHT. *Storage* distinguishes between ambient, cool, refrigerated, deep frozen, and dry storage. *Cooking* teaches blanch, warm, simmer, boil, steam, grill sauté, brown, bake, roast, broil, fry, and microwave. *Holding* demonstrates chill, vacuum, freeze, tray, hot cupboard, cold cupboard, insulated, ambient. *Regeneration* includes regithermic, microwave, convection, and traditional. *Presentation* includes Bain-marie, service flats, plates, trays, vending, buffet, trolley, dishes, and *Timbale* (p. 79). This model is appropriate for the teaching of food skills within a laboratory.

Horng (2004) discusses European hospitality education and its focus on technical training from masters to apprentices in an industrial perspective. The academic and educational systems have been developed within the last 10 to 20 years. Horng (2004) says that Switzerland's educational process has always been practice-oriented, emphasized quality and the development of core professional capabilities, social abilities and communication skills, co-opted closely with industries. This enables students to better obtain employment with the international community. Horng also discusses Australia's educational system that incorporates both North America and European standards; the teaching experience is transitioned from high school to college and for accreditation to be established, competency standards must be achieved (Horng, 2004).

Stark and Lattuca (1996) say that when courses are arranged in a sequence to integrate material within a field appropriately, the result is a holistic view of the discipline. The curriculum is divided into two dimensions to achieve and encourage coherence and involve more than one discipline; commonality in which similar curriculum units and temporality, curricular units in time sequence are utilized to complete the process. Stark and Lattuca include eight tests that are useful in evaluating the quality of higher education systems according to Moreo (1983):

- The quality of scholarship in international competition
- The ability to secure talent from the total population without regard to class or racial considerations.
- The provision of technically trained persons to fill the needs of industry, agriculture, government and welfare services.
- The provision of an opportunity for a liberal education.
- The quality and balance of service.
- The quality and balance of constructive criticism of society.
- The effectiveness of the governance of higher education.
- The degree of popular support for higher education generally and from its alumni in particular (Stark & Lattuca, 1996).

Hospitality and Tourism education is relatively new in the academic arena. It is often incorporated into other departments for further study within a relevant framework. Accredited programs usually fall within three categories: The School of Business, Dietetics and Nutrition, and Culinary Arts. Deanne Williams discusses the first formal program in the United States, which was an outgrowth of the efforts of the American Hotel Association following World War I in the 1920s (Stark & Lattuca, 1996). This resulted in Cornell University, the “Ivy League” of Hospitality programs. Following Cornell University, other schools began offering similar programs to adapt to the rapid growth and the continually evolving nature of the industry (Riegel & Dallas, 1993). The curriculum in these universities normally requires a body of work comprehensive to both academia and industry. This philosophy seems to be adopted by universities, colleges, and other affiliated and accredited culinary schools. According to Riegel and Dallas (1993), career education programs have developed rapidly, but not necessarily uniformly; colleges and universities often respond to demand for new programs by building onto existing programs. As a result, career programs like hospitality and tourism management courses differ from traditional courses within the same educational environment (Riegel & Dallas, 1993). The subject of Riegel and Dallas’ theory (1993) about relationships between work values and career commitment entails a relationship to longevity, turnover rates and career success. Substantive knowledge is key to the practice of the profession; it is necessary to apply knowledge to the field of work. The values necessary for success in the field are the subject of student preparation for the workplace. Jeanne Meister (1998) identified seven core workplace competencies:

- Learning to learn
- Creative thinking and problem solving
- Technological literacy
- Global business literacy
- Communication and collaboration
- Leadership development
- Career self-management

These competencies are defined as the accumulation of skills, knowledge, and knowing “how” to outperform the competition; Meister concludes that they form the foundation of individual employability (Meister, 1998).

Williams discusses Hospitality Management Curriculum Design; Craft/skill approach; Tourism approach; Foods and home economics approach; Business administration approach; and Combined approach (Williams, 2005).

In the *Hospitality Management Curriculum approach*, there are four groups: autonomous, business housed, home economics housed, and other housed (Moreo, 1983). Riegel and Dallas (1993) also wrote that most hospitality and tourism programs consist of four main areas: the major, general education and advanced learning skills, electives, and work experience. *Craft/skill* programs require students to acquire technical operation skills and take the “nuts and bolts” approach to the field; this approach is common to a four year hospitality management program. *Tourism approach* programs primarily focus on content of tourism and concepts trends of economic impact and many social sciences which contribute to the tourism field such as economics. *Foods and home economics approach* includes hospitality programs housed or started in colleges of home economics. Heavy emphasis is placed on food science, nutrition, food production and delivery systems, and natural and social science. Principles of management

and administration are also emphasized. *Business administration approach* includes programs housed in colleges or schools of business administration and less attention to products such as food or rooms. *Combined approach* incorporates programs that may fit into business administration approach combined with home economics approach. This approach is common to independent schools and colleges.

Accreditation Commission for Programs in Hospitality Administration (ACPHA) established specific objectives for areas of the accreditation process of a hospitality management program listed below (ACPHA Handbook of Accreditation, 1994):

- To assure that the curriculum is based on those knowledge components, skills, values, and attitudes that the community of interest has identified as essential for the graduates of the hospitality program to function as a responsible practitioner, citizen and person.
- To assure that curricular offerings are developed regularly reviewed, and evaluated in terms of their effectiveness in achieving programmatic objectives.
- To assure that effective means of assessing learning outcomes have been developed.
- To ensure that the curriculum includes an appropriate mix of theoretical and applied experience for achieving the educational objectives. The specific standards for the common body of knowledge are in curriculum standard #3b listed below:
  1. Historical overview of the hospitality industry and the profession.
  2. The marketing of hospitality goods and services.
  3. The operations relative to the provision of hospitality goods and or services, including food service management and or lodging management and related services.
  4. Accounting procedures/practices.
  5. Financial management.
  6. The economic environment of profit and non-profit organizations.
  7. The legal environment of profit and non profit organizations.
  8. Ethical considerations and sociopolitical influences affecting organizations.
  9. Quantitative methods and management information systems, including computer applications.
  10. The planning for and utilization and management of personnel, including the improvement of student understanding of human behavior.
  11. Organization theory and behavior and interpersonal communications.
  12. Administrative processes, including the integration of an analysis and policy determination at the overall management level.
  13. Provision of sufficient areas of specialization to allow students to develop individual interests and talents.

### **Assessment of student learning: Why**

In 2006, a commission appointed by Secretary of Education, Margaret Spelling, examined the future of higher education in the United States (U. S. Department of Education, 2006). Among the issues the Commission was charged to examine was transparency and accountability in higher education. The Commission recommended, “Student achievement ...

must be measured by institutions on a ‘value-added’ basis that takes into account students’ academic baseline when assessing results” (U. S. Department of Education, 2006). The Commission further recommended this information be made public to provide stakeholders with an additional tool to compare institutional effectiveness. The Commission suggests, “Accreditation agencies should make performance outcomes, including ... student learning, the core of their assessment as a priority over inputs or processes (U. S. Department of Education, 2006).

The Commission’s recommendations about transparency and accountability and accreditation are not new to higher education, but provide additional impetus to an existing trend. Regional and specialty accreditation agencies have been placing more importance on assessment of student learning over the past twenty years (Mundhenk, 2005). The driving force behind the increased emphasis on student learning in the accreditation process has been the desire of accreditation agencies to keep their autonomy from government interference.

The federal government has largely allowed accreditation agencies to act as the arbitrators of what constitutes acceptable performance levels for colleges and universities. Given public concern over the outcomes of post secondary education, the federal government has become increasingly concerned about the assessment of student learning as an indicator of institutional quality. If accreditation agencies do what the federal government wants in assuring the quality of higher education, by assessing student learning, the federal government has less reason to become involved in evaluating the quality of colleges and universities.

The Commission’s report and the general trend toward assessing student learning have not been without criticism. William Tierney (2006) of the Center for Higher Education Policy Analysis at the University of Southern California, in a review of the report, is concerned about the Commission ignoring important aspects of higher education by focusing on higher education’s function of preparing students for the workplace. While this criticism may resonate with many in academics, acting on the criticism will be restrained by the potential consequences of failing to act on the Commission’s recommendations. The possibility of “No College Left Behind” legislation is a specter likely to evoke continued actions on the part of accreditation agencies and therefore, colleges and universities (Hersch, 2007).

The willingness of accreditation agencies to focus on assessment of student learning is exemplified by the actions of the Association to Advance Collegiate Schools of Business (AACSB). AACSB, an international leader in management education, has made assessment of student learning a significant factor in its accreditation process. Martel and Calderon (2005) writing in an AACSB publication define assessment as a “continuous, systematic process, the goal of which is to improve the quality of student learning” (p 2).

### **Assessment of student learning: How**

A useful step in improving student learning is deciding what students need to learn. Specifying what students need to learn in the form of measurable learning goals and objectives provides a yardstick that can be used to measure student achievement in a manner that facilitates efforts to improve student learning. Once measurable learning goals and objectives have been established, a variety of techniques may be effectively used to assess student achievement.

Two basic approaches to the assessment of student learning are formative and summative assessment (Suskie, 2004). Formative assessment focuses on measuring student learning while it is occurring so mid-course adjustments may be made to improve student learning outcomes

(Suskie, 2004). Summative assessment focuses on the extent to which students have met learning goals at the completion of a course or program (Suskie, 2004).

Both formative and summative assessment may be done at the course level. An example of a formative assessment tool useful at the course level is minute papers. At the end of a class period an instructor asks the students a question related to a learning objective and tied to the day's class. The instructor reviews the students' responses and adjusts the next class based on the information. Summative assessment measures include "Score gains between entry and exit on published or local tests or writing assignments" (Suskie, 2004). The results of summative assessments can be used to make informed curricular and course changes to improve student learning.

### **Innovative trends in teaching advanced food and catering courses in an undergraduate curriculum setting**

In the spring of 2006, Robert Morris University undergraduate Hospitality and Tourism Program made the decision to create an innovative style of teaching its foods based courses. The goal was to teach in a new environment while attempting to meet course goals and student assurance of learning. A variety of tests and written assignments regarding cuisine choice and recipe development were assigned. In addition, a questionnaire was distributed at the end of the spring semester Advanced Foods and Catering course. Both formative assessment and summative assessment were implemented. Assistant Professor, Richard J. Mills, who is also a certified sous chef, designed and implemented a program surrounding the two required food based courses at the university. Both courses meet the accreditation requirements under the guidelines previously described. The first course, Quantity Food Production, is designed to teach students how to take basic recipes that are traditionally prepared for one and transfer the recipes to quantity production format. The second, Advanced Foods and Catering Operations, was designed to show the student how different cultural cuisines are adapted and applied to a commercial hotel catering facility.

The decision was made by the department to take the courses and move the classroom off the campus to local country clubs and hotel properties to teach basic culinary production. With this initiative, the first course was taught at Montour Heights Country Club, approximately three miles from the university. The first obstacle was to transfer the students from the campus to the country club; this was achieved by asking students in their first class meeting, to assemble as groups and car-pool to the facility. This provided no problems; in fact, it created a more cohesive environment for the class based on cooperation between students scheduling and class room laboratory hours.

The second obstacle was to adapt the students from the classroom to a working environment in a commercial kitchen. At first, this teaching activity was a challenge because of the student's lack of knowledge regarding commercial kitchen equipment and kitchen design. As the semester progressed, the students became more comfortable with the commercial design and kitchen equipment layout in order to begin to prepare different styles of foods and beverages. Another obstacle was the actual acquisition of food products; each week, the instructor provided a summary outline of the foods to be prepared for the upcoming week. At the beginning of the course design, the instructor did all of the food purchases following a budget of \$800.00 per semester. Additionally, each commercial facility was paid a lease fee of \$2000.00 per semester. In addition, the contract arrangement provided insurance to be the university's responsibility.

This part of the contract was enticing to the commercial facility because each location was not held liable for accident or laboratory mishap. The lease fee not only provided income to the venue, but additionally, it provided revenue that was used to enhance equipment and supplies for the chefs that over-saw the kitchen at each facility. In the future, this lease fee may be used as a scholarship outlet for an outstanding hospitality and tourism student.

This particular style of teaching worked well at the beginning, but unfortunately, became more disengaging for student learning as the semester progressed. Therefore, the department and instructor decided to not only pick the style of food and recipe to accompany the cuisine itself, but additionally allowed the students to begin to handle all purchasing and acquisition of food from local grocers within the community. This particular change in teaching truly enhanced or increased student learning based on the simple fact that each student became more aware of the cuisine being prepared, the ingredients being purchased, and the actual prices of products utilized within the lab.

This first class was limited to 25 students who developed five groups; each group was responsible for production in the laboratory setting. This class was open to all majors within the university, and some students took the course as an elective because of an interest in cooking. This open course attracted students from multiple disciplines; this was quite popular because it gives the student the opportunity to take a course off-campus and further enrich the learning process.

The Montour Heights Country Club setting provided several obstacles that were common to a country club setting. For example, the club was closed on the night that the course was scheduled, but several courses were interrupted because of special event scheduling. Therefore, they cancelled courses. Because the club was closed during the actual lab time, the management and staff were absent from the property. This presented a problem for the club because of insurance regulations and other club restrictions. The students were aware that the club was closed and obviously missed some of the interaction they would have otherwise experienced if the club were open.

The second offering of the course took all of the first year obstacles into consideration and redesigned and updated the curriculum. In the fall of 2006, the course was moved to The Pittsburgh Airport Marriott, approximately 5 miles from campus. This course was restricted to 25 students and at final registration was filled with a wait list of 15 students. This is an important factor based upon the fact that cooking courses are popular to a university community. The previous obstacle of transportation was addressed with little or no problem; everyone was able to make it to the laboratory. Additionally, a previous obstacle regarding the presence of management and staff was quite different at the Marriott. All staff was present for all laboratory activities based upon the principle that the hotel itself is open 365 days of the year, 24 hours a day. The students gained knowledge and skill from guest lecturers and actual hands-on activities that were performed due to increased banquet and catering activities being sold at the hotel during the semester. For example, when the Michigan State marching band came and stayed at the hotel unexpectedly, the students from the advanced foods class worked with the chef and his staff prepared 500 box lunches for the band.

The class also participated in the production of The Greater Pittsburgh Hotel Association annual Spring Fling Event in the spring of 2007. This event allowed students to plan menus, set up the banquet facility, cook the food, and service the event for 250 people. The event included action stations which is an innovative trend in catering operations. This event allowed students



to not only participate in all managerial and production schedules, but also introduce them to a new innovative catering experience.

Another benefit of this classroom experience was the participation of personnel at the hotel who provided lectures for the students during each class. This reciprocity was good for the staff and the students as many chefs or staff members had never taught students previous to this course. By having management and staff as close to the student body, the students were able to obtain positions at the hotel in multiple experiences. In addition, several of the staff professed an interest in teaching; the chef now wants to become a professor. This is definitely a win-win experience for all involved.

Additionally a technological component was implemented. Each week the students were responsible to fill out recipe use cards provided by the Marriott Hotel. After the recipe was selected the students e-mailed an electronic version of the recipe to the instructor, chef at the Marriott, and finally to each group member. After the recipe was distributed the students then proceeded to shop and purchase the food for that weeks lab assignment. The lab assignments were collected of the on-line teaching companion that accompanied the course text Introduction to Catering which was authored by the instructor Richard J. Mills Jr. Each week after the recipe was completed a digital photo was taken and up-loaded to a data base that allowed students access to all of the work done in the previous labs.

A questionnaire was developed to assess the students' assurance of learning in a basic foods laboratory environment:

- In your opinion, what did you like best about this course?
- What could be done to improve this course?
- Did working in a commercial hotel setting increase or decrease your ability to learn as a student?
- In twenty five words or less, how would you describe this educational experience to a future food and beverage employer?

## Methodology

The **methodology** for this paper incorporates both the history of the discipline and the guidelines of a college or university curriculum. The focus of the study was on the courses offered at Robert Morris University. The participants included students enrolled in the Quantity Food Production course and the Advanced Food and Catering course at Robert Morris University in the fall of 2006, the spring of 2006 and the spring of 2007. Eligible students included those whose major was in hospitality and tourism and also, students from other disciplines at the university. 25 students enrolled in the spring of 2007 course were included in the questionnaire.

Study participants included students enrolled in the Advanced Foods and Catering course at Robert Morris University in 2007 spring semester. From the 25 eligible students 4 students were considered non-respondents due to missing laboratory assignments and course withdraws. The survey was designed as a narrative collection of formative assessment and summative assessments in-order to gain insight as to how the course may be improved in the future from the student perspective. Since many surveys are numbered and do not permit student narrative engagement the choice was made to collect the following quotes directly from the student opinions. The assurance of learning objectives and the quotes provided the overall story that was collected and evaluated as to what students expected as outcomes and goals for the course; every

response from *all* students was positive. The following are some sample quotes from the questionnaire that students responded to:

- In this course, I learned more than any other class. This is the only course I have ever taken college home with me.
- Must take class...well prepared....very informative. I learned quite a bit in this class. Have a greater understanding to hotel operations'
- Being able to cook and eat a variety of food... learned to read and comprehend recipes. Experienced first-hand how to set-up a banquet.
- Working in a commercial setting increased my ability to learn and get used to the back of the house.
- Great hands-on experience and exposure too many types of food and beverage in a large kitchen.
- Cooking and the friendly atmosphere of students, faculty and staff.
- My Favorite part was eating the things we made every week and being surprised that we made it. It increased my ability to learning. I would say that it was a great learning experience.
- Great course, fun opportunity for creativity and learning.
- I like that we had to choose our own recipes.
- I like the fact that we got to pick our own recipes.
- I feel that working in a commercial hotel allowed me more hands-on experience.
- Cooking different types of foods, working in a hotel setting, increased my ability to learn. I think it is a great idea to learn from a hotel setting because you get to see how things work behind the scenes.
- Yes, working in a hotel helped out a lot. It was a very valuable experience, where I got to experience a real hotel setting.
- I love this course and the foods and the people in it.

After a literature review, the paper includes a research instrument to further understand the ongoing study of foods courses within hospitality and tourism programs. To increase the instrument's reliability and validity, the questionnaire was tested with 25 students, all of whom were in the same course. The questionnaire was evaluated and confirmed by the Chair of the Department of Hospitality and Tourism, Denis P. Rudd and also, the attending Assistant Professor, Richard J. Mills. The questionnaire was administered for only the Advanced Foods and Catering at the completion of the course in the spring of 2007.

Of the four questions asked of the students, all responses were positive. In addition, an essay question provides the study with not only a quantitative analysis but also, a possible qualitative input for future studies.

## **Conclusion**

The goal of this program was to create an innovative style of teaching its foods based courses. This was achieved as the students participated in a hands-on course and accomplished a variety of tests and written assignments. This included food choices and recipe development along with class room interaction and kitchen laboratory action. Both courses meet the accreditation requirements under the guidelines described earlier; and also, the course was designed to show the student how different cultural cuisines adapted and applied to a commercial

hotel catering facility. Other obstacles were overcome as the students moved from a classroom to a working environment in a commercial kitchen. The student's lack of knowledge on the workings of a kitchen proved challenging, and this particular style of teaching worked well at the beginning of the first course, but became more disengaging for student learning as the semester progressed. The changes that made the course successful were for the professor to choose the food types and recipes to accompany the cuisine being prepared. However, the students still maintained a hands-on approach without all of the decision making challenges. This particular change in teaching style proved successful.

One benefit of this classroom experience was the participation of personnel at the hotel; the administrators provided expertise and added to lectures prepared by the professor. The reciprocity was evident as the staff and the students interacted in a strange environment. The chefs and staff had not participated in a classroom, and the students had not participated in a kitchen. This was a win-win for everyone involved.

Another innovation was the technological component. Each week the students were responsible for producing recipe cards provided by the hotel; after the recipe was selected the students electronic transfer of the recipe to the instructor, chef, and finally to each group member. After this system was in place, the student shopped for food for that week's assignment. Finally, the work room transfer to the commercial kitchen was a success from many levels: students, instructors, and commercial staff all benefited from the dialectic exchange of information and skills. These cooking courses have truly provided several unique and engaging experiences for both students and industry leaders. It is the hospitality departments hope and desire to continue to educate the students in as many real world experiences as possible.

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