

University of Northern Iowa
UNI ScholarWorks

Graduate Research Papers

Student Work

2014

Determining the benefits and designing an externship program for medical office students at Marshalltown Community College

Kristin Murphy
University of Northern Iowa

Let us know how access to this document benefits you

Copyright ©2014 Kristin Murphy

Follow this and additional works at: <https://scholarworks.uni.edu/grp>

 Part of the [Curriculum and Instruction Commons](#), and the [Medical Education Commons](#)

Recommended Citation

Murphy, Kristin, "Determining the benefits and designing an externship program for medical office students at Marshalltown Community College" (2014). *Graduate Research Papers*. 210.
<https://scholarworks.uni.edu/grp/210>

This Open Access Graduate Research Paper is brought to you for free and open access by the Student Work at UNI ScholarWorks. It has been accepted for inclusion in Graduate Research Papers by an authorized administrator of UNI ScholarWorks. For more information, please contact scholarworks@uni.edu.

Determining the benefits and designing an externship program for medical office students at Marshalltown Community College

Abstract

The focus of this paper is to explore the potential benefits of and best design for an externship experience for the Medical Office program at Marshalltown Community College (MCC) in Marshalltown, Iowa. To that end, this paper provides background on Marshalltown Community College's Medical Office program; defines externship education; highlights the value of externships to the community college, students, instructors, and employers, as well as potential benefits specific to MCC's Medical Office program; discusses the design/setup factors that influence an effective externship program; and provides recommendations based on the findings for pursuing and implementing an externship program at MCC in the future.

DETERMINING THE BENEFITS AND DESIGNING AN EXTERNSHIP PROGRAM
FOR MEDICAL OFFICE STUDENTS AT MARSHALLTOWN COMMUNITY
COLLEGE

A Graduate Review

Submitted to the

Division of Instructional Technology

Department of Curriculum and Instruction

In Partial Fulfillment

Of the Requirements for the Degree

Master of Arts

UNIVERSITY OF NORTHERN IOWA

by

Kristen Murphy

August 2014

This Review by: Kristen Murphy

Titled: Designing an Externship Program for Medical Office Students at Marshalltown
Community College

has been approved as meeting the research requirement for the
Degree of Master of Arts.

1/15/15
Date Approved

1/15/15
Date Approved

1-15-15
Date Approved

Leigh E. Zeitz

Graduate Faculty Reader

Ping Gao

Graduate Faculty Reader

Jill Uhlenberg

Head, Department of Curriculum and Instruction

Abstract

The focus of this paper is to explore the potential benefits of and best design for an externship experience for the Medical Office program at Marshalltown Community College (MCC) in Marshalltown, Iowa. To that end, this paper provides background on Marshalltown Community College's Medical Office program; defines externship education; highlights the value of externships to the community college, students, instructors, and employers, as well as potential benefits specific to MCC's Medical Office program; discusses the design/setup factors that influence an effective externship program; and provides recommendations based on the findings for pursuing and implementing an externship program at MCC in the future.

Table of Contents

Abstract.....	iii
Introduction.....	1
Overview of the Medical Office Program at MCC.....	2
Overview of Externship Education.....	3
Internships.....	3
Cooperative education	3
Practicums.....	4
Externships.....	4
Methodology	6
Analysis and Discussion	9
Value of Externships to Community Colleges, Students, Instructors and Employers	9
Community Colleges	9
Students.....	9
Instructors	11
Employers	13
Benefits of Externships to MCC’s Medical Office Program	13
Providing Workplace Skills Training	13
Revitalizing Enrollment.....	15
Increasing Job Placement.....	15
Competing with other Health Occupations Office Programs	16
Responding to Recommendations from Advisory Board	17

Design Components of an Externship Experience.....	18
Collaboration Among All Parties.....	18
Materials	20
Legal Issues.....	21
Site Availability	22
Length/Number of Hours.....	22
Student Placement vs. Student Acquiring Position.....	23
Curriculum Issues	24
Compensation	25
Assessment Practices	26
Conclusions and Recommendations	30
References.....	36

Introduction

The purpose of this paper is to address the potential value and design of an externship experience for the Medical Office program at Marshalltown Community College (MCC) in Marshalltown, Iowa. This topic was chosen because workplace skills in career option programs at community colleges are critical, yet the curriculum in MCC's program currently only consists of classroom instruction, guest speakers, and computer programs to simulate the medical office environment; there are no opportunities for students to receive real on-the-job training and experience, such as through an externship experience.

Therefore, one of the instructors for this program, who recently took the position, is interested in exploring the concept of externships in higher education in order to see if that is a viable method for providing workplace skills training to students. Consequently, the best way to set them up also needs to be researched, because externship programs can be time consuming to operate and require a good deal of cooperation and commitment from business and industry within the district that the community college operates. Additionally, it is imperative that the externship program be effective in order to assist students in a seamless transition from school to work. Therefore, externship education was targeted as an area needing to be researched before being pitched, planned, and implemented at Marshalltown Community College for the Medical Office program.

The findings will assist the instructor in deciding whether or not to pursue implementing an externship experience for MCC's Medical Office program and best practices for setting one up. It is also possible that any action taken would be applied as

well at MCC's sister college, Ellsworth Community College, which also has a similar medical office program without an externship program.

Therefore, this paper seeks to answer the following questions:

1. Does research demonstrate the value of externships in higher education (specifically at the community college level)?
2. How can externship education specifically benefit MCC's Medical Office program?
3. What factors should be considered when designing an externship?

But first, in order to address and apply the above questions to MCC's context, a little background information on the current Medical Office program as well as a working definition and explanation of externship education is needed.

Overview of the Medical Office Program at MCC

The Medical Office program at MCC is a one-year (three-semester) diploma program designed to educate and train students for entry-level administrative positions in various health care settings including doctors' offices, hospitals, nursing homes, insurance offices, and labs. Core competency areas include the administrative skills, medical background knowledge, and computer/technology training needed to successfully manage day-to-day office operations in today's rapidly changing, high-tech health care environment. Additional information (if interested) about medical office careers can be found on the U.S. Department of Labor Bureau of Labor Statistics O*Net website (2013) at <http://www.onetonline.org/link/summary/43-6013.00> and <http://www.onetonline.org/link/summary/29-2071.00>.

Overview of Externship Education

The concept of externships has been around for a long time in higher education, though it has been referred to by a number of different names, including internships, co-ops/cooperative education, practicums, and job shadows. Definitions can vary among schools and employers, so for the purposes of this paper/study, it was important to pay close attention to how each study defined their student work and observation experiences. Following are some definitions provided by the National Association of Colleges and Employers (NACE) (2014) that will help clarify these terms:

Internships

Internships are typically one-time work or service experiences related to a student's major or career goal. The internship plan generally involves a student working in a professional setting under the supervision and monitoring of practicing professionals. Internships can be paid or unpaid and the student may or may not receive academic credit for performing the internship.

Cooperative education

Cooperative education provides students with multiple periods of work in which the work is related to the student's major or career goal. The typical program plan is for a student to alternate terms of full-time classroom study with terms of full-time, discipline-related employment. Since program participation involves multiple work terms, the typical participant will work three or four work terms, thus gaining a year or more of career-related work experience before graduation. Virtually all co-op positions are paid and the vast majority involves some form of academic credit.

Practicums

A practicum is generally a one-time work or service experience done by a student as part of an academic class. Some practicums offer pay, but many don't. Almost all are done for academic credit.

Externships

An externship experience allows a student to spend between a day and several weeks observing a professional on the job. Such experiences are unpaid, however some colleges and universities pick up travel and/or living expenses. Externships and job shadowing experiences are generally not done for academic credit.

To add to the above definition from NACE (2014), externships at MCC are not only an observation experience but also an opportunity to receive hands-on job training and experience (D. Lynk, personal interview, January 6, 2014; Marshalltown Community College, 2013; Weiler and Bailey, 1997). Weiler and Bailey (1997), who conducted a case study of the externship programs at LaGuardia Community College, stated that the purpose of externships is not only career exploration and observation, but also occupational training and the acquisition of workplace skills. They defined externships as an experience providing a bridge between academic skills and necessary workplace skills critical to successful job performance. Under the guidance of a program coordinator/instructor, and in cooperation with an on-site workplace supervisor, the student operates in a real job environment that provides an opportunity to acquire practical training and experience necessary for the development of marketable skills in a selected vocational employment area.

Furthermore, externships generally allow students to be involved in work which

relates to their field of study while continuing their formal education *at the same time*.

Therefore, students are evaluated by both their program coordinator or instructor and their on-site workplace supervisor. According to an article by Mariani (1997) in which he discusses eight college externship programs, this arrangement provides students with the opportunity for learning useful employment skills at real jobs under actual working conditions (Weiler & Bailey, 1997).

For the purposes of this paper, the above definition of externships will be followed and any differences in the studies reviewed will be pointed out. Also, if a study/source uses another term but defines it according to the definition above, the term “externship” will be used for the sake of simplicity and consistency.

Lastly, the term program coordinator is defined as the person (often also an instructor) responsible for managing and overseeing the externship experience as well as for supervising the student learning experience that takes place on the job in conjunction with the workplace supervisor. The workplace supervisor is defined as the employer responsible for supervising the student on the job (D. Lynk, personal interview, January 6, 2014; Marshalltown Community College, 2013, NACE, 2014).

Methodology

Research articles were located by conducting electronic searches of journals focusing on the value and structure of externships in higher education, primarily at the community college level and with regards to relevancy to the medical office career field. The ERIC (Ebsco) database was primarily used for the electronic searches. Keyword search terms used for locating articles included (using Boolean search method): *medical and office*; *medical office and education*; *medical office and externship*; *medical office and internship*; *medical office and practicum*; *medical office and co-op*; *medical office and cooperative*; and *medical office and workplace training*. (Externship education has been around for decades but has undergone changes in terminology throughout the years, so much of the initial research is still relevant and has not been repeated/updated with the changes in what name is used for externships in education. This is also why so many keyword search terms were used – to cover all of the possible terminology used over the years.) Additionally, an ancestral search was made of the reference lists of obtained articles using the Google Scholar search engine to peruse more databases. Special attention was also given to sources from the Journal of Vocational Education Research, the Journal of Cooperative Education, and the Community College Journal of Research and Practice, in order to ensure that the research studies are relevant and applicable to education at the community college and career-option education.

Limiters for two-year colleges and for peer-reviewed articles were used. Additionally, a limiter for date (the last 10 years) was used unless it eliminated or narrowed the results too much.

Therefore, although many additional studies were identified on the use of externships at other levels of education, such as at a high school, four-year college, or graduate program, they were not included in this review, which focused on the needs of a two-year community college vocational/technical program. Additionally, numerous reports on externships in other areas of study/subjects were excluded in order to maintain a more narrow and relevant focus.

From the above searches and activities, studies were identified and included in the review below. Each study was evaluated to determine a) the level of educational setting, b) the program(s) of study at hand, c) the value/benefits listed for the externship program, and d) structure/design components of the externship.

Input and insight on potential benefits and necessary design components for setting up an effective externship experience was also gathered from MCC's Advisory Board for the Medical Office program (documented in the 2013 Meeting Minutes, recorded by the reviewer). This was only practical since the Advisory Board members are composed of area employers who would potentially participate in a future externship program, and/or who currently participate in the hiring and training of MCC students. Additionally, any additions or changes to curriculum must be discussed with the Advisory Board, so it was important to garner their feedback, though it may not be of the same type of value as formal research in journals.

Lastly, another important source of information for necessary design components for setting up an effective externship experience was provided via a personal interview with an instructor, Dee Lynk, who currently coordinates a successful externship experience for the Medical Assisting program at MCC. Nursing and Dental Assisting also

have externship programs at MCC, but the Medical Assisting instructor was selected because the curriculum and learning objectives were most closely aligned to the Medical Office content (some curriculum even overlaps the two), and those students are employed at the same types of organizations despite some differences in job duties.

Any information from Lynk and the MCC Advisory Board is cited as such and because the information is anecdotal/informal evidence, it was mainly used as a means of clarifying questions or exemplifying other research conclusions. It was necessary to include, as some of the research studies reviewed failed to include practical information on certain issues. Other supporting information such as institutional and program data was also obtained as necessary from sources including MCC's website and program catalog.

The analysis and discussion that follows outlines the results/findings of all of these sources as they pertain to each of the reviewer's research questions.

Analysis and Discussion

Value of Externships to Community Colleges, Students, Instructors and Employers

Researchers generally agree that the idea of externship education is a favorable one for all parties – community colleges, students, and employers (Cantor, 1995; Gary, 1991; Heinemann, Delfalco, & Smelkinson, 1992; Laanan, 1995; Lindquist, 1992; Linklater, 1987; Mariani, 1997; Pumphrey & Wessels, 1995; Stern, Finkelstein, Stone, Latting & Dornsife, 1995; Track & Harney, 1998).

Community Colleges

Community colleges in particular have been the major partner with business and industry in negotiating externship agreements (Laanan, 1995). The college benefits through applications of programs and curriculum offerings which apply skills and knowledge to career and job objectives. Placement of graduates is often enhanced, as many students remain with their externship employer as full-time workers upon graduation (Lindquist, 1992). Additionally, program coordinators/instructors are provided with improved opportunities to keep in touch with changing employment conditions and requirements (Mariani, 1997).

Students

Mariani (1997) notes that students are able to put theory into practice through their externship experience. One of the externship coordinators he interviewed at Cincinnati State Technical and Community College stated that externship students learn more by going beyond theory to application on the job. “When they go out to the worksite it’s sort of like they have another set of teachers. Now, they have teachers in the industry who can help them see how what they’ve learned in class is used in

troubleshooting and problem solving” (p. 4).

Furthermore, according to Heinemann, Delfalco, and Smelkinson (1992), students who participate in an externship gain skills not only related to academic objectives that link theory to practice, but also to career learning objectives, and to personal growth.

They also get a head start on learning job search skills (i.e. resume creation and interviewing), as well as enhancing the resume itself as the externship experience is documented (Mariani, 1997, p. 6). A study by Trach and Harney (1998) found that students who had participated in an externship experience were better at establishing and clarifying a sense of purpose, career planning, and lifestyle planning than non-externship students.

Middleton (1996) found that externship education programs help students develop interpersonal skills, such as conflict resolution and cooperation, and personal management skills, such as integrity, accountability, and adaptability. The findings of a study by Gary (1991) also indicate that externship education had a positive impact on students, stating that “work-based activities were vital to the development of relevant workplace attitudes, behaviors, and values.”

Additional studies have found evidence that student participation in externship education was linked with more positive attitudes toward school and a stronger perceived connection between school and work (Pumphrey & Wessels, 1995; Stern, 1992). For example, Stern (1992) surveyed 770 two-year college students in both externships and non-externship jobs and found that, despite similar demographics and ambitions, externship students perceive their jobs differently, felt their jobs were related to their future careers, were interesting, and reinforced their classwork. Longitudinal data

presented by Pumphrey and Wessels indicated a positive association of externship education with academic achievement and program completion. Students gain hands-on experience related to their major field of study and career goals. Middleton's 1996 study also found that students developed better cognitive skills such as analyzing, evaluating, and decision-making.

Perhaps most importantly, Mariani (1997) noted in his article discussing case studies of externship programs that these experiences may help graduates obtain their first job because employers sometimes offer them permanent positions after college. If this does not happen, the graduates still have solid work experience on their resumes, something all employers look for. "Some employers actually think of a student's work term as a paid job interview which lasts a few months" (p. 7).

In fact, an investigation by Weintraub (1984) revealed that 41% of community college graduates who gain employment receive jobs as a result of having externship experience. Additionally, a study by Wessels and Pumphrey (1995) reported that community college graduates who attain jobs through their former externship employers appear to undergo less time in finding their first jobs. A study by Gardner, Nixon, and Motschenbacher (1992) indicated that students with externship experience can realize greater salary benefits versus traditional students when beginning their careers. This benefit also applied to graduates who began work with their former externship employers.

Instructors

With its focus on authentic application, the concept of externship education relates to many theories of pedagogy and learning that instructors strive to implement in

their teaching practices, and discussing all of this related research is outside the scope of this review. However, to illustrate the point that externship education is beneficial to instructors and their teaching practices, here is one example that the reviewer most recently discovered: By linking formal/academic learning with a real-life context, externships connect to the New Literacy Studies framework described by Larson and Marsh (2005), which pushes learning outside of the traditional linear academic context to focus on making learning activities authentic and connected to life experiences beyond school, such as real-life social, community, political, cultural, and profession-based activities. Students are to connect their learning to a variety of new contexts, use multiple modes to make meaning, and apply what they are learning in the classroom to their everyday lives. An externship provides students with a multi-modal learning opportunity to connect and apply their classroom learning to a variety of new authentic contexts in the everyday workplace. This makes the learning more personally meaningful and engaging. Skills are not taught in isolation (p. 5), but as they occur naturally in real-world situations.

The Sociocultural-Historical theory Larson and Marsh describe which defines learning as “changing participation in culturally valued activity with more expert others” (p. 4) also ties in to externship education, where students directly engage with real-world problems that are related to their future professions and lives. Students’ participation will change over time throughout the course of their externship and education as their expertise and ability increases, and they will learn under the tutelage of a workplace supervisor and their program coordinator/instructor. They will be able to observe the skill

being taught under authentic conditions in order to learn it, as well as receive hands-on practice applying their new knowledge and skills.

Employers

An assessment by Weinstein and Wilson (1983) found that employers value externship education because it provides an opportunity for both students and employers to experience the work situation before making a final commitment. It is also associated with providing employers with an excellent opportunity to recruit and retain externship students upon graduation. Furthermore, a study by Phillips (1978) indicates that employers value externship programs because they believe graduates are better trained and have valuable company experience. These employer benefits of externship education are supported by additional comprehensive externship studies (Dobreci, 1996; Mariani, 1997).

Finally, according to Gary (1991), for many employers, involvement in an externship experience is a form of community service. All parties benefit through the college-employer-student relationships that are developed which assist the entire community in improving stability and competence in the workforce.

Benefits of Externships to MCC's Medical Office Program

Providing Workplace Skills Training

The medical office field and healthcare industry has witnessed drastic changes in the workplace over the last few years, which have been ignited by unprecedented growth in the development and use of technology as well as massive insurance changes and reform (Proctor & Adams, 2014). Employers have discovered that their employees (experienced *and* new incoming students alike) do not possess some of the skills required

for successful employment (D. Lynk, personal interview, January 6, 2014; Marshalltown Community College, 2013). Understandably, this is a concerning statement from an instructor's and employer's point of view.

Although the changes to the medical office field are recent, the issue of workers needing on-the-job training and skills is not new, unfortunately (Aultman, 1997; Smith & White, 1997; Stern, Finkelstein, Stone, Latting, & Dornsife, 1995). Wiggs, Anderson, and Morgan (1998) support the consensus that many employees lack the basic job-related skills necessary to adapt to changes in their working environments. They contend that "it is apparent that differences exist between the workplace skills desired by employers and the workplace skills possessed by students entering the workforce" (p. 92). Stern et. al (1995) add that young people "have had to spend several years floundering in the labor market, and many do not succeed in finding steady jobs even by age 40 (p. 9). To remain current with technology, even experienced workers have been forced to return to the classroom for additional training and new skills (D. Lynk, personal interview, January 6, 2014; Marshalltown Community College, 2013).

Educators have been tasked with modifying their curricula to include instruction in employability skills as well as to better partner with business and industry employers to keep up-to-date constantly on the skills students need to succeed in the workplace, and facilitate an effective transition from school to work (D. Lynk, personal interview, January 6, 2014; Marshalltown Community College, 2013; Wiggs, et al, 1998).

Over the years, educational institutions have offered numerous arrangements to help bridge this skills gap between what students/employees actually possess and the necessary employment skills. Credit hours, intensity of placement, time commitment,

compensation, duration, etc. have varied with the arrangement. While a number of methods may satisfy the link between classroom study and practical application of learned skills, externship education has been identified as one of the most time-tested, viable, and popular collaborative programs which link formal instructor with workplace requirements (D. Lynk, personal interview, January 6, 2014; Laanan, 1995; Marshalltown Community College, 2013; Stern et al., 1995).

Revitalizing Enrollment

Additionally, externships can help revitalize enrollment in the program (D. Lynk, personal interview, January 6, 2014; Lindquist, 1992; Marshalltown Community College, 2013). The Medical Office program is fairly new (less than 5 years old) and was originally created to provide another option for students in the Computer Applications in Business program to specialize or gain an emphasis in a particular area of expertise (e.g. the legal office, the medical office, graphic arts, web design and development, etc.). In this way it does help support enrollment in the Computer Applications program, but it has never established strong or steady enough enrollment to stand on its own. While this is not a problem, per se, additional enrollment is always beneficial in increasing the bottom line at MCC and in ensuring resources are directed to that program to enhance the curriculum and student experience.

Increasing Job Placement

One reason an externship can help boost enrollment is because it can lead to increased job placement (Lindquist, 1992), which is understandably attractive to students pursuing a one-year diploma option at a community college – their primary goal is receiving training in order to get a job as soon as possible. And, colleges are now

required to report specific job placement data so students can make informed decisions (Marshalltown Community College, 2013).

For example, beginning in 2011, the U.S. Department of Education began requiring colleges to report “gainful employment” information for any program that is eligible for financial aid. The gainful employment information includes disclosing how many students complete the program, their employment status, the resulting job placement rate, the cost of the program, and the average debt incurred. For MCC’s Medical Office Practitioner program, of the 5 program completers in FY12 who responded to a survey, 3 were employed in a related or unrelated field at the time of the survey, for a respondent placement rate of 60%. Of the 5 completers, the median loan debt was \$4,978. College cost information can be found online at MCC’s website, http://www.iavalley.edu/mcc/financial_aid/costs.html.

Competing with other Health Occupations Office Programs

Naturally, if a student is interested in an office career in a health occupation, he/she is going to compare the options available (D. Lynk, personal interview, January 6, 2014; Marshalltown Community College, 2013). MCC also offers a one-year Medical Assisting diploma program which competes with the Medical Office program for student enrollment. First, the Medical Assisting program is broader in scope in that it prepares students in both administrative/office and clinical capacities; they can work in solely an administrative, clinical, or combination of the two capacities based on their preferences and abilities. That breadth of options can work both ways and be either encouraging or deterring to students. Therefore, the biggest advantage that the Medical Assisting program has is an established externship, which boosts placement rates and, in turn,

likely enrollment.

For example, for MCC's Medical Assistant program, of the 38 program completers in FY12 who responded to a survey, 19 were employed in a related or unrelated field and 6 continued education at the time of the survey, for a respondent placement rate of 66%. Of the 38 completers, the median loan debt was \$8,458 (D. Lynk, personal interview, January 6, 2014; MCC web site, updated 2013)

Responding to Recommendations from Advisory Board

For this reason, the Medical Office program's advisory board recommended during the yearly meeting for the 2013-14 academic year that an externship option be explored. The advisory board is made up of eight members including program faculty, business/community employers in health occupations, a student representative, and a graduate of the program. It is important that program faculty do their best to pursue advisory board recommendations, not only to promote goodwill relationships and viability of the program in the future, but also because board recommendations are often required to receive funding for program needs and to make curriculum enhancements or changes. Advisory Board member feedback as it relates to the topic of this paper is mentioned later on in the review, gathered from the meeting minutes.

In summary thus far, the value of externships in higher education, especially to community college education, as well as the potential benefits to MCC's Medical Office program, has been well established according to the aforementioned research. However, special attention needed to be given to the structure/design of an externship program as well, as that is a critical piece in achieving the documented value and benefits. What follows is an analysis and discussion of the factors that are most consistent amongst the

studies reviewed and that are relevant to MCC's Medical Office context. '

Design Components of an Externship Experience

Some of the variables that may have an effect on the success of an externship program include: 1) the collaboration that takes place with the workplace supervisor/employer, student, and program coordinator; 2) adequate materials to communicate learning goals, responsibilities and expectations, and evaluation criteria; 3) legal issues; 4) site availability; 5) the length/number of hours students are required to work; 6) the method of acquiring the externship position (students are placed vs. asked to prepare a resume, interview, etc.); 7) curriculum issues; 8) the type of compensation associated with the experience (paid or unpaid); and 9) assessment practices. Each of these variables play a role in determining the effectiveness of the externship experience. Related issues and themes that emerged centered on those nine components.

Collaboration Among All Parties

Weiler and Bailey (1997) conducted a case study of the externship programs at LaGuardia Community College where they collected data from over 17,000 placements. Their findings stress the importance of the relationship between the program coordinator, the workplace supervisor, and the student to the success of the externship endeavor. They noted that it is under the guidance of the program coordinator, and in cooperation with an on-site workplace supervisor, that the student is introduced to a work environment that provides an opportunity to acquire practical work experience necessary for the development of marketable skills in a selected vocational employment area. All three parties must work together to ensure this outcome. Externships can potentially be very

rewarding for all parties involved, but it can also have a negative outcome if one or more parties does not meet expectations or follow procedure.

According to Lynk (2014), the program coordinator should be in almost constant communication with both the workplace supervisors and the students to stay abreast of any issues that may arise and to ensure a positive learning experience for the student. She also recommended weekly site visits to observe the students in action as well as to speak directly to the workplace supervisor to discuss any issues. Peters and Devaney (1999) also stated that visibility of program coordinators has a positive impact on student performance.

The program coordinator should meet with the workplace supervisor at the beginning of the externship experience to go over the goals and objectives of the work experience and to sign the training agreement/contract. A training plan should be discussed so that all parties (student, workplace supervisor, and program coordinator) are familiar with the kinds of responsibilities that the student will be expected to have, the types of training experiences that the student should have, any tasks the student will be expected to perform, as well as how the student will be evaluated (Weiler & Bailey, 1997).

The students should correspond with his/her program coordinator on a weekly basis to keep the coordinator informed of his/her progress and any issues. The program coordinator should be available to assist students who require consultation for issues that arise (Weiler & Bailey, 1997).

Open communication and collaborative efforts between the program coordinator and the workplace supervisor provide for a positive externship experience. The program

coordinator should visit the work site throughout the externship experience to meet with the workplace supervisor about the progress of the student and discuss any issues that need to be addressed (Mariani, 1997; Weiler & Bailey, 1997). Lynk (2014) stated that “All parties must truly recognize that this experience is a ‘training’ time for the student. They are at the job site to learn; mistakes are expected.” She recommends that problems are dealt with as they arise. “All parties will regret a situation whereby a student receives a poor evaluation and does not even realize they are not meeting the standards that the workplace supervisor expects.” Likewise, program coordinators cannot help students individually with weaknesses in the classroom if they are not aware that the student is having difficulty with that area on the job. Workplace supervisors also need to know that the program coordinator will help the student, if necessary, to improve a weakness.

Unhappy experiences for any of the three parties can potentially destroy a healthy externship program. The program coordinator must send well-prepared students to the employer; the employer should collaborate and communicate his/her needs and expectations to both the student and the program coordinator; and the student should display a positive work ethic and ask questions so that their performance reflects their very best work (Mariani, 1997; Weiler & Bailey, 1997)

Materials

Having the proper materials in place to communicate learning goals, responsibilities and expectations, and evaluation criteria to all parties helps to ensure an effective externship experience. Materials found in the sources reviewed include: a training agreement and contract document with an overview of externship purpose, learning goals, sample performance objectives, and evaluation criteria; a timesheet; an

evaluation form (to evaluate student); and a feedback form (D. Lynk, personal interview, January 6, 2014; Mariani, 1997; Marshalltown Community College, 2013; Weiler & Bailey, 1997). The student and the workplace supervisor should complete a feedback form at the close of the externship designed to ascertain the effectiveness of the experience and offer ideas for improvement (Mariani, 1997; Weiler & Bailey, 1997).

Lynk (2014) attested to the importance of the training agreement document in particular; hers outlines all of the learning objectives she wants students to observe and practice and gives examples of tasks to achieve those goals. She stated “The type of work experience students receive is very important, and from an instructor standpoint, one concern is that the tasks and responsibilities provide a ‘capstone’ experience for students that allows them to apply a variety of knowledge and skills while also challenging them to learn new responsibilities. This is also important for their own employment outlook, so they have some solid experience to put on their resume.”

Legal Issues

According to Proctor and Adams (2014), in the healthcare field in particular, it is important that all applicable legal issues are taken into consideration, such as HIPAA/patient privacy laws (D. Lynk, personal interview, January 6, 2014; Marshalltown Community College, 2013). Most commonly, the employer assumes liability for the student they are overseeing. However, the college’s lawyer needs to oversee drafting of the contract between the college and employer to ensure that liability does not fall on the college, student, or program coordinator. The employer’s HR department should review the contract and sign off on it as well (D. Lynk, personal interview, January 6, 2014; Marshalltown Community College, 2013).

Site Availability

Practically speaking, enough employers must be available to suit enrollment needs (D. Lynk, personal interview, January 6, 2014; Marshalltown Community College, 2013). Availability in externship sites or last-minute changes in availability or staffing can create issues. In a community the size of Marshalltown, the process of securing an externship position may be more difficult, simply because there are a limited number of positions available for students to pursue and there are already three health occupations programs requiring clinical and/or externship experience: Dental Assisting, Medical Assisting, and Nursing. However, if students are willing to travel up to an hour, ample opportunities exist in the surrounding communities (Marshalltown Community College, 2013).

Length/Number of Hours

The issue of how many hours of work experience should be required is an especially difficult one. In all of the studies reviewed, the institutions had adopted their own unique set of requirements for credit vs. non-credit, and the required number of hours worked varied with each institution, ranging from 80 to 300 work hours and from no credit to up to four hours of credit! Stern, D., Finkelstein, N., Stone, J., Latting, J., & Dornsife, C. (1995) summarized the research up until theirs and stated that the data made it difficult to draw conclusions. Ten studies in their review found that students who worked long hours – usually more than 15 or 20 hours a week – had lower grades, did less homework, were more likely to drop out, or were less likely to complete their education. Their review also found five studies that reported students working a moderate number of hours per week had better grades

than students who did not work at all. On the other hand, three studies found that students who worked moderate hours did worse in school than students who did not work at all.

At MCC's Medical Assisting program, Lynk's setup (2014) requires at least two weeks of work amounting to at least 40 hours of work per week, but this is completed during the summer term while students are not in school. Students and employers are asked to accommodate this request but adjustments can be made based on the organization's schedule as to how many hours per day are required. MCC Advisory Board members (2013) who were familiar with Lynk's setup agreed that this length is agreeable to employers and sufficient for student observation and training.

Student Placement vs. Student Acquiring Position

According to Lynk (2014) and the Marshalltown Community College Advisory Board for the Medical Office program (2013), students typically are encouraged to find the position on their own; however, they often ask for their instructor's help in locating potential positions suited to their needs and preferences. Students may use any position related to their career field of interest. They are urged to find a position that allows them a variety of responsibilities and experiences.

Pumphrey and Wessels (1995) concluded that students should obtain the position without help from the instructor/coordinator. This experience is vital in helping students prepare for the "real world" in terms of the job search process. To assist them with that endeavor, students should complete an employment prep course prior completing the externship where they learn how to design a resume, write a cover letter, interview,

compose a thank-you letter, and the basics of business communication and etiquette.

According to Lynk (2014), student placement by the program coordinator works best for her because then she can guarantee that neither the employer nor the student will “flake” on the agreement without her knowledge. Last-minute changes in student placement if the student does not complete the curriculum as planned can create issues for the employer who had planned on having assistance, and likewise, if an employer decides last-minute that he cannot accommodate a student, this puts the student’s graduation from the program in jeopardy. She has worked hard over the years to establish reputable partnerships with local businesses that are willing to work with students.

Curriculum Issues

First, there is the issue of offering an externship program for credit versus non-credit. Although NACE (2014) maintained that externships generally are *not* done for credit, they typically *are* at MCC since there is no way otherwise for the instructor/program coordinator to receive compensation for his/her time in setting everything up and working with the employers and students (D. Lynk, personal interview, January 6, 2014; Marshalltown Community College, 2013).

Adding an externship to the curriculum for credit impacts the overall design of the curriculum and sequence of study for the program, as well as the teaching load of the program coordinator/instructor. These are additional considerations (D. Lynk, personal interview, January 6, 2014).

With regard to the sequence of the externship in the program’s curriculum, some institutions had students complete a course as a prerequisite to the externship experience that covered procedures for applying and interviewing for placement, basic preparation

for the work experience, and familiarization with the process used for supervision and evaluation on the job. For example, Mariani (1997) studied eight college externship programs and identified several components that he believed might help enhance an existing externship experience. One suggestion based on his findings from LaGuardia Community College and Mississippi State was to have a brief seminar or one-credit course that covers resume writing, interviewing tips, and an externship orientation. For some colleges he looked at, no prerequisite course was required but those tasks were covered in other course curriculum. That is the case at Marshalltown Community College, according to Lynk, and she adds a non-credit but mandatory orientation session for students to go over the externship materials and expectations (D. Lynk, personal interview, January 6, 2014). McEwen's study (1997) suggested educators prepare students in certain topics such as teamwork, problem solving, loyalty, dedication, work ethic, and telephone skills (p. 45).

Compensation

The issue of monetary compensation is complex. NACE (2014) defines an externship as unpaid. However, Stern, Finkelstein, Stone, Latting, and Dornsife (1995) found that well-designed externship education programs allowed students to be involved in paid work which relates to their field of study while continuing their formal education at the same time.

Anecdotally, Lynk (2014) admits that students who are not paid at their work experience can feel shortchanged for the hard work they put forth. They may perform less than their best because they know they are not being compensated for their time. This is especially true for students who have to hold another paying job while in school in order

to meet their needs, or those who have family responsibilities they would rather devote their time to. It is difficult to manage classroom coursework, a job, an externship, and additional responsibilities with home and family. Students who rely on financial aid are usually required to carry at least 12 hours of coursework (Marshalltown Community College Catalog, 2013-2014); an externship course that requires 80 hours of work per week sometimes puts them “over the edge” in terms of their ability to manage all of these responsibilities (D. Lynk, personal interview, January 6, 2014). However, Lynk counters that most employers are either deterred by or unwilling or unable to provide compensation, which would hinder site availability. This sentiment was supported by Advisory Board members (2013), who also pointed out that payment adds another layer of paperwork to the process.

Assessment Practices

There was considerable variation in the assessment practices reviewed. Evaluation ranged from being based entirely on student performance on the job (achieved through an evaluation form, which is completed by the workplace supervisor), to post-externship “seminar” classes where students complete activities where they are asked to share and reflect upon their experiences and report problems encountered, mistakes made, new procedures learned, etc. (reviewed by the program coordinator/instructor), to a mix of the two (D. Lynk, personal interview, January 6, 2014; Mariani, 1997; Weiler & Bailey, 1997). However, one consistent variable was having an opportunity for *reflection* either before, during, and/or after the experience, although the amount and method (journal/diary, discussion, statement of goals and objectives, report, etc.) varied.

Mariani's article (1997) underscored the importance of reflection to learning in the externship experience: "Half of the benefits of work experiences come to students by thinking purposefully about the work they do. Reflecting on their experience helps students learn more. It also guides them in exploring, altering, and confirming career options and plans" (p. 5). He offered the following suggestions:

"Good programs find methods of encouraging students to mull things over. Reflecting on experience is not just silent self-study. It often involves social activity and it actually begins during a term of work. Students should also do weekly reports during their work experience. They should describe how their on-the-job learning ties in with their classroom studies. They should discuss problems that they run into. Students should attend weekly seminars during their work terms to chat about how they interact with supervisors or coworkers, how they are able to adapt to employer expectations, and how they are able to deal with problems. In addition, incorporating a journal component in the program allows students the opportunity to ponder their experiences and receive feedback from their supervisor about their experiences. Finally, coordinators should have a strong role in helping students understand what these experiences mean so they can let that experience guide them towards future learning and the right career" (p. 6).

According to an article by Kerka (1992), students should evaluate their experiences by "keeping weekly logs of facts, activities, and incidents and analyzing them in order to help synthesize meaning from their daily work experiences" (p. 6).

According to Lynk (2014), opportunities should be available for students to express themselves in more than one format. Ideally, a weekly journal requirement would allow students an opportunity to reflect about their experience, analyze the things that are going well as well as address concerns. Students who are more verbal can also express themselves during a scheduled discussion time with either the program coordinator or class discussion/online discussion board, depending on how the program is set up.

Additionally, the use of mobile technology as an assessment method was explored. Coulby, Hennessey, Davies and Fuller (2011) conducted a research project examining the impact of assessment via mobile technology (PDAs) amongst a group of undergraduate medical students placed in externships and reported positive effects on the student experience and learning. The researchers concluded that overall this assessment method resulted in a measurable, increased, improved level of feedback, allowing students to improve their skills and performance incrementally during the externship placement.

This is an important finding, because when students are in externships it is often difficult to know what exactly they are learning and if they are improving, a concern mentioned earlier in this paper. The formative assessment typically taking place during an externship requires a high level of honest communication and collaboration between the student, the site supervisor, and the externship coordinator; with mobile assessments, the theory is that the site supervisor and coordinator could review students' progress more often remotely and that students would receive more feedback on a more frequent basis. As a result, students can focus on improving areas of weakness when they have the opportunity to do so and maximize their learning opportunities on the externship (p. 253). However, a limitation of this study is that it was very small scale, based on the views of just 13 students, and the researchers admitted that the student experience may be more dependent on the externship sites and settings than the use of PDAs.

Additionally, a review of the few other studies in the health occupations education discipline that examine the use of PDAs or other forms of mobile

technology to deliver assessments found that students and faculty were satisfied with the mobile technologies to undertake assessments, but did not establish incremental improvement in learning (Axelson, Wardh, Strender & Nilsson, 2007; Finlay, Norman, Stolberg, Weaver & Keane, 2006; Kneebone et al, 2008). McGuire (2005) did find a link with using mobile technology for assessment and improvement in the quality of students' work; yet, Kneebone and Brenton (2005) found the use of PDAs for assessments time consuming, reducing the quality of work.

There is, however, strong previous research showing the positive influence of formative assessment and feedback for learning (Draper, Cargill & Cutts 2002; Holmboe et al, 2004; Nicol & MacFarlane-Dick, 2006; Sadler, 1998) and some studies have documented that the actual amount of feedback that students receive when on externships is very little, and can be of a very poor quality (Black & Wiliam, 1998; Norcini & Burch, 2007).

Therefore, the importance of formative assessment for learning as part of an overall curriculum and assessment strategy is clear, but more research needs to be done in this area to determine if mobile technology is the most appropriate method to achieve this. As well, there are other associated factors to consider including cost effectiveness, IT infrastructure/support, and training on the technology for users. Similarly, Ally (2009), Coulby, Hennessey, Davies and Fuller (2011), and Kukulska-Hulme and Traxler (2005) all concluded that more large scale studies are needed to establish the feasibility of mobile learning as a sustainable curriculum and assessment component.

Conclusions and Recommendations

Workplace skills in career option programs at community colleges are critical. As technological changes continue to affect business and industry, especially in healthcare, workers are faced with the continual need to update their skills. Community colleges are most effective in providing this training when they work in partnership with business and industry to identify, to promote, and to facilitate the particular skills training that is needed for the workplace. And, research does indeed support externship education as an excellent method to provide workplace skills training, especially at the community college. Additionally, there is substantial evidence that externship education will indeed benefit the Medical Office program at Marshalltown Community College.

However, despite the many studies indicating benefits of successful externship arrangements, the research failed to show conclusively that externship students benefit from the arrangement *more than non-externship students who happen to hold part-time jobs while attending a post-secondary institution* (Stern, Stone, & Hopkins, 1992). Why? Peters and Devaney (1999) suggested that part-time student employment of any kind related to the career field of interest is a mechanism of development, not merely externship education. Pankanin (1995) suggested that it is important to keep in mind that in terms of any course or program, the “impact is determined by the quality of the student’s effort” (p. 44).

Another reason is possibly that there are many ways to design an externship program and in the studies examined, setup and design varied with the institution. Although an effort was made to determine components which were consistent across multiple studies, this was difficult to do in addition to keeping in mind the constraints of

a community college context and relevancy to the medical office field. In the end, the practical input (though non research-based) from Lynk (2014) and the Advisory Board members (2013) provided some of the most helpful information. This indicates the need for additional research in this area, possibly via personal interviews with other instructors like Lynk in the healthcare field at other community colleges in the state.

Certainly, if an externship program is implemented at Marshalltown Community College, a study should be done (even if informally by the instructor) to determine if the program is successful and for continuous quality improvement (and formative and summative assessment purposes). The methods for measuring effectiveness should be clearly defined.

Following is a short summary of design/setup recommendations drawn from the review of literature that will serve to direct further research and influence implementation of an externship program at MCC:

- 1) The following practical issue was raised in the discussion of curriculum matters. The instructor/program coordinator should carefully review the existing program curriculum and make sure that an additional credit or two to the program requirements would be feasible (that is, the instructor would be able to offer the experience regularly enough that it would not impact/lengthen the sequence of study for students based on the current schedule of course offerings, meet state curriculum standards, and not overload the instructor's teaching load). If this means transferring existing load to another instructor, that would need to be tentatively arranged before proceeding.

- 2) Potential employer sites should be contacted preliminarily to ensure an adequate number of employers will participate to accommodate program enrollment and not compete unfairly with existing health occupations programs at MCC.
- 3) The instructor/program coordinator should meet with the Dean of Academic Affairs to discuss offering an externship experience experimentally (initially) for credit and how many hours of work experience should be required per credit hour. This should be done to determine the length/number of hours for the externship experience. After the experience is offered experimentally, it can be put through the curriculum process to be added to the college catalog and program curriculum.
- 4) Advisory Board support needs to be garnered for any curriculum change; this has already been done but it should be re-affirmed at the fall 2014 meeting to ensure that recommendations are documented recently.
- 5) The following materials should be produced at minimum: a training agreement and contract outlining the purpose and learning goals of the experience, performance objectives, evaluation criteria, and legal conditions; a timesheet; an evaluation form; and a feedback form. The contract should be drafted and send through the college's legal department as well as the sites' Human Resources departments to ensure both parties are informed and in agreement before it is discussed in detail by the program coordinator and workplace supervisor.
- 6) Students should obtain the externship position themselves rather than being

placed by the instructor/program coordinator.

- 7) Students will be required to complete a professional development course prior to enrolling in the externship course. This course assists students in preparing for employment (designing a resume, writing a cover letter, mock interviewing, composing a thank-you letter, participating in an employer panel discussion, etc.). (This is a current requirement that would not necessitate further curriculum changes.)
- 8) A concerted effort to collaborate with the workplace supervisor and develop a strong partnership should be made to enhance communication, lessen the potential for negative outcomes, and increase rewards for all parties. Ways this can be done include the following:
 - a. The program coordinator should meet with the workplace supervisor in person before the experience begins to go over the goals and objectives of the work experience and to sign the training agreement/contract, as well as visit the site weekly to keep communication lines open and stay in touch with how the experience is going for the site and the student.
 - b. The training plan should be thoroughly discussed so that all parties are familiar with the kinds of learning experiences the student will have, the types of tasks the student will be expected to perform, how the student will be evaluated, and how any problems/issues will be handled.
- 9) Likewise, the program coordinator should go over the training agreement with

the student as well to ensure he/she is aware of the above items and his/her responsibilities, expectations, and terms for evaluation. The importance of frequent and open communication should be stressed, both with the student's workplace supervisor and the program coordinator. Sample problems/issues should be discussed as well as how to approach resolution. This can all be practically implemented via the professional development course students will be required to take. The coordinator should also be available during office hours to assist students who require consultation.

- 10) Assessment practices will include: reflection activities before, during, and after the externship experience, completion of the timesheet requirements, as well as the evaluations performed by the workplace supervisor. The student should maintain a daily record of the number of hours that he/she works (timesheet), to be signed off on by the workplace supervisor. The workplace supervisor should complete this at two points during the experience – midway and at completion. The results of this evaluation should be shared with the student and with the program coordinator at each time so that any needed adjustments can be worked on before the completion of the experience.

It is at this point that the externship experience becomes a win/win/win situation for each partner. Employers get to “try out” potential employees without committing to full-time benefits or commitments; they have the opportunity to hire employees who are newly trained in the latest medical administrative procedures and software. Program coordinators benefit by enhancing graduate placement percentages with this “jumpstart” in placement. Coordinators stay current with trends in the workplace to influence their

classroom teaching. They develop valuable partnerships with business and industry, which assist them in a variety of ways (potential class speakers, potential advisory board members, etc.) Students, of course, have the opportunity to enhance their resume with practical, on-the-job work experience; they have the opportunity to take advantage of a unique combination of joint instruction from the workplace supervisor and the program coordinator; they may acquire an externship position that leads to full-time employment upon graduation. A positive externship experience truly becomes a “capstone” experience for all parties involved.

References

- Ally, M. (2009). *Mobile learning: transforming the delivery of education and training*. Alabama, USA: AU Press.
- Aultman, S. C. (1997). The impact of cooperative education and clinical training on the work ethic of community college students. Unpublished doctoral dissertation, North Carolina State University, Raleigh.
- Axelson, C., Wardh, I., Strender, L.E. & Nilsson, G. (2007). Using medical knowledge studies on handheld computers—a qualitative study among junior doctors. *Medical Teacher*, 29, 6, 611-618.
- Black, P.J. & Wiliam, D. (1998). *Inside the black box: raising standards through classroom assessment*. London: Kings College London School of Education.
- Bureau of Labor Statistics, U.S. Department of Labor. (2013). *Occupational Outlook Handbook: Summary Report for Medical Secretaries*. Retrieved from <http://www.onetonline.org/link/summary/43-6013.00>
- Bureau of Labor Statistics, U.S. Department of Labor. (2013). *Occupational Outlook Handbook: Summary Report for Medical Records and Health Information Technicians*. Retrieved from <http://www.onetonline.org/link/summary/29-2071.00>
- Cantor, J. A. (1995). Apprenticeships link community-technical colleges and business and industry for workforce training. *Community College Journal of Research and Practice*, 19(1), 47-71.
- Coulby, C., Hennessey, S., Davies, N., & Fuller, R. (2011). The use of mobile technology for work-based assessment: the student experience. *British Journal of Educational Technology*, 42(2), 251-265.

- Draper, S.W., Cargill, J. & Cutts, Q. (2002). Electronically enhanced classroom interaction. *Australian Journal of Educational Technology*, 18, 1, 13-23.
- Dobreci, R. (1996). *Assessing the needs of post secondary co-operative education employers*. Victoria, British Columbia: Ministry of Education, Skills and Training.
- Finlay, M. & Baird, D. E. (2006). Making mLearning work: utilizing mobile technology for active exploration, collaboration, assessment, and reflection in higher education. *Journal of Education Technology Systems*, 35, 1, 3-30.
- Gardner, P.D. Nixon, D.C., & Motschenbacher, G. (1992). Starting salary outcomes of cooperative education graduates. *The Journal of Cooperative Education*, 27(3), 16-26.
- Gary, D. (1991). Perceived benefits of a community college cooperative education program. (Doctoral dissertation, University of Massachusetts). *Dissertation Abstracts International*, 51(08), 2614A.
- Heller, B. & Heinemann, H. (1987). The impact of structured and non-structured work experiences on college students' attitudes, values, and academic performance. *Journal of Cooperative Education*, 23(3), 19-32.
- Heinemann, H., Defalco, A., & Smelkinson, M. (1992). Work-experience enriched learning. *Journal of Cooperative Education*, 28, 17-33.
- Holmboe, E. S., Fiebach, N.H., Galatay, L. A., & Huot, S. (2001). Effectiveness of a focused educational intervention on resident evaluations from faculty: a randomized controlled trial. *Journal of General Internal Medicine*, 16, 1, 100.

- Kerka, S. (1992). *Higher order thinking skills in vocational education*. Columbus, OH. (ERIC Document Reproduction service No. ED 350 487)
- Kneebone, R. & Brenton, H. (2005). Training perioperative specialist practitioners. In A. Kukulska-Hulme & J. Traxler (Ed.), *Mobile learning: a handbook for educators and trainers* (pp. 106-115). London: Routledge.
- Kneebone, R., Bellow, F., Nestel, D., Mooney, N., Codling, A., Yadollahi, F. et al (2008). Learner-centered feedback using remote assessment of clinical procedures. *Medical Teacher*, 30, 8, 795-801.
- Kukulska-Hulme, A., & Pettit, A.J. (2009). Using mobile learning to enhance the quality of nursing practice education. In M. Ally (Ed.), *Mobile learning: transforming the delivery of education and training* (pp, 51-75). Alabama: AU Press.
- Kukulska-Hulme, A., & Traxler, J. (2005). *Mobile learning: a handbook for educators and trainers*. London: Routledge.
- Laanan, F. (1995). *Community colleges as facilitators of school-to-work*. Los Angeles, CA (ERIC Document Reproduction Service No. ED 383 360).
- Larson, J., & Marsh, J. (2005). *Making literacy real: Theories and practices for learning and teaching*. Sage.
- Lindquist, V.R. (1993). *Trends in the employment of college and university graduates in business and industry: The Northwestern Lindquist-Endicott report 1992*. Evanston, IL: Evanston Placement Center of Northwestern University.
- Linklater, P. (1987). *Education and the world of work: Positive partnerships*. Open University Press.
- Lynk, D. (2014, January 6). Personal interview.

Mariani, M. (1997). Cooperative education: Learn more, earn more, prepare for the workplace. *Occupational Outlook Quarterly*, 41(1), 2-11.

McGuire, L. (2005). Assessment using new technology. *Innovations in Education and Teaching International*, 42, 3, 265-276.

MCC Medical Assisting Career (2014). Retrieved from

http://www.iavalley.edu/mcc/careers_degrees/medicalassistant.html

MCC Medical Office Practitioner Career (2014). Retrieved from

http://www.iavalley.edu/mcc/careers_degrees/medicaloffice.html

Marshalltown Community College (2013). *Marshalltown Community College General Catalog*. Marshalltown, IA.

Marshalltown Community College. (2013). *Computer Applications in Business annual advisory board meeting*. [Meeting minutes]. Marshalltown, IA.

Middleton, M.K. (1996) An analysis of an office technology curriculum at the college level [community colleges] (Doctoral dissertation, University of Alberta [Canada], 1996/1997). *Dissertation Abstracts International*, 58(06), 2057A.

National Association of Colleges and Employers. (2013). *Internships, Co-ops, Practicums, and Externships: What's the Difference?* Retrieved from

<http://www.directemployers.org/2013/02/01/internships-co-ops-practicums-and-externships-whats-the-difference/>

Nicol, D. & Macfarlane-Dick, D. (2006). Formative assessment and self-regulated learning: a model and seven principles of good feedback practice. *Studies in Higher Education*, 31, 2, 199-218.

- Norcini, J. & Burch, V. (2007). Workplace-based assessment as an educational tool: AMEE Guide No.31. *Medical Teacher*, 29, 9, 855-871.
- Pankanin, J. (1995). We do good work and now we can prove it. *Campus Activities Programming*, 28, 43-45.
- Peters, T. & Devaney, A. (1999). Student employee development for the new millennium. *College Services Administration*, 22(5), 16-19.
- Phillips, J. J. (1978). An employer evaluation of a cooperative education program. *The Journal of Cooperative Education*, 14(2), 104-120.
- Proctor, D.B & Adams, A. P. (2014). *Kinn's The Administrative Medical Assistant*. Saunders.
- Pumphrey, G., & Wessels, W. (1995). *Assessment of the employment and educational impacts of cooperative education on program graduates*. (Available from the North Carolina Community College System, Raleigh, NC).
- Sadler, R. (1998). Formative assessment: revisiting the territory. *Assessment in Education: Principles, Policy & Practice*, 5, 1, 77-84.
- Smith, P. & White, B. (1997). Predictors of participation and completion in a workplace education program. *Delta Pi Epsilon Journal*, 39(4) 225-235.
- Stern, D., Finkelstein, N., Stone, J., Latting, J., & Dornsife, C. (1995). *School to work: Research on programs in the United States*. Bristol, PA: Falmer Press, Taylor Francis Inc.
- Stern, D., Stone, J., & Hopkins, C. (1992). Quality of work experience as perceived by two-year college students in co-op and non-co-op jobs. *Journal of Cooperative Education*, 28, 34-47.

- Trach, J.S., & Harney, J.Y. (1998). Impact of cooperative education on career development for community college students with and without disabilities. *Journal of Vocational Education Research*, 23(2), 147-150.
- Weiler, S., & Bailey, T. (1997). Going to scale: Employer participation in school-to-work programs at LaGuardia community college. *IEE Brief* 16, 1-4.
- Weinstein, D., & Wilson, J.W. (1983). An employer description of a model employer cooperative education program. *The Journal of Cooperative Education*, 20(1), 60-82.
- Weintraub, J. I. (1984). La Guardia Community College report on graduate placement: Class of 1983. (JC 850 218). Long Island City, NY: La Guardia Community College. (ERIC Document Reproduction Service No. ED 256 441)
- Wessels, W., & Pumphrey, G. (1995). The effects of cooperative education on job search time, quality of job placement and advancement. *The Journal of Cooperative Education*, 31(1), 42-52.
- Wiggs, L. Anderson, M.A., & Morgan, B. (1998). Educational preparation of the office professional. *Delta Pi Epsilon Journal*, 40 (2), 87-97.