PROFESSIONAL DEVELOPMENT RESOURCES FOR HIGH SCHOOL DUAL ENROLLMENT TEACHERS

by

Jennifer Lee Clemons

An education leadership portfolio submitted to the Faculty of the University of Delaware in partial fulfillment of the requirements for the degree of Doctor of Education in Educational Leadership

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RESOURCES FOR HIGH SCHOOL

DUAL ENROLLMENT TEACHERS

by

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ABSTRACT

Dual enrollment courses allow students to earn college credit while they are still enrolled in high school. This arrangement is proving popular with schools, students, and parents, as once the students get into college, they tend to earn a higher first-year grade-point average and show a higher completion rate than do students who have not participated in dual enrollment. This education leadership portfolio (ELP) represents an evaluation of the methods by which Delaware Technical Community College prepares high school teachers to teach these courses.

Embedded in the Delaware Tech approach to preparing high school teachers is a mentoring program, in which the high school teachers are assigned a mentor who is a full-time instructor at Delaware Tech. The research to support this ELP came from interviews with dual enrollment teachers in the Energy Pathways Program at Delaware Tech. At the outset of AY2016-17, I asked all dual enrollment teachers to complete a survey on their training and their relationship with their mentor. I also conducted document analysis on current Delaware Tech policies regarding dual enrollment and mentorship. My examination focused on how relationships are built between the mentor and dual enrollment teacher and how to continue that relationship through a professional learning community.

My improvement goal was to strengthen resources available to mentors in the future and ensure consistency in training of dual enrollment teachers. Recommendations are posted on a website for all mentors to use. Resources created include a syllabus of topics to cover during training with dual enrollment teachers. Syllabus includes topics to go over with teacher that tend to be challenges, such as the gradebook function in the course management software. Additionally, the resources page also include some

recommended reading for mentors to understand more about the mentor-mentee relationship.

Chapter 1

INTRODUCTION

"The goal of dual enrollment programs is to give high school students the chance to take college-level classes, and possibly earn college credit, as well as expose students to the college campus environment," (Allen, 2010, p.1). Dual enrollment has shown to be a promising way of increasing student success, progression and time to completion (Allen & Dadgar 2012; An, 2013; Harnish 2005). Students who have earned some college credits in high school have been shown to have a higher GPA at the end of their college freshman year, and they are more likely to remain enrolled in college than those who do not (Allen and Dadgar, 2012). Dual enrollment also exposes students from lower socio-economic backgrounds or students who become first-generation college students to the opportunities that a college education can provide (An, 2013).

High school students have three options to take college-level courses. If they are at least 16 years old, they can enroll in and attend classes at the college with other college-level students. Alternatively, they can take a college-level class at their high school with a college instructor who has agreed to teach the course on the high school campus. Finally, they can take a college-level class at their high school with a high school teacher who has been taught to teach the college-level material.

Dual enrollment has taken the place of some honors or advanced placement courses, which remains a common component of high school course offerings. Students can only earn college credit for Advanced Placement courses after they take a standardized test. Colleges can decide what scores on the AP exam earn college credit, and it can vary widely by school. Dual enrollment credit, on the other hand, is earned as soon as the high school student successfully completes the course. The funding source for dual enrollment varies by state and even by school. In Delaware, it varies by school and may vary by course. Many dual enrollment courses offered to high school students are paid for by various grants. However, some courses are paid by the student/parent.

Delaware Tech has seen a large increase in the number of students enrolling in Dual Enrollment courses in the past few years. In the 2014-2015 school year, there were 300 students enrolled in Dual Enrollment courses at Delaware Tech state wide (Delaware, 2019). This number has steadily increased to 1396 students enrolled in the 2017-18 school year (Delaware, 2019).

As the only community college in the state of Delaware, Delaware Technical Community College is in a unique position to serve students from a variety of backgrounds. The college offers programs that prepare students to fill job opportunities in the community or transfer to a four-year institution. For example, the Energy Technology Programs were developed in response to Delaware's need for more trained workers. High school students who are enrolled in Delaware Tech's Energy Pathway Program take two college courses (SOC 103 "Sustainability and

Society" and OAT 152 "Excel") at their high school, taught by their existing high school faculty. Those students also travel to Delaware Tech campuses to take the workforce training and Intro to Energy Management Course (NRG 101).

Energy Pathway

In 2016, to boost enrollment in these energy programs, grant funds from Delmarva Power were leveraged to expand dual enrollment offerings at three area high schools in the hope that the program would serve as a feeder program for Delaware Tech. Each high school was to enroll 15 students in the Energy Pathway Program, for a total of 45 students per year who would take energy classes. Unfortunately, none of the high schools met that goal. In the 2016-17 school year, we had about 22 students total. In the 2017-18 school year, the enrollment was even lower, less than 15 students. One school only had two students enroll, so the courses were not offered. In April 2018, Delaware Tech administrators decided to cancel the Energy Pathway and use the funds to support higher enrollment pathway programs. In May, the high schools were informed that the dual enrollment classes could no longer be offered. The high schools were given the option to continue some or all of the dual enrollment courses, and they declined, due to low enrollment.

Problem Statement

Due to the cancelation of the Energy Pathway program, my goals from my original proposal had to change, since I would no longer be working with these dual enrollment teachers. My new goal is to provide support and resources for dual enrollment teachers and mentors. The resources are designed to be general, not subject specific, so that they can be useful to mentors in any subject area.

Approach to Address the Problem

Knowing the material and the data I had already collected would prove valuable to other teachers in other programs, my advisor and I agreed that I would continue to create a toolbox of best practices for teachers and their mentors.

Organization of the Portfolio

This portfolio is organized into six chapters. Chapter 1 introduces the problem, as well as my approach to resolving it. Chapter 2 provides insight related to the organizational context on why this problem exists, as well as an overview of my role and responsibility to address the problem and my improvement goal. Chapter 3 summarizes the various actions I have taken to improve the problem. Chapter 4 covers the results of my improvement strategies. Chapter 5 is a reflection on the results of my improvement efforts. Chapter 6 includes a reflection on my leadership development throughout the process.

This portfolio concludes with 12 artifacts that document my efforts to achieve the improvement strategies, as demonstrated in Table 1.

Table 1 Summary of Artifacts Developed

Artifact	Title
Appendix A	Initial Proposal: "A Professional Development Plan for High School Dual Enrollment Teachers"
Appendix B	Literature Review: Dual Enrollment
Appendix C	Literature Review: Professional Development
Appendix D	Document Analysis on Delaware Tech's Policies on Dual Enrollment
Appendix E	Sample Agenda for Dual Enrollment Summer Teacher Training Workshop
Appendix F	Survey Instrument for Pilot Plan Evaluation of Summer Teacher Workshop
Appendix G	Evaluation Report of Pilot Plan of Summer Teacher Workshop
Appendix H	Survey Instrument for Dual Enrollment Teachers
Appendix I	Interview Protocol for Energy Pathway Dual Enrollment Teachers
Appendix J	Survey Results
Appendix K	Interview Results
Appendix L	Toolkit for Mentors
Appendix K	IRB Approval (This project was given exempt status on April 16, 2018.)

Chapter 2

PROBLEM ADDRESSED

Due to the changes in the Delaware Tech Energy dual enrollment program, I have changed the original goals for this portfolio. I originally wanted to make improvements on the summer teacher workshop based upon my research. Since the program was discontinued, there is no longer a summer teacher workshop for the Energy Pathways teachers. I adjusted my goals to provide resources to mentors of dual enrollment teachers. These resources are based upon my experiences with the summer teacher workshop (2016 and 2017), and from the research I completed in this ELP.

Organizational Context

With four campuses in three Delaware counties, Delaware Tech serves the residents of the entire state. Its mission is to provide "affordable, open admission, post-secondary education that is relevant and responsive to labor market and community needs" (Mission, 2015). As of July 2016, 96.7% of students were from Delaware (FY 2016, 2016). The total enrollment at the college for fall 2015 was 13,471 and the average age of a Delaware Tech student was 25 (FY 2016, 2016).

The college offers mostly Associate of Applied Science (A.A.S.) degrees. The A.A.S. requires 30 course credits in the core curriculum, and graduates with an A.A.S. degree have more technical training and may be more prepared to go directly into the workforce than those with an Associate of Science (A.S.) or an Associate of Arts (A.A.). A.S. or A.A. degrees have more general education requirements than A.A.S.

degrees and prepare students to transfer to a 4-year institution. Delaware Tech does offer some diploma and certificate programs and has recently been approved to offer a Bachelor of Science degree in Nursing (B.S.N.) (Keeping, 2016).

The Energy degree programs at Delaware Tech began in 2010. The programs began with a partnership with Lane Community College in Eugene, Oregon, which offered an associate degree in Energy Management. The students in the first cohort took Lane's Energy curriculum via distance education from Lane faculty. In 2011, Delaware Tech hired Energy faculty members to teach the classes in-person on three Delaware Tech campuses: Stanton, Terry, and Owens. In 2012, the Renewable Energy Solar associate degree was first offered. This, too, was based on Lane's model but was adapted to Delaware Tech's schedule. In 2014, the Building Automation Systems degree was approved and offered for the first time, but only offered at the Terry Campus as a pilot.

The Energy programs began as a result of labor market trends. Job growth in these fields increase every year. When the Building Automation Systems degree program was proposed, it was a direct result of advisory board discussion of industry need for employees. The college commissioned a labor market study to see if there were really enough jobs to support a third energy degree program. The Center for Industry Research & Workforce Alignment (CIRWA) completed a labor market scan of the energy landscape in Delaware in February 2013. The data from this report supported the advisory board input, and the Board of Trustees supported creating the BAS program.

The Energy programs have boasted 100% job placement for all graduates since the first graduating class in 2012. Students in these programs have been placed in various jobs around the Delmarva Peninsula. Energy services companies, such as Seiberlich Trane, have hired nearly a dozen of these students in both internship and full-time positions. Additionally, students have also found positions with the State government, DNREC, and other private companies. At present, there are more jobs in the Energy fields than students to place.

Despite this excellent report, the Energy programs have struggled with enrollment and retention. Getting potential students in the door and registered for these programs has been a challenge. I have spent time visiting area high schools and speaking at area community groups. I am on the advisory board of several area high school technical programs, as well. I have found the best recruiting method is to get students into the lab to see what we do. We have had great success by hosting activities like the STEM Expo, where high school students come to campus and have an opportunity to do hands-on lessons. Unfortunately, it is still a challenge getting people in the door to learn about Energy technologies.

In summer 2017, the Energy programs were reorganized due to low program enrollment. Now, Terry Campus in Dover is the only campus to offer all three programs. The Stanton Campus only offers the Energy Management degree. The Owens campus no longer offers any Energy degree programs, but it offers a few first-year courses that support some other degree programs. Students now have to travel to Dover to complete the second year of the program.

Organizational Role

I have been interested in dual enrollment courses for many years. In my first teaching job at Salem Community College in New Jersey, I had the opportunity to teach an intro course at a local vocational-technical school. At that institution, we had several students graduate with an associate degree in May, a month before their high school graduation, because they took advantage of dual enrollment courses.

I was hired at Delaware Tech with most of the other Energy faculty in 2011 as our programs were just beginning. I was originally hired as the Renewable Energy instructor. I was promoted to department chair for Energy Technologies at the Terry Campus in January 2012, and I have held that position ever since. I developed and taught nearly all of the Solar and Alternative Energy courses on the Terry Campus. Additionally, I developed and traveled with students on Study Abroad courses to Denmark (2012 & 2013), Japan (2014), and Switzerland (2016).

I have done outreach at many area schools to recruit students for the Energy Technologies major. I also sit on the advisory boards for several area high schools. In 2015, PolyTech High School (Kent County VoTech) expressed interest in offering dual enrollment courses as a partnership with the Energy department and the Electrical Trades program.

In the Energy Pathway Program, I have acted as mentor for the dual enrollment teachers (for both Sustainability and Excel) at Smyrna High School. I also teach one of the dual enrollment classes, NRG 101, “Intro to Energy Management,” for Smyrna

High School. Effective April 2018, the Energy Pathway program was discontinued due to low enrollment.

Challenges with Preparing High School Teachers for Dual Enrollment Programs

Delaware Tech supports high school teachers who serve as instructors (adjuncts) in dual enrollment programs in several ways. Currently, all adjuncts (50-100) attend a 3-hour training program at the start of the semester, and they are paid for their time (an example agenda is available in Appendix A). The topics covered are usually determined by the Deans of Instruction and the Department of Center for Creative Instruction and Technology (CCIT).

Unlike new college adjuncts, who typically meet with their department chair when they have a problem, high school adjuncts do not have an opportunity to stop by the department chair's office or talk to other full-time instructors for support. To address that need, Delaware Tech assigns each high school teacher a mentor from the college. However, there doesn't appear to be any guidance for the mentors on best practices on how to be a mentor, no there does not appear to be any minimum requirements for the mentor relationship.

CCIT offers a wide array of resources such as classes and seminars that faculty can attend. New full-time faculty are required to attend four Instructional Design courses. Only recently were part-time faculty (adjuncts) allowed to attend these courses. Even then, they are only allowed to take one course per semester. Seminars are available for full-time and part-time faculty, but they are usually one-time sessions of one hour or less. The times for these seminars are usually not great for adjuncts, as

they are usually scheduled during the day. A high school (dual enrollment) teacher would have difficulty attending these courses.

Professional Learning for Dual-Enrollment Teachers

We felt it was important to bring in the high school teachers for a day or two over the summer to learn the course. We scheduled dates for the teachers to come into the college and work through some of the assignments. I felt this was best practice, as it is what I had done previously with another dual enrollment teacher. We invited the teachers in to spend a day doing the lab activities.

Initially, we planned to include lunch and some other activities with the intention of giving the teachers a more expanded orientation that was usually occurs for dual enrollment teachers. Having been an adjunct in the past, I wanted to make sure the Energy Pathways teachers were given more than a syllabus and a book.

We wanted the teachers to be advocates for Delaware Tech and Energy programs. We wanted to the teachers to understand how their course fits into the scheme of an associate degree in Energy Technologies. Hopefully, this would enable the teachers to be able to communicate this information to the students, as well.

Summer Teacher Workshop in the First Year

Given the timing of the grant funding, which was released in late May 2016, planning exercises for the first year of the Energy Pathways Program were rushed. The department chairs wanted to wait until school year 2017-18 to implement, but administration pushed to get it started in August 2016. Within a week or two of the

funds being approved, I was in Smyrna High School presenting to the junior class, hoping to recruit some for the Energy Pathway Program.

High schools in each county were selected to partner to participate in the Energy Pathway Program. The principals in each high school worked with the deans of Instruction at Delaware Tech to select teachers to offer the Excel and Sustainability classes. It was mid-summer when teacher selections were made. Once the teachers were selected, the course leaders for the Excel and Sustainability classes set dates for the summer teacher workshop. Scheduling these dates proved challenging, since it was last-minute, and everyone had vacations planned. The training occurred in mid-August 2016.

In the first year, the summer teacher workshop focused on the curriculum. The agenda for the Excel training in 2016 and 2017 is available in Appendix E. During this process, we found most of the questions and concerns the teachers had were not material-based. The teachers had no problem learning the material on their own. Some of their concerns were more complicated. Many of the questions we had were based on Blackboard, scheduling, and policies. Another challenge was getting the teachers access to their course materials. Several attended the training who were not given Blackboard access, so they could not interact with the material on their own, outside of the training. Additionally, not all the teachers were teaching their course in the fall, although all the training was done in the summer. Some of the teachers would not being their course until January, and they did not have Blackboard access.

One of the biggest challenges we had in the first year of the Energy Pathways Program was getting the teachers paid. In this grant, we were able to give the teachers a $1,000 stipend for participating in the training, doing-follow up activities, and teaching the class. Once the grades were turned in, I requested the teachers to be paid. In one case, it took more than 6 months for the teacher to be paid due to breakdowns in institutional policies. There was a lot of miscommunication over who was in charge of the budget and how teachers could be paid in the first year due to the last-minute implementation of the program.

For the evaluation class, I did a pilot plan evaluation on the summer teacher workshop that was held in 2016. I surveyed both teacher participants and mentors/course leaders. This evaluation is available in Appendix F. The evaluation showed that the teachers felt very comfortable with the course material as a result of the summer teacher workshop but still had issues with Blackboard. I recommended that we send out a survey prior to the second year of the summer teacher workshop to see what the participants felt they wanted to cover.

Summer Teacher Workshop in the Second Year

In 2017, we ran the summer teacher workshop for Energy Pathways teachers for the second time. Two of the schools who had participated in 2016 kept the same teachers, with only minor changes to their schedule. Another school sent a new teacher for both Excel and Sustainability.

We made some changes to the second year of the teacher professional learning based upon our previous experience. We started the day with a Human Resources

session during which the teachers completed their required paperwork so that they could be paid in a timely manner. This time around, we paid the teachers half their stipend after the end of workshop and the other half after the grades were submitted. We had a mix of new teachers and returning teachers. We didn't want to be repetitive for the returning teachers but wanted to make it meaningful for new teachers. We allowed the teachers more time to work on their schedules. We allowed time for collaboration to let the returning teachers give advice on what worked in their classroom. "When teachers collaborate, they share ideas and problem-solve solutions to the thorny issues they face in the classroom," (Zepeda, 2011, p. 88). Collaboration is important to the process of teaching, as educators reflect on their practices and exchange ideas and share strategies (Guskey, 2003).

We also invited an instructional designer from the Center for Creative Instruction & Technology (CCIT) to attend the workshop. This person shared information about workshops that college hosts and gave a face to support services available to all faculty and adjuncts. CCIT and the instructional designers are the resources to use when faculty have problems with Blackboard. I felt that asking them to come to the training would make the teachers feel more comfortable asking their help when they had a problem in Blackboard.

Improvement Goal

My original improvement goal was to create a Professional Learning Community to enable teachers and mentors to share ideas, research, and best practices.

Together, we could find ways to ensure consistency of curriculum. Since the change of the program, the original improvement goal was not able to be completed. My new improvement goal is to provide a toolkit of strategies and tools for mentors who are helping to prepare high school teachers to teach dual enrollment classes.

Chapter 3

IMPROVEMENT STRATEGIES

My original improvement goal was to create a Professional Learning Community (PLC) to enable teachers and mentors to share ideas, research, and best practices. After the cancelation of the Energy Pathway program, my improvement goal changed to provide resources to faculty mentors to support dual enrollment teachers. To better illustrate my strategies, I broke my overall intent into three sub-goals, as described below.

Goal 1: Build a Relationship between Teachers and Faculty

Before I could build the PLC, I first needed to create strategies to ensure that teachers and mentors were able to enjoy a relationship built on trust and respect. This element was essential to creating successful dual enrollment pathway programs. I investigated the literature to review best practices in dual enrollment (Appendix B). The literature review on professional development provides evidence for the need to build a relationship between faculty and teachers (available in Appendix C). Much literature shows that building a relationship is fundamental to a successful mentorship. Document analysis (artifact D) shows how little attention was spent on developing this relationship at the college. Corroborating evidence was collected from interviews (artifact K) and surveys (artifact J), which shows the importance of this relationship.

The teachers who participated in this summer teacher training were interviewed to discuss their experiences. The interview protocol is available in Appendix H. This protocol was used to ensure validity and reliability in the data. The

interviews were transcribed and coded. Trends and a summary of the interview results are available in Appendix K.

I created and disseminated a survey to all dual enrollment teachers. The survey asked teachers about their experience, preparation to teach, and relationship with their faculty mentor. The survey is available in Appendix I. A summary of the survey results is available in Appendix J.

Goal 2: Create a Professional Learning Community

Once we had built that relationship between teacher and mentor, my second goal was to create a PLC to enable them to interact with each other to discuss problems or concerns. Literature shows the advantages of professional learning communities and is available in Appendix C.

To support this goal, I developed a summer teacher workshop for Energy Pathway teacher professional development. (The agenda is available in Appendix E.) I completed an evaluation of this summer training (it is available in Appendix G).

Goal 3: Provide Resources for Mentors

Because of these changes, I changed this goal to providing resources to mentors for dual enrollment faculty. This revised goal allows me to use my experiences in the summer teacher training to share best practices for other mentors. I sent a survey to dual enrollment teachers to help determine their needs (it is available in Appendix J). To broaden the data collected, I sent a survey to all dual enrollment teachers at all Delaware Tech campuses. (The survey is available in Appendix H, and the results are available in Appendix J.) This survey asked teachers to evaluate their

level of preparation prior to teaching, how they interacted with their mentor, and how comfortable they felt on the first day of class. In addition, the interviews with Energy Pathway faculty were used to help determine what resources are needed to help mentors of dual enrollment teachers. The survey was sent to 82 teachers, with 40 responding to the survey, resulting in a 49% response rate.

My recommendations for resources for mentors of dual enrollment teachers are found in Appendix L. This artifact provides resources for mentors on holding a professional development training day, tips to be a mentor, and other resources based upon this research. The toolkit includes a collection of best practices I found in my experiences in the Energy Pathways summer teacher workshop and in the literature. This checklist for mentors can help them to make sure they cover all required material, as well as a timeline to ensure their class is on pace to finish.

Chapter 4

IMPROVEMENT STRATEGY RESULTS

Overview of Research Conducted

While it was disappointing to have the dual enrollment programs canceled, I recognized the value in providing resources to ensure consistent training of dual enrollment teachers. My original improvement goal of creating a Professional Learning Community (PLC) to enable teachers and mentors to share ideas, research, and best practices needed to change. My new improvement goal changed to providing resources for dual enrollment teachers and mentors so that more people could benefit from this work.

The research that I had already accomplished pointed to the importance of the mentor relationship, training of mentors, new teachers' access to materials, and adequate training on how to use the course management software. The data I collected for this research came from three main places: surveys, interviews, and document analysis of existing policies at Delaware Tech.

Building a Relationship between Teachers and Faculty

In my interviews (see Appendix K), teachers reported positive interactions with their mentors. Teachers who participated in the summer teacher workshop and who spent at least one full day with their mentor prior to teaching reported that their mentors were responsive to their questions. One teacher reported, "Whenever I need

something [my mentor was] there. I can text, I can email." Another teacher stated that most of her questions were answered "within 30 minutes."

Of the teachers who responded to the survey (see Appendix J), half said they interacted with their mentor more than five times. Additionally, 37% reported they met with their mentor three-to-five times. Most (69%) respondents reporting feeling very prepared to teach on the first day of class.

The teachers were also asked in the survey how many times they interacted with their mentor. Half of the teachers reported that they interacted more than five times over the course of the semester. Unfortunately, one person reported that they did not interact with their mentor at all. Additionally, three (10%) respondents said they only interacted one-two times throughout the semester.

Building a Professional Learning Community

Although interactions with mentors were seen as positive, there were fewer reports of support for making those mentoring relationships more productive. From the survey, only 17 (57%) teachers reported attending a training with their department chair or mentor prior to the start of class. The findings from the survey showed that only 53% of teachers attended the adjunct professional learning workshop. A total of eight (27%) teachers reported they did not participate in any training prior to the start of class. Also, 14% reported feeling "a little unprepared" for the first day of class. The main challenges these teachers identified were difficulties with the course

management software and student motivation. Most of the reasons listed for feeling unprepared was due to receiving course materials late. One recommendation given by a teacher was to give "teachers materials in May so they can have the summer to prepare."

Providing Resources for Mentors of Dual Enrollment Teachers

The data collected from current dual enrollment teachers and literature helped me to design a toolkit for future dual enrollment mentors working with new dual enrollment teachers. The toolkit includes a timeline for mentors, a syllabus for dual enrollment training, an agenda for a summer teacher workshop, a rubric activity, tips on how to be a mentor, and follow-up questions for a PLC. These resources are available on a website for faculty and mentors to access without a Delaware Tech login (https://mentortoolkit.home.blog/).

The survey results indicated that several teachers reported not having access to materials in a timely manner. In the toolkit, I included a sample timeline recommending that teachers have access in May/June before they leave for the summer to course material for classes they will teach in the subsequent fall. This may require teachers to complete new hire paperwork with HR to get access to a DTCC login. I also suggest that a training date is scheduled early, as many teachers will have vacation plans in July and August.

I also provided a sample agenda for a summer teacher training. This was written as general as possible, to fit with any course. This agenda should be amended to include specific issues as related to each department. Included in this agenda is time for CCIT to talk to teachers or go visit their offices. This provides teachers with information about resources available to them as part-time instructors.

Survey results also indicated that teachers struggled with the course management software (CMS). High school teachers use Schoology, while the college uses Blackboard and D2L. I am encouraging mentors to spend time working with the teachers on CMS before classes begin to ensure they understand how to navigate the system.

In addition, I recommend inviting instructional designers or other techs from CCIT to stop into the training sessions. This helps the teacher build a relationship with the support staff and makes them aware of the resources available. In the sample agenda, time is allotted for teachers to meet with the Instructional Design staff and work in their course shells. It is essential to allow teachers time to work in their course shell when the mentor or instructional designer is present to answer questions. The teachers should not leave the training without having time to do so.

The mentors should work with the teachers to ensure consistent grading at the collegiate and high school level. It is essential that high school students earning college credit are working up to the same standards as their college counterparts. To make sure this occurs, I have included a rubric activity in the agenda for the teacher training. I would encourage the mentors to do this activity with a project or paper

within the class. For Energy Pathways, we did this activity with some projects in the Excel class and a paper in the Sustainability class. I suggest sharing examples of student work at different levels (A, B, C, and F) and grade together with a rubric.

Additionally, there is time scheduled in the agenda for a tour. I strongly encourage this to help the teachers feel a stronger connection to the college. Additionally, this can help make the teachers aware of other programs at Delaware Tech or how their course fits within the overall degree program a student may be enrolled in. Dual enrollment teachers will see potential new Delaware Tech students every day. They may be the best recruiters the college can hope for, so it is important that the teachers have a good understanding of the variety of majors and facilities Delaware Tech can offer.

Finally, in the toolkit, I have included suggestions for follow-up. I suggest creating a PLC of dual enrollment teachers in the same subject (if you have multiple mentees). This gives the teachers the opportunity to drive the conversation to what they feel they need. Since it is likely that the teachers are at different schools, I recommend follow-up meetings be held remotely, using an online collaboration tool like Zoom.

Chapter 5

REFLECTION ON IMPROVEMENT EFFORT RESULTS

Overview of Research Conducted

One of the positive elements of having my ELP project overhauled significantly was my recognition that the resources I was creating could help a much broader audience than our small group of Energy Dual Enrollment teachers. The themes that resulted from my research are ones that impact a number of teachers and instructors throughout the college community.

Building a Relationship Between Teachers and Faculty

For a dual enrollment program to succeed, it is essential to have high school teachers who feel they have been well-grounded in the material, have access to the resources they need to succeed, and someone to turn to when they have a question. Mentors are given the responsibility to act as this support person.

For the mentor relationship to be successful, trust needs to be built between mentor and mentee. I feel that the role of the mentor is to be the ONE person the mentee can go to with questions, regardless of how silly. As a mentor, I want to be the first contact for my mentees when they have a challenge or problem. I may not always know the answer, but I am the person to help them find the answer. I feel that the mentor should be the one to always answer the phone or respond to an email in a

timely manner. I feel that my mentees trust me more when they know they can get a response from me.

One of my mentees reported significant challenges getting paid her stipend at the end of her first year. She had called both the Dean's office and Human Resources and was told conflicting information. These were problems I could not solve, but I had an easier time getting to the bottom of the issue than she had on her own. Additionally, I think it is my role to communicate with my mentor in a timely manner. Even if I cannot provide an answer immediately, I try and respond as soon as possible to acknowledge the question. For example, when the mentee above had issues getting paid, she texted me while I was on vacation. I was unable to look into the problem immediately, but I responded that I would look into when I returned to campus.

I feel that my mentees, employees, and even students should see me as a resource they can rely on. I do not know all the answers, but they know when they send an email, text, or phone call that I will respond and find the answer.

Building a Professional Learning Community

The Dual Enrollment teachers in the Energy Pathway at all three schools met over the summer for subject matter training in Sustainability and Excel. A program goal was to have the three Sustainability teachers form a PLC with their mentors, and the Excel teachers would form their own. The intention was that the teachers would get together about once a month to discuss the course and challenges they were facing.

According to the reports from teachers surveyed and interviewed, the PLCs did not meet as planned. One of the challenges of assembling this PLC was the teachers' schedules. Although there were three teachers in each subject, they did not all teach the same semester. In the first year, only one school was teaching Excel in the fall semester, so it didn't make sense to have those teachers meet in fall. The teachers reported in the survey and interview that they contacted their mentors, but they did not appear to meet with one other.

Providing Resources for Mentors of Dual Enrollment Teachers

One of the major trends from the data was the importance of access to materials. One issue reported in the survey was the teacher getting access to course materials prior to the course beginning. In some of the worst experiences, the teachers reported not having access to course materials even after the start of class. Teachers should have access to textbooks and course materials in Blackboard well before the start of class.

Teachers cannot get access to the course materials unless they have a Delaware Tech email and password. This process is done through Human Resources, just like every other new hire. This can take up to a week to get done, especially in the busy times at the start of each semester.

Students also need to have access to the course materials in Blackboard prior to the start of the semester. For students to have Blackboard access, they need to have

their applications completed and registration forms into Delaware Tech before the first day of class. This requires coordination between the high school (usually a counselor) and the college (usually an advisor).

There are many different divisions that need to work together to have a successful dual enrollment program. The high school administration, teachers, college faculty, Deans of Instruction, academic counselors, and Human Resources all need to coordinate to make sure everyone has access to the resources they need. It was not surprising to see that sometimes things fell through the cracks.

Increased training on the CMS may be beneficial for the teachers. Additionally, the college provides technology support services which all faculty, including dual enrollment teachers, should utilize. Connecting dual enrollment teachers to these resources is essential.

Limitations of this Research

One of my biggest challenges was getting lists of dual enrollment teachers. After I got IRB and institutional approval to send out my survey and interviews, I could not get the data I needed. I spent many hours asking for information from different sources, including Academic Affairs and Institutional Research. At every turn, I was told to ask someone else.

I finally was shown where to access the information from an academic counselor. The database only identifies courses tagged as dual enrollment. It does not distinguish between courses taught on campus or in the high school. It also does not

differentiate between full-time college faculty teaching the course or high school teacher.

Once I obtained the lists of courses and instructors, I could not easily get access to teacher email addresses. I was able to look up Delaware Tech emails for all teachers, manually, one at a time. Unfortunately, not every teacher had a secondary email listed in our database. Often, it was often unclear which school the teacher taught at. I spent many hours searching each school's website to see if I could find the teachers' high school email address, which I thought they would be more likely to check.

Another limitation of this data was how teachers are coded in our database system. When I pulled the data, it only indicated that teachers were coded as dual enrollment. There was no differentiation between Delaware Tech faculty and high school teachers. After the survey was sent out, I received several emails from Delaware Tech faculty asking if they should complete it, since the questions were geared to high school teachers. As a result, some dual enrollment teachers may have been missed, and other participants in the survey may not have been high school teachers.

Another limitation of this study was in the survey. After reviewing the responses, I realized I should have asked the teachers how long they have been teaching. I believe there may be some differences in the answers between teachers who have taught dual enrollment for many years, versus those who are new. I think the teachers who have been teaching for many years may have reported feeling more

comfortable on the first day of class, not due to their preparation by their mentor, but by their experience. If I had the opportunity to give this survey again, I would differentiate the data by years of dual enrollment or collegiate experience.

Another limitation of the PLC was that teachers were all on different schedules. Some teachers taught the sustainability class in the fall, while others taught in the spring. The PLC did not meet as originally planned, as discussed in the Pilot plan evaluation found in Appendix G.

Another challenge was the timing of the survey. I should have sent it out earlier, before the end of the semester. IRB and Delaware Tech approvals took longer than I expected. Since the survey went out after the end of the college semester, I am unsure if all teachers would still be checking their DTCC email. I feel that I could have had a better response rate if it had gone out a few weeks earlier.

My biggest limitation was the cancellation of the Energy Pathways Program. My original goal was to conduct the summer teacher workshop again in summer 2018 in order to implement some of the changes I recommended based upon my research. Because of this change, I had to update my goals and add the toolkit into my ELP.

Improvements for Research

If I were to do this again, I would recommend adding some additional questions on the survey. I think the teachers who have taught for several years would report different experiences than those who were brand new. I am curious if the challenges identified in the survey occurred by new teachers.

I always planned to interview the Energy Pathways teachers, because I knew I had easy access to them. However, to have a control variable, I should have interviewed some dual enrollment teachers who were not in the pathway and did not participate in the summer training. I could have been more strategic at selecting participants to interview. I should have interviewed teachers who had a lot of challenges, and I could have gathered more information.

Additionally, since I had a relationship with most of the teachers, I should have had someone else interview them. I may have skewed the data, since I work closely with these teachers. They may not have wanted to share with me any issues they had.

Another challenge was the low number of responses to the interview requests. I requested interviews of all current and past Energy Pathways teachers. Unfortunately, only three responded. During this time, the Energy Pathways Program was canceled. One of the schools was already not participating, as its program had been canceled due to low student participation midway through the 2017-18 school year. The other two schools were informed in April 2018 that the program would not continue in the 2018-19 school year.

I was hoping that some of the past participants would agree to speak with me despite no longer teaching the Energy Pathway Program. I felt it would be valuable to hear the challenges that led to the low student enrollment. However, they did not agree to be interviewed, and I did not have a financial carrot (stipend) to compel them to participate. I also found out another teacher went out on medical leave in the midst of the program. That teacher did not finish teaching the course, and it was picked up

by a full-time instructor. Again, this teacher did not respond to repeated requests to be interviewed.

Next Steps: Recommendations for the College

Based upon the research conducted in this ELP, I have several suggestions for the college to implement.

I suggest the college implement a more formal process for mentors to follow. Faculty at the college are compensated with a stipend of up to $500 for being a mentor. It was very surprising to see a financial compensation being made to faculty, with no formal training or direction. I conducted informal interviews with some department chairs and found that there was a wide range of mentoring practices. In a few cases the department chairs went to the high school and observed the teachers. In other cases, there was little being done—only an assurance of "give me call if you have any questions."

Some of the literature suggests that money for lunches is beneficial (Jackevicius et al., 2014). It gives the mentor and mentee incentive to take time to get together in an informal environment. Building relationships is essential for having a successful mentor program. I would recommend the college support using some of the faculty stipend toward meals with mentee. Otherwise I would suggest the faculty use some of their stipend to take the mentee out for a meal or coffee to have more informal chats. Building a relationship is essential to have a successful mentor relationship, and bonding over a meal or informal environment is an easy way to start that.

A formal checklist should be given to faculty mentors so they know what information needs to be shared with teachers, along with a recommended timeline. My recommendations are given in Appendix L: Toolkit for Mentors. This toolkit is what I would have like to have available when I first became a dual enrollment mentor.

Next Steps: Recommendations for Mentors

Based upon my experiences with the Energy Pathway and summer teacher training, there were some recommendations for mentors moving forward. The summer teacher training should serve as a model for other departments in the future. Getting teachers and faculty together for a day in the summer built some relationships that helped the program going forward. Energy Pathways teachers overwhelmingly felt comfortable asking for help when they had questions.

The interviews shed more light on the dual enrollment teacher experience. The interviews allowed me to dive deeper into each participant's experience. Overall, the teachers had good experiences with the summer teacher workshop. I was concerned if the teachers would find it a waste of time to have it the second year. Overall, most of the teachers reported they would have attended even if they were not paid.

One of the big challenges the interviews revealed was with the course management software. High school teachers in the state use the CMS Schoology; however, Delaware Tech uses Blackboard. Teachers are required to use the college CMS to maintain grades and course materials.

I was surprised by the questions teachers had after the first year of the summer teacher training. I thought we would spend more time talking about course material. However, teachers are adult learners. They have been teaching and learning for a long time and feel comfortable learning content prior to teaching it. In this case, the course material was never the challenging issue. Even if they did have a question, as one of the pathway teachers said in interview, "Google was my friend." Most of the concerns were about Delaware Tech policies and course management software.

Getting teachers access to class materials early is my strongest recommendation. If teachers have access early, they can use their summer to get started learning the content and planning for instruction. Getting access to class materials early may require coordination with many different divisions at the college and high school.

Chapter 6

REFLECTIONS ON LEADERSHIP DEVELOPMENT

I began the University of Delaware Ed.D. Program almost on a whim. I already "did" grad school once and walked away from a Ph.D. in Engineering because I was not interested in research and really enjoyed teaching. I have always felt I "found my place" teaching at the community college level, as I teach small classes and see my impact on students every day.

When I applied to UD, I was already a department chair at Delaware Tech and not really looking to move up with the institution. However, I knew I was young enough that maybe someday I would be interested in administration. I enrolled because I didn't want to look back in 10-20 years wishing I had done it sooner. When I first enrolled, I honestly wasn't sure if I would ever get to this point.

Through my experience at UD, I have grown in many ways. I will share here how I have grown as a scholar, as a problem-solver and as a partner.

Scholar

Throughout my experiences in the Ed.D. Program, I have learned a lot about my educational leadership. I did not come to education through the traditional route. My academic experience previously was all in Engineering, which is a very independent field. I was very surprised how collaborative education is and how much I learned from small group discussions during class or in my carpool. My classmates a year or two ahead of me were often more helpful about the process.

Educational writing is significantly different than engineering writing and has been a challenge for me to grasp. My first few classes in this program were a challenge to understand the difference. The collaboration in education was surprising and helpful. My previous educational experience was much more competitive, instead of collaborative. Many of my classmates in the education program offered to proofread my papers in my early classes.

Surprisingly, I never had any experience with statistics in either my undergraduate or master's classes. I learned more about applied statistics during this program than I did in my master's degree in Engineering. I have learned about statistical significance throughout this process.

I also learned a lot about the benefits of qualitative research. As earlier mentioned, my previous education is in Engineering. For the first few years of this program, I avoided qualitative research because I didn't think it was as valuable as quantitative research. To me, it felt much more touchy-feely. Of course, that is probably why I used qualitative research in this ELP. I needed to learn how to do it effectively. Most of the research presented here has a very small 'n' value, so quantitative research would not be statistically significant. This research pushed me out of my comfort zone, but significantly, more data was collected from interviews than from surveys. I wish I had another year with the Energy Pathways, because I gathered some interesting ideas from the teacher interviews that I would have liked to implement.

Problem Solver

My experience at UD has set me up to make research-based decisions. When the grant funds became available that ultimately started the Energy Pathway Program in 2016, my colleagues and I had very little time to propose what we wanted. We knew we were going to start Dual Enrollment, but nothing else was planned. I had just taken Dr. Mouza's Professional Development class, so I was able to justify, very quickly, why we needed to make an investment in Professional Development for the Dual Enrollment teachers. In the scheme of the grant, this investment was relatively small, but very impactful. I feel my coursework at UD set me up to make these decisions, and I could quickly justify my ideas based in research.

However, this process was challenging, especially since the Energy Pathways Program was canceled. I was devastated that we didn't have an opportunity to make some revisions to see what other ways we could boost enrollment. However, effective October 2018, I am in talks with the Department of Education to build a traditional three-year CTE pathway with the state. While the original pathway was born and died during the process of the ELP, I think some of the positive results will be resurrected in future programs.

Dual enrollment at Delaware Tech is currently in the process of becoming more streamlined and consistent. A colleague of mine was recently assigned to look at Dual Enrollment at the state level and evaluate what the current process is. I feel this research is very timely in that respect, and I feel confident that some of my suggestions may be used in the future.

Partner

I learned in this program about the power of advocacy. I was surprised at how much change can occur with teacher advocacy. In the Leadership class, I created an advocacy plan for an educational issue I felt strongly about (the expansion of SEED). I was surprised to see how much impact a group of motivated educators can have. By identifying the stakeholders on an issue and gathering support of some key legislatures, educators can make real change.

I have learned a lot about the practice of teaching through listening to others. I heard a lot of great ideas in my table groups and carpool while taking classes at UD. In addition, I heard a lot of great things during the interviews conducted in this project that I would like to implement. As educators, we are all doing great things, and we can do better by sharing with each other.

Since enrolling in this program, I have been elected president of the Faculty Senate at Delaware Tech. I have learned through this process that I have a voice and how to use it. Through my leadership role in Faculty Senate, I have tried to bring people together and have conversations with faculty in different areas. We tend to work closely with faculty we see every day in our departments or buildings, but interesting conversations happen when you talk to people outside of your silo. Just like my carpool conversations, I think more growth can happen when we talk to other educators.

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Appendix A

PROPOSAL

Overview

As the only community college in the state of Delaware, Delaware Technical Community College is in a unique position to serve students from a variety of different backgrounds. The college offers programs that prepare students to fill job opportunities in the community or transfer to a four-year institution. The Energy Technology Programs were developed in response to the need for more trained workers in the state. In order to boost enrollment in these energy programs, grant funds were leveraged to expand dual enrollment offerings at some area high schools. Teachers at the high school are now offering some college courses (OAT 152, "Excel" and SOC 103 "Sustainability and Society") in part of the Energy Technology Career Technical Education Pathway. I propose to develop a professional development plan for high school teachers teaching courses at area high schools in the energy technologies pathway program. I will examine literature and policies on professional development and dual enrollment, survey and interview stakeholders, and develop a plan for dual enrollment professional development that can serve as a model for other programs.

Organizational Context

Delaware Technical Community College is the only Community College in Delaware. With four campuses over the three Delaware Counties, the college serves the residents of the entire state. As of July 2016, 96.7% of students were from Delaware, (FY 2016, 2016). The mission of Delaware Tech is to provide "affordable open admission post-secondary education that is relevant and responsive to labor

market and community needs," (Mission, 2015). The total enrollment at the college for fall 2015 was 13,471 and the average age of a Delaware Tech student is 25 (FY 2016, 2016).

The College offers mainly Associate of Applied Science Degrees (A.A.S.) which require more emphasis in core classes. A.A.S. degrees are required to have 30 credits of courses to be taken in the core curriculum. Graduates of an A.A.S. degree have more technical training, and may be more prepared to go directly into the workforce. Associate of Science (A.S.) or Associate of Arts (A.A.) degrees have more general education requirements than A.A.S. degrees, and prepare students for transfer to a 4-year institution. Delaware Tech does offer some Diploma and Certificate programs, and has recently been approved to offer Bachelors of Science in Nursing (B.S.N.) degrees (Keeping, 2016).

The Energy Degree Programs at Delaware Tech[1] began in 2010. The programs began with a partnership with Lane Community College in Eugene, Oregon to offer an Associate's Degree in Energy Management. The students in the first cohort took Lane's Energy Curriculum via distance education from Lane Faculty. In 2011, Energy Faculty were hired to teach the curriculum face to face on the Delaware Tech campuses. Faculty were hired on three of the four DTCC campuses; Stanton, Terry and Owens. In 2012, the Renewable Energy Solar Associate's Degree was first offered, again, this was based upon Lane's model, but adapted to Delaware Tech's schedule. In 2014, the Building Automation Systems (BAS) degree was approved and offered for the first time, but only offered at the Terry Campus as a pilot.

[1] Please see https://www.dtcc.edu/about/college-initiatives/energy-education for detailed description of the energy programs offered at Delaware Tech.

The energy programs have boasted 100% job placement for all graduates since 2012. Students in these programs have been placed in various jobs around the Delmarva Peninsula. Energy Services companies, such as Seiberlich Trane, have hired nearly a dozen of these students in both Internship and Full-time positions. Additionally, students have also found positions with the state, DNREC, and other private companies. Currently, I am contacted about more potential jobs in the Energy fields than I have students to place in those fields. Solar Energy usage in Delaware has increased 300 percent between 2008 and 2015 (Mordock, 2015).

The Energy Programs began as a result of labor market trends. Job growth in these fields increased every year. When the Building Automation program was proposed, it was a direct result of advisory board discussion of industry need for employees. The college commissioned a labor market study to see if there were really enough jobs to support a third energy degree program. The Center for Industry Research & Workforce Alignment (CIRWA) completed a labor market scan of the energy landscape in Delaware in February 2013. The data from this report supported the advisory board input and the Board of Trustees supported creating the BAS program.

Job placement in all of the Energy Programs has always been very good. Currently, we boast 100% job placement for all graduates in all three programs. Despite this excellent statistic, the energy programs have always struggled with enrollment and retention. Getting potential students in the door and registered for these programs has been a challenge. I have spent time visiting area high schools and speaking at area community groups. I am on the advisory board of several area high school technical programs as well. I have found the best recruiting method is to get

students into the lab to see what we do. We have had great success by hosting activities like the STEM expo, where high school students come to campus and have an opportunity to do hands on lessons. Unfortunately, getting people in the door to see what Energy Technologies is still a challenge.

As of Summer 2017, there has be reorganization of the Energy Programs, due to low program enrollment. Now, Terry Campus in Dover is the only campus to offer all three programs. The Stanton Campus only offers the Energy Management Degree. The Owens campus no longer offers any degree programs, but offers a few first year courses, which support some other degree programs. Students now have to travel to Dover to complete the second year of the program.

Dual Enrollment

"The goal of dual enrollment programs is to give high school students the chance to take college-level classes, and possibly earn college credit, as well as expose students to the college campus environment," (Allen, 2010). Dual Enrollment has shown to be a promising way of increasing student success, progression and time to completion (Allen & Dadgar 2012; An, 2013; Harnish 2005). Students who have earned some college credits in high school have been shown to have a higher GPA at the end of their college freshman year and they are more likely to remain enrolled in college than those who do not (Allen and Dadgar, 2012). Dual enrollment also exposes students from lower socio-economic backgrounds or students who become first generation college students to the opportunities that a college education can provide (An, 2013).

Dual Enrollment occurs when high school students take college level courses while still attending high school. This can happen in several different ways. High

school students can enroll at the college (if they are 16 years old or older), and take the course on campus with other college level students. In this case, instructors or other students may not know they are high school students. Additionally, a school can offer a dual enrollment course at the high school and a college instructor may travel to the high school to teach the course, the same level and content as the college level course. Finally, high school teachers can be trained to teach the college level material. Often the teachers are selected by the high school administration. The high school teachers act as an adjunct and teach the material at the high school.

Dual Enrollment at Delaware Tech has expanded greatly in the past few years. The Terry Campus of Delaware Tech has dual enrollment agreements at Lake Forest, PolyTech, Smyrna, Caesar Rodney and Dover High Schools. Dual Enrollment has taken the place of some honors or advanced placement courses which have been popular in the past. Students only earn college credit for advanced placement courses after they take a standardized test. Colleges can decide what scores on the AP exam earn college credit, and it can vary widely by school. Dual Enrollment credit is earned as soon as the student successfully completes the course.

High school teachers who serve as instructions in the dual enrollment program are supported in several ways. First, they participate in the adjunct training at the start of the semester. Currently, all adjuncts (50-100) attend training at the start of the semester, and they are paid for their time. This training is 3 hours, including dinner, an example agenda is available in Appendix A. The topics covered are usually decided by the Deans of Instruction, and the department of Center for Creative Instruction and Technology (CCIT).

Second, high school teachers are assigned a mentor from the college. New adjuncts will typically meet with their department chairs when they are having problem. Unfortunately, in this case, the instructor teaches all of the courses at the high school, and does not have an opportunity to stop by the department chairs office or talk to other full time instructors for support. The involvement and communication of mentor and mentee can vary widely.

In my first experience with Dual Enrollment at Delaware Tech, we trained a teacher to teach two of my major courses at the high school. Over the summer, we met with this teacher and spent several days with him to work through content. However, we found that once he started teaching the material, he had some issues with the course management system. The system the college uses (Blackboard) was entirely new to him. The college level mentors spent a lot of time reviewing course material, however we expected that someone else would instruct him on the CMS system.

The division of CCIT employs a department of resources and instructional designers. They hold classes and seminars that faculty can attend. New full time faculty are required to attend a few. Only recently were part-time faculty (adjuncts) allowed to attend these courses. Even then, they are only allowed to take one course per semester. Seminars are available for full-time and part-time faculty, but they are usually one time sessions of one hour or less. The times for these seminars are usually not great for adjuncts, as they are usually scheduled during the day. A high school (dual enrollment) teacher would have difficulty attending these courses.

Problem Statement

There are challenges that high school dual enrollment program instructors face in delivering courses at the high school, due to limited preparation, challenges with technology, and communication. I would like to develop a professional development plan to support high school teachers who are teaching dual enrollment courses. Delaware Tech has offered many Dual Enrollment courses at various schools around the state, any of which are taught by the high school faculty, with a mentor at the Delaware Tech. Each of the high school teachers does have a mentor, however, I do not believe there is a standard professional development training that is consistent for all. The goal of this ELP is to design a standard professional development program for dual enrollment teachers.

Improvement Goal

For my ELP, I would like to work on creating a better professional development for our Dual Enrollment Instructors/Teachers.

My improvement goal is to design a professional development training for high school teachers teaching Dual Enrollment courses. I have the following goals for this professional development.

1. I would like to build a relationship between teachers and faculty, as the teachers are often not on the college campus.
2. I would also like to involve the Delaware Tech faculty who serve as mentors to the high school teachers on a regular basis, so that teachers can ask questions about the material and compare notes on performance at the high school and college levels to ensure consistency of curriculum. I would like to see the high school faculty working with their mentors throughout

the semester as a Professional Learning Community (PLC) to discuss any issues. "When teachers collaborate, they share ideas and problem-solve solutions to the thorny issues they face in the classroom," (Zepeda, 2011, p. 88). "PLCs are groups of teachers that share and critically interrogate their practices in an ongoing, reflective, collaborative, inclusive, learning-orientated and growth-promoting way to mutually enhance teacher and student learning," (Vega 2013).

3. I would like to create a model of continuous professional development for Energy Dual Enrollment Instructors. I would like to see this as a summer teacher workshop, but also as a professional learning community throughout the semester, as the teachers are delivering the curriculum.
    a. I envision this professional development plan to be a full day before the start of the semester. I would like to see this day broken up into parts, with the dual enrollment teachers working with CCIT to build and create their blackboard shells, and teachers working with their mentors to cover subject matter issues.
    b. I would like to see the professional development continue throughout the school year. I would like to see this training occur on existing Professional Development or in-service days, and I would like to see an hour meeting scheduled so that teachers can ask questions and get help if needed. Research has shown that professional development is more effective when it takes place over "20 hours or more of contact time" (Desimone, 2011, p. 69). The mentor/mentee relationship should be nurtured for continued

individual learning. Research has shown that mentoring programs can increase teacher retention and satisfaction (Ingersoll and Strong 2011).

My design will be based on the following sources of information:

1. My experiences with a small extended professional development offering as part of a grant funded Energy Pathways CTE Program. This Energy Pathway included 9 credits of college credit for high school students. Because this pathway was created from a grant, we are also able to pay teachers a stipend for participating in professional development.

2. Interviews (or focus groups) of dual enrollment teachers and mentors to determine their needs.

The training program for dual enrollment teachers proposed is only designed for the teachers in the Energy Pathway Program. However, I would like to show it is successful and encourage Delaware Tech to adopt this model for other Dual Enrollment Programs.

Organizational Role

I have been interested in Dual Enrollment courses for many years. My brother, who is eleven years younger than me, had the opportunity to take many college courses in his senior year of high school. This was an option that wasn't available to me when I was in high school. Additionally, in my first teaching job at Salem Community College, in New Jersey, I had the opportunity to teach an Intro course at a local Vo-Tech. At that institution, we had several students graduate with an associate degree in May, a month before their high school graduation, because they took advantage of dual enrollment courses.

The funding source for Dual Enrollment varies by state, and even by school. High school students in New Jersey could take advantage of free community college tuition. In Delaware, it varies by school and may vary by class. Many of the dual enrollment courses offered to high school students are paid for by various grants. However, some courses are paid by the student/parent.

I was hired at Delaware Tech with most of the other Energy Faculty in 2011, as our programs were just beginning. I was originally hired as the Renewable Energy Instructor. I was promoted to Department Chair for Energy Technologies at the Terry Campus in January 2012 and I have held that position ever since. I have developed and taught nearly all of the Solar and Alternative Energy courses on the Terry Campus. Additionally, I have developed and traveled with students on Study Abroad courses to Denmark (2012 & 2013), Japan (2014) and Switzerland (2016).

I have done outreach at many area schools to recruit students for the Energy Technologies major. I also sit on the advisory boards for several area high schools. In 2015, PolyTech, (Kent County VoTech) expressed interest in offering Dual Enrollment courses as a partnership with the Energy Department and the Electrical Trades Program. We worked with the faculty member from PolyTech to get him up to speed on the content to offer a few courses at his school. He spent a few days over his summer break in our labs, learning the activities and getting a supply list ready.

More recently, we received some of the funds from the Pepco-Exelon merger. DTCC and Delaware State University, along with other community groups, received funding for energy education (Greer, 2016). The funds that Delaware Tech received were used to create a pipeline of students into Energy Careers. This pathway will begin at the high school level. We developed a Dual Enrollment pathway program

which includes 9 college credits of coursework and 70 hours of workforce training. These 9 credits can lead directly into any of the energy majors, or the Construction Management and HVAC degree programs. The Energy Pathway is now an approved CTE pathway in the state of Delaware, under the STEM Cluster.

Students who are enrolled in the Energy pathway program take 2 college courses (SOC 103 "Sustainability and Society" and OAT 152 "Excel") at their high school, taught by their existing high school faculty. Those students also travel to Delaware Tech campuses to take the workforce training and Intro to Energy Management Course (NRG 101). This pathway is currently available to students at Christiana, Smyrna and Milford High Schools free of charge due to the grant previously mentioned.

In the energy pathway program, I act a mentor for the Dual Enrollment Teachers (both Sustainability and Excel). I also teach one of the Dual Enrollment Classes, NRG 101, "Intro to Energy Management", for Smyrna High School.

Table 2: Description of Planned Artifacts

#	Artifact	Type	Audience	Description	Action Steps	Status
1	Dual Enrollment Research	Lit Review	Committee	History, Advantages of Dual Enrollment on Student Outcomes	In Progress	In Progress
2	Program review on successful professional development programs	Lit Review	Committee	Program review on successful professional development programs	In Progress	In Progress
3	Document analysis on current DTCC dual enrollment policies	Document analysis	Committee, DTCC	Review of resources and policies currently available at DTCC on Dual Enrollment.	In Progress	In Progress
4	Document analysis on current DTCC mentor policy	Document analysis	Committee, DTCC	Review of resources and policies currently available at DTCC on mentor relationships.	Not yet started	In Progress

5	Sample Agenda	Plan for PDP-activities	Committee, DTCC	Agenda and plan for Summer teacher workshop, Summer 2017.	Completed	Completed for 2016 and 2017-will revise plan for 2018 based upon findings
6	Survey Instrument	Pilot Plan Survey	Committee	Survey that was distributed to participants in pilot plan evaluation	Completed	Completed
7	Evaluation Report	Pilot Plan Evaluation	Committee, DTCC	Evaluation Report completed on pilot summer teacher workshop in Summer 2016.	Completed	Completed
8	Curriculum Materials	Syllabi, course outline for Dual Enrollment Course	Committee, DTCC	Syllabi and course outlines for OAT 152 and SOC 103.	Completed	Completed
9	Interviews/Focus Groups	Protocol for interviews or focus groups	Committee, DTCC	Interviews of current dual enrollment instructors and mentors.	Develop and submit to IRB early Spring	Spring, Summer 2018

Artifact 1 is a literature review on the effect of Dual Enrollment on student outcomes. This will include the history of Dual Enrollment, and the varying ways it can be implemented.

Artifact 2 will be a literature review on effective professional development programs. Also, this will include some information on adult learning strategies. Effective professional development programs will be researched because adult learners have different learning strategies than students. Research shows that teachers have increased gains in Pedagogical Content Knowledge by continuing professional development over extended periods of time 6 months to 1 year (Vega 2013, Wilson 2013, Desimone 2011). Research will be done on best practices in both dual enrollment and professional development so I can ensure that I create a plan that will be effective for the teachers and the students they teach.

Artifact 3 is a document analysis on current DTCC policies. I will explore current Dual Enrollment arrangements with schools in Kent County. I would like to explore how those partnerships are made and how teachers/instructors are selected. In my experience, it seems that there is not a consistent process across schools and campuses. I am curious as to how high schools are selected for dual enrollment, which course are selected and how teachers are selected. Additionally, I know that funding sources for dual enrollment may vary by school and even class. I also hope to discover how students are selected for enrollment in the dual enrollment courses. I believe there are many inconsistencies about this process, and would like to explore ways to make these things uniform.

Currently, Delaware Tech requires each dual enrollment instructor to have a mentor. The current policies on this process will be evaluated in Artifact #4. I have

been both a mentor to dual enrollment instructors and a mentee in the new faculty development program. I do not believe there are any direction for mentors on how to be effective. Currently, I am a mentor to two teachers at Smyrna High School. One contacts me regularly, and even stops into campus several times a semester. She texts me whenever she has a problem. Another teacher, I do not hear from her, and she rarely responds to "how are things going" emails. I don't know how to build a relationship with the teacher who does not reach out. I think many other mentors may be in the same situation, where we have been assigned a mentee, but wait for the mentee to have questions.

Artifact 5 is the plan for the Professional Development Day activities. I will include an agenda for the day as planned for the teacher training that occurred in 2016 and 2017. We began the day with a visit from Human Resources to ensure that all the required paperwork was on file. We also had invited members from CCIT to talk about Blackboard access and inform the teachers about technical resource help available at the college. We then went into course overviews and expectations of the classes. We planned for time in the afternoon to have the teacher grade student assignments using the rubric. We wanted to ensure that the grading policies were consistent no matter who teaches the course.

After running the summer teacher workshop the first year (2016), we were surprised that the questions the teacher had were not content based, but more technology and policy based. Delaware Tech uses Blackboard as the Course Management System, and many of the teachers had more questions/issues navigating the Blackboard system. This logistical issues eclipsed any subject matter concerns. One of the problems we had with the first summer teacher workshop was we didn't

meet teachers where they were. Upon doing some research, I have found it is important to "Gauge teachers' readiness" (Zdonek, 2016), so that the profession development can be more meaningful.

Both artifacts 6 and 7 are based upon the Pilot Plan Evaluation that I completed in the Evaluation Class in Spring 2017. The program evaluation looked at the Professional Learning Community activities after the summer teacher workshop of 2016. The participants were teachers and mentors in the Excel and Sustainability classes for the first year of the Energy Pathway Program. Teachers and mentors were surveyed about their experiences with the Professional Learning Community and effectiveness of meetings. The results of this evaluation will be the basis for future development. There was some discrepancy between the mentors and the teachers about how many times they all met for follow up. I feel that this area is where more development could be investigated. Could the mentee/mentor relationship be strengthened? Do the mentors need to have a better understanding of PLCs, and how to run them? As mentioned earlier, I do not believe that the mentors have had any formal direction on "how to be a mentor."

Artifact 8 deals with the curriculum materials for the courses. These are materials that have been developed and approved in the past. They include the syllabi and class schedules for the courses. Artifact 9 will be a survey or interviews with current dual enrollment instructors and mentors. I want to expand on the results I found in the Pilot Plan evaluation and talk to others to determine how we can incorporate the needs of the mentees with the research in professional development. I originally planned to do another survey, however, I feel that more information could be gathered from interviews. Additionally, since the sample size is very small, only 5

teachers, it will not be too challenging to do interviews. I may want to consider expanding the sample to dual enrollment teachers outside of the energy programs to get more data. Depending on the number of teachers, I may want to consider doing a focus group to get feedback from the dual enrollment teachers on what they felt about their relationship with their mentor.

Timeline for Completion

ELP 1: Fall 2017

Proposal - Nov 2017

ELP 2: Spring 2018

Document review Nov-Feb 2018

Literature Review- Spring 2018

Interview (focus group) Protocol Draft- Jan 2018

Submit to IRB - Feb 2018

Interviews/Focus Groups- April 2018

Create plan for new professional development program - May-July 2018

Revised Summer Teacher Workshop - July/August 2018

ELP 3: Fall 2018

Complete writing ELP Summer 2018

ELP Defense - Sept 2018

Revisions and completion of ELP and final doctoral requirements

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Time	Segment	Presented/Coordinated	Location
5:00 – 5:30	Arrival: Registration, Timesheets, Light Dinner	DOI Office Staff	ETB 727
5:30 – 5:40	Kickoff/Welcome/Overview	Rick Kralevich	ETB 727
5:40 – 6:00	Campus Update / Q&A with the Deans	John Buckley and Bill Morrow	ETB 727
GENERAL INFO SESSIONS			
6:00 – 6:15	General Session: Information Literacy	Library and Learning Commons Staff	ETB 727
6:15 – 6:40	General Session: The First 60 Minutes/Survey of Entering Student Engagement (SENSE)	Catherine Lombardozzi	ETB 727
6:40 – 6:50	Break/Transition to Breakout Sessions		
FIRST WORKSHOP SESSIONS			
6:50 – 7:20	Session 1.1: Is Your Course Meeting Blackboard Minimum Usage Requirements?	Dallas Hayes	ETB 727
6:50 – 7:20	Session 1.2: Understanding LDAs and No Shows	Pauline Pauley Sturgeon	ETB 716
6:50 – 7:20	Session 1.3: Screen Capture Tips	Jerry Pearson	ETB 720
6:50 – 7:20	Session 1.4: Move to Learn	Kim Bates	ETB 717
6:50 – 7:20	Session 1.5: Tech @ Tech	Sonja Quinonez	ETB 718

6:50 – 7:20	Session 1.6: Are You Learning Communities Curious?	Bonnie Ceban	ETB 719
6:50 – 7:20	Session 1.7: Welcome to Delaware Tech	John Buckley, Bill Morrow, and CCIT	ETB 721
7:20 – 7:30	Break/Transition to Breakout Sessions		
SECOND WORKSHOP SESSIONS			
7:30 – 8:00	Session 2.1: Is Your Course Meeting Blackboard Minimum Usage Requirements?	Dallas Hayes	ETB 727
7:30 – 8:00	Session 2.2: Understanding LDAs and No Shows	Pauline Pauley Sturgeon	ETB 716
7:30 – 8:00	Session 2.3: Screen Capture Tips	Jerry Pearson	ETB 720
7:30 – 8:00	Session 2.4: Move to Learn	Kim Bates	ETB 717
7:30 – 8:00	Session 2.5: Tech @ Tech	Sonja Quinonez	ETB 718
7:30 – 8:00	Session 2.6: Are You Learning Communities Curious?	Bonnie Ceban	ETB 719
Event ends at 8:00 pm			

Terry Campus FALL Adjunct Inservice Agenda
Presented by the Terry Office of Instruction and the Center for Creative Instruction and Technology (CCIT)

Event Logistics:

- Arrival/Registration/Light Dinner: 5:00 to 5:30
- Event: 5:30 to 8:00
- Date: Monday, August 17, 2015
- Location: Terry Campus – ETB 727

Is Your Course Meeting Blackboard Minimum Usage Requirements? – Dallas Hayes **ETB 727**

The goal of this workshop is to provide faculty members teaching online, face-to-face, and/or hybrid formats with the minimum requirements as well as recommendations for the best usage of the learning management system - Blackboard. During this workshop faculty will also have an opportunity to ask any questions they may have about the Blackboard Minimum Usage Requirements.

Understanding LDAs and No Shows – Pauline Pauley Sturgeon **ETB 716**

To comply with Federal Guidelines, faculty are required to report NS (No Shows) and LDAs (Last Date of Attendance) reports by reporting any student who has either **NEVER ATTENDED** or has **STOPPED ATTENDING**.

This workshop will provide you with step-by-step instructions to ensure that your reports are submitted correctly within the required time frame. We will also review features that will help the way NS and LDAs are viewed in Blackboard courses once the report process has been submitted and how to correct those students' accounts who may have been reported incorrectly. You will not want to miss this valuable workshop.

Screen Casting (Capture) Tips – Jerry Pearson **ETB 720**

Are you new to screen capturing to flip your class or do you just want to know how to make yours better? We will also cover setting up for recording audio and a brief tutorial on screen capture with "Screen Cast-O-Matic". This

workshop will not only get you started but will help you polish your skills and show you how to set yourself up for success!

Move to Learn – Kim Bates **ETB 717**
Most neuroscientists agree that cognition and physical movement are connected. Research suggests movement can strengthen learning, improve memory, enhance student motivation, and morale. In this session, we will demonstrate several strategies for incorporating movement into the classroom.

Tech @ Tech – Sonja Quinonez **ETB 718**
An overview of higher level technology at Delaware Tech with a Q/A session.

Are Your Learning Communities Curious? – Bonnie Ceban **ETB 719**
Come discover what Delaware Tech is doing with learning communities. We have a college wide leadership structure, campus specific action teams, numerous learning community opportunities for students, and professional development opportunities for faculty. We currently have adjuncts involved with this initiative and encourage your input and participation.

Welcome to Delaware Tech – John Buckley, Bill Morrow, CCIT **ETB 721**
The Deans and CCIT welcome new adjunct faculty to the College in this session giving an overview of Delaware Tech and discuss expectations of teaching and learning at the campus. This workshop is recommend for all new adjunct faculty members.

Appendix B

LITERATURE REVIEW ON DUAL ENROLLMENT

Purpose of this Study

In this artifact, I describe the ways in which dual enrollment programs are implemented and discuss the advantages and challenges with these programs for both the high school and college participants.

What is Dual Enrollment?

Dual Enrollment occurs when high school students take college level courses while still enrolled at the high school. Students receive college credit, while also receiving credit towards their high school degree. For example, a student may opt to take English 101 at instead of their senior English. The student will receive a grade on their college transcript, but also receive a grade and credit for their high school English requirements.

Dual enrollment can occur in several different ways, as summarized in Figure 1 below. High school students can enroll at the college (if they are 16 years old or older in Delaware) and take the course on campus with other college level students. These students are required to secure transportation to the college and attend class on the same days and schedule as all other college students. In this case, instructors or other students may not know they are high school students. This is summarized in the pink square in Figure 1 below.

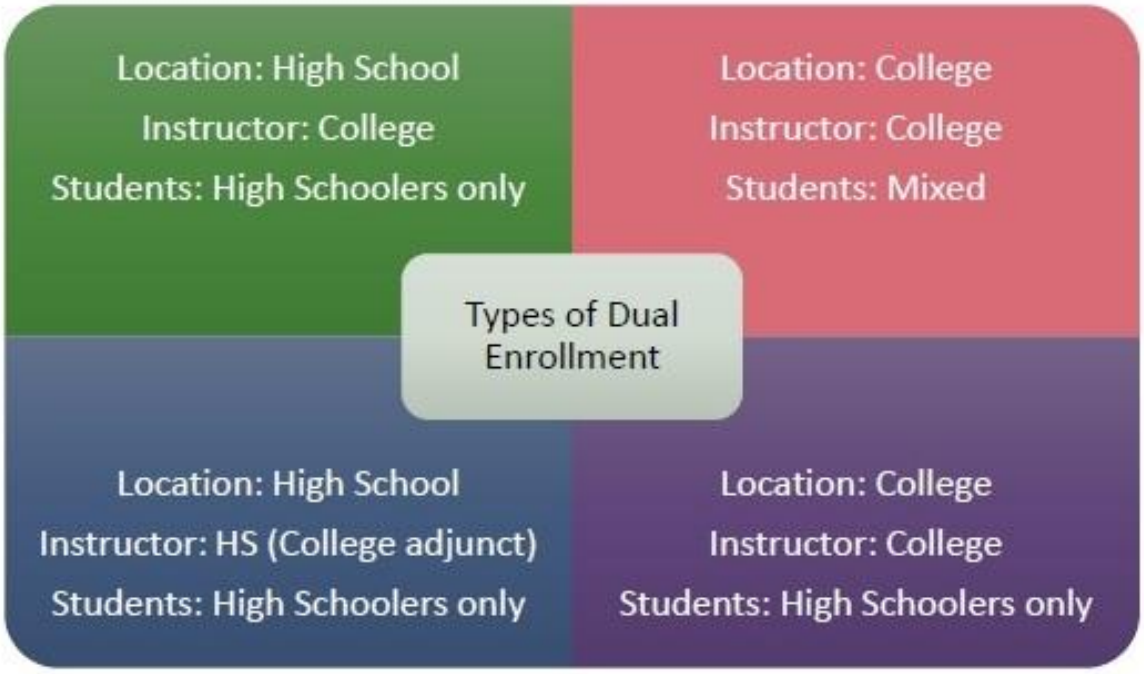
In some cases, a whole group of students may travel to the college and take a course at the college, taught by college faculty. The entire class would be made up of high school students from the same school; no other students participate. An example of this method occurred in the Energy Pathway Program, where high school students traveled to Delaware Tech to take the "Intro to Energy" Course on the campus. Due to the nature of the labs and material covered, it made more sense for students to come campus and get access to the lab facilities. Bringing students on campus has several advantages for students. The students get to feel comfortable with the college campus and learn about the campus and resources available. However, there were also logistical challenges, as discussed below.

Alternatively, a school can offer a dual enrollment course at the high school taught by the college instructor. The college instructor may travel to the high school to teach the course, the same level and content as the college level course. Often times, the Instructor will teach the class the high school schedule for start and end times, and school closing. For example, high school students often have more inservice days, in which the class would be canceled. This eliminates the challenge of getting the students to the college campus. This is summarized by the green square in Figure 1.

Finally, high school teachers can be trained to teach the college level material. Often the teachers are selected by the high school administration. The high school teachers act as an adjunct and teach the material at the high school. This makes the class scheduling easier, and there are no transportation issues. However, ensuring

the consistency and rigor of the curriculum is a challenge. This is summarized by the blue square in Figure 1.

Figure 1: Summary of Dual Enrollment offerings by course offering location and instructor



Dual Enrollment is just one of several other credit-based transition programs. Other programs include Advanced Placement (AP), Tech Prep and International Baccalaureate. The advanced placement program began in 1955 and allows students to potentially earn credit by taking an exam at the end of the course (Bailey, 2003). The exam is scored on a 1-5 rating. A score of 3 means "qualified"; a score of 4 means "well qualified" and a score of 5 means "extremely well qualified." Most colleges accept scores of 3 or 4, while some only accept 5s or

nothing at all. It is entirely up to the university to decide which scores they will accept for college credit. Currently University of Delaware, an AP score of 3 or higher will replace an English elective; a score of 5 will replace 2 English electives for a total of 6 credits. At Temple, an AP score of 4 or higher will replace an English elective, however at University of Pennsylvania, an AP test score does not replace any English requirement.

International Baccalaureate (IB) is a liberal arts course of study for students in schools around the world. It was founded in 1968 in Geneva, Switzerland. It was originally designed for children of diplomats, who tend to travel between countries frequently. The curriculum is aligned and is now offered in 143 countries. In order to be awarded credit for IB, students are assessed on 3 fundamental areas; Extended Essay, Theory of Knowledge and Creativity, Activity and Service. Proponents of IB say it is more well-rounded than AP courses and encourages students to become global citizens (Robinson, 2016).

Tech Prep is another mechanism for high school students to earn college credit. It was started under the Carl D. Perkins Vocational and Applied Technology Education Act of 1990. Tech Prep is articulation program between high school and college courses in a particular area, usually in technical education. These courses are typically technical in nature and focus on technology, applied science, mechanical, industrial rather than general education credits like Math and Science. Tech prep is more career and job focused than other advanced credit programs.

Dual Enrollment has shown to have the largest growth in transition programs in recent years, replacing some honors or AP courses. Delaware Tech has seen dual enrollment courses surge, with college wide enrollment at 300 in the 2014-15 school year, to more than quadruple in the 2017-18 school year (Delaware, 2019).

One advantage of Dual Enrollment versus AP credit is that students receive credit for Dual Enrollment Courses as soon as they have earned a C or higher in the course. Taking an AP course does not earn credit on its own. Students then must take the AP exam, and earn the minimum score as required by their college of choice. The minimum passing score varies by college and may or may not be accepted. "Dual enrollment is perceived as a path to a postsecondary degree or credential not just for gifted students, but for those considered middle achievers or on a career or technical track" (Hoffman, 2009).

Dual Enrollment Advantages for Students

Dual Enrollment programs have been shown to have many advantages for high school students. Some of the main advantages for students include an easier transition to college, and reducing the need for remediation in college, and higher GPA by participants in dual enrollment programs. Dual Enrollment courses may also have larger benefits for first generation college students and low-income students.

Ease Transition to College

Dual enrollment can make the transition to college easier for students. By taking college classes while enrolled in high school, students can learn the expectations of college work. Additionally, if the students take the class at the college campus, they can get comfortable with the resources and facilities available to college students.

Karp (2012) argues that dual enrollment helps the transition from high school to college because students learn the normative rules and behaviors of college. This transition requires students to understand the academic rigors, but also understanding of the post-secondary systems (An, 2015). "Dual enrollees spend less time floundering during the first year of college and become acclimated to their new role quicker than non-dual enrollees" (An, 2015).

Participation in Dual Enrollment has been shown to improve student's study habits and raises their academic motivation (An, 2015; Karp, 2012; Smith 2007). Participants in dual enrollment programs are able to navigate the college landscape better than non-dual enrolled and understand what it "means to be a college student" (Bailey, Hughes & Karp, 2002; Karp 2012).

While teaching the Intro to Energy course, I deliberately assigned a class project and required students had to use the library computers, instead of classroom computers. While we walked as a class to the library (as I knew most of the class didn't know where it was located), I pointed out the location of most of the student

support services are located including the registrar, business office, advising office and financial aid office. At the end of the assignment the head librarian came out and gave a five-minute overview of the services available to all students including workshops and printing services. Instead of telling the students about support services at the school, I forced them to use them, so next time they will hopefully feel more comfortable using them and where to find them. This is an activity that we do with all students, not just dual enrollment. I feel it is beneficial to all Intro students, as most of the students are new the college.

An and Taylor (2015) did a student on college readiness using Conley's Framework of College Readiness. This study evaluated four primary dimensions into a) key cognitive strategies, b) key content knowledge, c) key learning skills and techniques; and d) key transition knowledge and skills. They used data from a longitudinal study of post-secondary institutions across 14 states to evaluate the college readiness of students in dual enrollment versus non-dual enrollment. An and Taylor (2015) found that students who participated in dual enrollment performed better on the three of the four dimensions of college readiness than those who did not earn college credit high school. Dual enrollees performed better in the key cognitive strategies, key content knowledge and key learning skills and techniques when compared to non-accelerated students.

Reduce the Need for Remediation

Dual enrollment has shown to reduce the need for remediation when students transition to college. The advantage here is that less remediation a student needs, the less time to complete. Remediation is costly and delays time to college-degree completion as remedial courses do not earn credit that fulfills a degree requirement. Students who do not need remediation can begin college level material immediately, and often take major courses sooner.

Students enrolled in dual enrollment are less likely to take a remedial math class than non-participants (Kim & Bragg, 2008). Math classes tend to be a gatekeeper course for many majors, especially technical fields. In my programs, I have seen students have to take and retake remedial math course several times. By placing into a remedial math course, it can easily add an extra year to a two-year associate degree program.

While New York State has no dual enrollment legislation, the City University of New York (CUNY) began a partnership with New York Department of Education to establish a high school-post secondary partnership called College Now. The program is designed to prepare students for college without the need for remediation. This partnership is between 420 public high schools and 18 colleges and rivals the size some of some entire state systems. This partnership focuses on students who are low income, require remediation and would not otherwise attend postsecondary institutions (Hoffman, 2009).

Grubb et al. (2017) found that dual enrollment students were 9% less likely to require remedial coursework. They also reviewed the literature and found several studies that examined the completion rates for associate degrees and found that dual enrollment students were 23% more likely to complete than non-participants within 5 years.

Higher Grades and Retention in College

Students who have earned credits while still enrolled in high school have shown better success in college. Many studies have shown students with Dual Enrollment credits tend to have higher GPA and higher GPA and retention rates.

Students who have earned some college credits in high school have been shown to have a higher GPA at the end of their college freshman year and they are more likely to remain enrolled in college than those who do not (Allen and Dadgar, 2012).

Many studies have shown that dual enrollment participants have a higher GPA than non-participants. Brian An (2013) found that first year GPA was 0.11 points higher for dual enrollment participants than non-participants. Karp et al. (2007) found an increase of 0.26 on GPA in Florida CTE students after the second year. Additionally, they found that students who completed a dual enrollment program were more likely to enroll in a four-year institution than non-participants.

Research in from the Florida Department of Education has shown that students with dual enrollment experience have an increased college GPA after the first year (Allen, 2010). Additionally, students with dual enrollment experience had a higher graduation rate in an Associate of Arts degree, increased from 12% to 16% with dual enrollment (Allen, 2010).

Dual Enrollment Advantages for Low Income and First Generation College Students

Dual enrollment has advantages for low income and first generation students. Traditionally, the participants in advanced high school programs are middle-high income families or students when at least one parent has a college degree. Privileged students are more likely to take advanced classes than their less-privileged counterparts. Furthermore, socioeconomic status has been shown to explain much of the black white achievement gap.

Dual enrollment serves as a means to raise academic preparation for a wide range of students and may especially benefit lower socioeconomic students (SES). Brian An (2013) found dual enrollment may help college completion rates. More significantly he found that the most important factor for students to attend and complete college is whether or not the student had a parent who completed college. Parental education was found to exert a stronger influence on the student than family income (An, 2013).

When at least one parent has a bachelor's degree, students are more prepared to enter a 4-year institution, 65% versus 45% when neither parent has attended college (Berkner and Chavez, 1997). Brian An (2013) found that "first generation college students who participated in in dual enrollment were more likely to attain a college degree than similar non participants." While dual enrollment helped first generation college students, it did not reduce the gap between first generation college students and non-first generation college students (An, 2013).

Jobs for the future completed a comprehensive study to assess dual enrollment in Rhode Island in 2006. They found that for urban core high schools servicing at-risk students, dual enrollment has several benefits. One of which is developing college habits among students who are the first in their family to attend college. Additionally, dual enrollment can bridge the social and cultural divide that exists between students from low-income communities and their peers from more wealthy communities (Jobs for the Future, 2006).

Karp et al. (2007) found the effect of dual enrollment and college grades was greater for low-SES than high SES students. Karp and Hughes (2008) found low-income male CTE students benefited more from dual enrollment than their peers.

Benefits of Dual Enrollment for Career and Technical Education (CTE)

Career and Technical Education (CTE) is not the traditional group of students identified for Dual Enrollment. Traditional dual enrollment students are college-prep

or honor students, however there are a lot of benefits for CTE students, including increased motivation and persistence. Dual Enrollment programs can support help Career and Technical Education (CTE) students remain motivated and ease their transitions to a variety of post-high school options (Farrace, 2008). With concurrent enrollment in high school, it gives students who would normally be looking at college, get some credits to help transition them into the college setting.

Pamela Drake, a high school vice-principal in Utah, had this to say about CTE students taking Dual Enrollment, "Keeps students motivated and challenged and makes for an easier transition to their work after graduation, whether it be into a university, a technical college, or the actual workforce." (Farrace, 2008).

Numerous studies have found positive effects of dual enrollment and persistence in four year college attendance. In an examination of eight programs in a variety of CTE pathways in California, including health occupations, renewable energy, teaching and business, Rodriquez and colleagues found a significant positive correlation between concurrent enrollment and attending a four-year college, (Rodriquez et al., 2012). Additionally, there was a higher rate of persistence among dual enrollees (Rodriquez et al., 2012).

Karp et al. (2007) looked at dual enrollment programs in two states (New York and Florida). In Florida students in the CTE program were 8.6% more likely to enroll in the state university system than no participants while in New York the participants were 9.7% more likely to pursue a bachelor's degree (Karp et al,. 2007). Karp and Hughes (2008) found that CTE students in Florida who took advantage of dual

enrollment courses had GPA 0.26 higher after one year than their counterparts. This trend held true and after three years the dual enrollment participants still had GPAs of 0.24 higher than their counterparts. Three years after graduation, dual enrollment participants had earned 15 credits more than their classmates (Karp and Hughes, 2008). On some measures, it was found that students with lower GPAs benefited more from dual enrollment than their peers with higher GPAs (Karp and Hughes, 2008). This shows that dual enrollment programs could strategically target students who may not be traditionally recruited for college prep programs, to a huge benefit.

Additionally, dual enrollment has been shown to have benefits for underperforming students as well. California's Concurrent courses initiative attempted to link dual credit courses with career pathways to motivate enrollment and success in college classes, (Edwards et al., 2011; Golann & Hughes, 2008). Rhode Island changed their funding rules (previously it was paid for by the student) for dual enrollment to allow low socioeconomic status students opportunities to enroll (Jobs for the Future, 2006). Many researchers in the field (Hughes, Karp, Edwards, Belfield and Rodriquez) believe that dual credit has promise to increase college access and success among underrepresented and underprepared students (Edwards and Hughes, 2011).

Differences in Program Implementation

Dual Enrollment courses can be implemented in a variety of ways as previously discussed and shown in Figure 1. High School teachers can be trained in the College curriculum and offer the course at the high school. College faculty can travel to the high school and teach the college curriculum in the high school classroom. High school students can travel to the college and take a class with other college students, or separate sections of courses can be offered to a group of high school students on the college campus.

The location of the course can have important implications for student access, academic support and course authenticity (Edwards et al., 2011). Students taking the course at the college with other college students have more experience with the college and access to the resources the college may offer. However, not all students may be able to participate in classes at the college due to transportation access or after school obligations.

Several Programs in California schedule dual enrollment courses before or after school (Edwards et al., 2011). Before school courses have the advantage of leaving students time after school to participate in activities like sports or work. After school programs have the ability to work with multiple school districts to increase enrollment. (Edwards et al., 2011).

Scheduling dual enrollment classes can be a challenge as the high school and college are nearly always on very different schedules. For the energy pathway, we

worked with three high school in Delaware, and all three were on different schedules. I worked with Smyrna, who operates on an A/B schedule. For the students to come to Delaware Tech for their on campus classes, instructors had to be available Monday-Friday. One week, they had class Monday, Wednesday, Friday and the following week was Tuesday/Thursday. Additionally, the students had additional in-service and testing days that the college doesn't have.

In a study by Burns and Lewis (2000), students were interviewed about their experience in dual enrollment courses. The students took courses either on campus or in their high school. Students expressed more satisfaction with the courses taken at the college campus, and reported they learned more than just academics. The students also reported they didn't see much difference between their high school classes and college classes taken in the high school.

Transportation is a challenge for the students taking classes at the college. Either students are required to provide their own transportation, or the high school coordinates it. If students are required to provide their own transportation, it may limit low income students from participating.

Funding Challenges

Funding for Dual Enrollment Programs has been shown to be a challenge. Some states, such as Georgia, have programs that finance courses. In most other states it is paid for by the students. Federal funding, such as Pell Grants or

federal student aid is not available to students still enrolled in high school. If dual enrollment courses require the student/parent to pay, it may exclude low socio-economic status students from participating.

Other states, like Michigan, require schools use foundation grant funds to pay for post-secondary tuition, (Wozniac, 2013). While some colleges will work with schools to help cover the cost of tuition, through grants, the "mandated burden primarily falls on the local school districts" (Wozniac, 2013, p. 2). In a survey to stakeholders at the college and high school levels in Michigan, District and High school participants found that low state funding as the major barrier to the expansion of dual enrollment, (Wozniac, 2013).

Utah uses state funds to pay for all dual enrollment courses for high school students. The only expense to the student is college textbook. Additionally, students who have enough credits, to graduate early (in the first semester of their senior year), qualify for a $500 scholarship toward tuition at any state school. The high schools have seen students defray the scholarship, because it is more valuable to take additional dual enrollment courses while a high school student, rather than graduate early and start college sooner, (Farrace, 2008). The free dual enrollment courses are more valuable than the scholarship.

In Delaware, the payment of tuition varies based upon the type of dual enrollment and the district policy. "No student may be denied access to dual credit or dual enrollment courses because of the student's or family's inability to pay," (Zinth, 2016).

Dual enrollment in Delaware is a confusing issue. The payment for the courses can vary by district, but it can even vary by course. The Energy Pathway program was paid for from a grant from Delmarva Power. Students enrolled in the Pathway Program could take advantage of those courses for free, however they could also be required to pay if they took an additional course, like Math or English. In the state of Delaware, students cannot use federal funding to pay for dual enrollment courses, and they are not eligible for scholarships from Delaware Tech.

For high school students who meet the minimum GPA, they are eligible for free college once they graduate. This program is called Student Excellence Equals Degree (SEED), and students can take courses at Delaware Tech or University of Delaware Associate of Arts Program tuition free. Students must maintain minimum GPA (2.5) and earn at least 24 credits by the end of their first year. Unfortunately students can only take advantage of this opportunity in beginning in the fall semester following their high school graduation. The program does not pay for students to take classes early to get a head start, such as summer classes or dual enrollment. Students also cannot defer college, they must enroll in the fall directly after their high school graduation. If the SEED program was expanded to fund Dual Enrollment courses, it may allow students who cannot afford to pay for dual enrollment classes.

Ensuring Consistent Rigor

Ensuring that the courses are equivalent in rigor is a challenge of Dual Enrollment. Upon completion of any college level course, students are expected to know the material in order to move on. Unfortunately, in some cases students are not prepared to take the next level math or English course.

As up to half of dual enrollment courses are now being taught in the high school, some colleges are limiting which dual enrollment courses they will offer credit for. At Tulane University, only courses taught on the "college campus, taught by a college profession, intended mainly for college students" will be accepted from dual enrollment students, (Korn, 2017). Recently, University of Delaware has stopped accepting Dual Enrollment Credit for English classes from Delaware Tech, due to lack of consistency and rigor.

The acceptance of transfer credit is up to the receiving institution. High school counselors cannot possibly know what every college will or will not accept. Also, students signing up for dual enrollment courses in their junior and senior year may not know which institution they will attending when they first sign up for Dual Enrollment courses. Students may take several courses while in high school, and find that their college of choice doesn't take those credits.

Matthews (2018) reported in the Washington Post the troubling issue of credits not being accepted in Northern VA. One troubling area of concern reported by Matthews (2018) was the occurrence of "blended" classes, where many high schools

were offering dual enrollment classes with other students "placed in the same course." The question of "maintaining college-level rigor is especially difficult," when the students in the same classroom are not taking the same level course.

Another issue with Dual enrollment is ensuring that the high school students are given an equivalent course as the college students, with the same assignments and level of academic rigor. Janet Fontenot addressed one of the challenges of dual enrollment, ensuring that credit earned is equivalent to the college course (Fontenot, 2003). Course prerequisite, test scores should be consistent as long as evaluation measures and standards to ensure that the material is taught at the same level regardless of high school or college, (Fontenot, 2003). One challenge we found with recruiting students into the Energy Pathway, was the lack of students who could meet the minimum test scores. Many students, who were interested in the courses, did not have minimum SAT or placement test scores in Math to enroll in the Intro to Energy Course.

Hebert found that students who took a dual enrollment course with their high school teacher instead of college faculty had greater success in future courses (Hebert, 2001). This result was not expected, but other implications also occurred. The high school teachers had the students for class more time than the college faculty. Additionally, since the courses in this study, were all taught at the high school, the high school faculty were more accustomed to the chaotic schedule and had a background in learning styles and teaching techniques more found in the high school setting (Hebert, 2001).

Another challenge is ensuring the high school faculty meet the same minimum teaching standards as the college faculty. The teachers selected should be held to the same standard as any other adjunct faculty at the college, and participate in the same required training/meetings (Fontenot, 2003). In most cases, the minimum instructor qualifications are a Master's Degree in field of study for the course.

Many states have policies to ensure the consistency of rigor in dual enrollment courses. Teachers should have same qualifications as college faculty to be eligible to teach college curriculum. Teachers who teach dual enrollment are required to have a master's degree in the field of study in which they teach (Young et. al, 2014), as all other adjuncts are required to have.

One study has been done about the grading policies of high school teachers versus college faculty teaching the dual enrollment courses. Herbet (2001) found that students taking a course taught by high school teachers had higher grades than the same class taught by college faculty. Students taught by college faculty received more Ds and Fs while the students taking the course from high school teachers receive more As and Bs. Further study is needed to determine the cause of these difference, which could be due to a number of different factors, such as the reluctance to fail students, grade inflation, or different expectations for grade distributions.

Benefits to the College

Dual Enrollment Programs have many benefits for the college. Dual Enrollment has been used to boost enrollment at community colleges around the country.

Cerritos College in California started offering concurrent enrollment in the high school as a way to boost enrollment. Teachers who met college's requirement were able to teach the college curriculum at the high school. The program had some unintended positive results. The high school teachers were more familiar with the college passed along a positive association to their students. Additionally, the faculty were able to address some of the myths of community colleges head-on, such as the classes are not "real" college, it's only for dummies. The word of mouth from teachers and student participants helped recruit students in the concurrent enrollment program, but also to the Cerritos College, (Helfgot, 2001).

Dual enrollment programs are also a way for community colleges to recruitment new adjunct faculty. Teachers can learn the curriculum as part of their regular day job at the high school and may want to teach evening classes for the college in the future.

Delaware Tech has greatly increased their dual enrollment offerings in the past 3-5 years. This boost in enrollment has potentially helped enrollment numbers, but also increases the student's awareness of programs available at Delaware Tech. Harnish and Lynch (2005) has shown that enrollment at Georgia technical

colleges increased 10% and average age lowered, indicating that more students are enrolling in technical colleges directly from high school as a result of dual enrollment programs. A student in a focus group reported "attending classes on the college campus had changed their mind about the quality of education that is available at a technical college," (Harnish and Lynch, 2005).

Conclusion

Dual enrollment has shown to have an overall positive effect on student retention and enrollment. However, it is costly, and may limit enrollment for low SES students. It is also challenging to ensure CTE students have access. Dual Enrollment is often seen as just another avenue for the high achieving students to get ahead. There are also some challenges to recruiting qualified teachers and ensuring the rigor of the course is consistency with the college level expectorations.

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Appendix C

LITERATURE REVIEW ON PROFESSIONAL DEVELOPMENT

Purpose of the Study

The purpose of this study is to look at existing research in professional development for dual enrollment teachers. Teachers in this study are all adults, who have significantly different learning strategies than children. For professional development to be effective, it should purposeful and sustained. Additionally, since the existing program has a mentorship component, I will look at mentorship programs. Finally, I will evaluate some best practices for part-time faculty. This research will be used to shape my proposal for best practices in mentorship for dual enrollment teachers.

The Adult Learner

For the purposes of this study, we are dealing with professional adults. Many of the Dual Enrollment teachers have been working in education for many years. Adult education is different than student learning; it is more self-directed. Adult learners have an intrinsic motivation to learn, additionally "adults need to be involved in the planning and evaluation of their instruction" (The Adult Learning Theory, n.d.).

Delaware Tech has a policy of hiring subject matter experts and "teaching them how to teach". The faculty come with a lot of knowledge in various areas, so it

is important to respect those experiences and apply that knowledge to their new teaching careers. To be successful it is important for adult learners be able to "apply what the new knowledge to what they already know or have experienced," (Zepeda, 2012, p. 48). Adult learning is more problem-centered than children learning, which is more content-centered. Adults have more motivation to learn, but adults are most interested in learning subjects that have immediate relevance to their job or personal life (The Adult Learning Theory, n.d.).

Effective Professional Development

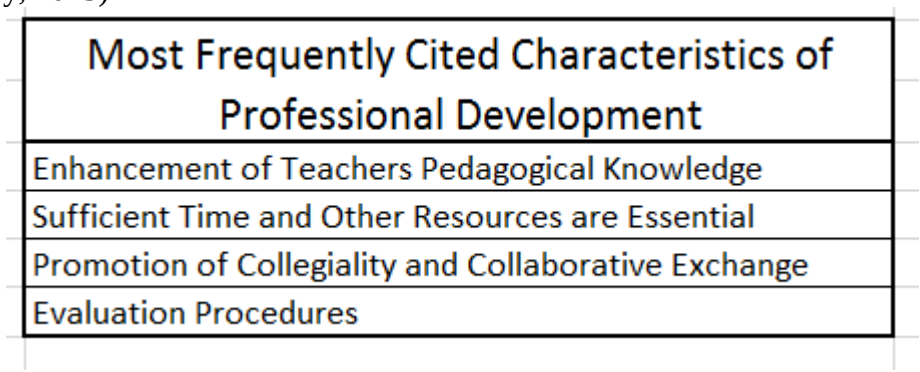
Effective professional development has several hallmarks. For professional development to be effective, it needs to service a purpose. Additionally, professional development needs to be sustained (Guskey & Yoon, 2009). Effective professional development needs to be collaborative, since teachers do not work in a vacuum. Finally, in order to determine that professional development has been effective, it needs to be evaluated (Guskey, 2002).

Purposeful Professional Development

Professional development should not just be a day on the calendar at the start of the semester but have an overarching goal. Ferguson (2006) discussed that feasible goal is the first condition for professional development to be effective. The content or goal of effective professional development should be something that has direct relevance for teachers in their classroom. Guskey (2003) evaluated 13 lists of

characteristics of effective professional development and identified the several trends, as summarized in Figure 2. The most frequently cited characteristic is enhancement to teacher's content and pedagogical knowledge. "Helping teachers understand more deeply the content they teach and the ways students learn that content appears to be a vital dimension of effective professional development," (Guskey, 2003).

Figure 2: Most Frequently Cited Characteristics of Professional Development (Guskey, 2013)



Another condition for effective professional development that Ferguson (2006) identified that supervisors are both encouraging and insistent. Professional development days should align to other policies within the state or district. The purpose should be clear, since adult learners learn best when the subject has immediate relevance on their job or life.

Sustained Professional Development

Much research in educational professional development has shown that the one and done professional development days or workshops are not effective, (Zdonek,

2016; Wilson, 2013). Short duration workshops have been criticized as ineffective and a waste of time and money, especially when there is no genuine follow-up or sustained support, (Guskey and Yoon, 2009). Research has shown that professional development is more effective when it takes place over longer durations "20 hours or more of contact time," (Desimone, 2011, p. 69), while Guskey and Yoon (2009) recommend at least 30 hours. Either way, effective professional development is done over a prolonged time, not in one in-service day. Additionally, Guskey (2003) identified "Sufficient time and other resources are essential for effective professional development. As previously mentioned, one workshop PD has consistently been shown to be ineffective. Research shows that teachers have increased gains in PCK by continuing professional development over extended periods of time 6 months to 1 year (Vega 2013, Wilson 2013, Desimone 2011).

Collaboration

Another characteristic of effective professional development Guskey (2003) identified is "the promotion of collegiality and collaborative exchange." Collaboration is important to the process of teaching, as educators reflect on their practices, exchange ideas and share strategies (Guskey, 2003). This collaboration forces an active learning approach which is best practice for adult learners. Teachers "crave conversations and opportunities to engage in practices that will give them more data to make informed decisions about the work they are doing with students (Zepeda, 2012,

pg. 3). Small group discussions often lead to the sharing of ideas between faculty of similar subjects or age groups. It has been my experience, that the valuable takeaways I had from professional development days occurred in my table, or subject matter groups. "Educators at all levels value opportunities to work together, reflect on their practices, exchange ideas, and share strategies," (Guskey, 2003). This sharing can come organically or in more structured setting such as professional learning communities (PLC). "PLCs are groups of teachers that share and critically interrogate their practices in an ongoing, reflective, collaborative, inclusive, learning-orientated and growth-promoting way to mutually enhance teacher and student learning"(Vega, 2013). In my original proposal, I suggested using professional learning communities to continue the teacher development after the summer teacher training. The original plan was for each group of teachers in each subject, Excel or Sustainability, to meet informally about once a month. We planned to meet remotely to discuss their experiences.

Evaluation

The final characteristic of effective professional development as identified by Guskey (2003) is evaluation. Without evaluation, there is no way to definitively determine if professional development is effective. There are five critical levels of professional development evaluation (Guskey 2000 and 2002) as shown in Figure 3 below.

Figure 3: Guskey's Five Levels of Professional Development (Guskey, 2002)

Guskey's Five Levels of Professional Development	
Evaluation Level	
Level 1:	Participants' Reactions
Level 2:	Participants' Learning
Level 3:	Organization Support and Change
Level 4:	Participants' Use of New Knowledge and Skills
Level 5:	Student Learning Outcomes

The easiest level to measure is participant's reactions. This can be as simple as a survey evaluating the participant's reaction to professional development. This is usually done with a satisfaction survey distributed at the end of a workshop or professional development day. Level 2 "Participants Learning" can be assessed with a pre- and post-test. This measures if the participants learned something as a result of the professional development. This type of evaluation is most effective for content knowledge professional development.

Level 3 evaluation is "organization support & change". This requires the involvement and change of administration. Without the support of administration professional development activities are destined to fail. Faculty cannot implement change if the district policy does not support this change. This type evaluation requires evaluation of district or administrative policies.

Level 4 is "Participants use of new knowledge and skills." This requires assessing the teachers to see if they implemented any of the skills they learned in part 2. It is good if teachers learn something, and it has been evaluated via a pre/posttest as

discussed in Level 2, but they do not use this new knowledge, it cannot be considered effective. This type of evaluation needs to document that changes have been made to curriculum or teaching methods as a result of the professional development.

Level 5 is "student learning outcomes". It requires assessing the students to see if there was any improvements in students learning or test scores as a result of the professional development. This may require long term follow-up to demonstrate the overall impact of professional development.

Levels 3-5 are very difficult to evaluate, which is why participants reaction and participants learning are the most common forms of evaluation. However, level 5 gives the most valuable information to see if the students saw any improvements as a result of the professional development. It is very difficult to "prove" that professional development is the sole reasons for any improvements in student performance. There are too many confounding variables to attribute any changes to one thing. However, it is possible to collect evidence of improvement. Without evaluation of professional development, there is no way to determine how effective it is. There is also no way to justify continuing or changed what has always been done.

Mentorship

Mentorship is a way to guide a novice through a new process with a veteran. This is often used professional development activity used in education. New teachers are often paired with an experienced teacher for a set amount of time. I will

discuss the different structures of mentorship programs as well as how mentorship is used at Delaware Tech.

Structure of Mentorship Programs

While mentoring programs can differ, the typical structure is pairing a notice and a veteran teacher. Research has shown that mentoring programs can increase teacher retention and satisfaction, (Ingersoll and Strong, 2011). Embedding the existing mentorship program and making it more robust will allow help less experienced teachers gain confidence. Vega (2013) mentions that mentoring programs can increase "teacher retention, satisfaction, and student achievement" (para. 23). Wagner and Imanuael-Noy (2014) have shown that mentor teachers can have a critical effect on the self-efficacy of a notice teacher. Formal mentoring programs have shown to improve job satisfaction, increased commitment, reductions in faculty turnover and greater productivity, (Law et al., 2014). Porter (2011) suggests that a lack of clear guidelines and a designated schedule detract from mentoring programs.

Law et al. (2014) makes some recommendations for formal mentoring programs in academic pharmacy programs. Some of these can be generalized to fit many types of academic programs. "Recommendation 1: The mentor role should be defined and discussed with the protégé at the initiation of the program to set expectations. Recommendation 2: A formal, systematic approach to mentoring should be instituted by colleges and schools," (Law et al, 2014, p.3). Black and colleagues (2016) make several recommendations to improve mentorship professional

development for professional development. They surveyed 281 associate teachers of varying ages and experience in Ontario Canada. The goal of their research was to see that types of professional development mentoring teachers perceive as most beneficial. The top item most useful for mentors in teacher preparedness programs as evaluated by Black et al. (2016) was the Practicum Schedule, followed by Roles and Responsibilities. Some of the recommendations that came of the research by Black (et al. 2016) include sample evaluations as novice teachers had difficulty assessing student writing. Although not a choice in the study, Black et al. (2016) found that many teachers consistently noted that time was a factor in mentor effectiveness.

Mentorship at Delaware Tech

Delaware Tech has several mentorship programs. New faculty are given a check-list of items to do during their first two years. Included in this checklist are taking several courses in Instructional Design and the New Faculty Development course, which is an orientation to the college. New full-time faculty are also assigned a mentor. Delaware Tech has a mentor program for high school dual enrollment teachers. Each teacher is assigned a mentor. This mentor is paid for these duties. During the document analysis as discussed in Appendix D, I was surprised to learn there was little discussion of the expectations of mentors.

Several months after I was hired, I was assigned a mentor. My assigned mentor was very nice, but the assignment came much too late. Most of the questions

and issues I had occurred in my first few weeks. Once I was halfway through my first semester, I was feeling pretty confident, and didn't end up asking my mentor many questions. The idea of assigning mentors is a good one but needs to be implemented effectively.

As discussed previously, (Law et al, 2014) set recommendations for formal mentorship programs. The first recommendation is to define the expectations at the beginning of the program. I do not feel that this is being done at Delaware Tech. Additionally, the second recommendation that Law et al. (2014) makes is to have a formal systematic approach, which again, I do not believe is currently occurring with the dual enrollment teacher mentorship program. I feel the mentorship expectations should be laid out prior to the start of any new dual enrollment agreement, in a formal way. My recommendations for what these expectations should look like are available in Appendix L.

Best Practices for Part-Time Faculty

Professional development for part time faculty presents many challenges. Part-time faculty are often adjuncts with another full-time job. They often teach on weekends and evenings, often when no other faculty and staff are available. Part-time faculty often cannot attend regular department meetings and trainings due to their regular full-time job.

Support Services for Adjuncts

The literature identifies several best practices to help part-time faculty. Many papers mention providing targeting support services and facilities such as office space, copying and computing support for adjunct faculty (Rowh, 2014; Datry, Saxon and Martirosyan, 2014; Jacobson, 2013). In most departments at Delaware Tech, there are not extra spaces for adjuncts to interact with students. There is not a dedicated "adjunct office space" for these part-time faculty to do any prep work before or after class or meet with students. I worked as a weekend adjunct at for many years at a college in New Jersey. I did not have access to a copier on Saturdays as the main administrative building was closed on weekends. I had a printer in my classroom, but if it was out of paper, I was out of luck. Additionally, if there were no markers for the whiteboard, I was also stuck. As many adjuncts I have seen over the years, I stocked my bag with a stapler, paper and extra markers. The only number I had was for security, which I often had to call to open the classroom. My experience as an adjunct could have been greatly improved with simple accommodations after hours, such as clerical support.

Inclusion of part-time faculty into college environment

Also, inclusion of part-time adjuncts into the college culture is mentioned in the literature extensively (Rowh, 2014; Jacobson, 2013; Datry, Saxon and Martirosyan, 2014). Adjuncts should be invited to department meetings and college

events; however they often come to campus to teach their class and leave immediately. At Delaware Tech there is not a consistent policy for inviting adjuncts to faculty events, such as professional development day.

The Instructional Innovation Network (IIN) has discussed inviting adjuncts to attend the faculty professional development day. Currently, this hasn't happened yet, as we have limited space on campus to hold events. Additionally, full-time faculty professional development day is during the day, while many adjuncts teach only during the evening. Also, the question arises if adjuncts are required to attend meetings and professional development events, how they are compensated. At Delaware Tech, adjuncts are compensated at an hourly wage which corresponds to number of classroom hours a class is in session. Adjuncts at Delaware Tech are not required or compensating for holding office hours. Requiring adjuncts to attend meetings or events would add additional costs to departments hiring adjuncts.

Inclusion of Adjuncts into Existing Faculty Professional Development

Traditionally, community college adjuncts tend to be subject matter experts in their field, but may lack the "training and development in teaching," (Datry, Saxon and Martirosyan, 2014, p.38). The policy for hiring Instructors at Delaware Tech is to hire subject matter experts and "teach them how to teach." Full time instructors go through a two-year mentorship process in which they need to complete several Teaching and Instructional Design courses. This is a condition of employment for all

full-time faculty. Full-time faculty are required to be on campus for 37.5 hours, therefore they have a schedule which allows for attend additional training and professional development.

Ongoing professional development for part-time faculty is one way to develop into successful instructors. Typical adjuncts have full-time jobs, so flexible professional development is ideal; day, evening and online (synchronous and asynchronous sessions) can provide the maximum value (Jacobson, 2013). At Delaware Tech, part-time faculty are allowed to attend the instructional design classes that full-time faculty must attend, but they are not compensated for participation. Full time faculty can get a lane change after completing 15 credits of professional development, but there is no change in wage for part-time faculty at Delaware Tech.

Compensating Part-time Faculty for Professional Development

Many institutions hire adjuncts on a sliding scale and increase salary after they have taught for a number of semesters. Additionally, some other schools will give raises or stipends to part-time faculty who participate in a number of professional development activities. If full-time faculty can get a step increase for completing a set number of Instructional Design courses, I feel the same should be true for adjuncts. Adjunct faculty who use their own time to increase their skills as an instructor should compensated. This could be in the form of a stipend, a one-time payment for part-time instructors who complete the IDT certificate, or in a higher salary for future courses

taught. This would incentive adjuncts to participating in existing professional development activities.

A college in New Mexico piloted a program for a Distinguished Teaching Chair Award. This program gave a stipend of $150 and a certificate for adjunct faculty who completed four seminars on various pedagogical matters (Datray, Saxon and Martirosyan, 2014). Student retention in courses taught by program completers increased by 7%. The modest stipend gave adjuncts the incentive to participate and had overall positive results in student success for the college.

The argument against paying adjuncts more is the cost. It would cost more to pay adjuncts who complete a set number of courses more. Additionally, the college may have to run more the IDT courses if more adjuncts take them. However, other schools have shown that a small investment in adjunct professional development, including paying a small stipend for their time has to pay large dividends in adjunct retention and student success (Datry, Saxon and Martirosyan, 2014). The cost of recruiting and retaining adjuncts is significant, especially since Delaware Tech pays adjuncts much less than other colleges in the area.

New Adjunct Orientation

Indian River Community College in Florida has a formal checklist that all new adjunct faculty need to complete, which includes a structured orientation with their department chair, (Lyons, 1999). Many schools have or recommend the development

of an "adjunct instructor's manual" (Milliken and Jurgens, 2014; Jacobson, 2013). My plan is to create a formal checklist for new dual enrollment teachers and mentors. Additionally, I believe it would be very helpful for Delaware Tech to create an adjunct handbook. This could be helpful for both the part-time instructor, but also the department chairs. At Indian River, all new adjunct faculty are required to attend four sessions of "instructor effectiveness training" which are delivered on consecutive Saturday mornings prior to the start of term (Lyons, 1999). This required Saturday training appears to be similar to Delaware Tech's Adjunct In-service, which occurs the week before classes start. While I like Indian River plan to have ongoing training over the course of 4 Saturdays, many times adjuncts are not assigned until the very last minute. Sometimes Instructor assignments are given the week before the semester starts, as classes are added and people quit at the last minute. The Indian River aligns much more to the best practices in the literature for effective and ongoing professional development. Boylan and Saxon (2012) state that "providing training to adjunct faculty teaching developmental courses is probably one of the most cost-effective investments community college administrators can make."

Recognition of Excellence in Teaching for Part-time Faculty

Recognition of excellence in teaching for adjuncts is another idea suggested by literature (Milliken and Jurgens, 2008; Rowh; 2014). Rowh (2014) found that many adjuncts did not bother to complete the application process for the award since it was

very cumbersome. Most schools award full-time faculty with an excellence in teaching award, however part-time faculty are usually not eligible. At Delaware Tech, winners of the excellence in teaching award receive a trip on one of the Study Abroad Professional Development trips, a prize worth up to $5000. It is surprising that full-time faculty can win such a valuable prize, but adjunct faculty, who teach a majority of our courses, are not eligible for any sort of award. I am not suggesting that adjuncts should win such a large prize, but a stipend of a few hundred dollars and recognition can go along way improving morale. Milliken and Jurgens (2008) suggests awarding an annual official adjunct faculty award, with a simple engraved plaque, which costs very little.

Mentorship for Adjunct Faculty

A community college in Florida has created a mentoring-focused orientation program designed to support online adjuncts (Rogers, McIntyre & Jazzar, 2010). Full-time faculty are paired with part-time online faculty virtually. Faculty who intend to mentor are also required to complete training. Some Delaware Tech faculty are selected to mentor new full-time faculty, and Dual Enrollment Teachers, but not adjuncts. Additionally, there is no "how to be a mentor" training for Delaware Tech faculty. Communication is the cornerstone of any effective mentoring program, and Rogers, McIntyre and Jazzar (2010) found the phone was the most effective means of communications. Face-to-face is preferred, but not always practical, especially for

part-time employees. Trust between the mentor and mentee is crucial, so that the mentor feels comfortable asking questions to improve his or her performance, (Rogers, McIntyre & Jazzar, 2010).

While there is no formal process for mentoring new adjuncts at Delaware Tech, much of this responsibility falls on to the Department Chair. Department Chairs are responsible for preparing a new adjunct, while no formal checklist or direction exists. A lot of information is distributed to new adjuncts at adjunct inservice, but this orientation takes place less than a week prior to the start of the semester. Additionally, new adjuncts are not assigned a formal mentor under current Delaware Tech policies for new adjuncts, but the Department Chair often fills this role unofficially. Dual Enrollment High School teachers are treated as adjunct faculty, but the expectations are different. High school teachers are not encouraged to attend adjunct in-service, but they are assigned a mentor.

Conclusion

Professional development in the educational setting has changed over the past years. One and done workshops have been shown to be ineffective. Professional development needs to take place over an extended period of time. Mentorship programs have been shown to be effective. Part-time faculty have different needs than full-time instructors, so flexibility and open communication is necessary. The literature on professional development went into developing the summer teacher

workshop for dual enrollment teachers. Some examples of the best practices learned from the energy pathways dual enrollment teacher training and mentorship will be used to develop the Toolkit for mentors, which is presented in Appendix L.

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Appendix D

DOCUMENT ANALYSIS ON DELAWARE TECH'S POLICY ON DUAL ENROLLMENT

Abstract

The following document describes the process and materials discovered when researching Dual Enrollment Policies at Delaware Tech. The only resource found related to dual enrollment policies from Curriculum Guidelines, which is a dynamic resource Delaware Tech uses to compile policies related to Academics.

Procedure

When I began the process of document analysis, I did not believe there was a lot of information on the Mentor/Mentee relationship. I had been assigned to be a dual enrollment mentor a few times in the past but was not given any direction. Upon doing research for this ELP, I asked my supervisor where I could find additional information on the policy and procedures. I was directed to Curriculum Guidelines. Curriculum Guidelines is a dynamic resource at Delaware Tech where policies related to instruction and curriculum are archived. In Curriculum Guidelines, the office of the Vice President of Instruction at the College updates this internal policy manual. The only place any mention of Dual Enrollment is made in this policy manual is in "APPENDIX J. Delaware Tech-High School Articulation Policy." There are about 3 pages related to High School Dual Enrollment. The full text of this

policy is available at the end of this section. These three pages were the only documentation I found on dual enrollment and mentorship at the college.

Summary of Policy

The guidelines detail the policies which relate to how dual enrollment agreements between the college and high school are to be established. This policy was developed and approved in 2011 by the College President at that time. This document outlines the how agreements are written between the school district and the college. High school students must meet the appropriate pre-requisite requirements by taking the Accuplacer, SAT or ACT and meet minimum scores. Students also must complete the Delaware Tech admission procedures. Delaware Tech Student Affairs will work with the college complete the required testing and admission procedures.

As previously mentioned in the literature review, one of the more complicated aspects of Dual Enrollment is the funding source (Wozniac, 2013). The Guidelines details this process in a little more depth. The school district is required to pay the tuition and fees when a Delaware Tech instructor provides the instruction but are not required to pay the applicable fees (student affairs and lab fees) if the course is taught at the high school. The school district is required to pay for books and supplies, or the students may be required to purchase books themselves. When the course is taught by a qualified high school teacher, the costs change. When the course is taught by a high school teacher, the college "will reimburse the school district for the cost of

instruction the high school teacher is providing", which is limited to the amount college pays adjuncts, currently $35/hour, or $1575 for a three-credit course. Additionally, high school teachers must meet the educational qualifications as required by the course, as any other adjunct faculty must meet.

When a high school teacher teaches the dual enrollment course in the high school, they are subject to the same standards that any adjunct or full-time instructor must follow and is detailed in the Guidelines. Those items include attending orientation, professional development or training required by the college or department. Additionally, the teacher must use the college assigned syllabus, instructional materials and assessments. Teachers must follow the same college policies regarding attendance reporting and grading as all other college instructors. Teachers must also Blackboard or other educational technology as expected by the college or academic department. Finally, teachers are expected to be observed, evaluated and supervised by the academic department they teach in.

The requirements of a Mentor are detailed on Page 4 on the Guidelines. Mentors are required to provide support for the teacher so that he/she can meet their required duties. Mentors are to assist in the creation of a course schedule that works in the high school setting. Mentors should guide the high school teacher in the selection of strategies to convey the course content. Mentors are also required to guide the teachers to grade students consistent with Delaware Tech expectations. The final item on the mentor tasks is to "Observe, evaluate, and supervise the high school teacher." The final section of the document is a "Flow Chart for High School Dual

Enrollment." This details the process that high schools should follow if they are interested in setting up a dual enrollment course. The district should meet with the Dean of Instruction to discuss the course, delivery method, location and instructor. Once agreed upon, the Department Chair works with the district to create a course section to be offered. The Dean of instruction works with the Dean of Student Affairs to arrange for student admission, placement testing, enrollment and orientation. The Department Chair selects an instructor or confirms if high school instructor is qualified to teach the course. If a high school teacher is selected to teach the course, they are hired as an adjunct to the college. The department chair identifies a mentor to supervise the teacher. The Dean will coordinate a follow-up meeting with high school teacher, Department Chair, and mentor, when all curriculum materials will be shared with the teacher.

Reflections

Mentor Relationship

The document analyzed here gives guidance on the process for setting dual enrollment agreements at Delaware High Schools. It describes the process for getting high school students enrolled and teachers selected for the class. It also details the financial issues associated with dual enrollment. However, the guidelines are missing several key details, including how a mentor is selected, what 'being a mentor" entails. While the guideline is detailed in the list of five requirements for Dual Enrollment

mentors, it does not discuss how the mentor is selected. In practice, this appears to be up to the Dean or Department Chair, however, there is no mention in the guidelines. Are mentors selected randomly or matched based upon courses? Is there a limit on how many mentees a mentor can have? Some of the items discussed checklist are vague. Such as Mentors are to "provide ongoing mentoring and support." However, at no point in this document is the word mentoring defined. There are no suggestions on how faculty could "mentor and support" teachers. Mentorship programs have shown to increase "teacher retention, satisfaction, and student achievement" (Vega, 2013, p.**). This does not follow the guidelines of (Law et al. 2014), who makes recommendations for formal mentoring programs. I recommend that some of these points be clarified more for faculty. The toolkit for mentors (Appendix L) will contain my suggestions for more concrete tasks for mentors.

The only item that was a surprise for me was item #5. "Observe, evaluate and supervisory the high school teacher." While often times the mentor is a department chair, who is expected to evaluate and observe adjuncts, I was surprised to see observe the high school teacher written here. This is what is written in the guidelines, but I have not seen any push from the Dean's to have Mentors visit the teachers in the high school. I do not believe many mentors have read this policy, as I was never directed to when I first became a mentor. This document does not appear to be shared with mentors. I have been a mentor for 3 years, and I the first I have seen this document was for this analysis.

Financial Compensation

Much of the policy deals with how dual enrollment is paid for and how mentors and teachers are compensated. In practice the policy has not been implemented consistently. According to Datray, Saxon and Martirosyan (2014), a small stipend for time shows large gains in retention and student success. In my first year of being a dual enrollment mentor, I was not compensated for being a mentor. I honestly did not know there was any compensation, having never read the policy. In my second term as a mentor, I was informed about the financial compensation. There was no policy of when the compensation was to be paid. It was not done at the end of the semester. In my experience, it was when someone remembered, usually 2-6 months after the course ended.

Mentors are provided a stipend to complete the assigned tasks, as per the policy. However, there does appear to be any sort of follow through completion if these tasks. The stipend was initiated for faculty, without any checks on what was done. As previously mentioned, I was unaware that mentors were expected to observe teachers in the high school. I had never done that, although I received the stipend on several occasions. According to the policy, teachers receive a $200 stipend for teaching a dual enrollment class, if they are hired as an adjunct. It has been my experience that it is very difficult to get teachers paid. There is additional paperwork that Human Resources needs for teachers to be compensated that is not done on a

regular basis. I am unsure that teachers have been paid their $200 stipend that the policy allows.

Other Critical Issues

I feel there are several other critical issues with the current policies on dual enrollment and mentorship. The Guidelines references another document "Guiding Principles for Delaware Tech's Dual Enrollment/ Dual Credit Programs" but I couldn't find it. It is not in the Curriculum Guidelines. Does this policy exist? If so where, and how can faculty access it? Is this an older version of a policy that is no longer being followed? I could not find it anywhere. In practice, the meeting with the Dean, teacher, mentor and department chair has never happened. Since the Department Chair is often the mentor, it is usually just a meeting of two people. Once the teacher is selected, the Dean has little to no interaction with the mentorship, in my experience. The guidelines were last updated on 8-16-11 by President George. In the past 7 years Dual Enrollment programs have expanded throughout the state. I feel these policies should be updated more frequently.

The student textbook issue may be an equity issue. If students are required to pay tuition or purchase required textbooks, it may limit who can participate (Wozniac, 2013). Lower income students and families may not be able to afford to participate, given the high cost of college textbooks. Some schools within the state pass the

tuition cost along to the students, which may limit lower income families from participating.

Conclusions

Curriculum Guidelines had policies on dual enrollment and mentorship at Delaware Tech. These guidelines provided an overview of how dual enrollment partnerships are made and how the teachers and faculty are compensated. These guidelines did not give a good overview on the expectations of dual enrollment mentors and teachers. I feel this could be expanded to help give mentors more direction to ensure that teachers are fully supported by the college and their mentor.

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Dual Enrollment Guidelines for High School

Approved by President George 8-16-11

The following guidelines will be utilized in the establishment of written agreements with school districts in which Delaware Technical Community College (Delaware Tech) provides college courses for dual enrollment/dual credit.

School Districts may contract with the Delaware Tech campuses for provision of college courses to high school students.

- Students must demonstrate college readiness on the Accuplacer, SAT or ACT.
- Students must complete established Delaware Tech procedures for early admission.
- The school district will pay to Delaware Tech all applicable tuition and fees for each student enrolled in the Delaware Tech course except:
  - the Student Affairs fee.
  - the lab fee for science and specialized lab courses if the district is providing the specialized lab or science lab including all equipment and supplies. In that case, the school district will not pay lab fees.
- The school district must enroll at least 10 students in the Delaware Tech course.
- The school district will provide funding for required books and supplies for each student or require students to purchase books and supplies themselves.

Delaware Tech courses may be delivered at the campus, the high school, or through distance education.

Delaware Tech Student Affairs will facilitate arrangements for high school students to be admitted to the College, complete the Accuplacer test as needed, and enroll. Student Affairs will also provide an orientation to Delaware Tech for the students and their parents including information regarding Delaware Tech learning support services, campus library resources, how to acquire a student I.D. and what services require its use, how to access the Campus Bookstores, and course drop, grading policies and other academic policies applicable to high school students enrolled at Delaware Tech.

Delaware Tech full-time or adjunct instructors will provide instruction.

When there is an academic policy difference between the high school and Delaware Tech, each institution's policy will govern regarding the credit or lack thereof to be awarded by the high school or college.

1. An alternative agreement may also be established for high school teachers, who are approved by the relevant Delaware Tech Department Chairperson and Dean of Instruction as qualified for an adjunct appointment, to instruct Delaware Tech courses in the high school setting. (See "Guiding Principles for Delaware Tech's Dual Enrollment/Dual Credit Programs.") The high school teacher must meet the Delaware Tech academic department's criteria for adjunct appointments for the

particular course to be instructed including educational qualifications, demonstrated expertise, and relevant experience. In this case, Delaware Tech will reimburse the school district for the cost of the instruction the high school teacher is providing. The amount of reimbursement will be limited to the compensation Delaware Tech would pay a Delaware Tech adjunct instructor for the course. The high school teacher must work with a Mentor-Instructor provided by Delaware Tech to achieve the following:

1. Complete the academic department's orientation, training, and professional development requirements including attendance at departmental meetings, campus workshops, etc.

2. Utilize the academic department's approved course syllabus, instructional materials, assessments, etc.

3. Adhere to Delaware Tech and the academic department's policies and procedures including for grading, submission of student attendance and progress reports, etc.

4. Utilize Blackboard and other educational technology to enhance teaching and learning, as expected by Delaware Tech and the academic department.

5. Be observed, evaluated and supervised by the Delaware Tech academic department Chairperson/designee for their performance in instruction of the Delaware Tech course.

In recognition of the time commitment required for the above, Delaware Tech will provide a stipend of $200 to the high school teacher.

The Delaware Tech Mentor-Instructor will work with the high school teacher to:

1. Provide ongoing mentoring and support to the high school teacher so she/he can meet the responsibilities outlined above.

2. Assist the high school teacher in the creation of a course schedule that is appropriate for the high school setting.

3. Guide the high school teacher in selection of strategies to convey course content and foster student mastery of the course performance objectives.

4. Guide the high school teacher to grade students' performance consistent with Delaware Tech expectations.

5. Observe, evaluate, and supervise the high school teacher

In recognition of the time commitment required for the above, Delaware Tech will provide a stipend of $500 to the Delaware Tech Mentor-Instructor. A Mentor-Instructor who provides support

to the same high school teacher for the same class the following year is entitled to a $400 stipend, but thereafter will receive $350 each subsequent, sequential year the course is taught by the same high school teacher. A mentor who provides support to the same faculty member for the same class with a one year gap is entitled to $400. Mentors who provide support to the same high school teacher for the same class after a two year gap are entitled to the full $500.

Flow Chart for High School Dual Enrollment

- District representative or high school principal requests for dual enrollment are referred to the Delaware Tech campus Office of Instruction. The Dean explains Delaware Tech's Guidelines for High School Dual Enrollment. If the District wishes to proceed, the Dean of Instruction arranges a meeting with the District and the appropriate Department Chairperson(s) to determine the:
  - Course or courses under consideration;
  - Location of course delivery --- high school, campus, distance education;
  - Course format --- traditional, web enhanced, hybrid or online;
  - Instructor ---- Delaware Tech or high school instructor.
- If the District wants to proceed, the Chairperson works with the District to develop a course section to be offered.
- The Dean of Instruction contacts the Dean of Student Affairs to arrange for student admission, college placement testing, enrollment, and orientation.
- The Department Chairperson identifies the College instructor to teach the course section or reviews the proposed high school instructor's credentials to confirm he/she is qualified to instruct the course.
  - If qualified, the high school teacher submits the required application and documentation to be hired as an adjunct. The contract will compensate the high school teacher $200 as a stipend.
  - If the high school teacher will be instructing the course(s):
    - The Department Chairperson identifies the Delaware Tech instructor who will mentor and supervise the high school teacher.

- The Dean will coordinate a follow-up meeting with the high school teacher, the Department Chairperson, and the Delaware Tech instructor who will mentor the high school teacher. At this time, the Department Chairperson will provide the course syllabus and discuss the responsibilities of the high school teacher and the Delaware Tech Mentor-Instructor, as outlined in the Dual Enrollment Guidelines.

Appendix E

SAMPLE AGENDA FOR SUMMER TEACHER WORKSHOP

Agenda for Excel Teacher Workshop 2016
Instructor Training for Dual Enrollment, OAT152
Meeting Agenda
Date: Tuesday 8/16/2016
Time: 3pm-6pm
Location: Terry Campus, CTC 425 (link to campus map here; you can park next to athletic fields across the street from the CTC Building)

Preparation:

- Please bring a laptop if you have one. If not, a laptop will be provided.
- Please make sure you have at least browsed all course materials. To access follow these instructions:
    - Log in to my.dtcc.edu. Your usernames are as follows. If you don't know your password, call the number and they will help you. Martin: mtuohy1 Angie: alightca Molly: mchorma2
    - Click courses on the top of the page. This will bring you to our blackboard system.
    - You should see a course labeled DEV-cbudisch-OAT152, click it.
    - This is the course shell and you are enrolled as a student.
- Be prepared to discuss how you plan to deliver the course, including how it will fit into one semester and your weekly class schedule.
- If possible, try to complete the project yourself
- Note that dinner will be provided

Agenda

1. Introductions and course overview, Blackboard operation and organization
    a. Introductions
    b. Course Objectives
    c. Rubrics
    d. Due Dates - Date Management
    e. Gradebook - Live Demo
    f. Course Flow
        i. Flipped! - www.bit.ly/xceltips
    g. DView!
2. Projects - The heart of this course

Select Completed Examples

Student Stumbling Blocks

3. Open Discussion

Agenda for Excel Teacher workshop 2017

July 31st 2017

9am-4pm

I. Introductions
   A. When are you teaching the class?
II. Google Website vs. Blackboard
   . YouTube playlist
   A. www.bit.ly/xceltips
   B. Blackboard
      1. Rubrics!
III. HR stuff to get you paid
IV. Class Pacing
   . See bit.ly/oat152dualenrollment
   A. Work on own class schedules
V. Project/Lab Sticking Points
   . ALWAYS CHECK THE RUBRICS!!!!!
   A. Lab 3
      1. Yes this is hard
   B. Lab 5
      1. How do you make a pivot table?
      2. What pivot tables and graphs do you want to answer these questions??
   C. Project 1
      1. Macro
      2. You want me to make 13 charts for one question!
   D. Project 2
      1. I have to use my own data!?
      2. How many charts do I need?
      3. The school data is weird, how do I use it????
   E. Project 3
      1. This is easy, I finished in 20 minutes!
      2. I don't even know where to start…..
      3. Save the plug in hybrid for dead last
      4. How the heck do I do the plug in hybrid?????
   F. Project 4
      1. #1 is hard!!!
      2. Do I need to do #1 to get #2???
      3. #3 and #4 are not that bad, if you know how to use pivot tables!

VI. Grading Strategies

. Labs-> Formative Assessments
    1. Grade these in class as a 0 or 100?

A. Projects/Exams -> Summative

B. Classwork
    1. Some classwork built into the course
    2. Add in data visualization analysis in my course. Would you like me to include it in the site?

C. Grade 2-3 project samples together

Appendix F

SURVEY INSTRUMENT FOR PILOT PLAN EVALUATION

Survey Questions for High School Teachers (Survey A)

Which course are you teaching?

Excel Sustainability and Society Other

On a scale below please answer the following questions

Strongly Agree Agree Disagree Strongly Disagree

The Summer Teacher Workshop helped me prepare to teach my Dual Enrollment Course.

I felt more comfortable with the course material after attending the Summer Teacher Workshop

I felt comfortable with Blackboard after attending the Summer Teacher Workshop.

My needs were met through the Summer Teacher Workshop.

I felt comfortable with the course material after attending the Professional Learning Community

I felt comfortable with Blackboard after attending the Professional Learning Community.

The Professional Learning Community helped me solve problems I encountered teaching my course.

I connected with my peers through the PLC

I felt connected with the college faculty (course leaders and course mentors) through the PLC.

The Professional Learning Community was an effective use of my time.

My needs were met through the PLC.

I felt comfortable asking your mentor or course leader questions.

I am looking forward to participating in this program again.

Open Ended Questions

How often did you meet/ contact with your Mentor after the STW?

1-2 times 3-5 times More than 5 times Never

How often did you meet/contact with your Course Leader after the STW?

1-2 times 3-5 times More than 5 times Never

How often did your PLC meet after the STW?

1-2 times 3-5 times More than 5 times Never

How could the Summer Teacher Workshop be improved?

How could the PLC be more helpful for your needs?

Survey Questions for Course Leaders and Mentors (Survey B)

In which course are working as course leader or mentor
Excel Sustainability and Society Other

I felt comfortable with Blackboard after attending the Summer Teacher Workshop

My needs were met through the Summer Teacher Workshop.

The Summer Teacher Workshop was an effective use of my time.

I felt connected with the high school teachers through the PLC.

The Professional Learning Community was an effective use of my time.

My needs were met through the PLC.

How often did your Mentee (high school teacher) contact you after the STW?

How often did your PLC meet after the STW?

In what ways did you communicate with your Mentee (high school teacher). (Check all that apply)
Phone, Email, Text, Video Conferencing, Face to Face, Other

How often did you meet/contact your Mentee after the STW?
1-2 times 3-5 times More than 5 times Never

How often did you meet with your Professional Learning Community after the STW?
1-2 times 3-5 times More than 5 times Never

Open Ended Questions

How could the Summer Teacher Workshop be improved?

How could the PLC be improved?

Appendix G

PILOT PLAN EVALUATION

Executive Summary

The following report is an evaluation of a Teacher Training Program for High School teachers who have been selected to teach Dual Enrollment Courses for an Energy Pathways Career Technical Education (CTE) program, which began in the summer of 2016. This workshop was to prepare teachers who will be teaching Dual Enrollment Courses in various high schools around the state. Dual Enrollment (DE) allows high school students to earn college credit while simultaneously earning high school credit. This STW is part of the Energy Pathways Program we have developed for high school students to earn nine college credits towards an Energy Technologies Degree at Delaware Tech. This workshop was needed because the courses being offered in the high school by teachers are new to the teachers and must follow the college level curriculum and assessments.

The purpose of this evaluation plan is to gauge the effectiveness of the Professional Learning Community component of the teacher training program. Participants (both teachers and college faculty) in the program were surveyed. The schools participating in the Energy Pathway Program are Christiana, Smyrna and Milford High Schools. The participant teachers at each High School are partnered with faculty at the Delaware Tech campus in their county.

The program evaluation considered the following two questions:

1. Process Question: How many times did the Professional Learning Community meet after the Summer Teacher Workshop

2. Outcome Question: Did attending the Professional Learning Community increase teachers comfort in the subject matter?

The results of the survey indicate the teachers felt comfortable with the course material as a result of the Summer Teacher Workshop and following Professional Learning Community meetings. The teachers felt comfortable with asking their mentor or course leader (College faculty) questions. All of the participant teachers are looking forward to participating in the program again. According to the survey, the teachers did not feel comfortable with Blackboard (Course Management Software) as a result of the STW or PLC. Additionally, half of the teacher participants reported that "Their needs were not met as a result of the Summer Teacher Workshop." The Professional Learning Community did not appear to meet as regularly as intended, only meeting 1-2 times throughout the program.

Description of the Program

For my evaluation project, I chose to evaluate a Summer Teacher Workshop (STW) that my colleagues and I designed and implemented in summer 2016. This Workshop was to prepare teachers who will be teaching Dual Enrollment Courses in various high schools around the state. Dual Enrollment (DE) allows high school students to earn college credit while simultaneously earning high school credit. This STW is part of the Energy Pathways Program we have developed for high school students to earn nine college credits towards an Energy Technologies Degree at Delaware Technical Community College (DTCC). This workshop was needed because the courses being offered in the high school by teachers are new to the teachers and must follow the college level curriculum and assessments. Additionally,

the Learning Management System (Blackboard) used by the college faculty is different than the system high school teachers use.

The course leaders and mentors are Delaware Tech faculty who have different roles in the program. The DE Teachers are the teachers who have been selected by the high school and DTCC administration to teach the selected Dual Enrollment courses. These teachers are evaluated by their resumes to be selected to teach this program by administrators at both the high school and college.

The Summer Teacher Workshop was hosted by DTCC and delivered by DTCC faculty. The selected teachers attended the workshop. Afterwards the teachers had time to work with the curriculum in the Development Blackboard shells prior to the course beginning in the upcoming fall semester. After the STW, times for follow-up are scheduled between the teachers and DTCC faculty, in order to form a Professional Learning Community (PLC). This professional learning community allows teachers to identify issues and problems they may have with the material, the course management system, or the logistics of the course. This PLC will provide ongoing support for the teachers and foster collaborative learning among fellow teachers.

Purpose of the Evaluation

The purpose of this evaluation plan is to gauge the effectiveness of the Professional Learning Community component of the teacher training program. In order to gather more information on this, I created a survey to give to both the participants and the developers of the PLC. I want to determine if the PLC is being effectively utilized in the manner it was conceived. Since this was the first time running the program, I will identify ways to improve the PLC component of the training program for use in the upcoming year.

Evaluation Questions

As part of the evaluation of the program, I developed two questions to be answered.

1. Process Question: How many times did the Professional Learning Community meet after the Summer Teacher Workshop?
2. Outcome Question: Did attending the Professional Learning Community increase teachers comfort in subject matter?

The process question is intended to determine if the teachers and course leaders actually met on a regular basis as the program was intended, approximately once per month. Additionally, I am interested to see if the teachers formed an informal PLC with each other, without the DTCC faculty involved. For the outcome question, I want to determine if the PLC added to teachers understanding and comfort with the material. The PLC was intended to be a support system to aid the teachers after the summer teacher workshop. I am intending to assess if the PLC added to the teacher's knowledge gained in the Summer Teacher workshop. Professional Learning Communities are designed to foster collaborative learning among colleagues.

Sample

The sample of this evaluation will consist of teachers (a total of five) who completed the Summer Teacher Workshop and Profession Learning Community for the Energy Pathway Dual Enrollment Program. In order to corroborate some of the information gathered by the teachers, the course leaders and mentors at Delaware Tech will also be surveyed. The high schools that are participating in this program are Christiana, Smyrna and Milford. The Milford teacher taught both the Excel and Sustainability class. Each high school is partnered with faculty from the Delaware

Tech campus in their county. Faculty members from the College act as Mentors and Course Leaders. In some cases, the faculty member may have both roles.

Instruments

The program was evaluated using a survey created and sent to the participant teachers, mentors and course leaders. The survey (Survey B) for mentors and course leaders will be shorter and slightly different than the survey (Survey A) sent to high school teachers. The teachers were asked more questions about course content knowledge. College faculty have been teaching these courses for several years, so the content is not new to them. The surveys are available in the Appendix. Ideally, a pre-session survey would have been completed however. However, this evaluation is taking place after the treatment, I only collected post-session results.

I gathered data on how often the PLC was convened, as shown in the process question. The original plan for the PLC was to meet about once every month, however, I had doubts that they met as regularly as planned. I surveyed both the teachers and DTCC faculty to triangulate the data from multiple sources.

In order to gauge the effectiveness of the profession learning community, Likert-type scale questions have been developed to assess the teacher's impressions of the program. The following scale was used: **Strongly Agree, Agree, Disagree, Strongly Disagree.** The participants will not have the opportunity to be neutral on any of the questions, so they must make a forced choice on each question. I wanted to gauge the teacher's feelings about the subject matter after the Summer Teacher

Workshop and compare that data with after the Professional Learning Community. I expected to see that the teachers were more confident with the course material after participating in both the Summer Teacher Workshop and Professional Learning Community. I would like to determine if the PLC added anything to the teacher's professional development. Again, I would have preferred to survey the participants before and after the PLC, but I can only collect post-session data at this point. I was also curious to see if the teachers in the program feel that the program met their needs. I created a few open-ended questions at the end of the survey. I think this information will be useful to collect and use in the planning of the next year's session. I want to use this data to make improvements on the program for summer 2017. This evaluation report is for a pilot program. In the future, I may complete a more thorough evaluation of the program. The survey instruments are included in the Appendix.

Data Collection

The survey was sent out via email by April 7th 2017. The email asked participants to complete a survey on the Summer Teacher Workshop that they participated in (last August) and Professional Learning Community (following the meetings). The participants were instructed that the information will be used to improve the teacher training and that responses will be kept confidential. A follow up email was sent on April 17th to remind participants to respond. All surveys were completed by the participants by April 18th.

Data Analysis

To evaluate the process question, I exported the data into Excel and calculated the frequencies of the responses for each question. Additionally, I calculated percentages of teachers who agree or disagree with certain questions. The data from the teacher surveys was compared with the faculty surveys.

Timeline

Developed Survey: March 24th- April 2nd 2017

Sent Survey to Participants: April 7th 2017

Sent Reminder to Participants: April 17th 2017

Analyzed Data from Surveys: April 19th- 26th 2017

Wrote Final Report: April 27th- May 15th 2017

Findings

The results of the teacher survey are shown in Table 3. The survey was distributed to all high school teachers (n=5) in the Energy Dual Enrollment Pathway Program. Not all participants answered every question. The outcome question asked was "Did attending the Professional Learning Community increase teachers comfort in the subject matter?" All of the participants (n=3) agreed or strongly agreed that they felt comfortable with the course material after attending the Professional Learning Community. According to the results of the survey, the teachers felt comfortable asking questions of their mentor. Teachers are looking forward to participating in the

future. All teachers who responded felt comfortable with course material as a result of the Summer Teacher Workshop and Professional Learning Community.

Table 3: Survey Completed by Dual Enrollment High School teachers who participated in Summer Teacher Workshop 2016

Question	Strongly Agree		Agree		Disagree		Strongly Disagree		Total
	n	%	n	%	n	%	n	%	n
1. The Summer Teacher Workshop helped me prepare to teach the Dual Enrollment Course.	1	25.0	3	75.0	0	0.0	0	0.0	4
2. I felt more comfortable with the course material after attending the Summer Teacher Workshop.	2	66.7	1	33.3	0	0.0	0	0.0	3
3. I felt comfortable with Blackboard after attending the Summer Teacher Workshop.	1	20.0	2	40.0	2	40.0	0	0.0	5
4. My needs were met through the Summer Teacher Workshop.	1	25.0	1	25.0	2	50.0	0	0.0	4
5. The Summer Teacher Workshop was an effective use of my time.	1	33.3	2	66.7	0	0.0	0	0.0	3
6. I felt comfortable with the course material after attending the Professional Learning Community	1	33.3	2	66.7	0	0.0	0	0.0	3
7. I felt comfortable with Blackboard after attending the Professional Learning Community.	0	0.0	2	66.7	1	33.3	0	0.0	3
8. The Professional Learning Community helped me solve problems I encountered teaching my course.	1	33.3	1	33.3	1	33.3	0	0.0	3
9. I connected with my peers through the PLC	1	33.3	2	66.7	0	0.0	0	0.0	3
10. I felt connected with the college faculty (course leaders and course mentors) through the PLC.	2	66.7	1	33.3	0	0.0	0	0.0	3
11. The Professional Learning Community was an effective use of my time.	0	0.0	3	100.0	0	0.0	0	0.0	3
12. My needs were met through the PLC.	0	0.0	2	66.7	1	33.3	0	0.0	3
13. I felt comfortable asking your mentor or course leader questions.	3	100.0	0.0	0.0	0	0.0	0	0.0	3
14. I am looking forward to participating in this program again.	3	100.0	0.0	0.0	0	0.0	0	0.0	3

The teachers were more comfortable with the course material as a result of the STW and PLC. The teachers were more comfortable with the material than they were with using Blackboard. Not all the teachers in the program felt comfortable with Blackboard as a result of the STW or PLC. In the open-ended questions, a teacher suggested an improvement for the Summer Teacher Workshops would be "Incorporation of LMS training (hands on)."

The teachers felt more comfortable with the college faculty than they were with their peers. Half (50%) of the teachers report that their needs were not met through the Summer Teacher Workshop, while 1/3 reported that their needs were not met through the Professional Learning Community. One teacher suggested the PLC could be improved "Perhaps in more sharing of lesson plans/curriculum ideas." Even the faculty members identified that not all the teacher's needs were met through this training. One faculty member stated in the open-ended question "The focus should be more on their feedback on what worked and what didn't work with regards to delivering content."

The process question asked was "How many times did the Professional learning Community meet after the STW"? The teachers reported they met with their professional learning community 1-2 times, as shown in Table 4. The faculty members working with the Excel group also reported the PLC meet 1-2 times, as reported in Figure 7 . However, one of the faculty members in the Sustainability class reported that they PLC met 3-5 times, in conflict with the teacher reported data.

The method of communication between faculty and teachers was also surveyed. The faculty and teachers used a wide range of communication methods, including email, phone, text, video conferencing and face to face. It is surprising to note that all the Excel faculty reported that they spoke to the high school teachers via phone, however, none of the high school Excel teachers reported contacting the college faculty by phone. Another discrepancy of note was one Excel faculty member reported meeting with their mentee more than five times. None of the Excel teachers reported meeting with their mentor that many times. All the teacher participants reported meeting with their mentor only 1-2 times.

Table 4: Energy Pathways Dual Enrollment Teachers survey results on frequency and method of Post-STW meetings

		Which Course are you teaching?	
		Excel (OAT 152)	Sustainability and Society (SOC 103)
How often did you meet/ contact with your Mentor after the STW?	1-2 times	2	1
	3-5 times	0	0
	more than 5 times	0	1
	Never	0	0
How often did you meet/ contact with your Course Leader after the STW?	1-2 times	1	1
	3-5 times	1	1
	more than 5 times	0	0
	Never	0	0
How often did you meet with your Professional Learning Community after the STW?	1-2 times	2	2
	3-5 times	0	0
	more than 5 times	0	0
	Never	0	0
In what ways did you communicate with the college faculty?	Email	2	2
	Phone	0	1
	Text	1	2
	Video Conferencing	0	1
	Face to Face	1	1
	Other	0	0
	Did not communicate with college faculty	0	0

Table 5: Energy Pathway's College Faculty Survey results on frequency and method of post-STW follow up meetings

	For which Course are you a mentor or a course leader?		
	Excel (OAT 152)	Sustainability and Society (SOC 103)	Other
In what ways did you communicate with the high school teachers?			
Email	3	2	1
Phone	3	1	1
Text	2	2	0
Video Conferencing	1	1	0
Face to Face	3	2	1
Other	0	0	0
How often did you meet/ contact with your Mentee after the STW?			
1-2 times	1	0	0
3-5 times	1	2	1
more than 5 times	1	0	0
Never	0	0	0
How often did you meet with your Professional Learning Community after the STW?			
1-2 times	3	1	1
3-5 times	0	1	0
more than 5 times	0	0	0
Never	0	0	0

Conclusions

The teacher participants in the Energy Pathways Program felt comfortable with the course material as a result of the Summer Teacher Workshop and Professional Learning Community. The teachers did not feel comfortable with Blackboard as a result of this Profession Development. The Professional Learning Community did not meet as often as intended by the original plan. Teachers reported that the PLC only met 1-2 times after the Summer Teacher Workshop.

Recommendations

1. **Assemble the Professional Learning Community to meet as intended, i.e., once a month.** While, there was some discrepancy between what teachers and faculty report on how often the PLC met, it did not meet as often as the program was designed. The plan was to convene the PLC once per month (approximately five times over a semester). If the PLC is not meeting as scheduled, the teachers will not get any professional development gains. The PLC was designed to help teachers on both content knowledge and technical issues.
2. **Provide more support for the teachers on Blackboard.** Some teachers surveyed indicated they were not comfortable with Blackboard, both after the STW and after the PLC. More of the development time should be spent on training the teachers on using the Blackboard system. Teachers reported they were comfortable with the content, so more time can be spent on getting the teachers some hands on experience using Blackboard.
3. **Gather information on the teachers needs prior to the workshops to meet them in the future**. Some of the teachers reported their needs were not met. Faculty should identify the needs of the teachers before planning the next professional development session. Even one of the faculty members surveyed identified this as an area of improvement. This faculty member suggested getting feedback from the teachers prior to developing summer 2017 workshop.

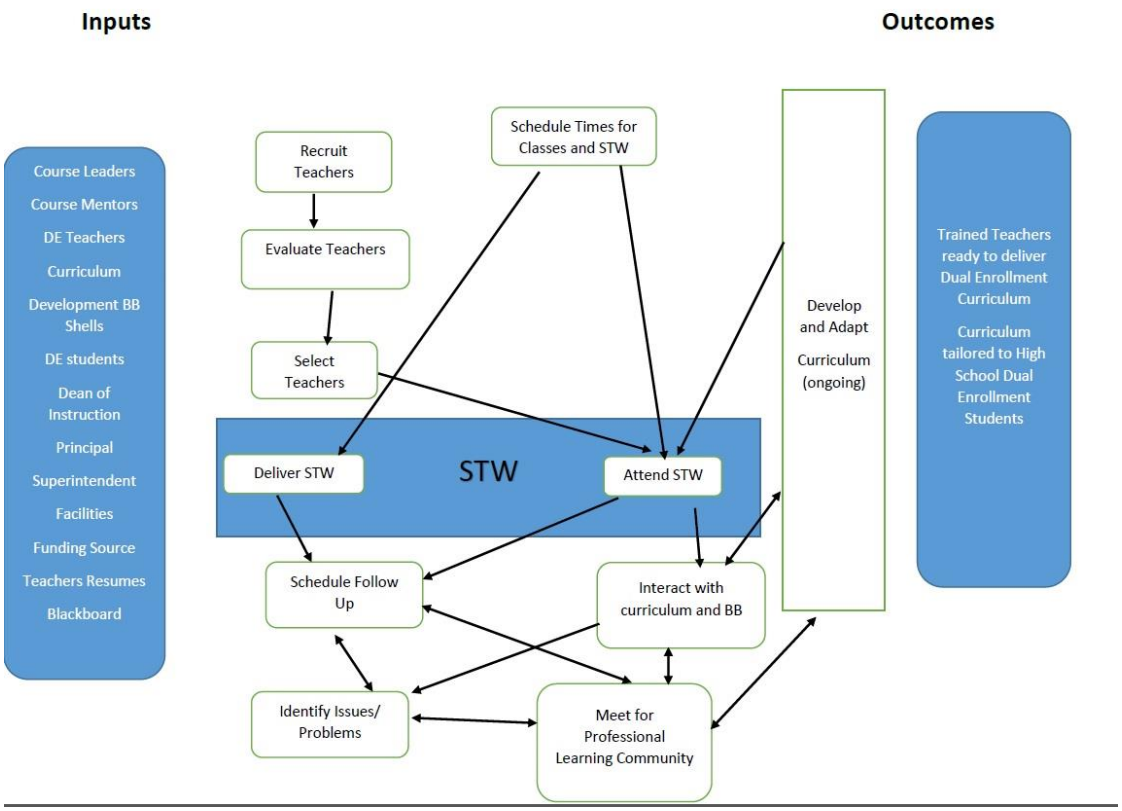


Figure 4: Logic Model for Summer Teacher Workshop

Table 4: Energy Pathways Teacher Training Evaluation Plan Outline

Question	Sample	Variables/Instrument	Data Collection Procedures	Data Analysis	Timeline
Process Question How many times did the Professional Learning Community meet after the Summer Teacher Workshop? Outcome Question Did attending the Professional Learning Community increase teachers comfort in subject matter?	High School Dual Enrollment Teachers (n=5) who completed the Summer Teacher Workshop in Summer 2016 and Course leaders and Mentors (n=5) at Delaware Tech.	Post session survey, with Likert- type questions will be created. Survey A is to be distributed to all High School Dual Enrollment Teachers. Survey B is to be distributed to all course leaders and mentors involved with the program at DTCC.	Survey will be sent out electronically to everyone in the sample. Participants will be given two weeks to complete. A reminder email will be sent out after one week reminding participants to complete the survey.	Data will be exported into excel and frequencies of the responses will be calculated. Additionally, percentages of agree or disagreement will be calculated for each question.	Developed Survey: March 24th-April 2nd Sent Survey to Participants: April 7th Sent Reminder to Participants: April 17th Analyzed Data from Surveys: April 18th- 26th Wrote Final Report: April 27th- May 10th

Appendix H

SURVEY TO ALL DUAL ENROLLMENT TEACHERS

Dual Enrollment Teacher Survey

Start of Block: Default Question Block

You are being invited to participate in a research study. This consent form tells you about the study including its purpose, what you will be asked to do if you decide to take part, and the risks and benefits of being in the study. Please read the information below and ask us any questions you may have before you decide whether or not you agree to participate. Your participation is voluntary and you can refuse to participate or withdraw at any time without penalty.

WHAT IS THE PURPOSE OF THIS STUDY? The purpose of this study is to investigate how high school teachers are prepared to teach dual enrollment classes. These teachers are employed at the high school, but are offering college courses to eligible high school juniors and seniors. The purpose of this investigation is to determine what information would be helpful for teachers to have prior to teaching Dual Enrollment courses. Also, the information gathered here may be helpful for mentors, so they can be more effective in their role. You will be one of approximately 60 participants in this study. You are being asked to participate because you have taught dual enrollment courses for Delaware Tech.

Q1 Do you agree to participate in the survey?

- ○ I agree (1)
- ○ I disagree (2)

Skip To: End of Survey If Do you agree to participate in the survey? = I disagree

---

Q1 At which high school are you employed?

_____

Q2 What class(es) do you teach for Delaware Tech?

- [ ] ENG 101 Critical Thinking and Academic Writing (1)
- [ ] ENG 102 Composition and Research (4)
- [ ] SOC 103 Sustainability and Society (12)
- [ ] SOC 111 Sociology and Society (2)
- [ ] BIO 100 Medical Terminology (15)
- [ ] BIO 110 Nutrition (14)
- [ ] BIO 120 Anatomy and Physiology (3)
- [ ] CRJ 118 Corrections in America (5)
- [ ] MAT 153 College Math and Statistics (6)
- [ ] OAT 152 Excel Level 1 (7)
- [ ] ECE 111 Childhood Nutrition and Safety (8)
- [ ] PSY 101 General Psychology (11)
- [ ] HIS 111 US History (13)
- [ ] Other, please list (10)

_____

Q3 How were you selected to teach this dual enrollment class?

_____

Q4 Have you taught a college level class before? At DTCC or other institution?

- Yes (1)
- No (2)

Q5 Did you attend adjunct inservice?

- Yes (1)
- No (2)

Q6 Did you attend any training with your department chair or mentor?

- Yes (1)
- No (2)

Display This Question:

If Did you attend any training with your department chair or mentor? = Yes

Q7 If yes, please explain what the training looked like

_____

Q8 How often do you have contact with your mentor throughout the semester?

- 1-2 times (1)
- 3-5 times (2)
- more than 5 times (3)
- never (4)

Display This Question:

If How often do you have contact with your mentor throughout the semester? = never

Q9 If you selected never, do you know who your mentor is?

- Yes (1)
- No (2)

Q10 How did you communicate with your mentor? Check all that apply

- [ ] Email (1)
- [ ] Phone (2)
- [ ] Text (3)
- [ ] video conference (4)
- [ ] other, please list (5) _____

Q11 How often has your mentor observed your class?

- ○ 3 or more times (1)
- ○ 2 times (2)
- ○ once (3)
- ○ never (4)

Q12 How do you resolve issues you have in your dual enrollment class?

_____

Q13 How prepared did you feel for the first day of class?

- ○ Very prepared (1)
- ○ Somewhat prepared (2)
- ○ A little unprepared (3)
- ○ Not prepared at all (4)

Q14 Why did you feel that way?

_____

Q15 What suggestions do you have to help new Dual Enrollment teachers be better prepared for the first day of class?

_____

Q16 Are you interested in teaching at the collegiate level in the future?

- ○ Yes (1)
- ○ No (2)

End of Block: Default Question Block

Appendix I

INTERVIEW PROTOCOL FOR ENERGY PATHWAY TEACHERS

Interview Protocol for Energy Pathway Teachers
General Information
At which high school are you employed?

How many years of teaching experience do you have?

At which schools have you been employed and how many years at each?

Describe the process for which you were selected to teach in your dual enrollment course.

How long have you been teaching in the Energy Pathway?

Have you taught any other courses at the collegiate level? If so what courses/when?

Describe your experience with the course you are teaching in the Dual Enrollment Program.

Have you faced any challenges?
- Probe? With course material
- Probe? With Blackboard
- Probe? With the institution/policies

What are some of the benefits you have found from teaching the dual enrollment courses?

How well prepared did you feel on the following items?
- Course material
- College requirement
- Blackboard

Summer Teacher workshop
Describe your experience with the summer teacher workshop.

Was this effective use of your time?

Do you think you would have attended if it was optional? (not tied to stipend?)

Did you feel there was anything missing in the summer teacher workshop?

Do you have any suggestions on how to improve the Summer Teacher workshop?

Probe- should it be earlier or later? Should it be longer or shorter? Should a survey be done before to determine needs?

Mentor relationships

Describe your relationship with your mentor. (Probe, do you know who is your assigned mentor? Have you met with him or her?)

What types of questions have you asked your mentor?

Was your mentor able to help you in a timely manner?

How prepared did you feel to start your course on the first day?

How comfortable did you feel in answering students' questions about course material/concepts? Or the Energy Pathways Program in general? About Delaware Tech?

Appendix J

SURVEY RESULTS

Overview

A survey was created and sent out to all faculty tagged as Dual Enrollment teachers within the Delaware Tech data base. The survey was sent to their Delaware Tech email and any other email address they had on file. In some cases this was their high school email address, and in others it was a personal email. Not all participants had a secondary email on file.

This survey contained basic questions on courses and school that they teach. Additionally, the teachers were asked how they were selected for their dual enrollment course, how they were prepared for the course and how they interacted with their Delaware Tech mentor.

Survey Sample

The survey was sent out to 82 dual enrollment teachers from around the state. All primary instructors in courses tagged as dual enrollment for the Spring 2017-18 school year were emailed a survey. All were sent to their college email and personal email, if one was indicated in their file. Their high school email was also used if it was posted on their school website. Forty (40) teachers agreed to participate in the survey, and 30 completed the entire survey. This resulted in a response rate of 49% and a completion rate of 37%.

The respondents taught at schools throughout the state. Table 6 shows the schools in which participants worked. The participants were spread almost equally throughout the three counties of the state. The highest number of teachers responding were from Delaware Military Academy; four teachers responded. Appoquinimink,

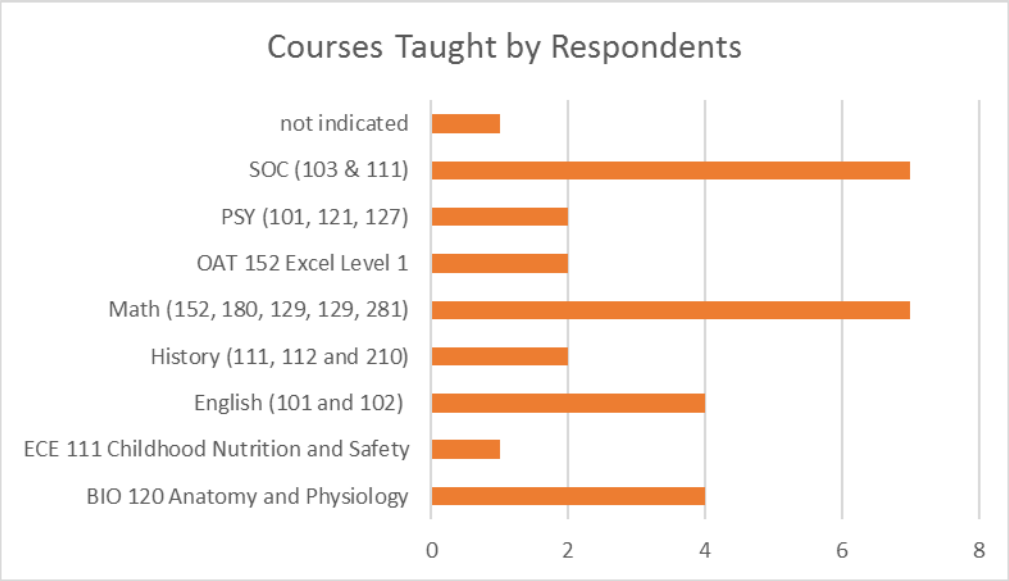
Milford, and Smyrna had three teachers from each school respond to the survey. Many schools only had one teacher respond. Four of the respondents did not indicate which at school they taught.

Table 6: High School Location

Appoquinimink High School	3
Caesar Rodney High School	1
Christiana High School	1
Delaware Military Academy	4
Indian River High School	3
John Dickinson High School	1
Lake Forest High School	1
Milford Senior High School	3
Polytech High School	2
Smyrna High School	3
St. Georges	1
Sussex Central High School	1
Sussex Technical High School	2
Not Indicated	4
Total	30

The respondents teach a variety of subjects, as shown in Figure 5. Sociology and Math instructors had the highest response rate with seven each. Sociology consisted of both SOC 103, Sustainability and SOC 111, Sociology and Society. Math teachers had a variety of classes in their response including (MAT 129, 153, 180, 190, 281). One of the Math teachers responded that he or she taught several different courses (MAT 281, 180 and 129). Additionally, several other teachers indicated they taught more than one course such as ENG 101 and 102; and HIS 111 and 112.

Figure 5: Course taught by Participating Teachers



Survey Instrument

The survey instrument was developed in Qualtrics. I spoke with several department chairs on my campus, who act as mentors, to gather their input on what questions to ask. The survey was sent to committee for review before submission to IRB. It was approved for research from IRB on April 16th, 2018 via expedited review. The survey was also approved by Delaware Tech's Vice President for Academic Affairs on April 23rd, 2018. The final instrument was emailed to the participants via Qualtrics and is available in Appendix H.

The survey covered demographic questions subject taught and high school. Additionally, the survey asked questions on how prepared the teachers felt at the start of class. The teachers were asked questions on how they were prepared for class, and how they interacted with their assigned mentor.

Analysis

After the survey results were collected, the data was exported into Excel. Counts and frequencies (and thus percentages) were collected for survey questions. For open ended questions trends were identified and discussed below.

How Selected to Teach

In order to look at alignment of instructor selection, respondents were asked how they were selected to teach this dual enrollment course. Most of the teachers responded that their principal, director or high school administrators asked them to do so. A few teachers also indicated that they previously or are currently teaching as an adjunct at Delaware Tech. A few teachers indicated that they previously taught the Advanced Placement (AP) course in their subject area. Two teachers reported they talked directly to the Department Chair at Delaware Tech.

Of the 30 teachers who responded to the survey, 16 of them, or 53%, reported that they previously taught at the collegiate level. All but one of the teachers surveyed indicated they would be interested in teaching for Delaware Tech in the future. This may be a recruitment strategy to find future adjuncts for the college.

Orientation before class starts

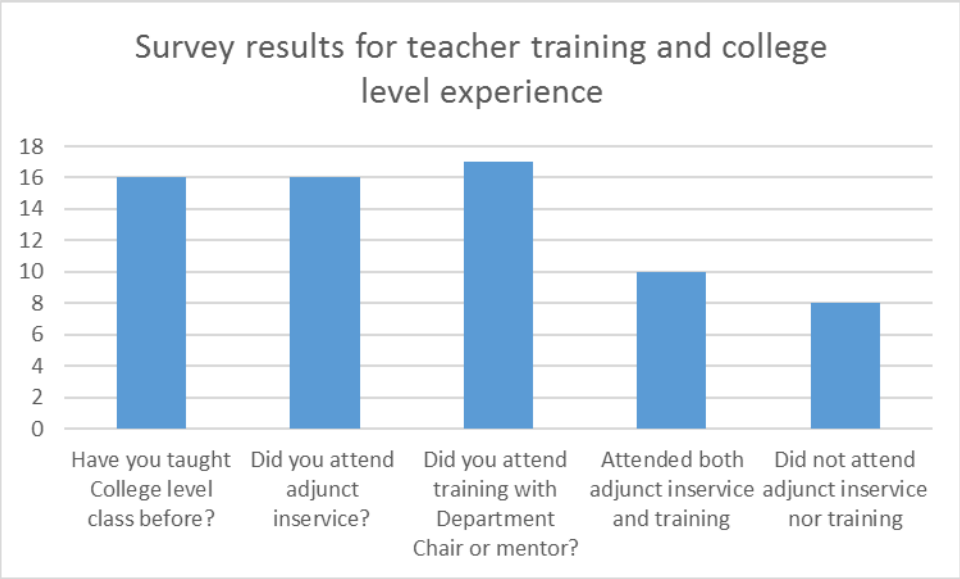
Delaware Tech hosts an Adjunct In-service the week before classes start. It is held in the evening and is usually about three hours long. While not required, adjuncts are strongly encouraged to attend. They are paid for their time and provided dinner. Details of the adjunct in-service, and a sample agenda are provided in Appendix A.

Just over half of respondents (16 out of 30 or 53%) indicated they had previous experience teaching a college level class, shown in Figure 6. The survey found that 16 dual enrollment teachers attended the adjunct in-service or 53%. Additionally, 17

teachers (57%) indicated that they attended training with their department chair or mentor prior to the start of class. A third of teachers (10 out of 30) participated in both the adjunct in-service and department training. These data is summarized in Figure 6. A total of 8 teachers (27%) stated that they neither participated in the adjunct in service or orientation with their department chair or mentor.

It is surprising that the count for dual enrollment teachers attending the adjunct in-service was only 53%. I am unsure if teachers are consistently encouraged to attend the orientation. The Department Chairs are required to invite all adjuncts to attend. Should dual enrollment teachers be required or encouraged to attend? This should be decided by administration and put into a consistent policy. Additionally, this number may be low, since over half of the participants have previously taught at the college level. Maybe this number is low because the teachers felt prepared enough and did not want to attend. All adjuncts are encouraged to attend but are not required. The only incentive to attend is the few hours pay, and dinner.

Figure 6: Teacher Training and Experience Teaching College Level Material

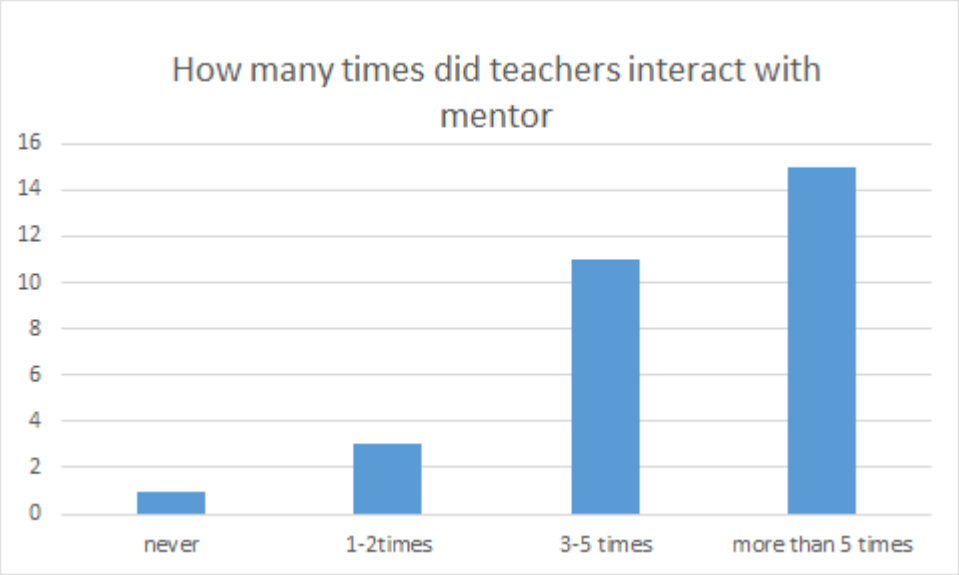


The teachers indicated that some departments had spring or summer meetings with other dual enrollment teachers. Some teachers indicated that the mentor came to the high school to go over curriculum, syllabus or Blackboard. One teacher reported they attended "Stanton campus summer meeting with other dual enrollment teachers." Some teachers reported meeting in groups, while other met one on one with their mentor.

Interactions with Mentor

Figure 7 shows the number of times the teachers reported interacting with their mentor. The college assigns mentors. Often, the mentor is the Department Chair in their subject area. Half (15 out of 30) of the respondents reported that they met with their mentor more than five times. Eleven (37%) of the teachers met with their mentor three to five times over the course of the semester.

Figure 7: Number of Interactions Teacher had with Mentor



One person reported not meeting with their mentor at all. In the follow up questions, it was determined that this person has been a long-time adjunct to Delaware Tech, and recently was asked to teach Dual Enrollment courses at a high school.

Three people, or 10% of respondents, reported interacting with mentor only one or two times. Two of those respondents reported they felt very comfortable with the material since they have been teaching the material for several years, and may not have needed as much guidance as some other dual enrollment teachers.

Most of teachers interacted with their mentor in a variety of ways as shown in Table 7. Email was the most popular method for interacting with mentor, with 93% reporting emailing their mentor (only 28 teachers answered this question, so 100% of teachers who responded used email to interact.) Half (15 out of 30) of teachers reported talking to their mentor on the phone. Six (20%) teachers said they texted with their mentor, and seven (23%) said they meet face to face with their mentor.

Table 7: How Teachers Interacted with Mentor

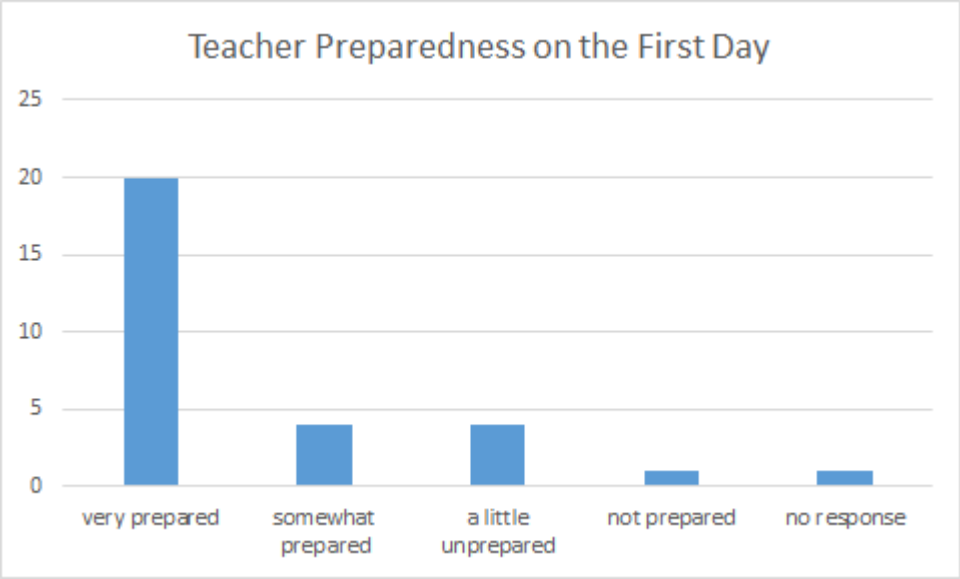
Email	28	93.3%
Phone	15	50.0%
Text	6	20.0%
In Person	7	23.3%
Did not answer	2	6.7%

How prepared for first day of class

In the survey, teachers were also asked how prepared they felt on the first day of class. Overwhelming, the teachers who responded felt prepared, as shown in Figure 8. Twenty respondents said they felt very prepared on the first day, which is 69% of teachers who answered this question. One person did not respond to this question. Four (14%) of the respondents indicated they felt someone prepared.

Many of the teachers who felt prepared indicated that they felt comfortable with the material and may have taught the course in the past. One teacher who felt "very supported" reported that the mentor "provided a lot of guidance, training and material." Another teacher reported "I was equipped with all the Instructor Guidelines and MPOs per units, so I knew exactly what I had to cover." Another teacher reported "My mentor did a great job getting me materials and answering all my questions."

Figure 8: How Prepared Teachers Felt on First Day of Class



Four (14%) teachers reported feeling "a little unprepared" for the first day of classes. One of those teachers indicated that he or she felt uncomfortable with the technology being used. "I have no knowledge of and was not trained in using blackboard." Two of the four teachers who felt "a little unprepared" reported receiving the course materials very close to the start of the class. One reported he or she only received the course materials 10 days prior to the start of class. Another said they indicated that level of preparedness "Because I had just received my course objectives a few weeks earlier. I did not understand what I was supposed to be teaching (depth, scope, etc.)". The recommendation by that teacher was to "Give DE (dual enrollment) teacher's materials in May so they can have the summer to prepare."

Only one person responded that they were not prepared at all. This person responded that they did not have the required text and assignments on the first day of class. Additionally, this teacher did not have access to Blackboard or a pacing guide.

This unprepared teacher reported this very troubling issue. "I had to contact my mentor to meet. My mentor provided me with four assignments to cover for the entire course. No text was given to me. No pacing guide or direction to course organization was provided. I had no access to Blackboard, and the only contacts that helped me were my prior college contacts." This teacher also commented "A book and instructional materials and course map should be provided prior to the course being taught. Supervisors at the school need to be trained to answer basic questions like how grades should be posted. Mentors at the college need to be trained to accurately answer questions because there was no consistency or accuracy in the information conveyed to me from the mentor or department chair from the Wilmington campus." The lack of consistency that this individual indicated is something I plan to address in my recommendations. Mentors should be given direction as to what information should be communicated to their mentee, and in what time frame.

Recommendations made by teachers

The teachers were asked if they had any suggestions for new Dual Enrollment teachers to be better prepared for the first day of class. Two teachers recommended observing a class being taught at the College. "Teaching high school and college is very different," reported one teacher. Another said, "Understand the difference between high school and college courses, understand the requirements for the course as dictated by the department, and treat the students as college students."

A few teachers mentioned that Blackboard as a way to improve their experience on the first day. "More proactive one-on-one contact with mentor and better Blackboard training," suggested one teacher. Several recommended reaching out to the mentor more frequently. "Don't be afraid to ask questions of your mentor."

Other teachers recommended looking at the course for the whole semester, and planning accordingly. This teacher recommended "Plan a schedule. Set up your grade book for the entire semester prior to the start of the course. Know what you're going to grade ahead of time." Along those lines, another teacher said, "Organization is key. The more organized we are between institutions, the better first day experience we have." Another teacher commented simply "Read through everything!!" and "Be prepared…over prepared." Several teachers also mentioned spending time over the summer getting prepared. One teacher recommended "Give DE (dual enrollment) teachers materials in May so they can have the summer to prepare."

Summary

A survey was created and sent out to all Dual Enrollment Teachers at Delaware Tech. This survey covered a variety of topics including how they were selected to teach and how they prepared to teach their course. The biggest factor on how prepared a teacher was for the first day of class was getting access to materials early. The teachers who reported they felt unprepared for the first day only received course materials including Blackboard access, textbook and assignments less than 2 weeks before classes start. In one case, the teacher did not have access to course materials on the first day.

Limitations

I manually had to pull data from the college's database. I selected courses that were tagged as Dual Enrollment. There was no way to differentiate between courses taught at the high school versus at the college. Many college instructors were emailed the survey. I received many emails from college faculty asking if they should finish the survey "It looks like it was designed for high school teachers." I manually had to remove full-time faculty from the email list, but I was only familiar with faculty on my campus (not the other campuses.) There were 40 people who agreed to take the survey, but only 30 completed, some of those incomplete surveys were clearly from fulltime college faculty who teach dual enrollment courses. I eliminated those results from the data set.

I did not ask or differentiate teachers who taught more than one class. It was clear from the results that some of the teachers teach several sections of dual enrollment such as several different Math or History courses. I also did not ask how long they had been teaching Dual Enrollment Courses. There is likely a difference in preparation for someone who has been teaching Dual Enrollment for many years, versus just starting out. Many respondents reported being very prepared and when asked why they reported this they responded they have been teaching the course for several years.

I would be interesting to compare the teacher's experiences with mentors. As I surveyed in the Pilot Plan, I am curious if the mentors would report the same/similar experiences. I would also be interested to know what recommendations for best practices the mentors could share.

Appendix K

INTERVIEW RESULTS

Interview Abstract

Three teachers, who participated in the Energy Pathways Dual Enrollment Program agreed to be interviewed about their experience. These teachers attended a teacher workshop in the summer prior to teaching their dual enrollment course. The teachers were asked about how they were selected to teach, how prepared they were, and challenges they faced in the classroom.

Interview Sample

The subjects selected to be interviewed were all part of the Energy Pathways Dual Enrollment Program. This group was selected to be interviewed because of the relationship I previously built with them and felt they would be more willing to participate. Additionally, these teachers would be receiving a stipend upon completion of their dual enrollment course and workshop, so I was able to leverage this to get a response.

The Energy Pathway is a group of three 3-credit courses and training that students in select schools can take. Students take two classes in the high school, and travel to Delaware Tech for an additional credit class and their Work Force Development Training. The pathway is described in more detail in Appendix A. During AY2016-17, students from Christiana, Smyrna and Milford High Schools participated in the Energy Pathway. Each high school provided an instructor for Excel (OAT 152) and Sustainability (SOC 103) courses. Excel and Sustainability class were taught by different teachers. The exception was Milford, which had the same teacher for both classes. In total of five teachers participated in the Energy Pathway, offering

six courses. The interview request was sent out to all teachers who participated in the Summer Teacher Workshop in 2016 and 2017.

Overall, three teachers agreed to complete the interview. Two of the three teachers who responded were from the same high school. For the purposes of anonymity, we will call the teachers Pat, Chris and Jamie. For this analysis, we will refer to the teachers as female and use only female pronouns. Pat and Chris teach at the same high school, which we will refer to as School A. Pat has taught for 21 years, and worked at one other school in the state prior to teaching at School A. Pat taught the Excel class. Chris has taught for five years at three different schools in Delaware and South Carolina. Chris taught the Sustainability Class. Jamie has been a teacher for 15 years and taught the Sustainability class.

Interview Protocol

The interview protocol was developed based upon my experience with the Energy Pathways. It was reviewed with committee prior to submission at IRB. The Vice-President of Academic Affairs at Delaware Tech. also reviewed the protocol prior to performing the interviews. The full list of questions is available in Appendix I.

Analysis

The interviews were recorded with permission and transcribed for evaluation. The questions were organized based upon topics asked of each participant. To ensure validity and reliability, an interview protocol was developed. The same questions were asked of all participants in the same order. The transcripts were analyzed for trends. Themes were identified in the transcripts and will be discussed below.

How teachers were selected for Dual Enrollment Pathway

The teachers in the pathway were asked how they were selected to teach. It appears that the school districts self-selected a few teachers and passed their resumes along to Delaware Tech. At one high school, the principal asked several teachers whom she believed would be good, and asked them to submit their resume for review by Delaware Tech. At all schools, it seems that principals or administration self-select, or narrow down the candidates. The principals sent selected resumes to the Dean of Instruction at Delaware Tech for review. Department Chairs and mentors did not have any input on teacher selection.

The procedure that the interview subjects discussed aligns with "Dual Enrollment Guidelines for High School" as detailed in document analysis found in Appendix D. The Dual Enrollment Guidelines is a part of Curriculum Guidelines at Delaware Tech. This is a dynamic resource at Delaware Tech were more academic policies are stored. If the teacher meets Delaware Tech's required educational requirements, they can teach the course at the high school for Dual Enrollment.

Pat reported the selection process went as follows "Our principal, came to a few of us and said, 'Hey we are getting ready to offer this pathway and we would really like you to apply.' So we had to submit a resume. From what I understand the resumes were submitted to you all." At school B, Jamie reported a similar experience. She said "I taught in the Environmental Science Pathway for 13 years, before I was selected for Energy Pathway. When the Energy Pathway program came around, they (my administration) asked me if I would be interested. I looked at some of the materials, and I agreed I would be interested in teaching the Sustainability course."

Challenges faced in Dual Enrollment Courses

The teachers were asked about the challenges they faced teaching the college curriculum in the classroom. The two biggest challenges reported were motivating students and using the course management software, Blackboard.

Several teachers indicated that getting motivated students into the class was a challenge. Enrollment into the Energy Pathways has been a challenge, and in the first year specifically, more students were recruited who may not have been very interested. This manifested in the classroom behaviors. Students who had no intention of continuing on for a degree in Energy Technologies did not see the relevance to their future careers. One comment Pat reported from the students was "I don't need this to graduate, so why bother?" She also, reported that some of the students stated that they "didn't want to be here, they didn't care. They had no desire or interest," particularly in the first year.

Jamie said getting the students to do the work, "Come to class, generally stay awake and participate in class," was the most difficult challenge of the pathway. Jamie reiterated her challenges throughout the interview. "I think if I had kids who were more interested in the pathway, it would have been better. I enjoyed the content, but it was hard to get the kids motivated. I don't think we did the best at promoting and advertising the program. I don't know if we got the kids who were necessarily best for the program. It was hard to get kids to participate to get them to work, to get motivated and excited about it. I enjoyed the training, the content, I enjoyed it all since it was in my wheelhouse but getting the kids on that level with me was difficult. They didn't really want to pursue (Energy Degree Programs) and they didn't see the value in it. It became frustrating for me."

Another challenge indicated by some of the teachers was using Blackboard. High Schools in Delaware are all using the course management software, Schoology. Delaware Tech uses Blackboard. The nature of Dual Enrollment required that teachers need to keep grades in both Schoology and Blackboard for reporting purposes at the respective schools.

Pat reported "Google was my friend the first year," as she googled questions on blackboard. Chris reported the most problems with Blackboard. When probed about her challenges with Blackboard, the first thing she said was "Yes, if I could choose not to operate in Blackboard, I would." She had an easier time the second time teaching it, and so did the students since she taught in the Spring semester in the second year. "This semester was better because the students already had a full semester of Blackboard before they came to me."

One solution Chris found was "To transpose the information into Schoology and then have the students access it that way. Then go back and put the grades into blackboard. It adds an extra step, but makes our class flow a lot easier." Pat and Chris also both said they would call each other to ask questions if they got stuck on something in Blackboard.

Jamie did not report many problems with Blackboard. She reported using Blackboard for her undergrad and Master's program, so she felt fairly comfortable with it. Anecdotally, Jamie is the person who answers a lot of questions on technology at her school. She reported less issues with the technology, but she appears to be someone who is a natural with technology.

Benefits of Dual Enrollment

The teachers were asked about any benefit they found from teaching the dual enrollment courses. Beyond the college credits the students can earn while in high school, the teachers indicated several other benefits of teaching the dual enrollment curriculum.

Chris indicated that this class was a "mental break for the day. I get to have higher level conversations, and we get to have discussions and debates and meaningful topics and conversations." For this teacher, this was a group of higher-level students that she doesn't normally teach, she is dual certified in Science and Special Ed, so she doesn't normally see the honors students. Her normal courses are the College Placement Inclusion setting, where she teaches General Science, Biology and Chemistry. She enjoyed that the course was designed for dialog, and not a one-way transmission of rote material, like many of her regular classes are.

Chris also discussed how she enjoyed the course because it "encourages them (the students) to become independent thinkers." She felt that "Up until their senior year, they always have done what they have always done and thought what they were told to think. This class really helped to make them think and form their own opinions about some controversial issues." The example Chris gave was about climate change. It is one thing to talk to people about what you believe, but this class really pushed "That professional level of respect and how to interact with someone who has differing opinions."

Jamie commented that it was beneficial for the students to see what college classes are like and the work required. "There is something beyond the four walls that they sit every day at school, you can make connections to the real world. There is a purpose for that course you are taking."

Pat said it was a benefit for the students to "Bring in real life a little bit more." It is one thing "to say, 'oh you are going to use this later,'" but then they can really see why they are learning a particular topic. Another "major selling point is that they are going to get credits where they are going." The students can earn credits that will directly apply to their major.

Summer Teacher Workshop

The teachers were asked about their experience with the summer teacher workshop, which they all participated in 2016 and 2017. The teachers were grouped by subject area. They came in for nearly a full day (9am-3pm). The teachers were paid a stipend for their participation, at the end of their course. Sample agendas are available in Appendix E.

The teachers had good things to say about both years, with 2017 being much better. Each school in this program is on a different schedule. Some of the comments include, "I liked to hear from other teachers to see what other activities they did beyond the school, to tie in the curriculum." Pat commented, "The first year, I felt like we went over more on the content, and how the course was laid out." In the second year, it was "new stuff, like projects we were doing." This teacher felt that the second year of the summer teacher workshop "...was not redundant for me, it was pretty useful to use the time to plan and make connections."

Chris recommended bringing in guest speakers who work in the Energy field to make the pathway more "real" for the students. While this might be difficult to do in every class, the teacher recommended working together with other dual enrollment classes and aligning a field trip or a guest speaker, so all the students could get access.

One challenge with the summer teacher workshop was that not all teachers started their class in August. Some of the teachers didn't start their course until January. Those who taught Spring semester did not feel the workshop was a relevant to them, as they will not being using the material immediately. Additionally, teachers with spring classes may not have had access to their blackboard shell during the workshop. It may be more useful to do the workshop more frequently about month before the teacher was offering the course each semester.

Mentor Relationships

The subjects of the interviews did appear to have good relationships with their mentors. This is probably not indicative of all Dual Enrollment Teachers, as all of the interview subjects participated in a summer teacher workshop prior to the start of their class. These teachers all met and had at least one full day to spend with their mentors. Chris said "I think it's great. Whenever I need something [my mentor was] there. I can text, I can email." Chris may have had a different perspective. She worked at Delaware Tech in the past, so she felt totally comfortable calling an IT person at the college if she had a problem.

Many of the questions they asked their mentors were "Mainly about blackboard." Jamie said most of her questions were "The first year it was 'how do I fill the time?'" Upon this interview, I found that this teacher had the students for about twice the hours as regular college class. All of the teachers reported that they had less contact with their mentors in the second year. They also felt much more comfortable with the material and understood Blackboard better.

The teachers interviewed had a few suggestions about what worked best for them. When they had a question, for the most part, the teachers would email mentors.

Pat reported, in most cases the responses were almost immediate, “Within 30 minutes he would answer.” These teachers were sometimes sent mass emails about reporting deadlines that Dual Enrollment classes are exempt from, and were often concerned about how to submit the requested information. For example, one teacher in the cohort was often sent emails from an admin because she had not completed the “Last Date of Attendance” reporting for financial aid. Every time this occurred, the teacher would email the mentor the email with a “How do I do this?” to which the mentor replied very quickly, “No it doesn’t apply.” Quick responses to simple questions was one of the ways the Energy Pathways teachers and mentors were able to work together so well.

The Excel class had a few instances where the teacher and students were stuck on something. Pat would email a question and put the file into Google Sheets. “I would have Google Sheets up, the students would have questions and he (mentor) and I would comment on those sheets with the kids, which was amazing.” The synchronous interaction with teacher, mentor and student seemed to work great, and no one had to wait until next class to get an answer. Pat also commented that she appreciated the mentors making contact. “Your little check-ins were great. It doesn't need to be a weekly thing, but at least every couple of weeks. Someone just needs to ask if you are okay? Do you have any questions?”

Summary of Research Findings

Three dual enrollment teachers were interviewed on their experience teaching in the Energy Pathway. These teachers worked at different schools and taught either Excel or Sustainability. One of the major challenges these teachers had was with student interest in the subject matter. Another major issue teachers had was using

Blackboard, a different course management software than what is required in the high school. The teachers in this group were all required to attend a summer teacher workshop and were later compensated. The teachers appeared to have strong relationships with their mentors, which may have been built from the summer teacher workshop.

Limitations of Research

One of the major limitations of this research was the limited number of subjects. The Energy Pathway had only five teachers participating in any given year. Only three of the five teachers responded. Upon further research, I found that one of the five teachers had resigned his teaching position before I asked for the interview. That teacher did not complete the course. At another school, the program was discontinued prior to offering the dual enrollment courses in AY2017-18.

Because all of the interview participants attended the Energy Pathway summer teacher workshop, they represent a more limited range of potential experiences in teaching. To strengthen this study, I could interview some teachers who did not attend the summer workshop to more fully discern the range of experiences of teacher participants. Additional data such as these would enhance the validity of the claims made in this section, as it would allow for me to gather both confirming and disconfirming data related to the themes outlined above.

I am a mentor to some of the teachers in the pathway, so my relationship with the subjects may have clouded the responses. I specifically asked the subjects to be honest, even if it was about their mentor, which could have been me. I probably biased the interview subjects based upon our relationship. Ideally, interviews should have been collected from a researcher not involved in the program.

Appendix L

TOOLKIT FOR MENTORS

Abstract

This section is about my recommendations for mentors to be successful. Law et al. (2014) recommends that role of mentor be defined clearly and that a formal approach be instituted by colleges and schools. The information suggested below are my recommendations for a tool kit for future mentors based upon my experience as a Dual Enrollment Mentor.

Resources Available in Toolkit

The resources I have put together are available on the website listed below.

https://mentortoolkit.home.blog/

These resources should be made available to all mentors of dual enrollment teachers. The intent is to give new mentors an outline of what information should be shared with new dual enrollment teachers. Included in the toolkit are the following items a syllabus for professional learning, sample activities, and a timeline. Additional resources on tips for mentoring are also available.

Syllabus

A syllabus was created to give mentors more direction on what should be covered in new adjunct orientation. In the document analysis, I found not a lot of direction for mentors. The survey results also indicated that there was not a lot of consistency in the orientation for new teachers. This syllabus was designed to flush

out what should be done to help prepare dual enrollment teachers. This syllabus is purposely general, so it will hopefully be adaptable to many subject areas. I would expect mentors to add on to it as the course fits. There may be specific issues that should be addressed in the professional learning as it relates to the course.

Sample Agenda

A sample agenda is given to hold a dual enrollment teacher workshop. This was based upon my experience with the energy pathways. However, I tried to make this sample agenda as general as possible. I strongly encourage giving the teachers some information about the college and programs available. It is important for part-time employees feel connected to the college. Additionally, these teachers may be some of the best advocates for Delaware Tech. If the course is specific to a program at the college, as it was in the energy pathway, it is important for the teachers to understand how the course fits into a degree program.

I am amazed by the number of times I am told "I had no idea Delaware Tech does that." It would be a good practice to take all dual enrollment teachers on a brief tour of some of the facilities we have at Delaware Tech. Even general education, including Math and English, should get this information as well. These teachers are going to be on the front lines to prospective students and should have a good idea about all the program the college offers. Additionally, we should inform teachers about the SEED program and Study Abroad, which are often recruiting tools for us.

Another best practice from the Energy Pathways STW was spending time talking about the "sticky" parts of class. Build in time in your agenda to allow the teachers to discuss. Course leaders brought in the "hard topics" or the most difficult assignments. Teachers could spend time talking and thinking about how to handle that problem. In the second year, this was not led by the Mentor so much, but time was given to the teachers to share their experiences.

Rubric Activity

A rubric activity is also provided in the tool kit. This is designed to help teachers keep consistent grading policies and practices between the high school and college class. Since students at both levels will be earning the same credit, it is important to keep the same standards. One strategy that worked well for the Energy Pathways workshop was to bring in student assignments and the rubrics. We spent some time grading the assignments based upon the rubric to ensure consistent grading across all courses.

Grading difference between high school and college standards is an issue that may come up. The rubric activity will hopefully help the teachers understand what the expectations is at the collegiate level. Also, it is important for teachers and faculty to understand that a student may possibly earn a different letter grade in the high school class and college transcript. At Delaware Tech, an A is 92 and above, however the high school may have different standards. At Delaware Tech, students must earn a

75% or higher to pass a class. It is possible for a student to pass their high course but fail according to Delaware Tech Standards.

Professional Learning Community Follow up

The literature says that one way to continue gains in professional development is through a professional learning community. Professional Learning Communities (PLCs) are groups of teachers who come together to work towards a common goal (Zepeda, 2012, p. 83). Mentors should coordinate a professional learning community of teachers in the same subject so that teachers can discuss challenges and best practices together. Teachers can serve as support groups for one another in improving their professional practice (Darling-Hammond & Richardson, 2009). Mentors should schedule the PLC follow up about once a month. Schedule the first meeting after the first few weeks of class. Likely the best time would be directly after school, unless the teachers share a common hour. This follow up can done remotely via zoom or other video conferencing software.

Recommended Timeline

A suggested timeline for new dual enrollment instructors is also given, as a resource for mentors. This timeline is a helpful to make sure mentors get new teacher access to the information they need to teach a dual enrollment course. Based upon the dual enrollment teacher survey, many of the problems were due to teachers not having

access to course materials. The timeline is given as resource so that mentors can make sure this information is given in a timely manner. One of the recommendations given in the survey was “give teachers access to materials in May, so they have the summer to prepare.”

One of the challenges of getting access to course materials has been getting access to Blackboard. The process of getting a DTCC user name and password often takes up to a week. Creating a course sites allows to import a Blackboard shell may be a work around and can be created in minutes. Additionally, some teachers keep resources in Google, so they don't have to upload new documents whenever small changes are made. Instead of posting documents and PowerPoint slides, instructors post links to google documents and slides. Giving the new teachers access to a Google folder with the course material is also good practice.

While some teaching assignments are made at the last minute, most Dual Enrollment assignments are made before the end of the previous school year. If at all possible, teachers should be given access to course materials before they leave for summer in June. That way, they have the option to review material over their summer break if they so choose.

How to be a Mentor

Surprisingly, in the document analysis, there did not appear to much information or direction for mentors. I have included some tips on how to be a mentor

for the faculty reference. This is by no means an all-inclusive list, but some tips for new mentors to get started.

The Importance of Access to Materials

Teachers need access to the textbook, assignments and course materials as soon as possible. Ideally get this information to the teachers by June, so they have time to look over during summer. The teachers are required to use the same approved syllabus, book and assessments as are detailed in the requirements "Dual Enrollment Guidelines for High School."

It takes time to get new hires access to Delaware Tech email system. Make sure to start the process as soon as the teachers are assigned. Teachers may need to do "New Hire Paperwork" in order to be assigned a blackboard course.

Compensating Part-time Faculty for Professional Development

Part-time faculty are asked to do a lot for very little pay. Compensating teachers for attending summer rewards them for giving up their free time for professional development. By providing a small stipend it shows that the college is investing in their continued success. A college in New Mexico piloted a program for a Distinguished Teaching Chair Award. This program gave a stipend of $150 and a certificate for adjunct faculty who completed four seminars on various pedagogical matters (Datray, Saxon and Martirosyan, 2014). Student retention in courses taught by

program completers increased by 7%. The modest stipend gave adjuncts the incentive to participate and had overall positive results in student success for the college. The argument against paying adjuncts more is the cost. It would cost more to pay adjuncts who complete a set number of courses more. Additionally, the college may have to run more the IDT courses if more adjuncts take them. However, other schools have shown that a small investment in adjunct professional development, including paying a small stipend for their time has to pay large dividends in adjunct retention and student success (Datry, Saxon and Martirosyan, 2014). The cost of recruiting and retaining adjuncts is significant, especially since Delaware Tech pays adjuncts much less than other colleges in the area.

Expectations of Participants

According the Curriculum Guidelines, mentors are paid to complete a number of tasks, one of which was "observe the high school teacher." Of the several mentors I talked with, only a few actually went to the high school and conducted teaching observations. More guidance should be given to the mentors on how to do this. It will require a lot of coordination and travel to conduct teaching observations off campus. The logistics should be clearly communicated to all mentors. I also believe that expectations of dual enrollment teachers should be more clearly defined. The institution should make clear if dual enrollment teachers should be treated as adjuncts. Should dual enrollment teachers attend adjunct in-service and other adjunct

orientation? Only about half of dual enrollment teachers surveyed in this work attended this training. Nearly 25% of dual enrollment teachers did not attend any orientation prior to teaching their course. The expectations for teachers should be clearly defined.

Conclusions

In conclusion, a toolkit was created to be distributed to faculty mentors of dual enrollment teachers. This toolkit of resources was created to support goal #3 "provide resources for mentors of my ELP. The toolkit contains many resources that will give mentors more guidance on how to be a mentor and what types of professional learning should occur. The toolkit is available at the following website: https://mentortoolkit.home.blog

References

Black, G. L., Olmsted, B., & Mottonen, A. (2016). Associate Teachers' Perceptions of Effective Mentorship Professional Development. *New Educator, 12*(4), 322-342. doi:10.1080/1547688X.2016.1207828

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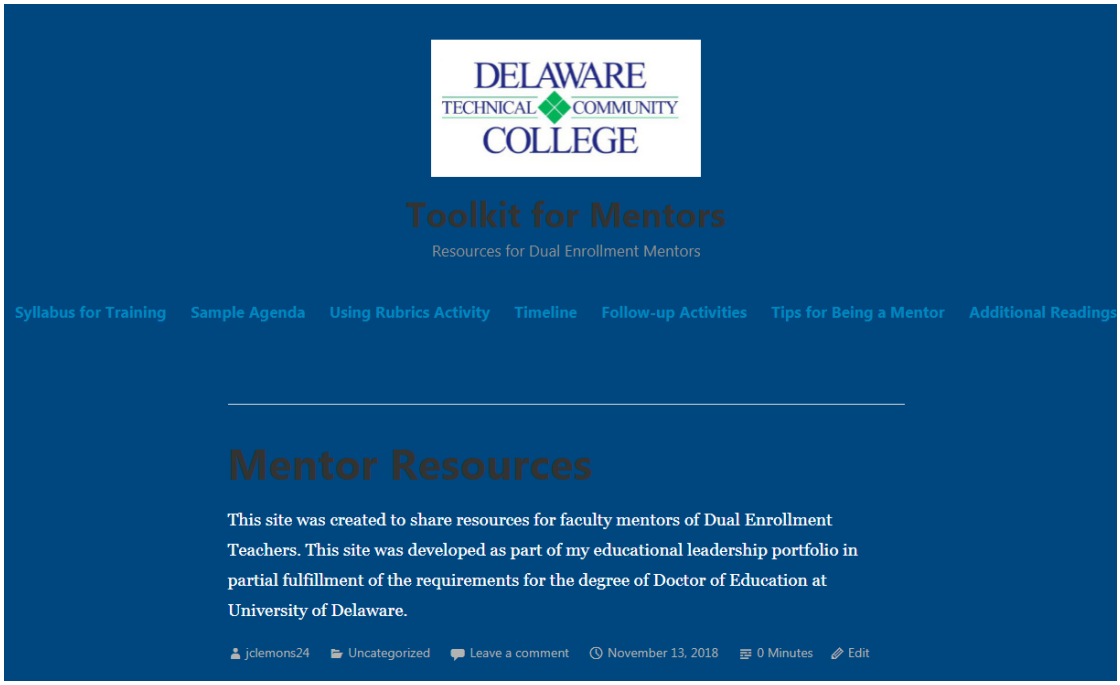
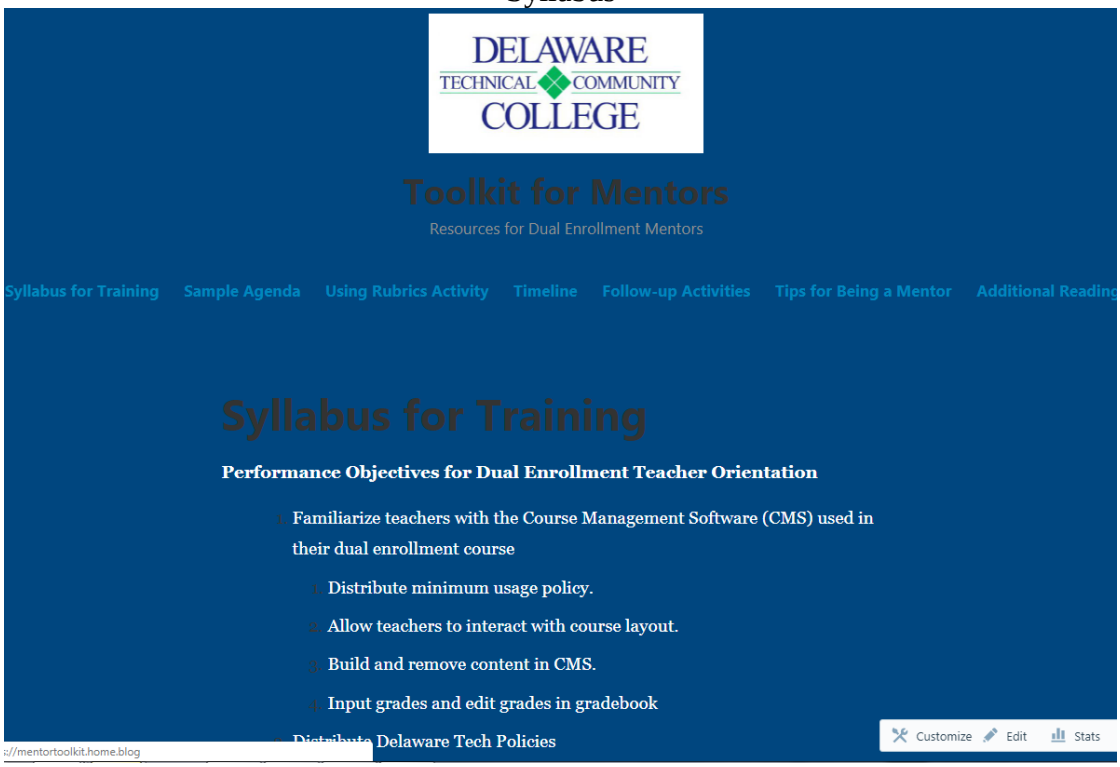
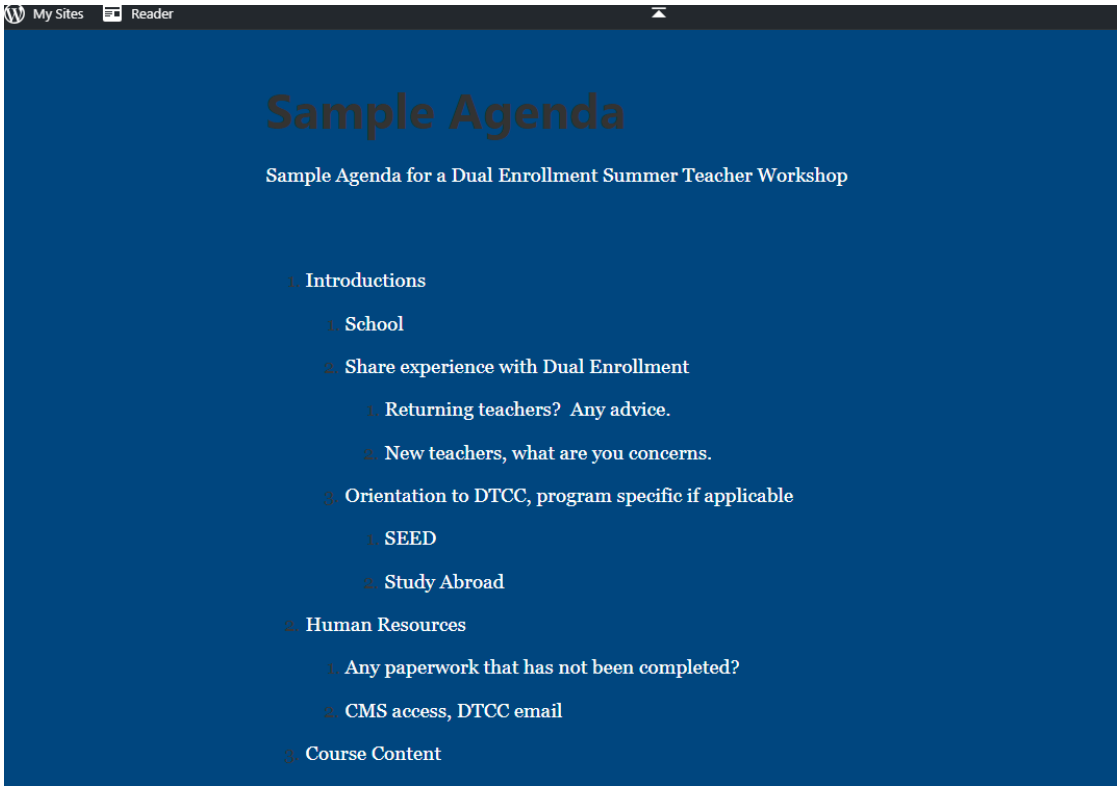
Documents from ToolKit Website



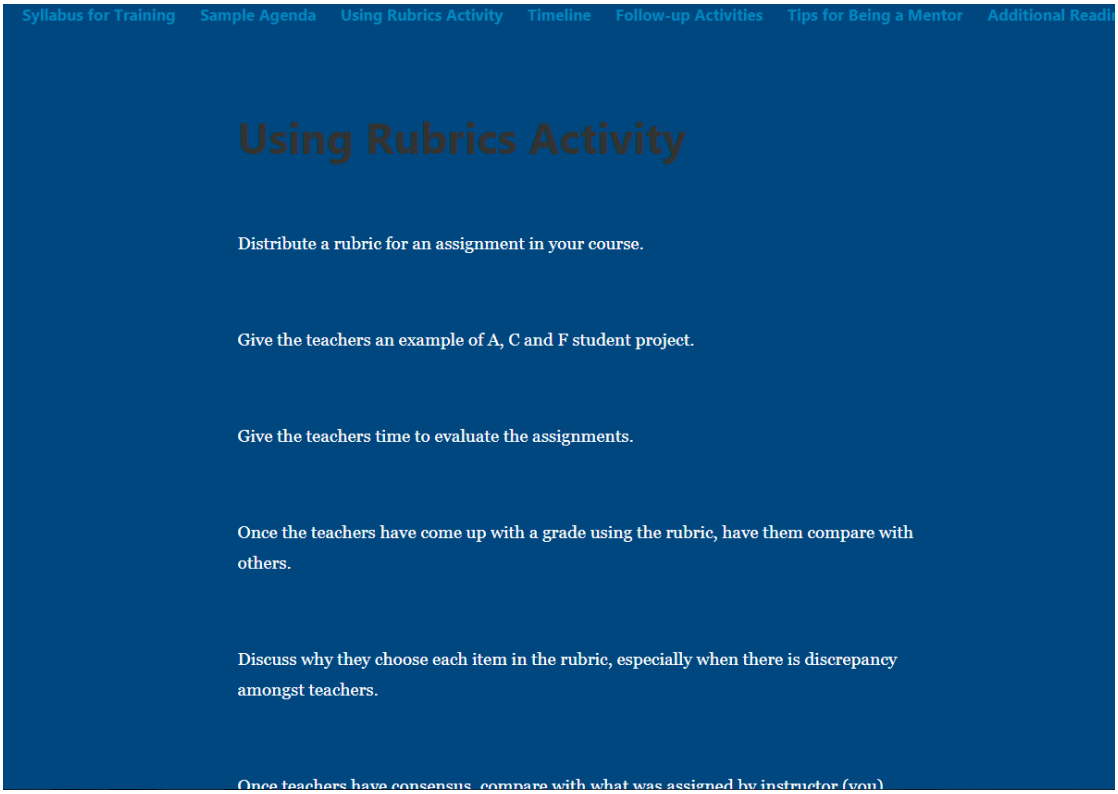
Syllabus


DELAWARE
TECHNICAL COMMUNITY
COLLEGE
Toolkit for Mentors
Resources for Dual Enrollment Mentors
Syllabus for Training
Sample Agenda
Using Rubrics Activity
Timeline
Follow-up Activities
Tips for Being a Mentor
Additional Readings
Syllabus for Training
Performance Objectives for Dual Enrollment Teacher Orientation
1. Familiarize teachers with the Course Management Software (CMS) used in their dual enrollment course
1. Distribute minimum usage policy.
2. Allow teachers to interact with course layout.
3. Build and remove content in CMS.
4. Input grades and edit grades in gradebook
Distribute Delaware Tech Policies
://mentortoolkit.home.blog
Customize
Edit
Stats

Sample Agenda



Using Rubrics Activity

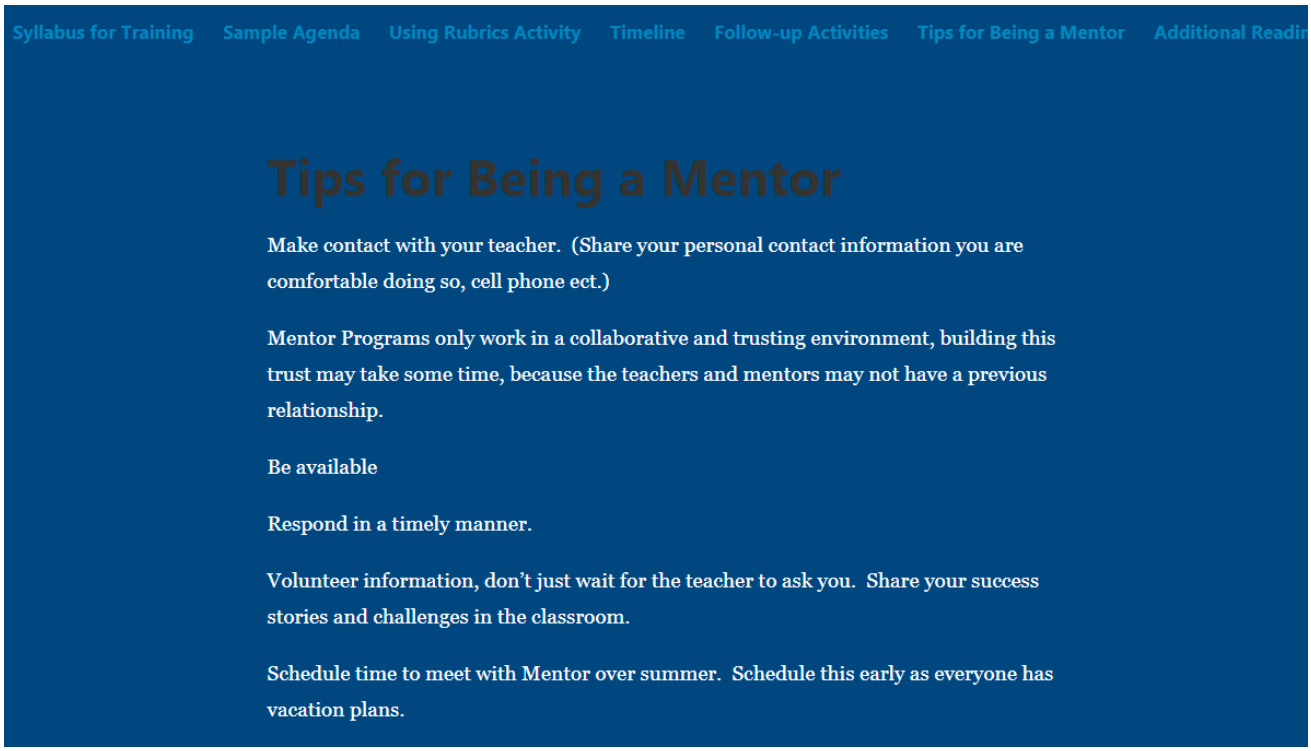


Timeline


My Sites
Reader
Recommended Timeline
For Fall Classes
May– Teachers selected for Fall Courses.
Mentors/DCs may have to do "New Hire paperwork" for new Dual Enrollment teachers. Do this early, so can get them access to Blackboard.
Schedule time to meet in July or August to cover material. Schedule this early, since everyone may have vacations scheduled.
Invite teachers to sit in on a class.
June– Make sure teachers have access to all resources including Blackboard Site, Textbook, assignments and sample schedule.
Make sure that teachers are mentors are connected to each other (via email, school or personal, and cell phone. Determine which email address they will check over the summer.)

Follow up Activities

Tips for Being a Mentor



Follow up Readings on Mentorship

APPENDIX M
IRB APPROVAL

RESEARCH OFFICE

210 Hullihen Hall
University of Delaware
Newark, Delaware 19716-1551
Ph: 302/831-2136
Fax: 302/831-2828

DATE: April 16, 2018

TO: Jennifer Clemons
FROM: University of Delaware IRB

STUDY TITLE: [1218087-1] A Professional Development Plan for High School Dual Enrollment Teachers
IRB REFERENCE #:
SUBMISSION TYPE: New Project

ACTION: DETERMINATION OF EXEMPT STATUS
DECISION DATE: April 16, 2018

REVIEW CATEGORY: Exemption category # *(enter category)*

Thank you for your submission of New Project materials for this research study. The University of Delaware IRB (HUMANS) has determined this project is EXEMPT FROM IRB REVIEW according to federal regulations.

We will put a copy of this correspondence on file in our office. Please remember to notify us if you make any substantial changes to the project.

If you have any questions, please contact Nicole Farnese-McFarlane at (302) 831-1119 or nicolefm@udel.edu. Please include your study title and reference number in all correspondence with this office.

cc: