# The Impact of Accelerated Versus Traditional Learning with a Practical Test in Advanced Culinary Skills at Fox Valley Technical College

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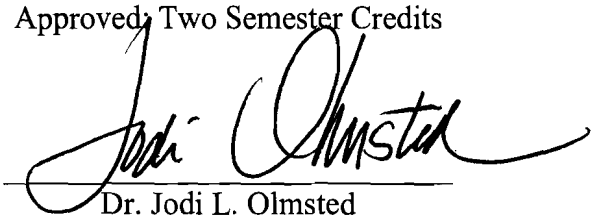

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## Abstract

The Culinary Arts Program at Fox Valley Technical College offers two year associate degrees in either accelerated or traditional program format. Advanced Culinary Skills is a one credit class offered to students during their final semester. Successful completion of a laboratory-based practical test is a program requirement. The purpose for this study was to identify the effectiveness of accelerated and traditional programs where students complete a culinary arts laboratory test. Results from this study may reveal a specific program format that offers students best learning opportunities in the classroom and in the kitchen laboratory.

One significant difference between programs is total clock hours spent in class and in the kitchen laboratory. Accelerated students spend two-thirds less time in class compared to traditional program students. With less clock hours spent in the kitchen, it would seem as if the traditional program format may offer an advantage with students

spending more time observing instructor demonstrations and then applying learning in the laboratory. Demographics of the students may also impact the practical test. The average age of accelerated students is higher and may offer an advantage with maturity and motivation towards academic performance.

Students in Advanced Culinary Skills were asked to complete a nine question Likert survey. The survey was completed after students finished the practical test, but before receiving individual results from the judges. Survey results indicated that accelerated students had a slightly higher average of years preparing food in the food service industry. Accelerated students also average more hours preparing food in the restaurant hours weekly. These results, coupled with more life experiences and a strong dedication to achieving a degree may offer an advantage to accelerated program students.

Based on survey results and practical test data, accelerated program format and its teaching methods, may impact culinary arts students more effectively than the traditional program format. As shown in Appendix E, accelerated students consistently outperformed traditional program students on the Advanced Culinary Skills practical test. Opportunity for expanding the culinary program may be an option that would benefit students. Additionally, it's likely that with today's student, accelerated learning format and teaching methods meet the needs of a more diverse student. Data results gathered from 2005 to 2008 offer additional considerations for increasing the traditional Culinary Arts Program to more of an accelerated learning format at Fox Valley Technical College.

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# Chapter I: Introduction

## *Introduction*

*The Accelerated Learning Fieldbook* by Lou Russell (1999) defined accelerated learning as "changing behaviors with increasing speed" (p. 4). Accelerated based learning is fast paced, intense learning combined with a variety of teaching methods to reach a multitude of learning styles. Accelerated learning creates opportunities to effectively reach preferred individual learning styles with a variety of teaching methods. Through learning from teaching methods that match personal learning styles, the process becomes more relaxed and enjoyable for students (Rose & Nicholl, 1998). Meier (2000) believed "accelerated learning is the most advanced learning approach in use today and is based on the latest research on the brain and learning" (p. ix).

The philosophy of accelerated learning has been looked at or implemented into school systems in the United States and around the world for many years (Russell, 1999). Accelerated learning programs are structured where students spend less time at school than those in college programs (Wlodkowski & Kasworm, 2003). The learning stems from a more hands-on approach, where the learning environment is interactive and more learner-centered. Creating a positive learning environment involves getting students out of their seats, while utilizing creative teaching methods to increase learning. Meier (2000) described a universal model of the four phases of learning. All human learning can be thought of as having four components.

Preparation

1. (the arousal of interest)

Presentation

2. (the initial encounter of new knowledge or skill)

Practice

3. (the integration of the new knowledge or skill)

Performance

4. (application of the new knowledge and skill to real-world situations)

(Meier, 2000, p. 53)

The accelerated approach is aimed to meet the needs of working adults with more life experiences and busy lifestyles. Although one of the fastest transformations at the post-secondary level, many accelerated learning programs foster strong advocates and critics (Wlodkowski & Kasworm, 2003). According to Brookfield (1990), students in accelerated programs spending less time at school may also spend less time studying. Critics may perceive accelerated programs as a degree factory where paying customers are moved through a program quicker with less rigor. Unique teaching methods aim to keep students engaged longer with a more self-directed approach. Critics, however, question whether quality learning can occur where students can spend less time in class, but have the same amount of expected learning outcomes (Stronge, 2002; Vella, 2000; Wlodkowski & Kasworm, 2003).

Psychologists continue to study the principles behind learning and retention. Conventional teaching methods are teacher-centered and rely heavily on rote memorization for the learner. Lecture is still the most frequently used method of delivery of information in the classroom, with the challenge of covering material within time constraints (Amador, Miles, & Peters, 2006). The problem is most people only retain

about 20% of what they hear (Bowman, 2003). Conventional teaching has assumed that learning is accomplished by lecture, note-taking, and frequent repetition. This style of learning may be effective to some, but limits the amount of learning with those having a multitude of learning styles. Conventional teaching may cause a lack of focus, coupled with unnecessary tension, and it can limit the brain's capabilities (Rose, 1987).

Fox Valley Technical College Culinary Arts Program offers a two year Associate in Applied Science (AAS) degree requiring students to complete 68 credits consisting of technical studies, general studies, and electives. The Culinary Arts Program is designed to provide a diverse number of student's opportunities and professional training for successful careers in the culinary arts and hospitality industries. Students gain knowledge in a variety of culinary areas including kitchen equipment, food identification, basic culinary principles and practices, food planning and production, leadership skills, sanitation, and organizational skills. The Culinary Arts Program is accredited by the Accrediting Commission of the American Culinary Federation [ACF].

A two year associate's degree in culinary arts is offered to students in either a traditional or accelerated program format. The accelerated format is structured so students spend one-third of their time in school and two-thirds of their time completing out-of-class activities (J. Igel, personal communication, January 29, 2008). The Accelerated Culinary Arts Program uses the same curriculum as the standard Culinary Arts Program, but is delivered in a more intense, interdependent learning style.

The ideal candidate for the accelerated program needs to be self-motivated, confident, and disciplined, yet comfortable enough to work well with others in a collaborative atmosphere. Students must work well with others in both small and large

group settings. Due to the interdependent nature of the accelerated program, students must have basic computer skills, communicate effectively in and out of class, and be self-directed to succeed with the high-paced interdependent learning style.

Advanced Culinary Skills [ACS] is a one credit class offered to students during their last semester. Class requirements include observation and application of fundamental cooking patterns by proportion and ratio. Group work in the kitchen laboratory includes production of stocks, sauces, soups, dry and moist heat applications, vegetable and carbohydrate cookery, and desserts (Finley, 2007). Completion of the class and practical test are required for students to graduate from the program.

The practical test in ACS is a summative assessment which measures student learning at the end of the culinary program. Upon completion of the exam, students receive verbal evaluations from judges as well as hard copies of their test results. The ACS test includes four judges, three being faculty and one local guest chef from industry. Faculty knows intended learning outcomes, while the guest chef evaluates according to industry standards and expectations. Popham (2001) believed the majority of judges who evaluate a test of importance should be faculty members familiar with competencies the test will assess, but should also include industry professionals.

A final component of the test includes students receiving a performance evaluation and critique. Students are encouraged to share personal experiences and perceptions. Student assessment with the pressures of a practical test, judged performance, and self evaluation can enhance growth and development. A great feeling of accomplishment can occur upon successful completion of such a test (Brookfield, 1990).

The teaching methods and techniques of instruction for Advanced Culinary Skills include a four step process: lecture and discussion, showing by demonstration, practice by the learner, and performing a practical test similar to Meiers' universal guidelines (2000). *Teaching Your Occupation to Others* by Paul Bott (1998) described a similar teaching methodology by telling, discussing, showing, and by doing.

1. Lecture method - teacher plans and delivers an oral presentation in a manner that helps the students reach the desired learning outcomes. The lecture and discussion method are used to teach facts, theory, and principles.
2. Teaching by demonstration - consists of displaying equipment and instruments or showing correct procedures and processes.
3. The performance method - commonly called the practical exercise method, allows students the opportunity to practice, perform, and apply - under controlled conditions and close supervision - the skills and processes that have been explained and demonstrated. (Bott, 1998, p. 107–116)

Upon completion of each competency identified in ACS, students must pass a laboratory-based practical test. Igel believed practical testing stretches students to learn out of their comfort level while continually building new experiences (personal communication, January 29, 2008). Fear and pressure of a practical test with great importance attached can present perceptions of varying degrees. A sense of accomplishment results from successful completion beyond one's expectations (Brookfield, 1990). Fogarty (1997) believed performance learning is as authentic and meaningful as learning can be. Based on the theory that students learn by doing, students' understanding is demonstrated by execution of learned skills.

In recent years there has been a need for professional chefs, resulting in an increased need for more culinary programs to be available (Livingston, 2000). ACF has accredited 120 post secondary culinary arts programs including the program at FVTC. The addition of competency requirements and successful completion of a practical test brings the learning full circle upon completion of the program. Graduates successfully completing the practical test will have a foundation of culinary competencies to further their careers in business and industry.

Igel stated one of the biggest opportunities for change in the culinary program at FVTC lies in connecting the traditional culinary arts model to a more accelerated format (personal communication, January 29, 2008). The accelerated and traditional programs have the same course competencies, but offer different approaches to teaching methods. The accelerated model is learner-centered, faster paced, and takes place in a collaborative environment. A study on the impact of accelerated and conventional programs and their teaching methods seems reasonable to uncover and/or justify their effectiveness. The analysis might offer information that may facilitate a basis for growth and development of a relatively new testing process, or more programmatic changes.

Recognizing the amount of information documented on teaching and learning styles (Meier, 2000), it seems necessary to look at the best opportunities for learning in classroom and laboratory-based classes. Since adding a laboratory-based practical test to Advanced Culinary Skills at Fox Valley Technical College [FVTC] in 2004, a lack of research relating to students' success rates on a practical test in traditional and accelerated programs has been noted. Performance learning is based on the idea that students understand through action and learn by doing. Educators, more than ever, are

concerned with teaching methods and learning styles (Russell, 1999). Brain research allows educators to better understand the principles behind learning, including the function of the brain and the brain's learning capacity relating to long term memory (Caine & Caine, 1994).

*Statement of the problem*

The Culinary Arts Program at Fox Valley Technical College has not analyzed the effectiveness of traditional and accelerated teaching methods since adding a practical test requirement to advanced culinary skills in the spring of 2005. The test adds accountability with culinary students completing specific culinary competencies, but lacks documented results of student successful completion rates from traditional and accelerated programs. Research findings may offer information whether or not varying class times and teaching methods in conventional or accelerated programs may provide information supporting future program improvements.

Both accelerated and traditional teaching methods have proven to be successful in various educational environments (Rose & Nicholl, 1998; Stronge, 2002; Swenson, 2003). Most literature available shares both positives and negatives to accelerated and traditional teaching methods, including their connection with the brain. Through an exhaustive search with very little results, a paucity of research has been done on the effectiveness of teaching methods where laboratory-based practical testing is involved. Differing laboratory times offered for each program may or may not impact student perception and performance on the test and in class. Issues may arise with practice and performance when accelerated students are limited by time constraints.

*Purpose of the study*

The purpose of this study was to analyze and document the success of accelerated versus traditional teaching methods while completing a practical test. Students in their last semester of the Culinary Arts Program at Fox Valley Technical College must complete and successfully execute a practical test in Advanced Culinary Skills in order to pass. Accelerated programs offer a different approach to learning by addressing the diversity of individual learning preferences compared to conventional teaching methods. Traditional teaching methods are teacher-centered and consist of lecture, reading, and independent work; learning tends to be more individualized (Swenson, 2003).

The results of this study could lead to a recommendation that a specific teaching method lends itself better to students in laboratory-based classes with a practical test. The measure of success amongst students in each program will help to achieve the purpose of this study. The study will quantitatively compare traditional and accelerated teaching methods with regard to understanding and applying culinary competencies on a test. The results may encourage instructors and those with similar programs to develop teaching methods that accomplish educational goals and expected learning outcomes in a laboratory-based class with a practical test.

*Research Objectives*

The research study seeks to determine the following, given two distinct population differences in kitchen laboratory time:

1. Identify differences in student perception between accelerated and traditional programs. Two data sets will be surveyed for comparison.

2. Identify student perceptions relating to program perception and teaching methods used.
3. Determine the effect that laboratory time has on the success rate of a practical test.
4. Determine the relationship of students' industry experience on success rate.
5. Determine the relationship of students' additional practice time outside of class on success rate.
6. Determine if there are differences between accelerated and traditional program students taking a laboratory-based practical test.

*Significance of the study*

This study is important for the following reasons:

1. Encourage faculty to recognize that students learn from a variety of teaching methods in a relaxed learning environment (Meier, 2000). Pure learning includes teaching interactively, where collaborative learning amongst students is encouraged. Students are able to use previous learning to build on new learning experiences. The accelerated format uses a variety of teaching methods to reach a greater number of learning styles, but a limited amount of laboratory time may offer students a disadvantage on a practical test.
2. Prepare students for the successful completion of a practical test in the course, Advanced Culinary Skills. The four step teaching process is used to capture best opportunities for learning: lecture and discussion, showing by demonstration, practice by the learner, and performance of a practical test. The course outcomes are performed by students, thus bringing the learning full circle.

3. Use data collected to better serve students in programs that offer laboratory-based classes with a practical test. The effectiveness of a relatively new testing format could offer information for continual improvement. Results may encourage the culinary program at FVTC and similar programs to review curriculum and processes.
4. Determine if out-of-class activities affect test results. Work experience in terms of years in the field and current number of hours working in kitchens may impact test results. The number of times spent practicing may also impact test results.
5. Discover if student perception has an effect on practical testing. Learn individual perceptions relating to the program, class, teaching methods used, and the practical test. Learning more about the objectives of this study may come from the feedback given by students in both programs.

*Limitations of the study*

These are the limitations that were identified in this study. They are:

1. The survey administered was completed by students after taking a laboratory-based practical test, but before finding out their grades. As a result, students may have answered questions based on individual perceptions of their performance at an emotional time.
2. The population was limited to a small percentage of students who have completed the practical exam in Advanced Culinary Skills. Additional studies may be needed to capture a larger population of students completing the practical test in Advanced Culinary Skills.

3. This study was limited to practical laboratory testing at one culinary school. Additional data collected is limited due to the lack of culinary schools administering a practical laboratory-based test with similar qualifications.

*Definition of terms*

The following terms are explained to offer the reader a better understanding of subject matter in this study:

*Accelerated learning*: combining adult learning theory and whole brain learning theory in the learning environment to achieve a faster learning rate (Rose, 1987).

*Advanced Culinary Skills*: a one credit course in the Culinary Arts Program at Fox Valley Technical College. The course includes a culmination of fundamental cooking methodology, applications, and principles. Successful completion of the class and practical test are a requirement for the program (Finley, 2007).

*American Culinary Federation, Inc*: the premier professional chefs' organization in North America, with more than 230 chapters nationwide and 20,000 members. ACF offers culinarians of all ages, skills levels and specialty, the opportunity to further their career, as well as enhance their lives (ACF, 2004).

*Brain-based learning*: involves acknowledging the brain's rules for meaningful learning and organizing teaching with those rules in mind. Brain research establishes and confirms that multiple, complex, and concrete experiences are essential for meaningful learning and teaching (Caine & Caine, 1994).

*Collaborative learning*: to collaborate is to work with another or others. Collaborative learning has come to mean students working in pairs or small groups to

achieve shared learning goals. Collaborative learning involves learning through group work rather than learning by working alone (Barkley, Cross, & Major, 2005).

*Conventional teaching*: assumes that learning should involve determined concentration and frequent repetition (Rose, 1987).

*Cooking Principles*: basic principles of cooking methods used to transfer heat through conduction, convection, and radiation (Labensky & Hause, 2007).

*Dry-heat cooking methods*: cooking methods, principally broiling, grilling, roasting, baking, sautéing, pan-frying, and deep-frying, that use air or fat to transfer heat through conduction and convection; dry-heat methods allow surface sugars to caramelize (Labensky & Hause, 2007).

*Moist-heat cooking methods*: cooking methods, principally simmering, poaching, boiling, and steaming, that use water or steam to transfer heat through convection; moist-heat cooking methods are used to emphasize the natural flavors of foods (Labensky & Hause, 2007).

*Practical test*: the test is essentially based upon students' ability to demonstrate basic culinary skills with specific practical requirements within the allotted time (American Culinary Federation, 2004).

*Summative assessment*: measures what students have learned at the end of some set of learning activities (Angelo & Cross, 1993).

# Chapter II: Literature Review

## *Introduction*

The Culinary Arts Program at Fox Valley Technical College offers a two year associate's degree in either a traditional or accelerated program format. This chapter will review the framework of two different teaching formats in the same culinary arts program at FVTC. Whether in the traditional program or the more intensive teaching format that accelerated pacing offers, students must still demonstrate a certain level of competence by successfully completing a culinary practical test in Advanced Culinary Skills. The American Culinary Federation has been a model for the inception of practical testing at FVTC. Looking at student perception and success rate in both programs may offer learning opportunities for a continual growth of the culinary arts program at FVTC and similar programs.

## *Accelerated Learning Format*

The roots of accelerated learning trace back to the 1960's, where Bulgarian educational psychiatrist Dr. Georgi Lozanov began creating non-traditional teaching methods. A major difference between accelerated and traditional program formats is the amount of time students spend in class. Culinary Arts students in the accelerated program at FVTC spend less time in class than traditional program students. Understanding the importance of time and learning, Wlodkowski and Kasworm (2003) stated other factors are equally as important, including student capability, quality of instruction, and personal motivation.

Accelerated learning format recognizes best learning opportunities are achieved through creative teaching methods which reach a variety of learning styles on an

individual basis (Meier, 2000; Rose & Nicholl, 1998; Wlodkowski & Kasworm, 2003). According to Meier (2000), the amount of time spent in class will have less effect on learning outcomes than the learning environment itself. Finley (S. Finley, personal communication, February 11, 2008) believes accelerated program students are at a disadvantage due to the limited amount of face to face time with cooking demonstrations and time students have to work with the chef instructor. Students have less time to ruminate, thinking about the class, test, and how they can apply it.

Wlodkowski and Kasworm (2003) shared examples of learning environment as customer-oriented, where program schedules are easily accessible with busy schedules, a more customized learning environment catering to today's students and especially adults. Accelerated learning models are fast paced, more intensive, but can also be gentler and stress free (Rose, 1987). This approach urges students to take control of their learning, allowing feelings and attitudes to work towards a successful end result (Rose & Nicholl, 1998). Activity-based learning involves body and mind where physical movement offers a richer level of mental processing. Well chosen learning activities include the use of games and activities, relaxation, music, color, emotions, role play, visualization, and a multitude of other fun and stress-free activities. Facilitated properly, activity-based learning can have a lasting effect on a student's experience (Meier, 2000; Rose & Nicholl, 1998; Russell, 1999; Wlodkowski & Kasworm, 2003).

Rose (1987) discussed the differences between short-term memory, where memory seems to analyze and long-term memory, where memory seems to synthesize. Meier's theory on twenty-first-century learning is preparing people for a world where everyone needs to exercise their full powers of mind and heart with creativity and less

predictability. Using the whole brain learning theory, Meier (2000) believed learning is captured by the mind, body, emotions, and all the senses. Utilizing the whole brain theory, students may learn faster, be more focused and interested, and be more effective with their preferred learning styles. According to Finley, practical testing requires students to learn cooking methods and principles without rote memorization, where previous learning and experiences may have an effect on test results (S. Finley, personal communication, February 11, 2008).

Practical testing allows students to apply expected learning over a set period of time. Rose (1987) classified memory as a three-way activity where learning is accomplished through registration, retention, and recall. Summative assessments or practical testing require students to demonstrate expected learning through critical thinking and application (Wlodkowski & Kasworm, 2003). Many studies have been done comparing intensive learning success versus a more traditional approach, including similar studies by Wlodkowski and Kasworm. In one such study, regardless of format, four out of five students met college level standards as judged by three faculty experts in their respective fields of study. Another study conducted by Wlodkowski and Kasworm found that the average performance of older students in the accelerated courses received a higher performance average than younger students in a traditional program with the same requirements. Wlodkowski and Kasworm (2003) explained these two modest studies share the possibility that factors such as motivation, previous work experience, self-direction, and concentration can also play an important role with learning.

*Accelerated Program Entry Requirements*

Program entry requirements must be met before accelerated students are accepted into the culinary arts program at FVTC. The entry requirements include: personal attributes, work experience, application, and specified technical requirement.

Personal attributes: Successful completion of the Accelerated Program takes complete commitment of each student. Each candidate must be willing to fulfill the requirements of the program in and out of school.

Work experience: The ideal candidate will have a minimum of 4,000 documented work hours (2 years) in the professional production of food or a minimum of 10,000 documented hours (5 years) of full-time employment.

Application: Each candidate is required to complete an entrance interview with the department chair. The candidate will be asked to present an application portfolio. The portfolio is designed to allow each candidate to demonstrate his or her record of achievement and show the level of commitment to the program. The portfolio should include both personal and professional references, employment history, and list of accomplishments. Each candidate must also complete the ACCUPLACER Exam required of all students who enter Fox Valley Technical College. Scores must meet the required minimum standards or successful completion of GOAL work completed prior to admission into the Accelerated Culinary Arts Program.

Technical requirements: Each student must have access and opportunity to email the instructor and class on a regular basis. Candidates also must have the personal computer skills needed to produce word documents, attach, send, receive, and print documents from group partners or instructors.

*Traditional Learning Format*

Traditional teaching methods are still the dominant instructional structure practiced in U.S. higher education according to Swenson (2003). The two most common components of traditional teaching methods being used are lecture and semester blocks (Swenson, 2003). Lecture is based on transmitting information from an expert to the learner. Meier (2000, p.xii) described traditional learning as one-size-fits-all, behavioristic conditioning with an emphasis of the expert "telling" while the learner "listens and takes notes." Purists of the traditional classroom believe learning involves determined concentration and frequent repetition.

Traditional learning is defined by Meier (2000, p.xxv) as "nineteenth century learning" where the task of education and training was to prepare people for simple, routine, and predictable tasks. Learning is based on individual performance within a controlled environment. The old foundation of traditional learning where the teacher is an expert who delivers material and the learner receives knowledge in a narrow, structured environment. The trainer is a platform performer, where learning is primarily verbal and cognitive (Meier, 2000).

*Traditional Program Entry Requirements*

Program entry requirements must be met before traditional program students are accepted into the culinary arts program at FVTC. Entry requirements include: admissions assessment, successful completion of an ACT test, or achieving minimum ACCUPLACER test requirement scores in reading, language, and math.

1. Admissions Assessment: Full-time and part-time program students attending FVTC are required to complete the ACCUPLACER evaluation prior to course

registration. Students may substitute the ACCUPLACER academic tests by submitting ACT test results to Admissions.

2. ACCUPLACER Reading Academic Test: Reading score of 21 percentile or greater or completion of equivalent GOAL course required.
3. ACCUPLACER Language Academic Test: Sentence skills score of 50 percentile or greater or completion of equivalent GOAL course required.
4. ACCUPLACER Math Academic Test: Math score of 51 percentile or greater or completion of equivalent GOAL course required.

   COMPASS and ASSET tests will also be accepted in lieu of ACCUPLACER or ACT, if scores are less than three years old.

*Computation of Credit Hours*

A comparison of credit hours shows total clock hours accelerated and traditional program students spend in both laboratory and lecture classes.

Traditional Format Credit Hours

| | | |
|---|---|---|
| Culinary Arts | | 68 credit hours |
| Laboratory-based Classes | 1 credit hour | 36 clock hours |
| Lecture Classes | 1 credit hour | 18 clock hours |
| Laboratory-based Classes | 30 credit hours | 1,080 clock hours |
| Lecture Classes | 38 credit hours | 684 clock hours |
| Total | 68 credits | 1,764 clock hours |

Accelerated format credit hours

| | | |
|---|---|---|
| Culinary Arts | 68 credit hours | |
| Laboratory-based Classes | 1 credit hour | 12 clock hours |
| | (33% of traditional format) | |
| Lecture Classes | 1 credit hour | 12 clock hours |
| | (67% of traditional format) | |
| Laboratory-based Classes | 30 credit hours | 360 clock hours |
| Lecture Classes | 38 credit hours | 456 clock hours |
| Total | 68 credits | 816 clock hours |

Accelerated program students receive 948 fewer clock hours in class versus traditional program students. Total clock hours include both laboratory and lecture class hours, where accelerated students spend 46.3% less time in class than traditional program students. Traditional program students spend 66% more time in laboratory classes and 33% more time in lecture classes than accelerated program students. Class time may differ, but learning objectives and course outcomes remain the same for all students in Advanced Culinary Skills.

*History of American Culinary Federation*

Established in 1929, American Culinary Federation, Inc (ACF) is the largest professional chef's organization in North America. ACF consists of more than 230 chapters and 20,000 members throughout the United States. In 1976, the United States Department of Labor worked with the ACF to upgrade the definition of chef to professional status, as a result of an ACF initiative (ACF, 2004, n.p.). "The mission of ACF is to make a positive difference for culinarians through education, apprenticeship,

and certification, while creating a fraternal bond of respect and integrity among culinarians everywhere."

*ACF Certification*

ACF (2004) offers individual chef certifications, apprenticeship opportunities, as well as culinary programs becoming accredited through standards set by the American Culinary Federation. ACF certification allows culinary professionals the opportunity to document educational and professional career progression. Potential employers can verify a professional chef's ability and knowledge through individual certification levels. Each level of chef certification requires written and practical requirements, as well as specified required years of professional experience.

ACF currently offers 14 certification designations, each of them having different qualification requirements. Students graduating from the Culinary Arts Program at FVTC can receive Certified Culinarian (CC) status from ACF. The school in which students graduate from must be accredited by the American Culinary Federation Foundation Accrediting Commission (ACFFAC). FVTC is currently accredited through the ACFFAC. In order to receive (CC) certification, students must be ACF members at the time of graduation, fill out an application, and have an associate's degree in culinary arts or food service management. A Certified Culinarian (CC) is an entry level culinary professional within a commercial foodservice operation. Certification defines a level of experience and allows professionals to document educational and professional development throughout one's career.

*Advanced Culinary Skills Practical Test*

The culinary practical test in Advanced Culinary Skills (ACS) is a tool used to measure competence of expected knowledge and cooking abilities. Course outcomes of ACS are executed by students producing quality products within time constraints of a practical test. Students are judged on preparation and execution of basic food patterns. Judging criteria is based off a point system and students must achieve a certain number of points to successfully complete the test. For a further explanation of the judging and grading criteria see Appendix C and D. Practical testing benefits our students by validating their degree according to Igel (personal communication, January 29, 2008). Holding every learner to a higher standard, the degree has more rigor and more meaningful achievement. The skills we ask of students are skills that a graduate should be able to demonstrate. Advanced Culinary Skills practical test requirements are listed in Appendix B.

Practical testing evolved at Fox Valley Technical College as a result of the initiative taken by American Culinary Federation validating its certification program. For many years the American Culinary Federation required practical testing as a component of the certification process as a way to validate a cook or chef truly had the necessary skills to earn the specific designation sought. Igel stated, sometime in the 1980's this practical component was eliminated from the certification process. This was considered in an effort to make obtaining chef certification more expedient. Early in 2000, the American Culinary Federation recognized the need for returning to former certification standards and reinstated a practical testing component in all levels of chef certification. It was at that time that the faculty of Fox Valley Technical College's Culinary Arts

Department began discussion of instituting some sort of practical testing in the associate degree program, given that a student who graduated was automatically certified at the CC (Certified Culinarian) level. This discussion laid the groundwork to the practical testing component that we have in place today (J. Igel, personal communication, January 29, 2008).

Testing format and requirements used for practical testing at Fox Valley Technical College were adopted from a similar test used for quite some time as the practical testing component of the Restaurant and Hotel Cookery Apprenticeship program. The apprenticeship program is predicated on the basis that students apprentice under a professional chef for a period of three years and attend classes once per week to enhance training they are receiving on-the-job. The apprenticeship program was developed using the standards of both the Bureau of Apprenticeship Standards of the State of Wisconsin as well as the American Culinary Federation Apprenticeship Program.

The practical testing component enhances our program by validating the ability of each student. Given various laboratory situations where students work with partners and in teams, it was agreed by our faculty that this measurement puts in place a mechanism where a student who may not have yet achieved minimum competence would be identified (J. Igel, personal communication, January 29, 2008). Our faculty team strongly believes that in order to earn a degree in Culinary Arts from Fox Valley Technical College, a graduate needs to demonstrate they can cook. This test assists not only the student, but also faculty by identifying for both faculty and student the various skill sets needing more attention. Our faculty team discusses these particular measurements regularly to evaluate where our curriculum is achieving its desired outcome and where

there are opportunities to improve it. If a student is going to graduate, he/she needs to demonstrate they can cook (J. Igel, personal communication, January 29, 2008).

Challenges of the practical testing process are really quite minimal, according to Igel. Factors that could be considered as negative in regard to the practical testing process include the cost of the food needed while implementing the test, the amount of set-up and clean-up time, the use of a significant amount of kitchen space, pots and pans, small wares and large equipment during testing, and the amount of time needed from faculty not associated with the particular class to evaluate the testing process. The biggest challenge, according to Igel, is likely the fact that by failing the practical exam, the student fails the Advanced Culinary Skills course (1 credit) and therefore must pay for and repeat the class. See Appendix E for a breakdown of previous practical test results from both the accelerated and traditional program students since 2005.

*Summary*

In summary, this chapter reviewed literature regarding accelerated and traditional culinary programs at Fox Valley Technical College. Students in Advanced Culinary Skills must successfully complete a practical test to pass the class and graduate from the program. Program format and teaching methods used differ, but learning objectives and course outcomes remain the same for both programs. The evolution of practical testing was described, including its benefits for the culinary program at FVTC and its students. American Culinary Federation plays a key role in certification and accreditation throughout the culinary industry and in education.

First semester students learn early on that completion of a practical test in ACS is a requirement of the culinary arts program at FVTC. The test itself offers validity to the

program and may hold students more accountable for their learning and performance. Students have to demonstrate critical thinking according to Finley. A certain level of concentration is needed for planning and executing the food requirements on the test within the specified time constraints. Laboratory-based testing is one of many testing formats utilized throughout the culinary arts program. Successful completion of culinary practical test shows employers a graduating student can plan, organize, and execute a timed practical test.

The practical test was developed with the intention of covering a variety of cooking techniques. Although a controlled environment, the practical test offers pressure similar to a real world environment. Test format includes a faculty member who facilitates the test, a floor judge, and three tasting judges. Students receive feedback for each course with individual perspectives from the judges. One local chef and two faculty members make up the judges panel. Local chef participation offers real life industry expectations and perspectives. Perceptions of personal performance of those testing may vary from the oral and written performance evaluations of each judge. Reality versus perception of personal performance comes full circle when students receive evaluation and test results. The final test is a learning hurdle that students have to overcome which may have a lasting impression on their self confidence.

Chapter II has provided a background of the Culinary Arts Program at FVTC. Accelerated and traditional program students must successfully complete a laboratory-based practical test in Advanced Culinary Skills. Differences between each program have been identified, but success rates of a practical test from each program have never been examined. Further research may uncover student perception and success rates for

accelerated and traditional program students who complete a laboratory-based class with a practical test. The following research may offer a better understanding and possible areas of improvement through continual learning.

# Chapter III: Methodology

## *Introduction*

The impact of accelerated versus traditional learning where students take a practical test will be researched attempting to clarify best teaching methods where students complete a practical test. This chapter includes sample collection, instrumentation used, data collection procedures, data analysis, and limitations of research.

## *Description of Research Method*

The Culinary Arts Program at Fox Valley Technical College has not analyzed the effectiveness of using either traditional and/or accelerated teaching methods since adding a practical test requirement to advanced culinary skills course in the spring of 2004. This comparative study will include a survey of two definitive classes being sampled to obtain results. The study included research objectives identified in Chapter I. Impact of the research may lead to recommendations that teaching methods of specific programs are better suited to students when a laboratory-based practical test is required for graduation.

There had been no previous research conducted on the impact of accelerated versus traditional learning methodology where students complete a laboratory-based practical test. Data for this study was gathered via electronic survey and completing the advanced culinary skills laboratory practical examination. The survey can be seen as Appendix A. Participants completed the survey immediately following a laboratory-based practical test in Advanced Culinary Skills at Fox Valley Technical College. The survey was conducted in a computer laboratory adjacent to the test kitchen. The survey was

available to all accelerated and traditional program students enrolled in Advanced Culinary Skills.

*Selection of Subjects*

The population for this study consisted of 295 culinary arts students at Fox Valley Technical College, Appleton, WI. Total population consisted of 263 students in the traditional program and 32 students in the accelerated program. A sample of the population was divided between accelerated and traditional programs. Sample was determined by the limited availability of Advanced Culinary Skills offered to accelerated students annually. The survey was offered to a sample of 21 students enrolled in the 2008 Spring Advanced Culinary Skills class, in the third quarter of the second semester. Total sample consisted of 12 accelerated and 9 traditional students. Each student had the option of completing the nine question survey upon completion of a practical test, but prior to receiving critiques from the judges, and receiving their individual test results.

*Instrumentation*

Instrumentation was designed specifically for this specialized study to answer the research objectives. A Likert scale survey (see Appendix A) was developed by the researcher to gather information. A variety of questions were offered. The nine question survey was voluntary and anonymous. Survey questions were developed to uncover any variables affecting the results of a laboratory-based practical test. The survey focused on identifying which culinary program the student was enrolled in, satisfaction of the program, and teaching methods used. Student perception, amount of practice time, preparation taken for a laboratory-based test, and industry experience were also requested on the survey. Student responses to the questions, coupled with test results may offer a

better understanding of the impact that teaching methods, hours spent in class, and two distinct programs may have on the results of a practical test.

The electronic survey was formatted using Web Surveyor where results are automatically documented. A report containing detailed statistical analysis for each student grouped by program was complied. Survey results were separated between the two programs being studied. The results from each question of the survey can be viewed in Chapter IV Results.

The researcher completed The University of Wisconsin-Stouts human subjects training certification. The study was reviewed and approved by the University of Wisconsin-Stout's Institutional Review Board (IRB), meeting the ethical obligations required by federal law and University policies. The study was also reviewed and approved by the Fox Valley Technical College IRB prior to being administered.

*Data Collection Procedures*

During a pre-test meeting students were asked to participate in a voluntary survey. An explanation of the survey was offered to the 12 accelerated and 9 traditional program students taking the advanced culinary skills practical test. Participant names were not recorded on the survey, and all responses were anonymous. The survey for the accelerated class was administered on two separate days due to class size. Eight students tested on February 28 and four students tested on March 6. All 12 accelerated students completed the survey resulting in 100% participation. Nine traditional program students tested on March 7. Six out of the nine students testing opted to complete the survey, resulting in 66.7% participation.

The survey was downloaded and opened on each computer in the culinary computer laboratory by an instructor prior to the completion of the test. Students were allowed to take the survey after they finished the practical test, but prior to receiving any results of their test score. The surveys' opening page offered an explanation of the survey, IRB approval, and a box to check that indicated an agreement to participate or not to participate in the survey. All students who reviewed the explanation of the survey from both programs chose the box agreeing to participate in the survey. The computer laboratory was monitored by a culinary arts faculty member. Three students from the traditional program chose not to participate.

*Data Analysis*

Student enrollment numbers in the third quarter for both the accelerated and traditional program students in Advanced Culinary Skills provided possible candidates for survey participation. The researcher completed a matrix to cross-match the nine survey questions with the six research objectives identified in Chapter I. The objective of this process was ensuring each research objective was covered on the survey. Data analysis was conducted by gathering survey results from students in both programs and tabulating them individually in Chapter IV.

*Limitations*

This researcher acknowledges there were several limitations to the study. The comparative study had limitations for valid statistical certification. One limitation was not meeting the minimum basic rule of 30 subjects per subgroup. A second limitation was availability of subjects limited to the class size testing during a particular semester.

Future testing may be necessary for achieving a comparative study with the proper subject requirements to meet reliability and validity.

Survey questions measured variables that may impact performance on the practical test. The survey was created by the researcher for the purpose of this study and has no internal measure of validity or reliability. Survey questions themselves may be one limitation if answers were not relevant to the study. Emotions from students immediately after completing an intensive practical test may also impact how questions on the survey are perceived and answered. Sampling one program may be a limitation to generalizability of results to other similar culinary arts programs.

# Chapter IV: Analysis of Data

## *Introduction*

The purpose of this study was identifying and analyzing the successes of accelerated versus conventional teaching methods while completing a laboratory-based practical test. Faculty of the Culinary Arts Department at FVTC approved the implementation of practical testing in 2004. Such testing would be required for students enrolled in Advanced Culinary Skills, a one credit class required for accelerated and traditional program students. A lack of research identifying students' success rates since adding a laboratory-based practical test was noted by the researcher. This chapter includes survey results from students who completed a practical test and participated in a voluntary survey.

Advanced Culinary Skills (ACS) is offered twice a semester for traditional program students. An additional ACS course has been offered in the summer accommodating additional enrollment. Including the summer course option, ACS is offered five times a year for traditional program students. ACS is offered to accelerated program students only once a year, as well as a summer session course if enrollment requires it. Accelerated program enrollments are limited to a maximum of 20 students each semester. ACS is offered to accelerated program students one time per academic year, resulting in a limited number of participants for this study.

Prior to the practical culinary examination, students met for a brief overview of testing rules and expectations. Students were asked to participate in a voluntary survey following testing completion. After finishing the test, but before receiving any feedback, students then participated in an online Likert survey. Offering the survey before students

received any feed-back from judges and prior to receiving test results may reduce biases towards survey questions. The electronic survey was administered in a computer laboratory adjacent to the testing kitchen. Survey results were collected electronically by Web Surveyor.

*Results of Research*

As a result of the research, the following survey responses from accelerated and traditional program students were summarized in the following tables. There were nine items on the instrument. Question numbers two through nine were formatted using a Likert scale. The first survey question addressed the demographic question about whether individuals were enrolled in the traditional or accelerated culinary arts program. See Table 1 for the complete results.

Table 1

*Which culinary program are you enrolled in?*

| | Survey Participants | Class Participants | % Participation |
|---|---|---|---|
| Traditional Program | 06 | 9 | 67% |
| Accelerated Program | 12 | 12 | 100% |

Results from question one showed the number of participants completing the survey. A total of nine traditional program students tested on March 7. Three students chose not to participate in the study, resulting in six students completing the survey or

67%. All 12 accelerated program students who tested participated in the survey. Eight students tested February 28 and four students tested March 6 resulting in 100% participation.

The second survey question asked respondents to share the level of satisfaction with their specific program. Results may offer differences in student perception between accelerated and traditional programs. See Table 2 for the complete results.

Table 2

*How satisfied are you with the culinary program you enrolled in?*

| | Traditional Program Participants / Percent | Accelerated Program Participants / Percent |
|---|---|---|
| Very satisfied | 3 / 50% | 5 / 41.7% |
| Somewhat satisfied | 3 / 50% | 6 / 50% |
| Neither satisfied nor dissatisfied | 0 / 0% | 0 /0% |
| Somewhat dissatisfied | 0 / 0% | 1 / 8.3% |
| Very dissatisfied | 0 / 0% | 0 / 0% |

Three respondents (50%) of students were very satisfied with the traditional program while 3 respondents (50%) were somewhat satisfied. Five respondents (41.7%) from the accelerated program were very satisfied, while 6 respondents (50%) were somewhat satisfied. One respondent (8.3%) percent was somewhat dissatisfied with the accelerated program.

The third survey question asked respondents how satisfied they were with the teaching methods used in preparation for the test. Teaching methods and class times vary

between the accelerated and tradition culinary arts programs. Student perception of the teaching methods offered between each program may suggest a better understanding of student perception resulting from the test. See Table 3 for the complete results.

Table 3

*How satisfied were you with the teaching methods used to prepare you for the practical test?*

| | Traditional Program # / Percent | Accelerated Program # / Percent |
|---|---|---|
| Very satisfied | 3 / 50% | 7 / 58.3% |
| Somewhat satisfied | 3 / 50% | 4 / 33.3% |
| Neither satisfied nor dissatisfied | 0 / 0% | 0 / 0% |
| Somewhat dissatisfied | 0 / 0% | 1 / 8.3% |
| Very dissatisfied | 0 / 0% | 0 / 0% |

Three respondents (50%) of traditional program students were very satisfied with the teaching methods, while 3 respondents (50%) were somewhat satisfied with the teaching methods offered in preparation for the test. Seven respondents (58.3%) of accelerated program students were very satisfied, 4 respondents (33.3%) were somewhat satisfied, and 1 respondent (8.3%) was somewhat dissatisfied with the teaching methods offered with the accelerated program.

The fourth survey question asked respondents how satisfied they were with the amount of laboratory time available in preparation for the test. Traditional program students spend 66% more time in laboratory classes and 33% more time in lecture classes than accelerated program students. Varying laboratory times amongst each program may

or may not affect student success rates on the practical test. See Table 4 for the complete results.

Table 4

*How satisfied were you with the amount of laboratory time available to prepare for the practical test?*

| | Traditional Program # / Percent | Accelerated Program # / Percent |
|---|---|---|
| Very satisfied | 3 / 50% | 5 / 41.7% |
| Somewhat satisfied | 2 / 33.3% | 5 / 41.7% |
| Neither satisfied nor dissatisfied | 0 / 0% | 1 / 8.3% |
| Somewhat dissatisfied | 1 / 16.7% | 0 / 0% |
| Very dissatisfied | 0 / 0% | 1 / 8.3% |

Three respondents (50%) of traditional program students were very satisfied with the amount of laboratory time available, while 2 respondents (33.3%) were somewhat satisfied. One respondent (16.7%) was somewhat dissatisfied with the amount of laboratory time available in preparation for the traditional practical test. Five respondents (41.7%) from the accelerated program were very satisfied, 5 respondents (41.7%) were somewhat satisfied, and 1 respondent (8.3%) was neither satisfied nor dissatisfied with the amount of laboratory time available. One respondent (8.3%) was very dissatisfied with the amount of laboratory time available in prepare for the practical test.

The fifth survey question asked respondents how prepared they felt prior to taking the practical test. Individual perception of teaching methods offered, varying laboratory times, and additional practice time amongst each program may have affected how

prepared individuals felt for successfully completing a practical test. See Table 5 for the complete results.

Table 5

*Prior to taking the practical test, how prepared do you feel you were?*

| | Traditional Program # / Percent | Accelerated Program # / Percent |
|---|---|---|
| Extremely prepared | 0 / 0% | 5 / 41.7% |
| Somewhat prepared | 6 / 100% | 7 / 58.3% |
| Not very prepared | 0 / 0% | 0 / 0% |
| Not prepared at all | 0 / 0% | 0 / 0% |

Both traditional and accelerated program students reported either feeling extremely prepared or somewhat prepared prior to taking the test. All traditional program students reported feeling somewhat prepared for the practical test. Five respondents (41.7%) of accelerated program students felt extremely prepared, while 7 respondents (58.3%) felt somewhat prepared for the practical test.

The sixth survey question asked respondents to what extent their education prepared them to become successful upon graduation. Results from survey question six may offer information on student perception from not only the teaching methods used in advanced culinary skills, but also throughout their entire culinary arts program. See Table 6 for the complete results.

Table 6

*To what extent has your education prepared you to become successful upon graduation?*

| | Traditional Program # / Percent | Accelerated Program # / Percent |
|---|---|---|
| Great extent | 2 / 33.3% | 4 / 33.1% |
| Some extent | 3 / 50% | 8 / 66.7% |
| Neutral | 1 / 16.7% | 0 / 0% |
| Little extent | 0 / 0% | 0 / 0% |
| No extent | 0 / 0% | 0 / 0% |

Two respondents (33.3%) of the traditional program felt prepared to a great extent, 3 respondents (50%) felt prepared to some extent, and 1 respondent (16.7%) felt neutral in being prepared for success upon graduation. Twice as many felt they were prepared to some extent for success upon graduation (n=8; 66.7%) then to a great extent (n=4; 33.1%) in the accelerated class.

The seventh survey question asked respondents how many years experience they have preparing food in the restaurant industry. Amount of restaurant industry experience may impact individual test results. See Table 7 for the complete results.

Table 7

*How many years experience do you have preparing food in the restaurant industry?*

| | Traditional Program # / Percent | Accelerated Program # / Percent |
|---|---|---|
| N/A | 0 / 0% | 1 / 8.3% |
| 0-3 years | 3 / 50% | 7 / 58.3% |
| 4-6 years | 3 / 50% | 1 / 8.3% |
| 7-9 years | 0 / 0% | 1 / 8.3% |
| 10-12 years | 0 / 0% | 2 / 16.7% |
| 13+ years | 0 / 0% | 0 / 0% |

Both traditional and accelerated students reported having between 0 and 12 years experience preparing food in the restaurant industry. Three respondents (50%) of traditional program students had between 0 to 3 years experience, while 3 respondents (50%) had between 4 to 6 years experience. One respondent (8.3%) from the accelerated program had no experience preparing food in the restaurant industry. Seven respondents (58.3%) had between 0 to 3 years experience, while 1 respondent (8.3%) had 4 to 6 years experience. One respondent (8.3%) had between 7 to 9 years experience, while 2 respondents (16.7%) had between 10 and 12 years experience preparing food in the restaurant industry.

The eighth survey question asked respondents how many hours a week they are currently preparing food in the restaurant industry outside of class. Amount of hours

spent preparing food in the restaurant industry may impact individual test results. See Table 8 for the complete results.

Table 8

*Outside of class, how many hours in a week are you currently preparing food in the restaurant industry?*

| | Traditional Program Percent | Accelerated Program Percent |
|---|---|---|
| N/A | 1 / 16.7% | 2 / 16.7% |
| 0-4 hours | 2 / 33.3% | 3 / 25% |
| 5-10 hours | 0 / 0% | 1 / 8.3% |
| 11-20 hours | 1 / 16.7% | 0 / 0% |
| 21-30 hours | 1 / 16.7% | 2 / 16.7% |
| 31+ hours | 1 / 16.7% | 4 / 33.3% |

Both traditional and accelerated program students reported working between 0 and 31+ hours a week in the restaurant industry preparing food. One respondent from the traditional program (16.7%) was not working, while 2 respondents (33.3%) were working between 0 and 4 hours a week. One respondent from the traditional program (16.7%) was working between 11 and 20 hours a week, 1 respondent (16.7%) was working between 21 and 30 hours a week, and 1 respondent (16.7%) was working 31+ hours a week preparing food in the restaurant industry. Two respondents (16.7%) of the accelerated program were not working in the restaurant industry, while 3 respondents (25%) were working 0 to 4 hours a week, and 1 respondent (8.3%) was working between 5 and 10 hours a week preparing food in the restaurant industry. Two respondents (16.7 %) of the accelerated

program students were working between 21 and 30 hours a week preparing food in the restaurant industry. Four respondents (33.3%) of accelerated program students were working 31+ hours a week preparing food in the restaurant industry.

The ninth survey question asked respondents how many times they practiced the practical test. Amount of times practiced may impact success rates of the practical test.

Table 9

*How many times did you practice the practical test?*

| | Traditional Program Percent | Accelerated Program Percent |
|---|---|---|
| N/A | 0 / 0% | 0 / 0% |
| 1 | 1 / 16.7% | 3 / 25% |
| 2 | 2 / 33.3% | 5 / 41.7% |
| 3 | 1 / 16.7% | 2 / 16.7% |
| 4 | 0 / 0% | 0 / 0% |
| 5+ | 0 / 0% | 0 / 0% |
| Other | 2 / 33.3% | 2 / 16.7% |

One respondent from the traditional program (16.7%) practiced the practical test once. Two respondents (33.3%) of traditional program students practiced twice for the practical test. One respondent from the traditional program (16.7%) practiced the practical test four times. Two respondents (33.3) of traditional program students selected other from the questions options. Both students stated they practiced parts of the test, but never practiced the entire test at one time. Three respondents (25%) of accelerated

program students practiced once, 5 respondents (41.7%) of accelerated program students practiced the test twice, and 2 respondents (16.7%) of the accelerated program practiced the test 3 times. Two respondents (16.7%) of accelerated program students selected other from the questions options. One student stated they never practiced the test all the way through. The other student stated they practiced multiple recipes, but never practiced the entire test.

# Chapter V: Summary, Conclusions, and Recommendations

## *Introduction*

This chapter contains a brief summary, including the purpose, objectives, and research design for this study. Research designed was implemented to learn more about the impact of two different teaching formats used in the same culinary arts program where students complete a laboratory-based practical test. The study also presents conclusions found from the six research objectives identified in Chapter I. Finally, recommendations for future research and change are suggested.

## *Discussion*

The Culinary Arts Program at Fox Valley Technical College has not analyzed the effectiveness of traditional and accelerated teaching methods since implementing a practical test requirement to Advanced Culinary Skills in the Spring of 2004. The effectiveness of traditional and accelerated teaching methods in the classroom have been well documented (Rose & Nicholl, 1998; Stronge, 2002; Swenson, 2003). Through an exhaustive search with very little results, practical testing in culinary schools has opportunity for development and growth (J. Igel, personal communication, January 29, 2008). Teaching methods and varying laboratory times where students complete a laboratory-based practical test may be impacted by two distinctly different programs and their requirements.

Issues may arise with the amount of class time allocated for practice and performance in the classroom and the kitchen laboratory. Accelerated students spend two-thirds less time in the kitchen than traditional program students. Although more customer-oriented, accelerated learning models may require more discipline and

responsibility from students with heavier out of class requirements than traditional programs. The independent nature of accelerated learning seems to impart higher success rates on the culinary arts practical test year after year. A study by Wlodkowski and Kasworm (2003) found that older students in accelerated courses received higher performance averages with the same requirements than younger students using a more traditional learning format. They believed that factors such as motivation, previous work experience, self-direction, and concentration can also play an important role with learning. With less laboratory time available for accelerated program students in the kitchen, practice and application may often need to be accomplished outside of class.

The purpose of this study was determining the impact of accelerated versus traditional learning formats where students are required to successfully complete a practical test. Results of successful completion rates from each culinary program at Fox Valley Technical College had never been analyzed or documented. Research findings may offer information whether or not varying class times and teaching methods affect performance on a practical test. Research may also provide information supporting future program improvements.

*Summary*

This study collected data from accelerated and traditional culinary arts students at Fox Valley Technical College enrolled in Advanced Culinary Skills during the 2008 Spring semester. The purpose of the study was to analyze success rates of a laboratory-based practical test where students were exposed to different teaching methods from accelerated and traditional programs while expecting the same learning outcomes. Twenty-one students tested during the 2008 Spring semester, twelve students were

enrolled in the accelerated program and nine students took the traditional program. All twelve accelerated program students completed a Likert survey resulting in 100% participation. Nine traditional program students completed the practical exam, but only six (66.6%) participated in the survey.

The nine question survey was administered after students completed a laboratory-based practical test, but before receiving ACS performance results. The Likert survey was designed to learn individual including; background information, level of experience, and amount of time spent practicing for the test. Results from the survey may offer insights into what factor or factors helped improve test scores. Perceptions may affect the feeling students have towards program format, practical testing, and teaching methods used; including if they would recommend the program to other potential students.

Survey results indicated that accelerated students average more years of work experience compared to students in the traditional program. See Table 8 for complete results. Number of hours per week preparing food in the restaurant industry and work experience appear to be key factors that influenced test outcomes. Results showed that accelerated students on average have more work experience and work longer hours per week. Amount of time practicing the test seems to also contribute to higher average scores.

All but one of the students surveyed from both programs were either very or somewhat satisfied with their program. One accelerated student reported dissatisfaction with the program. One accelerated student was somewhat dissatisfied with the teaching methods used, while all other students reported they were very or somewhat satisfied. One student from each program was either somewhat or very dissatisfied with the amount

of laboratory time available. It should be noted that students have access to and can use available laboratory space outside of class time to practice for the test. Many choose not to take advantage of the open time available.

Each student who completed the survey felt either extremely or somewhat prepared prior to taking the test. All students but one felt their education prepared them to either some or great extent for success upon graduation. Prior to receiving test results, but after completing the practical culinary test, all students seemed confident with their performance, according to the survey. A test of this nature creates a variety of emotions and stress levels depending on the person. As with a written test, many people excel with a cooking test observed by judges, while others struggle with the pressure (J. Igel, personal communication, January 29, 2008).

The amount of time practicing for the test, years of experience preparing food in the restaurant industry, and amount of hours working in the industry may have a significant impact on test results. Three accelerated students had between seven and twelve years of restaurant experience which may have resulted from a higher average age than students in the traditional program. All traditional program students surveyed had between zero and six years experience preparing food. Total hours a week preparing food in the restaurant industry was evenly spread out between each program on the survey. Amount of times practicing the test resulted in two students from each program choosing the response "other". All other students practiced the test between one and three times. Students that chose "other" stated they only practiced parts of the test. Practicing only parts of the test may cause a challenge with time constraints relating to the test format.

*Conclusions*

In this study, students completed a laboratory-based practical test judged by a panel of culinary arts faculty from FVTC and local industry chefs. The research study sought to determine six objectives, given two distinct population differences between program format and laboratory time. The first objective looked to identify differences in student perception between accelerated and traditional programs. Survey results showed very little difference with satisfaction of program and teaching methods used between the accelerated and traditional programs. One respondent from the accelerated program was somewhat dissatisfied with the program and its teaching methods.

The amount of laboratory time in class students have observing instructor demonstrations and applying intended learning may ultimately impact success rates on the practical test. ACS is a one credit class offering 36 clock hours in the traditional program compared to 12 clock hours in the accelerated program. On paper it would appear traditional program students would have higher success rates due to increased time for application of learning than accelerated students. Finley believes accelerated program students are at a disadvantage due to the limited amount of face to face time with the instructor. Results on the practical examination are actually just the opposite, where accelerated students had a higher successful completion percentage. Test results from Spring 2008 showed 55.6% of traditional program students successfully completed the test while 100% of accelerated successfully completed the test.

Advanced Culinary Skills is offered four times a year in the traditional program compared to one time a year in the accelerated program. Since the inception of practical testing at FVTC, traditional program scores had a higher successful completion

percentage only once compared to the accelerated program. In the Spring of 2005, 78.6% of accelerated program students past the test, while 86.75% of traditional program students passed the test. Every year after the spring of 2005, accelerated program students received higher passing scores. To date, total successful completion lies at 90% for accelerated students compared to 78.7% of traditional students. The two summer classes had successful completion rates of 100% and 77.8% (See Appendix E for all previous practical test results).

Findings of this study compliment statements documented in Chapter 1, where Igel believes the biggest opportunities for change in the culinary arts program lie in connecting the traditional culinary arts model to a more accelerated format. Results from the culinary practical test correlate with a study conducted by Wlodkowski and Kasworm, where the average performance of older students in accelerated programs received higher performance average than younger students in traditional programs with the same requirements. It would appear that age, motivation, work experience, and initiative all effect student performance and success rate.

By analyzing test results from 2005 through 2008, accelerated students successfully complete the practical test 11.3% more than traditional program students. Assumptions as to why the variability of successful program and practical test completion may lie within the demographics of students in each unique program. Accelerated students may have a higher maturity level and able to apply themselves more consistently or at a higher level (Rose & Nicholl, 1998; Stronge, 2002; Swenson, 2003). Accelerated students tend to be more conscious for achieving higher grades. Program time constraints also allow accelerated students more time to practice outside of class. Many accelerated

students have established households with fully equipped kitchens and the money needed to purchase food to practice for the test. Non-traditional students seem to be grade and performance driven. Because they are responsible for the costs of their classes they might tend to be more responsible for successfully completing their education. Although many of these traits could be considered stereotypical, one or more of these traits may influence results of the test (S. Finley, personal communication, February 11, 2008).

Further review towards the effectiveness of a traditional program format and teaching methods used may be a direction of consideration for change. A possible transition of offering more accelerated format classes should be considered. Pre-requisites of the accelerated program with an opportunity for expansion may need some restructuring. An expansion of the accelerated program may benefit the Culinary Arts Department at FVTC and its students.

*Recommendations*

This study researched the impact of accelerated versus traditional learning where students complete a laboratory-based practical test. Practical testing has numerous benefits for culinary programs and its students. Since adding a practical test of this nature, the Culinary Arts Department at Fox Valley Technical College had never researched perceptions and success rates of students from two distinct programs who completed Advanced Culinary Skills.

Further testing is recommended in gaining more data with accelerated and traditional programs where students complete a culinary practical test. There were several limitations to the study including, a limited number of students participating in the study.

Availability of subjects due to class size and a limited number of times the class is offered to accelerated students also contributed to a small research population.

A multitude of considerations both in and outside of the classroom may impact performance and success rates of the test. Review of past test results from programs, the Likert survey, and the researcher observations all provided data for this study and a foundation for further research. Teaching methods and program format are not the only principles that affect perceptions and performance of the test. Recommendations for further research are as follows:

1. Use of technology in the accelerated program where students can view a web-cast of chef instructor demonstrations outside of class time would free up more time in the kitchen laboratory. The more work students can complete outside of class allows for more application time in the kitchen laboratory.
2. The Culinary Arts Department at Fox Valley Technical College should consider transitioning to balancing accelerated and traditional learning sections. One possibility may be implementing some accelerated formatting in the traditional program. Faculty might review research and consider the benefits transitioning to an accelerated format for the program and students. A cost analysis may show benefits of increasing accelerated program offerings.
3. Study the impact of culinary practical testing from a program point of view. Fox Valley Technical College is one of two schools in the state that currently offer chef certification testing. All but one of the faculty at FVTC are certified proctors through the American Culinary Federation. Faculty currently judge a variety of cooking competitions, high school pro-start competitions, as well the

ACS practical test five to six times every year. The practical testing component, ACF accreditation, and experienced faculty all support the validity of the program.

4. Study how practical testing affects students from a personal and professional point of view. Practical testing may impact individual perceptions and experiences form those participating in a practical test. Successful completion of the test may increase confidence for future experiences. Not meeting the minimum requirements of the test will force students step back and work on areas needed for improvement and eventually successfully completing the test. Eliminating the traditional program format and only offering an accelerated program format with accelerated teaching methods may strengthen the program and improve success rates of the practical test.
5. Continue working with local culinary professionals as well as the American Culinary Federation. Judging criteria and test format should be continually reviewed for current expectations of the industry and the ACF.
6. Repeat this study with other schools that have similar testing requirements. The culinary program at FVTC and its faculty work closely with the Advisory committee, have a strong working relationship with industry professionals, members of the Fox Valley Culinary Association, and the Wisconsin Restaurant Association. Faculty from other culinary schools in the state participate in testing for certification at FVTC, while others help judge ACF practical tests.

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# Appendix A: Survey

## Culinary Arts Program Survey

You are being asked to participate in a survey regarding the Culinary Arts program at Fox Valley Technical College. This evaluation is being conducted by Chef Richard Williams to improve the Culinary Arts program and is also the basis of his thesis.

This study has been reviewed and approved by The University of Wisconsin-Stout's Institutional Review Board (IRB). The IRB has determined that this study meets the ethical obligations required by federal law and University policies. If you have questions or concerns regarding this study please contact the Investigator or Advisor. If you have any questions, concerns, or reports regarding your rights as a research subject, please contact the IRB Administrator.

Your participation in this survey is voluntary. Your name will not be recorded on this survey, and your responses will be anonymous.

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1) Please check one of the boxes below to indicate whether or not you voluntarily agree to participate in this study.

- ○ I agree to participate in this survey, and understand that the research from this survey will be used in a thesis.
- ○ I do not wish to participate in this survey at this time.

Culinary Arts Program Survey

---

2) Which culinary program are you enrolled in?

- ○ Traditional program
- ○ Accelerated program

3) How satisfied are you with the culinary program you enrolled in?

- ○ Very satisfied
- ○ Somewhat satisfied
- ○ Neither satisfied nor dissatisfied
- ○ Somewhat dissatisfied
- ○ Very dissatisfied

4) How satisfied were you with the teaching methods used to prepare you for the practical test?

- Very satisfied
- Somewhat satisfied
- Neither satisfied nor dissatisfied
- Somewhat dissatisfied
- Very dissatisfied

5) How satisfied were you with the amount of laboratory time available to prepare for the practical test?

- Very satisfied
- Somewhat satisfied
- Neither satisfied nor dissatisfied
- Somewhat dissatisfied
- Very dissatisfied

6) Prior to taking the practical test, how prepared do you feel you were?

- Extremely prepared
- Somewhat prepared
- Not very prepared
- Not prepared at all

7) To what extent has your education prepared you to become successful upon graduation?

- Great extent
- Some extent
- Neutral
- Little extent
- No extent

8) How many years experience do you have preparing food in the restaurant industry?

- N/A
- 0-3 years
- 4-6 years
- 7-9 years
- 10-12 years
- 13+ years

9) Outside of class, how many hours a week are you currently preparing food in the restaurant industry?

- N/A
- 0-4 hours
- 5-10 hours
- 11-20 hours
- 21-30 hours
- 31+ hours

10) How many times did you practice the practical test?

- N/A
- 1
- 2
- 3
- 4
- 5+

Thank you for your time!

Appendix B: Advanced Culinary Skills Practical Final Test Menu

Advanced Culinary Skills
Practical Final Exam Menu

Soup (course #1)
Chicken & Sweet Corn Chowder
Prepare 1 qt. and must use roux as a thickener

Fish Course (course # 2)
"Seasonal Fish Filet" – Chef's Choice
Sauce must include poaching liquid

Vegetable Cookery (course #3)
Broccoli w/ Hollandaise, Cauliflower, and Carrots
Commercial steamers cannot be used

Main Course (course #4)
Sautéed Chicken Breast with a pan sauce
Must prepare a reduction sauce

Rice Pilaf

Dessert (course #5)
Crème Bruleé
Must utilize vanilla as the predominant flavor

Guidelines

All products must be:
Prepared utilizing correct procedures
Properly seasoned
Appropriately plated and garnished
Presented in 2 servings and served in an appropriate quantity

Each student will be evaluated on:
Taste, texture, presentation and garnish
Work habits including efficiency, product utilization, cleanliness and waste (keep all useable waste in 4 in full size hotel pan for inspection)

## Appendix C: Practical Test Judging Criteria

Advanced Culinary Skills
Practical Final Exam
Floor Judging Criteria Form
Judging Criteria

| | |
|---|---|
| No Show: (0 points) | No product arrived at judging table<br>Unable to score |
| Fails to Meet Industry Standards: (Poor - 1 point) | Mediocre product<br>Exhibits poor understanding of procedure, technique, and product<br>Lacks flavor and proper texture<br>Inappropriately plated and garnished<br>Inconsistent with industry standards<br>Un-servable product in a restaurant environment |
| Meets Industry Standards: (Good - 2 points) | Products prepared utilizing correct procedures, technique, and product<br>Properly seasoned; appropriate flavor<br>Appropriately plated and garnished<br>Good flavors and textures<br>Consistent with industry standards<br>Servable product in a restaurant environment |
| Exceeds Industry Standards: (Outstanding - 3 points) | Exhibits above average understanding of product in all aspects<br>Product is above industry standards<br>Exceptional product for service in a restaurant environment |
| Food Safety and Sanitation: | Will be measured using required industry standards. All sanitation requirements are consistent with industry standards which are designed to keep the dining public safe. Food safety and sanitation will be assessed as either *acceptable* or *unacceptable*. Unacceptable sanitation will be considered an overall failure regardless of total points achieved. |

"Unacceptable" sanitation practices would include, either individually or collectively:

- Excessive time and temperature abuse
- Gross cross-contamination activity
- Double-dipping
- Use of fingers for tasting
- Excessively soiled or disorganized work station
- Gross lack of professionalism

## Appendix D: Practical Test Evaluation Grading

### Advanced Culinary Skills
### Practical Final Evaluation Grading Scale

| | |
|---|---|
| 3 | Exceptional |
| 2 | Servable in a Fox Valley area restaurant |
| 1 | Not servable in a Fox Valley area restaurant |
| 0 | Did not complete |

10 Food Items X 3 points possible = 30 points possible

Grading Basis: Basis .8945/22 = .0407%

Where:.8945 is the lowest grade of 'A' mathematically possible
22 is the lowest possible average judges' score to be graded an 'A'
Therefore, .0407% per every one point of average judges' score

| Grade | Score | Percent |
|---|---|---|
| A | 30 | 122.10% |
| A | 29 | 118.03% |
| A | 28 | 113.96% |
| A | 27 | 109.89% |
| A | 26 | 105.82% |
| A | 25 | 101.75% |
| A | 24 | 97.68% |
| A | 23 | 93.61% |
| A | 22 | 89.45% |
| B | 21 | 85.47% |
| B | 20 | 81.40% |
| C | 19 | 77.33% |
| C | 18 | 73.26% |
| F | 17 | 69.19% |
| F | 16 | 65.12% |
| F | 15 | 61.05% |
| F | 14 | 56.98% |
| F | 13 | 52.91% |
| F | 12 | 48.84% |
| F | 11 | 44.77% |
| F | 10 | 40.70% |
| F | 9 | 36.63% |

| | | |
|---|---|---|
| F | 8 | 32.56% |
| F | 7 | 28.49% |
| F | 6 | 24.42% |
| F | 5 | 20.35% |
| F | 4 | 16.28% |
| F | 3 | 12.21% |
| F | 2 | 8.14% |
| F | 1 | 4.07% |
| F | 0 | 0.00% |

Appendix E: Advanced Culinary Skills Previous Practical Test Results

Advanced Culinary Skills Previous Practical Test Results

| | Accelerated Students | | | | Traditional Students | | | |
|---|---|---|---|---|---|---|---|---|
| Year / Term | Students Tested | Pass | Fail | Successful Completion | Students Tested | Pass | Fail | Successful Completion |
| | | | | | | | | |
| Spring 2005 | 14 | 11 | 3 | 78.6 % | 11<br>12 | 9<br>11 | 2<br>1 | 81.8 %<br>91.7 % |
| Fall 2005 | 0 | | | | 11<br>5 | 9<br>3 | 2<br>2 | 81.8 %<br>60.0 % |
| Spring 2006 | 8 | 7 | 1 | 87.5 % | 12<br>9 | 9<br>7 | 3<br>2 | 75.0 %<br>77.8 % |
| Fall 2006 | 0 | | | | 10<br>7 | 8<br>7 | 2<br>0 | 80.0 %<br>100 % |
| Spring 2007 | 15 | 14 | 1 | 93.3 % | 8<br>11 | 8<br>6 | 0<br>5 | 100 %<br>54.6 % |
| Fall 2007 | 0 | | | | 12<br>5 | 9<br>5 | 3<br>0 | 75.0 %<br>100 % |
| Spring 2008 | 12 | 12 | 0 | 100 % | 9 | 5 | 4 | 55.6 % |
| | | | | | | | | |
| Totals | 49 | 44 | 5 | 90.0 % | 122 | 96 | 26 | 78.7 % |
| | | | | | | | | |
| Summer 2006 | 0 | | | | 8 | 8 | 0 | 100 % |
| Summer 2007 | 0 | | | | 9 | 7 | 2 | 77.8 % |
| Totals | | | | | 17 | 15 | 2 | 88.2 % |