THE BARRIERS AND FACILITATORS OF SPECIAL EDUCATION SERVICE DELIVERY MODELS: SINGLE APPROACH TO MASTERY AND TEAM APPROACH TO MASTERY

by

Bridget Duda

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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Finally, I want to dedicate my Educational Leadership Portfolio to my two children, Isabella and Aidan. I hope that one day when you look back at your childhood, you will recall the time I spent working on my doctorate and realize that dreams do come true. That you can achieve anything, as long you put your mind to it. It just takes time, perseverance, and a few sacrifices, but once you achieve it, the feeling is incredible. So, whatever your passion is in life, do not let fear keep you from moving forward, go for it, and become the best there is. The world is your oyster.

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ABSTRACT

At the University of Delaware (UD), I work as a field instructor, supervising 4+1 elementary special education teacher candidates in public elementary schools, henceforth referred to as *teacher candidates*. I have noticed significant inconsistencies in the services rendered to students with disabilities in Delaware, particularly those students coded as "least restrictive environment (LRE) A". To meet these students' needs, Delaware primarily uses two service delivery models to provide specialized instruction: single approach to mastery (SAM) and team approach to mastery (TAM) (i.e., coteaching). While SAM uses one teacher who takes on the roles of both general education and special education teacher, TAM uses two teachers (one general education and one special education teacher). I questioned whether teacher candidates in SAM and TAM classrooms were getting the exposure and experiences they needed to become successful, highly qualified special education teachers. Given this question, I wanted to learn about the barriers that affected a SAM or TAM teacher's ability to provide specialized instruction to students with disabilities, so I could better support the growth of teacher candidates.

The purpose of this Educational Leadership Portfolio (ELP) was to identify the barriers and facilitators of SAM and TAM, so that I could proactively instruct teacher candidates how to: navigate and overcome the barriers of SAM and TAM service delivery models, avoid burnout, and reduce attrition. I also wanted to use this data to inform future conversations and make field placement recommendations to UD's Office of Clinical Studies. To accomplish these goals, I created seven artifacts to

address three broad topics: (1) Barriers and Facilitators of SAM and TAM, (2) Professional Development (PD), and (3) Policy.

Findings from these artifacts culminated in a PD Plan and a Policy Document, where the PD Plan addresses the barriers and facilitators of SAM and TAM, while the Policy Document makes three recommendations to improve the quality of teacher candidates UD produces. The three recommendations are: (a) carefully select special education clinical educators, (b) prioritize TAM classrooms over SAM classrooms for special education teacher candidate placements, and (c) ensure that teacher candidates and educators learn about the barriers and facilitators of SAM and TAM. The next steps include implementing the PD plan and conducting a longitudinal study to determine whether the recommendations in this ELP affect attrition rates of EDUC 750 Graduate Teaching Internship alumni in special education.

Chapter 1

INTRODUCTION

I work at the University of Delaware (UD), where I supervise and mentor special education majors throughout their graduate internship. I also coordinate the Masters (MEd) in Exceptional Children and Youth 4+1 program, through which undergraduate education majors at UD can earn their bachelor's and master's degrees in five years.

Because I work as a field instructor, supervising UD teacher candidates in the 4+1 program, predominantly in public elementary schools, henceforth referred to as *teacher candidates*. I have noticed significant inconsistencies in the services rendered to students with disabilities in Delaware, particularly those students coded as least restrictive environment (LRE) A. To meet these students' needs, Delaware has developed a unique approach to special education service delivery called single approach to mastery (SAM), in which one teacher takes on the roles of both general education and special education teacher. The second approach is called team approach to mastery (TAM) (i.e., coteaching). Coteaching is an organizational approach where one general education teacher "with expertise in understanding, structuring, and pacing of the curriculum; and one special education teacher, an expert in identifying students' unique learning needs and adapting the curriculum and instruction

accordingly" (Cothren-Cook, McDuffie-Landrum, Oshita, & Cook, 2017, p. 233) share responsibilities in the classroom.

Given the presence of two service delivery models for LRE A, I was concerned that without specific mentoring and professional development on SAM and TAM, UD's teacher candidates might not be adequately prepared to take on the challenges that come with each service delivery model. This possible lack of preparation, in turn, may affect Delaware's ability to retain special education teachers. Therefore, the purpose of this Educational Leadership Portfolio (ELP) research was to learn about the barriers and facilitators of SAM and TAM, so that I can proactively prepare EDUC 750 teacher candidates to persevere in special education or become a statistic to the ongoing problem of teacher attrition, a well-known issue in the field (Billingsley, 2004; Borman & Dowling, 2008; Certo & Fox, 2002; DeAngelis & Presley, 2011; Ingersoll, 2001; Nance & Calabrese, 2009; Samuels & Harwin, 2018). Specifically, my goal is to help prepare teacher candidates by providing them with guidance and relevant professional development on how to overcome the barriers identified in this research, to persevere and avoid burnout with the goal to reduce special education attrition in Delaware. Secondly, I wanted to use this research to inform conversations and make field placement recommendations that support the growth of EDUC 750 teacher candidates with UD's Office of Clinical Studies and other stakeholders (e.g., principals).

Therefore, I sought to learn more about the issues (e.g., administrative support, student characteristics, classroom size, professional development, data collection, and

paperwork) that affect the quality of special education services, and the conditions that must be put in place to ensure UD's teacher candidates are successful in meeting students' needs, remain in the field, and are prepared to teach in SAM and TAM classrooms. I wanted to investigate the barriers and facilitators of SAM and TAM in light of the following critical questions:

1. How do special education directors decide what service delivery models are used for the LRE A in their district? What factors (e.g., budget, human resources, educational philosophy, and teacher evaluations) do they consider as part of their decision-making process?
2. What are the barriers and facilitators (e.g., pull-out services and push-in services) that affect SAM and TAM teachers' ability to provide specialized instruction to students with disabilities?

Then, using the two research questions, I identified three topics to guide this portfolio: barriers and facilitators of SAM and TAM, professional development, and policy. I completed seven artifacts to address these topics. Figure 1 shows how those seven artifacts relate to the research questions.

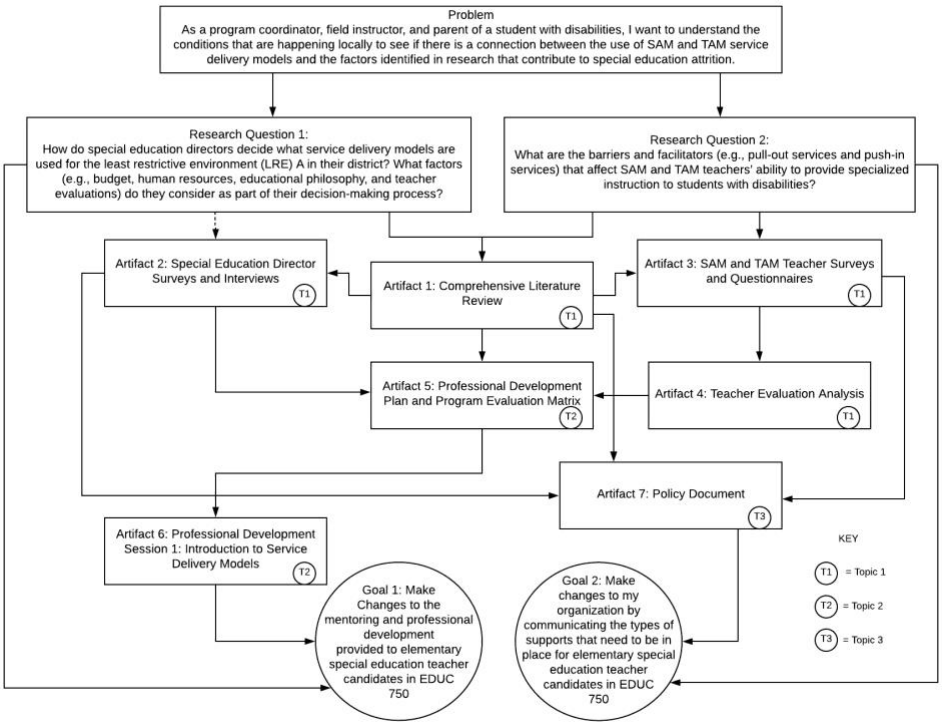

Figure 1 Research questions and artifacts.

Within the first topic, barriers and facilitators of SAM and TAM, I completed four artifacts: a comprehensive literature review, two mixed-method studies that consisted of special education director surveys and interviews and SAM and TAM teacher surveys and interviews, and a teacher evaluation analysis. The findings in those four artifacts provided research to guide topic two, professional development, and topic three, policy (see figure 1).

For the second topic, professional development, I used the findings from the first topic to create a professional development (PD) plan and program evaluation matrix, and a PowerPoint presentation and lesson plan for PD Session 1: Introduction

to Service Delivery Models. For the last topic, I created a policy document to assist the Office of Clinical Studies and other stakeholders who make special education placement recommendations in their understanding of special education service delivery models. The policy document makes recommendations on how to improve the quality of the special education teacher candidates that UD produces.

Lastly, I organized the results of this ELP into chapters. In chapter 2, I will address the problem of special education teacher attrition and Delaware's use of SAM and TAM service delivery models. Within the chapter, I discuss my roles and responsibilities as (a) the program coordinator for the University of Delaware 4+1 Master's in Exceptional Children and Youth, and (b) a field instructor to EDUC 750 teacher candidates. I also discuss how I plan to address the barriers and facilitators that affect special education teachers' success. In chapter 3, I describe the specific actions and improvement strategies guided by the findings from the completed artifacts. In chapter 4, I discuss the results of my improvement strategies and planned implementation of the following artifacts: Artifact 5, Professional Development Plan and Program Evaluation Matrix; Artifact 6, PD Session 1, Introduction to Service Delivery Models; and Artifact 7, Policy Document. In chapter 5, I reflect on my improvement strategies, discussing what worked, what changes I would make, and what I would recommend for the future. Finally, in chapter 6, I reflect on my current and future growth as a scholar, problem-solver, and leader.

Chapter 2

PROBLEM ADDRESSED

Located in Newark, the University of Delaware (UD) is the largest public university in Delaware and nationally recognized as a research one (R1) university. An R1 recognition means that UD engages in the highest level of research activity among universities in the United States, where top researchers and scholars contribute to the growing body of research in their select fields. Within UD, there are eight colleges and four schools, and because UD employs top researchers and scholars, the College of Education and Human Development, School of Education, graduate programs rank in the top 50 in *U.S. News and World Report* (2019). Additionally, the School of Education is nationally accredited and offers undergraduate and graduate programs. Programs include an associate and bachelor of arts in elementary education. The graduate programs include the 4+1, where students can earn their bachelor's and master's degrees in five years; masters and specialist programs (e.g., MA/EdS, MA, and MEd); and doctoral programs (e.g., EdD, and PhD).

At UD, I have a dual role as a program coordinator and field instructor for the 4+1 Masters in Exceptional Children and Youth program, which allows me to work in both higher education and P–12 settings. My role as a program coordinator has more administrative functions, whereas my role as a field instructor gives me the authority to design and implement changes to course instruction (e.g., mentoring and professional development) to teacher candidates enrolled in EDUC 750.

4+1 Students. According to the Office of Equity and Inclusion Annual Report (2018), the School of Education had 510 undergraduate and 349 graduate students in fall 2018. Of the 349 graduate students, 39 were in the Masters in Exceptional Children and Youth 4+1 program (this data set includes admitted seniors taking graduate coursework and +1 year students). Since the 4+1 program began accepting students in 2013, 85 students have completed the program, with another 17 expected to complete the program in 2020. There are also an additional 25 students who have accepted admission and are expected to complete the 4+1 program in 2021. Of the 17 expected to graduate in 2020, 13 (76%) are in the elementary special education track, and the remaining four (24%) are in the autism and severe disabilities track, where they previously completed their undergraduate special education concentration in early childhood (birth–2nd grade) or elementary special education (kindergarten–6th grade). Therefore, given that 76% of current 4+1 students (i.e., 2020 graduates) are placed in either an elementary SAM or TAM classroom, and the remaining 24% previously completed their special education placement in either a SAM or TAM classroom, it is imperative that I, as the 4+1 program coordinator and field instructor, understand the barriers and facilitators of both models so that I can better mentor and provide relevant professional development to the EDUC 750 teacher candidates. By proactively helping EDUC 750 teacher candidates manage those identified barriers of SAM and TAM, we might be able to increase the available clinical educators for future EDUC 750 teacher candidates. Therefore, as program coordinator, I must also consider recruitment and retention data of special education teachers.

Recruitment and Retention Data. In 2014, the Delaware Department of Education released a report on its website titled *Educator Effectiveness in Delaware: Recruitment to Retention*. In the report, 821 new teacher hires from comprehensive, vocational, and magnet schools were tracked for four years from the 2007–8 school year through the 2011–12 school year. Of the 821 new hires, only 63.5% of those teachers remained in teaching in Delaware at the end of that time. In my role as a field instructor, I view Delaware's ability to retain teachers as an area of concern because if 46.5% of new teachers are leaving within the first four years, then this attrition rate significantly reduces the Office of Clinical Studies' ability to place teacher candidates with highly qualified teachers. There are fewer teachers available to serve as clinical educators for teacher candidates, making it difficult for the Office of Clinical Studies to find enough high-quality clinical educators for all teacher candidates. However, what is even more concerning is that, according to the Center on Personnel Studies in Special Education (2004), special education teacher attrition is twice that of general education teachers. So, it is reasonable to assume that of the teachers who left Delaware over the four years of 2007–8 through 2011–12, approximately 24% were special education teachers.

National data suggests that most teachers who leave special education do so within the first three to five years of entering (Boe, 2014; Borman & Dowling, 2008; Certo & Fox, 2002). Reasons for exiting special education are varied. According to Boe (2014), "overall exit attrition accounted for 40%, out-switching to general education accounted for 46%, and growth accounted for the remaining 14%" (p. 71).

Boe and other researchers suggest that age, teacher qualifications, work environment (e.g., administrative support, professional development, mentoring), stress (e.g., paperwork, legal mandates, high caseloads), and salary are contributing factors to special education attrition. To combat attrition, researchers recommend that districts offer financial incentives (e.g., loan forgiveness and higher teacher pay), reasonable work assignments and influence over the work environment, classroom assistance, mentoring, and professional development programs (Billingsley, 2004; Boe, 2014; DeAngelis & Presley, 2011; Nance & Calabrese, 2009). Therefore, teacher candidates must receive professional development on the barriers and facilitators of SAM and TAM in order to be able to manage the demands of special education.

In addition to using the data provided in the *Educator Effectiveness in Delaware: Recruitment to Retention* (2014), and the Center on Personnel Studies in Special Education's report (2004) to guide this ELP, I have been encouraged by my role as a field instructor. I supervise and mentor special education teacher candidates in Delaware public schools, and I have noticed inconsistencies in across the state in services rendered to students with disabilities who are coded as least restrictive environment (LRE) A, which means that they spend 80% or greater time in the general education classroom. To meet these students' needs, Delaware has developed a unique approach to special education service delivery called single approach to mastery (SAM), in which one teacher takes on the roles of both general education and special education teacher. The second approach is called team approach to mastery (TAM) (i.e., coteaching). Coteaching is an organizational approach where one general

education teacher "with expertise in understanding, structuring, and pacing of the curriculum; and one special education teacher, an expert in identifying students' unique learning needs and adapting the curriculum and instruction accordingly" (Cothren-Cook et al., 2017, p. 233) share responsibilities in the classroom.

In observing the differences in service delivery between these two models, I became concerned that the quality of SAM and TAM placements may be affecting Delaware's ability to hire and retain highly qualified special education teachers. Indeed, it is reasonable to assume that the problem of attrition may start with the quality of the field placements that special education teacher candidates experience in their preservice training. Specifically, I became concerned that teacher candidates who only experience one model (i.e., either SAM or TAM) may not be able to develop the knowledge, skills, and dispositions needed to be highly effective and to persevere in the profession. For instance, in SAM classrooms, teacher candidates have the additional responsibilities of teaching general education students, which makes it challenging to become proficient in adapting the curriculum and instruction for students with disabilities. Likewise, in some coteaching settings, there may be issues with parity, multiple partners, common planning time, frequent use of the coteaching model one- each, one assist, and lack of training and administrative support (Conderman & Hedin, 2015, 2017; Isherwood, Barger-Anderson, & Erickson, 2012; Scruggs, Mastropieri, & McDuffie, 2007). Currently, there is no professional development in place to address the different demands of SAM and TAM. Therefore, I want to mentor and provide EDUC 750 teacher candidates with professional

development on the barriers and facilitators of SAM and TAM to ensure that teacher candidates are sufficiently prepared to be effective and persevere in the profession.

Improvement Goal

To ensure that teacher candidates are sufficiently prepared for the profession, I want to use my leadership skills to proactively address special education attrition. I believe that we can increase Delaware's ability to hire and retain highly qualified special education teachers by addressing — through the mentoring and professional development I provide to teacher candidates in EDUC 750 — the reasons (e.g., professional development, mentoring, and potential stress caused by paperwork, legal mandates, and high caseloads) that researchers cite as the cause of special education attrition. In addition, I want to make recommendations to the UD Office of Clinical Studies and other stakeholders (e.g., principals) regarding the types of special education placements that are suitable for elementary special education teacher candidates.

Therefore, elementary special education teacher candidates in EDUC 750 must receive professional development on the SAM and TAM service delivery models used in Delaware elementary schools. Otherwise, UD's teacher candidates may not be adequately prepared to take on the challenges that come with each model of service delivery, should they accept a SAM or TAM position. For those reasons, this ELP has led me to make significant changes to the mentoring and professional development that I provide to teacher candidates in EDUC 750.

Specifically, all EDUC 750 teacher candidates will receive professional development on both models. However, the requirements for teacher candidates will vary and depend on their EDUC 750 placement (i.e., SAM or TAM classroom). For example, during seminars, the other field instructors and I will model three (i.e., station, parallel, and alternative teaching) of the six coteaching methods outlined in the article *Welcome to Co-teaching 2.0* by Marylin Friend (2016). By differentiating and using these coteaching models in seminars to cover different topics, we will better prepare teacher candidates to use them in the classroom. For example, when I model station teaching, teacher candidates who are in SAM settings will learn how to manage their workload and design classroom instruction that is seamless, which means going from differentiation to direct instruction. Teacher candidates in TAM classrooms, conversely, will learn how to design and implement lessons with their clinical educators to try the three coteaching models.

Furthermore, I hope that teacher candidates will utilize the resources they receive through the mentoring and professional development provided in EDUC 750 seminars and remain in Delaware. Additionally, if EDUC 750 alumni remain in Delaware, they may opt to serve as clinical educators to future EDUC 750 teacher candidates, and I am therefore helping to create a pool of high-quality educators.

Chapter 3

IMPROVEMENT STRATEGIES

This Educational Leadership Portfolio (ELP) focused on identifying the barriers and facilitators of two special education full-inclusion service delivery models used by Delaware public schools to provide specialized instruction to students with disabilities — single approach to mastery (SAM) and team approach to mastery (TAM) — so that I could make changes to the mentoring and professional development that I provide to EDUC 750 teacher candidates. I sought to proactively instruct teacher candidates on how to navigate and overcome the barriers of SAM and TAM service delivery models to avoid burnout and reduce attrition. This data will inform future conversations and make field placement recommendations to UD's Office of Clinical Studies to support the growth of teacher candidates.

To ensure that teacher candidates are sufficiently prepared to be effective and persevere in the profession, I want to use my leadership skills to proactively prepare teacher candidates to manage the barriers and facilitators of both models — through the mentoring and professional development I provide to teacher candidates — some of the reasons (e.g., professional development, mentoring, and barriers to serving special education students in the classroom) that researchers cite as the cause of special education attrition. In addition, I want to make recommendations to the UD Office of Clinical Studies and other stakeholders (e.g., principals) regarding the types of special education placements that are suitable for elementary special education teacher candidates.

Because I work as a university program coordinator and field instructor who primarily supervises and mentors teacher candidates in elementary settings, the improvement strategies and recommendations in this ELP focus on the barriers and facilitators of SAM and TAM service delivery models in these elementary settings, rather than secondary schools. To achieve the improvement goal, I completed seven artifacts that addressed three different topic areas:(1) barriers and facilitators of SAM and TAM, (2) professional development, and (3) policy recommendations (see also figure 1 in chapter 1).

Topic 1: Barriers and Facilitators of SAM and TAM

This topic included the following artifacts: a comprehensive literature review, special education director surveys and interviews, SAM and TAM teacher surveys and questionnaires, and a teacher evaluation analysis. These artifacts were intended to (a) help me identify the barriers and facilitators of SAM and TAM that affect a special education teacher's ability to provide students with disabilities with individualized instruction as dictated by the individualized education program (IEP) and (b) guide the completion of the remaining artifacts for this ELP (i.e., those described in the following topic areas). The teacher evaluation analysis was intended to determine whether there is any misalignment between the Delaware Performance Appraisal System - II (DPAS-II), used to evaluate teachers, and the Council for Exceptional Children (CEC) Professional Standards, used by teacher preparation programs across the United States. I also used these evaluation findings to support specific actions in surveys, interviews, the PD session one plan, and the policy document.

Artifact 1: Comprehensive Literature Review. I conducted a comprehensive literature review to learn the factors that facilitate effective coteaching and the factors that prevent effective coteaching (i.e., barriers) so that I could make improvements to the mentoring and professional development I provide to teacher candidates. I used selective citation of the coteaching literature, based on a series of keywords. In field one, I entered: *team teaching*, *teaching teams*, *coteaching*, *coteach*, *cooperative*, *collaborative*, *triad*; in field two: *regular and special education relationship*; and in field three: *coteaching*, *co-teaching*, *coteach*, *co-teach regular and special education relationship*. I also limited my search to scholarly (peer-reviewed) journals, and to studies published since 2004 when Congress reauthorized the Individuals with Disabilities Education Improvement Act. The search netted 52 articles. Upon further reading, I discovered that some articles did not meet the inclusion criteria due to the subject matter (e.g., preservice teachers and coteaching, coteaching in multiple grades or middle and high school) or geographic area (e.g., outside of the United States). After I applied these exclusion criteria, 15 articles remained. However, of the articles identified as acceptable, there were several authors with repeated research on coteaching, which prompted an additional author search where I entered the author's name (e.g., Friend) in field one, and in field two (limited to titles) the keywords *coteaching*, *co-teaching*, *coteach*, *co-teach*. This search spanned the years 2004 to present and produced an additional six articles. Overall, I reviewed 21 articles, and my synthesis of the literature identified the following six factors as facilitators, barriers, or both to effective coteaching in elementary schools: philosophy of coteaching,

professional development, compatibility and rapport, scheduling, balance of responsibilities, and conflict. Those six factors influenced artifacts 2 and 3, which involved surveys and interviews/questionnaires of special education directors and SAM and TAM teachers, respectively. Specifically, I created questions on surveys and interviews or questionnaires that asked directors and SAM and TAM teachers about how often those factors affect student outcomes. The literature review also informed the remaining artifacts in this ELP.

Artifacts 2 and 3: Surveys, Interviews, and Questionnaires. I wanted to learn about the barriers and facilitators of SAM and TAM in Delaware school districts so that I could make changes to the mentoring and professional development I provide to EDUC 750 teacher candidates. Therefore, two artifacts were created to answer the following research questions:

1. How do special education directors decide what service delivery models are used for the LRE A in their district? What factors (e.g., budget, human resources, educational philosophy, and teacher evaluations) do they consider as part of their decision-making process?
2. What are the barriers and facilitators (e.g., pull-out services and push-in services) that affect SAM and TAM teachers' ability to provide specialized instruction to students with disabilities?

To answer these questions, I decided to survey and interview Delaware special education directors (artifact 2) and SAM and TAM teachers (artifact 3) to identify what they perceived as the barriers and facilitators of both models. However, given the

uniqueness of SAM, and of Delaware's use of both models (i.e., SAM and TAM), I had no recourse to previously developed and validated survey instruments. I also needed different instruments (e.g., surveys, interviews, and questionnaires) to differentiate for special education directors and SAM and TAM teachers, so it was necessary for me to create the surveys and questionnaires for both groups. These instruments were not subjected to an evaluation of their reliability and validity, but the development of the surveys followed best practices, such as including introductory questions, related questions, and a logical sequence (Rea & Parker, 2005). The interview questions were created using a semi-structured interview guide with open-ended questions. Lastly, the instruments incorporated the six factors identified in the literature review: philosophy of coteaching, professional development, compatibility and rapport, scheduling, balance of responsibilities, and conflict.

To recruit participants, I sent email invitations to all 16 special education directors, as well as school district personnel (e.g., principals) in each school district in Delaware, asking them to solicit special education directors and elementary SAM and TAM teachers for voluntary participation in my research study. I then collected survey responses, conducted interviews, and sent questionnaires to participating school districts from January to May 2019. The data was coded and analyzed.

Artifact 4: Teacher Evaluation Analysis. The teacher evaluation analysis considered how Delaware's teacher evaluation system might affect teacher candidates as they move from preservice to in-service positions. Therefore, I analyzed how well the Delaware Department of Education's teacher evaluation rubric DPAS-II aligned

with the 2012 CEC Professional Standards for professional competencies for special education teachers. This artifact was important because any misalignment might cause special education teacher candidates to (a) focus on things that do not help them be highly effective special educators (e.g., if they focus only on the DPAS-II items), or conversely (b) score too low on their DPAS-II evaluations (e.g., if they only take into account the CEC Professional Standards). Additional details about the methods used to complete this artifact can be found in appendix E.

The findings of the improvement strategies — literature review, special education director surveys and interviews, SAM and TAM teacher surveys and questionnaires, and teacher evaluation analysis — informed the creation of the following artifacts: professional development plan (PDP) and program evaluation matrix, PD Session 1: Introduction to Service Delivery Models, and a policy document. Additional details about the methods and timelines followed to complete these artifacts are in appendices F, G, and H.

Topic 2: Professional Development

For the second topic, professional development (PD), I completed the following two artifacts: PDP and program evaluation matrix, and PD Session 1: Introduction to Service Delivery Models. The PDP and program evaluation matrix were intended to (a) provide background information on current supports and needs identified through the surveys and interviews and (b) inform and support the design of PD Session 1: Introduction to Service Delivery Models. This latter artifact was intended (a) to be the first in a series of PD sessions to introduce and to set the tone for

the remaining PD sessions for students enrolled in EDUC 750; and (b) to focus on the information gathered from the literature review, surveys and interviews, and teacher evaluation analysis.

Artifact 5: PDP and Program Evaluation Analysis. After I completed the teacher evaluation analysis, the next improvement strategy related to the topic of PD was the creation of the PDP for EDUC 750 teacher candidates. For this artifact, I used the best practices identified in the literature review, the findings from the surveys and interviews/questionnaires, and the teacher evaluation analysis to create an outline of the objectives, topics, and activities that teacher candidates will receive throughout their year-long graduate internship. Additionally, I created a program evaluation matrix to use to determine whether the PD sessions outlined on the PDP help teacher candidates understand the barriers and facilitators of SAM and TAM in Delaware. Lastly, the PDP served as a guide when I designed PD Session 1: Introduction to Service Delivery Models.

Artifact 6: PD Session 1: Introduction to Service Delivery Models. This artifact is the first in a series of professional development sessions designed to help preservice special education teacher candidates in EDUC 750 navigate the barriers and facilitators of SAM and TAM. The goal is to proactively prepare teacher candidates to manage the demands that Delaware SAM and TAM teachers face. Additional details about the methods used to complete these artifacts and the timelines associated with each artifact are in appendices F and G.

Topic 3: Policy Recommendations

To address the policy implication of my ELP, and to provide policy recommendations, I completed as my final artifact a policy document (artifact 7). This policy document was created to provide recommendations and to assist UD's Office of Clinical Studies and other stakeholders (e.g., school principals) in making special education placement recommendations. I particularly wanted to help those stakeholders who do not have a background in special education to better understand the SAM and TAM service delivery models. The recommendations in the policy brief also ensure that UD's graduates have the skills and experiences they need to teach students with disabilities in either a SAM or a TAM classroom successfully by providing evidence of how each model affects teacher candidates. The policy makes recommendations on how to improve the quality of special education teacher candidates that UD produces. A timeline associated with this policy document is in appendix H.

Chapter 4

IMPROVEMENT STRATEGY RESULTS

As a leader, and in order to make the most informed decisions about implementing changes to the mentorship and professional development that I provide to teacher candidates enrolled in EDUC 750, I identified three topics to research through the creation of artifacts. The three topics were: barriers and facilitators of SAM and TAM, professional development, and policy recommendations. In this chapter, I discuss the results of the improvement strategies organized by topic area.

Results Related to Topic One: Barriers and Facilitators of SAM and TAM

The first topic, barriers and facilitators of SAM and TAM, focused on identifying the barriers and facilitators of these models so that I could make changes to the mentorship and professional development provided to EDUC 750 teacher candidates.

Comprehensive literature review. I conducted a comprehensive literature review, where the initial focus was to research the barriers and facilitators of both models. However, the focus of the literature review shifted to coteaching (i.e., TAM) for two reasons. The first reason was to reduce any bias I may have toward the coteaching model due to my prior experiences as a special education coteacher and as a mother of a student with disabilities. The second reason for shifting the focus of the literature review to coteaching was that Delaware developed SAM, and there is no available research on SAM due to its uniqueness. After synthesizing literature from 21 articles, I identified the following six factors as facilitators, barriers, or both to

effective coteaching in elementary schools: philosophy of coteaching, professional development, compatibility and rapport, scheduling, balance of responsibilities, and conflict.

Philosophy of Coteaching. The first factor that emerged was the philosophy of coteaching, two of which emerged in the literature. Both philosophies may either facilitate or prevent effective coteaching. The first philosophy, a professional marriage, is where two teachers (i.e., coteachers) build a relationship, sharing instruction equally (Friend, 2016). These teachers see each other as equal partners, but, as with a marriage, this relationship has a honeymoon period. In the beginning, both teachers communicate and compromise with each other. However, this relationship is not always sustainable over time and often becomes a barrier to coteaching when communication breaks down. The other philosophy, a business partnership, is where coteachers value each other for their individual contributions instead of trying to be interchangeable (Friend, 2016). This philosophy acts as a facilitator to coteaching.

The philosophy of coteaching factor is important because a mismatch of philosophies between teachers can lead to students' lack of success. School administrators and teachers need to recognize that the professional marriage philosophy can be a barrier to effective coteaching because teachers can become too comfortable with one another, losing the benefits (e.g., coplanning, co-instructing, and co-assessing) of having two teachers in the classroom. Additionally, school administrators need to recognize that the business partnership philosophy, though a

facilitator to coteaching, requires coteachers to establish clear roles, where the special educator incorporates specially designed instruction instead of trying to be interchangeable with their coteacher (i.e., the general education teacher).

Professional Development. The second factor, professional development, emerged as both a facilitator and a barrier to coteaching. Professional development provides educators with an opportunity to learn more about educational practices to improve their professional know-how. For example, teachers who are educated on the philosophies of coteaching can decide which philosophy they want to adopt among the vastly different approaches (professional marriage, business partnership, or cohesive union). One way to educate teachers about the different philosophies is to provide coteachers with continuous professional development, which better facilitates effective coteaching than discontinuous professional development.

Nevertheless, there are concerns about proper professional development and the risk of coteaching becoming a "quick fix" or solution to providing services to students with disabilities (Conderman & Hedin, 2017; Nichols, J., Dowdy, A., & Nichols, C., 2010). Furthermore, if professional development can also include a special education teacher's expertise and familiarity with individualized education plan (IEP) goals, the teacher can utilize that time to identify opportunities to incorporate goals into class discussions, the existing classroom structure, and the assessment of students with disabilities (Howard & Potts, 2009), adding new coteaching approaches over time (Lava, 2012). Lastly, professional development

needs to be research based, ongoing, and sustained. If professional development is not based on research, ongoing, or sustained, it becomes a barrier to effective coteaching.

Compatibility and Rapport. The third factor consisted of compatibility and rapport. Compatibility, where two people can get along without problems or conflict, and rapport, where two people can communicate and understand each other's feelings, are difficult to build and thus, in their absence, are barriers to effective coteaching in elementary schools. However, compatibility and rapport can become facilitators to effective coteaching if supports are in place. For compatibility and rapport to shift from being a barrier to being a facilitator to effective coteaching in elementary schools, coteachers need to receive administrative support, and coteachers need to understand that developing compatibility and rapport requires clear, open, and continuous communication (Ploessl, D. M., Rock, M. L., Schoenfeld, N., & Blanks, B., 2010; Scruggs & Mastropieri, 2017), as well as active listening. Indeed, compatibility and rapport require two people who are committed to making the relationship (i.e., professional marriage or business partnership) work. Otherwise, even if two people have all the right conditions (e.g., common planning time, professional development, and administrative support), they might not utilize the supports in place. Each person must be committed and value the other person's contributions (Lava, 2012).

Scheduling. The fourth factor, and one of the more significant barriers to effective coteaching, was the use of computer programs to produce school master schedules. Every year school administrators have the task of creating a master

schedule for their assigned school building in order to facilitate the best possible learning environment for students and staff. School administrators create master schedules based on staffing allotments by grade, content, individual building needs (e.g., special education, speech, reading specialists, English language learners, gifted and talented), and student numbers (e.g., to meet their academic, social, and emotional needs). To assist in this process, many school administrators use a computer program to generate class lists and create their master schedule (Murawski, 2008), but this method often leads to oversights that could affect coteaching and common planning time (Friend, 2007; Friend, M., Cook, L., Hurley-Chamberlain, D., & Shamberger, C., 2010; Isherwood et al., 2012; Lava, 2012; Murawski and Lochner, 2011; Nichols et al., 2010; Scruggs et al., 2007; Swicegood & Miller, 2015). Therefore, scheduling is a critical factor for effective coteaching. If the school schedule fails to create the best possible learning environment (e.g., grade levels, class size, and academic, social, and emotional needs) for students and staff, it will affect the quality of instruction, which leads to lower academics and increased teacher frustration (Murawski, 2008). However, if students with disabilities are hand scheduled first with teacher assignments, this prioritization can enhance the quality of instruction they receive from coteachers, leading to higher academics and decreased teacher frustration.

Balance of Responsibilities. The fifth factor, the balance of responsibilities, is an issue because a special education teacher sometimes works with multiple general education teachers across the school day or week. This special education teaching assignment is often done when having two teachers in every classroom is not

financially feasible (Muller, Friend, & Hurley-Chamberlain, 2009; Murawski & Hughes, 2009). Thus, as an alternative, school administrators in elementary schools may have a special education teacher coteach with multiple teachers across content areas and grade levels. (Conderman & Hedin, 2017; Friend, 2007; Friend et al., 2010).

Consequently, coplanning, where both teachers jointly decide on the standards, assessments, accommodations or modifications, instructional strategies, and classroom logistics (e.g., who prepares materials and tests, does the warm-up, or handles grading), does not happen in situations when special education teachers are stretched thin, working with multiple teachers across content areas and grade levels. This factor is critical because when coteachers lack coplanning time, they end up relying heavily on the *one teach, one assist* coteaching model (Isherwood et al., 2012; Scruggs et al., 2007; Scruggs & Mastropieri, 2017), with the general education teacher being the lead teacher and the special education teacher the assistant. In turn, the frequent use of *one teach, one assist* results in special education teachers being viewed as "glorified assistants" (Murawski et al., 2011), which affects coteachers' ability to establish a professional marriage or business partnership. Additionally, the frequent use of *one teach, one assist* also diminishes coteachers' ability to become compatible and develop rapport.

Conflict. The sixth and final factor identified was conflict. Conflict management is the ability to handle conflicts reasonably and fairly. Nevertheless, even with supports, conflicts can still occur between coteachers, making this factor a significant barrier to coteaching. One source of conflict between coteachers is a lack

of communication or management of expectations. For example, let us consider a point of frustration for general education teachers: special education teachers' heavy reliance on the *one teach, one assist* coteaching approach. Researchers have found that general education teachers report very little change in their routine (Nichols et al., 2010) and suggest that general educators do not see the value of having a special education teacher if they are going to rely on *one teach, one assist*. Conversely, special education teachers report that their frustration comes from the general education teacher not wanting the special education teacher to talk during instruction, or from their own sense of discomfort at leading instruction (Friend, 2007), which (in addition to the lack of planning time just discussed) is often the reason why special education teachers rely on *one teach, one assist*. This situation illustrates the need for conflict management because a lack of communication between coteachers can lead to other issues, such as lack of trust, respect, and parity, resulting in an unpleasant experience for students, teachers, and school administrators.

Nevertheless, conflicts are inevitable. Therefore, it is essential that school administrators and coteachers are aware of potential sources of conflict. To proactively address this barrier to effective coteaching, school administrators and coteachers should effectively communicate with each other by respecting cultural differences, discussing minor issues before they escalate, establishing guidelines and ground rules, and letting data guide their decision-making. These steps will make many conflicts manageable.

In conclusion, the literature review identified six factors as facilitators,

barriers, or both to effective coteaching in elementary schools: philosophy of coteaching, professional development, compatibility and rapport, scheduling, balance of responsibilities, and conflict. Therefore, my two mixed-methods studies needed to include those factors within the surveys, interviews, and questionnaires to determine whether they were prevalent and perceived as barriers and facilitators to effective coteaching by special education directors and SAM and TAM teachers across Delaware. Therefore, I used the findings in the literature review to develop specific questions in artifacts 2 and 3, the special education director surveys and interviews, and the SAM and TAM teacher surveys and questionnaires.

Special Education Director Surveys and Interviews. The purpose of this artifact was to identify the factors that influence service delivery model decisions and to identify the types of supports that SAM and TAM teachers currently receive and need in order to meet the individual needs of students with disabilities. I also wanted to identify the kinds of access and opportunities that SAM and TAM teachers have for professional learning and growth.

Purposive sampling identified a population of 16 public special education directors. The survey was sent to all 16 directors across the three Delaware counties: New Castle, Kent, and Sussex. Eleven of the 16 directors completed the survey, and three directors participated in a follow-up interview. Of the survey respondents, four (36.36%) were from New Castle County School Districts; three (27.27%) were from Kent County School Districts, and four (36.36%) were from Sussex County School Districts.

The director surveys and interviews indicated that respondents perceived SAM to have been implemented in Delaware because of its lower cost amid budgetary issues (e.g., reduction in force and fewer resources for the classroom) rather than because of its effectiveness. However, it was advantageous for districts to have the option of SAM. Directors indicated that they perceived both models as advantageous, but the success of each depends on the supports that are in place for it. For example, if school administrators consider certain facilitators for SAM teachers (e.g., classroom composition, caseload size, certification method, and the presence of ongoing professional development), directors felt that SAM teachers could manage the workload, and that SAM could be an effective service delivery model for students with disabilities in need of less intense services. However, if those facilitators are not considered, the directors perceived SAM to lead to an inequitable workload and teacher burnout. Likewise, for TAM to be considered an effective service delivery model, the directors perceived that school administrators must consider building their master schedules around special education services, to include coplanning time, and also offer ongoing, research-based professional development on coteaching models, inclusion, and collaboration for specific groups, purposes, and roles (Murawski and Bernhardt, 2016).

I used the findings to identify topics and content for the PDP. The first set of findings identified the following barriers of SAM: lack of research, reduced numbers of special education teachers, lack of background knowledge, inequity, classroom composition, and inadequate professional development. These findings also identified

the following barriers of TAM: master schedules and school structures (e.g., funding), coplanning, professional development, and administrator knowledge. The next set of findings identified facilitators of SAM (classroom composition and strengths of teachers) and of TAM (an excellent research base and committed teachers). Directors also implied additional facilitators that would make TAM effective. These include master schedules that include coplanning time; professional development with job-embedded coaching; and school administrators who understand the intricacies of special education. I used the results of the director surveys and interviews to inform the individual PD sessions and my mentoring of teacher candidates. Additional details about the methods used, and timelines followed, to complete this artifact are in appendix C.

SAM and TAM Teacher Surveys and Questionnaires. The purpose of the SAM and TAM teacher surveys and questionnaires was to learn the barriers and facilitators that affect SAM and TAM teachers' ability to provide specialized instruction to students with disabilities. Of the 60 completed surveys, 35 (58.33%) respondents were from New Castle County School Districts; 16 (26.66%) respondents were from Kent County School Districts, and 9 (15.0%) respondents were from Sussex County School Districts, representing a total of ten school districts in Delaware. At the end of the survey, SAM and TAM teachers were asked whether they would be interested in completing a follow-up questionnaire. The questionnaire then asked SAM and TAM teachers their perceptions of the barriers and facilitators of both models.

The results of the SAM and TAM teacher surveys and questionnaires suggested that TAM teachers perceived TAM to be the most effective service delivery model. TAM teachers reported that they provide explicit and individualized instruction *daily* to *four to six* times per week. Despite facing challenges related to meeting the instructional and behavioral needs of students and class size, TAM teachers also had an overall satisfaction rating of 66.67%. Nevertheless, the survey also indicated that TAM might not work for all students, and other options must be available to students with disabilities. Lastly, TAM teachers expressed their frustration with a lack of training, professional development, and the current evaluation system, DPAS-II.

Data from the surveys and questionnaires also suggested that SAM teachers are frustrated with SAM. They indicated that they were struggling with balancing their workload (e.g., IEP case management), managing classroom behaviors, providing specialized services to students with disabilities, and meeting the demands of their nondisabled peers. SAM teachers also indicated that there were minimal supports, such as additional planning time, as well as few paraprofessionals available to help them manage their workload, monitor classroom behaviors, and provide specialized services to students with disabilities. SAM teachers implied that the lack of supports was due to lack of funding for staff and professional development. While the questionnaire provided an opportunity for respondents to clarify their perceptions of SAM and TAM, teachers instead chose to share more specific details of their frustration with SAM.

When I compared the SAM and TAM survey and interview results, the

following barriers emerged as affecting a SAM teacher's ability to provide specialized instruction to students with disabilities: the instructional needs of students, the behavioral needs of students, class size, inequity (i.e., workload demands and specialized instruction), professional development, administrator knowledge, and support. Respondents agreed that the factors that have the most significant impact on SAM are the behavioral needs of students, the instructional needs of students, and class size. SAM teachers also conveyed that the most challenging factor for them was meeting the instructional needs of students with disabilities. The survey data revealed disagreement as to whether the support provided to students with disabilities in SAM classrooms was sufficient. The questionnaires verified that there were concerns about SAM teachers having time to provide specialized instruction and progress monitor. However, given the small response rate to the questionnaires and the responding teachers' choice to share their frustration with SAM, their responses may not be representative of SAM teachers across Delaware; these teachers may have chosen to complete the questionnaire knowing that they would have an additional opportunity to share their perceptions of SAM and TAM. In contrast, teachers who are happy with SAM and TAM may have chosen not to participate in the questionnaire.

Lastly, the results suggested that teachers perceived school administrators in their buildings to be knowledgeable about special education. However, SAM and TAM special education teachers wanted to see specific job requirements (e.g., IEP case management) of special education reflected in their evaluation. SAM and TAM teachers indicated a desire for more training and support to help students with

disabilities.

Table 1 shows a summary of the findings from the first topic, barriers and facilitators of SAM and TAM, including the teacher evaluation analysis. These findings guide the second and third topics, professional development the policy brief.

Table 1 Barriers and Facilitators of SAM and TAM

	SAM	TAM
Barriers	• DPAS II – Teacher Evaluation • Lack of Research • Background Knowledge (e.g., no coursework in special education) • Equity • Classroom Composition and Size • Professional Development • Instructional Needs of Students • Behavioral Needs of Students • Specialized Instruction	• DPAS II – Teacher Evaluation • School Structures/Funding • Master Schedules • Administrator Knowledge • Coteaching with Multiple Partners • Coplanning • Classroom Composition and Size • Professional Development • Philosophy of Coteaching • Compatibility • Communication • Behavioral Needs of Students • Instructional Needs of Students
Facilitators	• Background Knowledge (e.g., coursework in special education) • Classroom Composition and Size • Fewer Transitions • Professional Development	• Research Based • School Structures/Funding • Administrator Knowledge • Master Schedules (Coplanning Time) • Compatibility • Classroom Composition and Size • Professional Development with Job Embedded Coaching • Philosophy of Coteaching • Communication • Committed Teachers

The results of the SAM and TAM surveys and questionnaires influenced the content of the PDP and informed the individual PD sessions. The results also informed changes to the mentoring that I provide to teacher candidates. I want to make sure that

they understand the advantages and facilitators of both models so that they can learn to identify and advocate for supports they need (e.g., smaller class sizes, coplanning time, and ongoing professional development) to become successful special education teachers. Additional details about the methods used, and timelines followed, to complete this artifact are in appendix D.

Teacher Evaluation Analysis. The purpose of the teacher evaluation analysis considered how Delaware's teacher evaluation system might affect teacher candidates as they move from preservice to in-service positions. Therefore, I analyzed how well the Delaware Department of Education's teacher evaluation rubric DPAS-II aligned with the 2012 CEC Professional Standards for professional competencies for special education teachers. This artifact was important because any misalignment might cause special education teacher candidates to (a) focus on things that do not help them be highly effective special educators (e.g., if they focus only on the DPAS-II items), or conversely (b) score too low on their DPAS-II evaluations (e.g., if they only take into account the CEC Professional Standards).

The results of this study demonstrate problematic areas of misalignment between the DPAS II and the CEC Standards and have implications for professional development and teacher evaluation. First, there is a need for more training for teachers regarding where CEC Standards and DPAS II do and do not align. For example, some areas where I made connections between DPAS II and the CEC Standards (e.g., case management), were not seen by survey respondents as connecting to DPAS II. Second, the results suggest that there may be a need for a new teacher

evaluation rubric that accounts for the specific responsibilities of a special education teacher that are not effectively evaluated by DPAS II. Indeed, the results of this study imply that:

1. DPAS II Framework does not evaluate special education teachers on all critical CEC standards.
2. DPAS II evaluation system needs to evaluate teachers based on their essential duties and responsibilities.
3. By not assessing special education teachers' essential responsibilities (e.g., case management and collaboration), administrators cannot accurately assess special education teachers.
4. Therefore, special education teachers may find themselves insufficiently rated on the evaluation system. Even if they rate highly, that rating may not sufficiently reflect key aspects of their job performance.

The results of this analysis will inform the professional development I provide to teacher candidates in EDUC 750 on the current evaluation system. Likewise, the results will also change the way I mentor teacher candidates. Making changes to the professional development and mentoring I provide will first result in teacher candidates being able to identify where the teacher evaluation system aligns or misaligns with the professional standards that guide special education teachers. Secondly, by making changes to the professional development and mentoring I provide will teach teacher candidates to avoid unwittingly focusing on things that

undermine their success as special educators as they transition from preservice to in-service teachers. I then used the results of the Teacher Evaluation Analysis to support specific actions in the surveys, interviews, influenced the content of the PDP, and informed the individual PD sessions. Additional details about the methods used, and timelines followed, to complete this artifact are in appendix E.

Results Related to Topic Two: Professional Development

Artifact 5, the professional development plan (PDP) and program evaluation matrix, used the findings from artifacts 1, 2, 3, and 4. Specifically, the findings from these earlier artifacts provided the sequence of activities, topics, and objectives for each professional development seminar that I plan to provide to students in EDUC 750.

Based on the findings from the special education director surveys and interviews and the SAM and TAM surveys and interviews, I came to the following conclusions. First, SAM and TAM teachers have the same challenges: meeting the instructional needs of students, the behavioral needs of students, and class size. Additionally, the findings indicate that each model has its own barriers. For example, both special education directors and SAM teachers reported that SAM teachers struggle to find the balance between providing explicit and individualized instruction to students with disabilities and teaching their nondisabled peers. SAM teachers also reported that they need additional support to manage classroom behavior and conduct progress monitoring. Consequently, these findings demonstrated to me that there is a need for ongoing professional development on how SAM teachers can manage their

workload and design classroom instruction that is seamless, going from differentiation to direct instruction. In contrast, the results from directors and TAM teachers identified communication, coteaching models, and lack of professional development as barriers to TAM. Again, these responses demonstrated to me the need for ongoing professional development. TAM teachers need further training on communication and the six coteaching models so that teachers can move beyond *one teach, one assist*, in which students remain in a single group, with one teacher leading instruction as the other briefly interacts with students individually, answering their questions, reexplaining concepts, focusing attention, and so on (Friend, 2016). For these reasons, I created a PDP to address the identified barriers of SAM and TAM. I also plan to make changes to the mentoring I provide during field instruction, which occurs off-campus in the candidates' SAM or TAM special education placement by asking teacher candidates specific and probing questions related to the barriers and facilitators of SAM and TAM during observation debriefing sessions.

Table 2 shows the PDP schedule that I created. It incorporates the identified barriers and facilitators to SAM and TAM, along with planned objectives, topics, and activities.

Table 2 Professional Development Plan on SAM and TAM

	Objectives (SWBAT…)	Topics	Activities

September 2020 Session 1: Introduction to Service Delivery Models	1. Identify service delivery models in Delaware. 2. Identify what policies and supports are available to SAM and TAM teachers.	1. Introduction to Service Delivery Models: SAM and TAM Professional Development Series. 2. Service Delivery Models 3. SAM and TAM Policies and Supports 4. SAM and TAM Study Findings	1. Introduction and Pre-PD Survey 2. K-W-L Activity on Service Delivery Models 3. Turn and Talk: Service Delivery Models 4. Study Findings – Quote Activity 5. Exit ticket and Session Evaluation
October 2020 Session 2: Connecting CEC Professional Standards and DPAS-II to Service Delivery	1. Identify Current Research on Service Delivery Models 2. Identify connections between service delivery models and CEC Professional Standards 3. Identify connections between CEC Professional Standards and DPAS-II	1. Available Research on Service Delivery Models 2. CEC Professional Standards 3. DPAS-II and Service Delivery Models	1. Examine Pre-PD Survey and Exit Ticket Results 2. Research Scavenger Hunt Activity 3. Poster Activity: CEC Professional Standards 4. DPAS-II Findings – Quote Activity 5. CEC-DPAS II Venn Diagram Activity 6. Exit ticket and Session Evaluation
October 2020 Session 3: Barriers of SAM	1. Identify barriers of SAM.	1. Barriers of SAM a. Background Knowledge (e.g., no coursework in special education) b. Classroom Composition & Size c. Professional Development d. Instructional Needs e. Behavioral Needs f. Specialized Instruction	1. Barriers of SAM and TAM Pre-Survey 2. Table Activity: Barriers to SAM 3. Discussion 4. Scenario Activity 5. Discussion 6. Next steps, addressing the Barriers of SAM 7. Exit ticket and Session Evaluation
November 2020 Session 4: Facilitators of SAM	1. Identify facilitators to SAM. 2. Identify connections to DPAS II	1. Facilitators of SAM. a. Background Knowledge (e.g., coursework in special education)	1. Facilitators of SAM and TAM Survey-Pre 2. Discussion: Why do you think Background

		b. Classroom Composition & Size c. Fewer Transitions d. Professional Development 2. Facilitators of SAM and DPAS II.	Knowledge is both a Barrier and Facilitator of SAM? 3. Discussion 4. Classroom Composition Activity 5. Discussion 6. The Role Professional Development and Advocacy Activity 7. DPAS II Activity 8. Exit ticket and Session Evaluation
December 2020 Session 5: SAM Implementation	1. Design an effective SAM classroom and SAM sample lesson plans 2. Evaluate their lesson using DPAS II.	1. Practice and Plan 2. DPAS II	1. Lesson plan and PM notebook activity 2. Share 3. DPAS II Rating Activity 4. Next Steps 5. Exit ticket and Session Evaluation
February 2021 Session 6: Barriers of TAM, Part 1	1. Identify barriers of TAM outside the classroom.	1. Barriers of TAM a. School Structures/Funding b. Administrator Knowledge c. Master Schedules d. Coteaching with Multiple Partners e. Coplanning f. Classroom Composition & Size g. Professional Development	1. Table Activity: Barriers to TAM 2. Discussion 3. Scenario Activity 4. Discussion 5. Next steps addressing the Barriers of TAM outside of the classroom. 6. Exit ticket and Session Evaluation
February 2021 Session 7: Barriers of TAM, Part 2	1. Identify barriers of TAM inside the classroom. 2. Identify their philosophy of coteaching.	1. Barriers of TAM a. Philosophy of Coteaching b. Compatibility c. Communication d. Behavioral Needs of Students e. Instructional Needs of Students	1. Activity: Philosophy of Coteaching 2. Discussion 3. Activity: Compatibility and Communication (i.e., Keirsey Temperament

			Sorter II and Actual Me). 4. Discussion 5. Behavioral and Instructional Needs of Students Scenario Activity 6. Discussion 7. Exit ticket and Session Evaluation
March 2021 Session 8: Facilitators of TAM	1. Identify facilitators to TAM. 2. Identify their contributions to TAM success. 3. Identify connections to DPAS II.	1. Facilitators of TAM a. Research Based b. School Structures and Funding c. Master Schedules (Coplanning Time) d. Compatibility e. Classroom Composition & Size f. Professional Development with Job Embedded Coaching g. Philosophy of Coteaching h. Communication i. Committed Teachers 2. Facilitators of TAM and DPAS II.	1. Barriers of SAM and TAM Post-Survey 2. Activity: How does research, school structures and funding, master schedules, teacher compatibility, classroom composition and size relate? What is the big picture? 3. Discussion 4. Activity: 50 Ways to Keep Your Coteacher 5. Discussion 6. Activity: Coteaching: What to ask for, look for, and listen for 7. Discussion 8. DPAS II follow-up Activity 9. Exit ticket and Session Evaluation
April 2021 Session 9: TAM Implementation and Coteaching Models	1. Design an effective TAM classrooms and lesson plans. 2. Identify ways to incorporate four of the coteaching models: station teaching, parallel teaching, alternative	1. Six Coteaching Models. 2. Design a coteaching classroom. 3. Practice and plan coteaching lessons.	1. Facilitators of SAM and TAM Post-Survey 2. Coteaching Models Activity 3. Needs and advocacy 4. Lesson plan and PM notebook activity: Using co-planning time:

	teaching, and teaming.		strategies for a successful coteaching marriage worksheet. 5. Share 6. Next Steps 7. Exit ticket and Survey
May 2021 Session 10: SAM and TAM of Tomorrow	1. Communicate effectively with coteachers, specialists, administration (i.e., principal, assistant principal, and district office), and parents. 2. Understand the importance of research. 3. Identify connections between the skills needed as SAM and TAM teachers vs. the skills needed for all special education teachers.	1. Communication with stakeholders. 2. The role research plays in ongoing professional development for service delivery models. 3. The broad set of skills all special education teachers must possess to meet the needs of students with disabilities.	1. Review Post survey results of Barriers of SAM and TAM and Facilitators of SAM and TAM results. 2. Discussion 3. Email, telephone, face-to-face communication activity. 4. Discussion 5. How research will help you professionally 6. Next Steps 7. KWL 8. Exit ticket and PD Post-Survey
Notes: Each PD session is two hours in length, with additional contact time during scheduled visits to the teacher candidate's fall and spring graduate internship placement.			

PD Session 1. The next improvement strategy, PD Session 1: Introduction to Service Delivery Models (Artifact 6/Appendix G), was developed as an example of the PD seminars that I will provide to EDUC 750 teacher candidates to help them understand the barriers and facilitators of SAM and TAM. This first PD session is designed to serves as an introduction to the topic, setting the tone for the remaining PD seminars.

To measure the effectiveness of the professional development series, I created

a program evaluation matrix (see Appendix F) that specifies what quantitative data will be collected and analyzed. I will collect both formative data (e.g., exit tickets) and summative data (e.g., SAM and TAM pre- and post-surveys). For the surveys, I will use basic descriptive statistics and measures of pre–post change to examine the mean differences in order to determine the extent to which the PD series on the barriers and facilitators of SAM and TAM leads to an increased understanding of both models for EDUC 750 teacher candidates. A long-term outcome that I hope to examine is the extent to which making changes to the mentorship and professional development provided to teacher candidates proactively assists in addressing special education attrition (attributed by researchers to problems of professional development, mentorship, and barriers within the classroom), and thus increases Delaware's ability to hire and retain highly qualified special education teachers. To determine whether the PD series has had any effect on special education teacher attrition, I plan to send an alumni survey annually each May, offering alumni the opportunity to report whether they are still teaching special education. Lastly, the program evaluation matrix shows that I plan to continue to use my leadership skills to make programmatic changes to the University of Delaware's (UD) Master's in Exceptional Children and Youth 4+1 program, which could result in future policy and procedural changes for teacher candidates in EDUC 750.

Improvement Strategy Results Related to Policy Recommendations

Based on the results of all my prior artifacts, I drafted three policy recommendations and included them in a broader policy document about SAM and TAM placements. The policy brief was intended to (a) inform UD's Office of Clinical Studies and other stakeholders (e.g., school principals) about issues surrounding special education teacher placements in SAM and TAM classrooms; and (b) make recommendations regarding appropriate placements for special education teacher candidates. The three recommendations identified in the policy brief were: (1) carefully select special education clinical educators; (2) prioritize TAM classrooms over SAM classrooms for elementary special education teacher candidate placements; and (3) foster knowledge of the barriers and facilitators of SAM and TAM among both teacher candidates and educators.

Recommendation 1: Carefully select special education clinical educators. Currently, school districts have a liaison that works with UD's Office of Clinical Studies to place candidates. The Office of Clinical Studies takes the list provided by districts and matches teacher candidates with clinical educators according to certification area. However, these lists are often outdated and, more importantly, do not reflect how a teacher earned certification. Thus, the first recommendation considers two factors: special education teacher certification and clinical educator selection biases. I recommend the careful selection of special education clinical educators for teacher candidates.

Rationale. The first factor examines special education certification and recommends that only clinical educators who earned special education certification

through coursework (not solely through an examination) work with teacher candidates. This guideline would ensure that the clinical educator possesses the necessary special education–related knowledge and training needed to provide teacher candidates with effective feedback and supervision. The motivation for using special education certification as a criterion in the selection of clinical educators is that by carefully selecting highly effective clinical educators who have the background knowledge and expertise in special education, we can provide a quality special education placement for UD teacher candidates. Additionally, teacher candidates in those classrooms will see how to implement the best practices they have learned through their teacher preparation program. Lastly, if teacher candidates have an ideal placement, they will learn how to manage the requirements and demands (e.g., specialized instruction and paperwork) that special education requires of its teachers. Otherwise, teacher candidates may become frustrated, or they may encounter additional struggles in their first few years teaching special education because they do not know how to manage its requirements, which is a contributing factor to special education teacher attrition, a well-known issue in the field (Billingsley, 2004; Borman & Dowling, 2008; Certo & Fox, 2002; DeAngelis & Presley, 2011; Ingersoll, 2001; Nance & Calabrese, 2009; Samuels & Harwin, 2018). Therefore, a system must be put in place to ensure that teacher candidates are assigned to clinical educators who have the background knowledge, skills, and desire to work in special education, so that teacher candidates can learn and see how to implement the best practices they have learned through their teacher preparation program.

The second factor is intended to eliminate bias in clinical educator selection, which can come from two sources: self-selection by teachers through school district sign-up or contact with UD's Office of Clinical Studies, and principal recommendation. Self-selection leaves the door open for certain biases to come into play: there may be great clinical educators out there that choose not to volunteer or are unaware that they can do so, or there may (conversely) be teachers who sign up who should not be clinical educators because they do not have the proper enthusiasm and openness for the role). Just as concerning as a source of clinical educator selection bias is principal recommendation, which may be based on the principal's personal experiences with a special education teacher rather than on the teacher's qualifications.

Intended Consequences. To address this recommendation and to carefully select clinical educators based on special education teacher certification, while also eliminating clinical educator selection biases, I am first proposing that the Delaware Department of Education (DDOE) place an asterisk or footnote on a teacher's credentials in the Delaware Educator Data System (DEEDS) to identify teachers who have earned special education certification through coursework. This practice would serve as an alert system for principals and the Office of Clinical Studies, prompting both to consider and prioritize those special education teachers for the role of clinical educators for teacher candidates. Second, to eliminate clinical educator selection bias and avoid placement recommendations based on relationships, seniority, and friendship, I am proposing that the Office of Clinical Studies and principals consult

with district special education personnel (e.g., directors, assistant directors, or supervisors) since they are the experts for their district and will have a much better idea of whether a special education teacher should mentor the next generation of educators.

Recommendation 2: Prioritize TAM classrooms over SAM classrooms for special education teacher candidate placements. The next recommendation considers special education certification and the findings from two mixed-method studies that I conducted in Delaware: special education director surveys and interviews, and SAM and TAM teacher surveys and interviews. The results of these studies focused on identifying and providing opportunities for special education teacher candidates to practice their skills from their teacher preparation program. Therefore, based on the results of the two mixed-method studies, the second recommendation is to prioritize TAM classrooms over SAM classrooms for special education teacher candidates.

Rationale. The directors were all in agreement that TAM is an effective way of meeting the goals and needs of students with disabilities. The results suggested that special education directors perceived TAM as advantageous for both teachers and students with disabilities because it provides a continuum of services for kids with intense and complex needs and opportunities for teachers to learn from one another. Subsequently, the data from the directors also demonstrated that a TAM teacher would have multiple opportunities to provide feedback to their teacher candidate because of how a TAM classroom is designed (e.g., low student-to-teacher ratio). In contrast,

when I asked directors about SAM, they were all in agreement that the current SAM service delivery model is not effective in meeting the needs of students with disabilities. They also questioned, “Does that teacher [i.e., SAM] have time to get to the intervention or specially designed instruction that that student needs?” These directors’ comments were echoed by the findings from the second mixed-methods study that I conducted.

In this second study, SAM teachers confirmed that they do not provide adequate support. One teacher conveyed, “A SAM teacher without additional adult support is not able to meet the needs of all students when many students require additional small group support,” further stating, “the academic and behavior needs are not being met.” These statements demonstrate that even if a SAM teacher is given a teacher candidate, they would not be able to provide specific feedback to the teacher candidate because they are too busy managing the needs of the students in the classroom. This data also suggests that the traditional roles of general education and special education teacher often get muddled in SAM classrooms; the clinical educator’s dual role makes it difficult for the teacher candidate, with their more limited knowledge, to distinguish between the two roles. Another factor to consider is that the teacher candidate is not going to ignore the needs of students in the SAM classroom, putting that teacher candidate at a disadvantage because they are unable to solely focus on special education.

Intended Consequence. The second recommendation is designed to ensure that teacher candidates are set up for success so that they can practice planning,

implementing, and assessing individualized instruction, which is the heart of special education. By making TAM classrooms a priority for special education teacher candidate placement, we can increase the amount of feedback that teacher candidates are likely to receive (since there are two other teachers in the classroom). Additionally, a TAM placement requires the establishment of clear roles. The teacher candidate can practice incorporating specially designed instruction using evidence-based strategies, and they have multiple opportunities to practice embedding their knowledge from courses, while also incorporating their clinical educator's expertise and familiarity with the IEPs of students with disabilities.

Recommendation 3: Teacher candidates and educators should learn about the barriers and facilitators of SAM and TAM. My third recommendation is a proactive approach that takes into consideration the challenges (e.g., a limited number of TAM placements, teacher qualifications, and competition for placements with other universities) that affect the Office of Clinical Studies in its search for quality special education clinical educators. Although I have already recommended placing teacher candidates in TAM classrooms whenever possible, this practice is not always feasible, and teacher candidates may still have to complete their student teaching requirements in a SAM classroom. Therefore, my third recommendation is to provide teacher candidates — and educators — with professional development on both SAM and TAM service delivery models.

Rationale. Since placing all teacher candidates in TAM classrooms may not be feasible, all teacher candidates must learn about the barriers and facilitators of SAM

and TAM through professional development. Likewise, it is crucial that educators (e.g., principals) are also aware of the barriers and facilitators of both models so that they know what characteristics of SAM and TAM classrooms to avoid (i.e., barriers) and what characteristics to look for (i.e., facilitators) when identifying special education classrooms for teacher candidates.

Together, these three recommendations, if followed by UD's Office of Clinical Studies, other stakeholders (e.g., school principals), and those who make special education placement decisions, will ensure that UD's graduates (i.e., formerly elementary special education teacher candidates) have the skills and experiences needed to teach students with disabilities in either a SAM or TAM classroom successfully, increasing the likelihood that they stay in Delaware and continue to teach students with disabilities, ultimately reducing special education attrition rates in Delaware.

Overall Findings

In sum, I believe the seven artifacts created to address the three topics of this ELP (barriers and facilitators of SAM and TAM, professional development, and policy) were all effective in meeting my improvement goal of implementing changes to the mentoring and professional development I provide to teacher candidates enrolled in EDUC 750. By using the literature review and the findings from the two mixed-methods studies, I was able to identify the factors that affect SAM and TAM special education service delivery models in Delaware, and I created two items that can help advance our training of special education teacher candidates: a professional

development series and a policy document that incorporate a focus on both models. Lastly, the results of this ELP and the artifacts it contains align with prior research studies on coteaching; however, since SAM was not a research-based service delivery model, the research I conducted in this ELP has contributed to the greater research community and will be beneficial for future studies on SAM.

Chapter 5

REFLECTION ON IMPROVEMENT EFFORT RESULTS

My improvement goal consisted of two parts. The first was to change the mentoring and professional development I provide to elementary special education teacher candidates in EDUC 750. The second was to make changes to my organization by communicating the types of supports that need to be in place for teacher candidates. I believe I have taken concrete steps and created actionable future steps to meet both parts of my improvement goal. However, because I have not fully implemented the mentoring and professional development or, likewise, fully communicated the types of supports that need to be in place for teacher candidates, I have not yet entirely achieved the two goals of this ELP.

Reflection on Improvement Effort Results

In this chapter, I reflect on the results of those improvement strategies outlined in the three topics that guided my ELP: barriers and facilitators of SAM and TAM, professional development, and policy. I also discuss the components that worked well and those that need redesigning for each improvement strategy, as well as the steps needed to achieve my improvement goal.

Improvement Goal 1: Change the mentoring and professional development I provide to elementary special education teacher candidates in EDUC 750. In reflecting on my first improvement goal and the strategies I employed to make changes to my mentorship and professional development work, I believe that I was successful in identifying the kind of mentoring that EDUC 750 teacher

candidates must receive on SAM and TAM. Without this ELP, there would be no specific mentoring or professional development on SAM and TAM. Therefore, I have created a concrete plan and have actionable next steps to help me fully implement the recommendations in this ELP needed to achieve my improvement goal.

To begin, I first needed to address my problem and learn about the barriers and facilitators of SAM and TAM service delivery models so that I could proactively teach EDUC 750 teacher candidates how to navigate and overcome the barriers of SAM and TAM, but also reasonable to assume that by proactively teaching EDUC 750 teacher candidates it could lead to them to avoid burnout and reduce attrition. To accomplish this goal, I set out to complete four artifacts on the barriers and facilitators of SAM and TAM, the first topic of this ELP. The first three artifacts included: a literature review (artifact 1) and the two mixed-methods research studies (artifacts 2 and 3), where I surveyed, interviewed, or administered questionnaires to special education directors and SAM and TAM teachers across Delaware. Additionally, I completed a teacher evaluation analysis (artifact 4) to determine the degree to which Delaware's teacher evaluation system aligns or misaligns to the professional standards guiding special education teachers and also to determine the extent to which the evaluation system affects SAM and TAM teachers.

Together, these artifacts provided the foundation for my entire ELP. The literature review allowed me to learn about the barriers and facilitators of effective coteaching in elementary schools. The first mixed-methods study, into the perceptions of special education directors, allowed me to learn about the decision-making factors

that special education directors use to determine which service delivery models (i.e., SAM and TAM) they use for the least restrictive environment (LRE) A in their district. The second mixed-methods study, allowed me to learn what SAM and TAM teachers perceive as the barriers and facilitators of SAM and TAM. Lastly, teacher evaluation analysis helped me identify where the teacher evaluation system aligns or misaligns to the professional standards guiding special education teacher training. The teacher evaluation analysis also made me realize that there is a need for more training for teachers regarding where CEC Professional Standards and DPAS-II do and do not align. I used the findings from these four artifacts to change the way I mentor and provide professional development to EDUC 750 teacher candidates by creating a professional development plan and program evaluation matrix (artifact 5), as well as the first session in that professional development series: Introduction to Service Delivery Models (artifact 6).

The completion of the first six artifacts was necessary to create the actionable next steps needed to move my organization forward. Therefore, I am going to discuss, in turn, how each artifact helped me identify where to make changes to the mentoring and professional development I provide to EDUC 750 teacher candidates. Additionally, I discuss within each artifact the limitations and next steps toward implementing changes to the mentoring and professional development provided to EDUC 750 teacher candidates, needed to achieve my improvement goal.

Artifact 1: Comprehensive Literature Review. The first improvement strategy I used to help me make concrete steps toward fully meeting my improvement goal was

a comprehensive review of the coteaching literature. The literature review had three purposes: to understand the practices and applications of TAM (i.e., coteaching), to integrate and generalize coteaching applications into the elementary setting, and to reduce my bias by teaching me more about the strengths and weaknesses of coteaching. It was guided by the following research question: What are the barriers and facilitators of coteaching in elementary schools? The literature review was successful in that the guiding question was specific enough that I was able to create a list of eight criteria that identified relevant articles in the coteaching literature. Overall, I reviewed 21 articles and was able to learn through a synthesis of the literature what factors facilitate effective coteaching (i.e., facilitators of coteaching) and what factors prevent effective coteaching (i.e., barriers to coteaching).

The synthesis of the literature identified the following six factors as facilitators, barriers, or both to effective coteaching in elementary schools: philosophy of coteaching, professional development, compatibility and rapport, scheduling, balance of responsibilities, and conflict. If it were not for identifying those six factors in the literature review, I might not have included those findings in the two mixed-method studies that I conducted, where the findings led to specific questions in the surveys, interviews, and questionnaires. The inclusion of those factors in the mixed-method studies helped me determine how directors and SAM and TAM teachers across Delaware perceive the facilitators and barriers to effective coteaching in elementary schools. However, since the literature review focused only on coteaching applications in elementary settings, the next step is to conduct a comprehensive

literature review of the coteaching literature in secondary settings. This step is important because even though I primarily instruct EDUC 750 elementary special education teacher candidates as a field instructor, I also provide field instruction to EDUC 750 secondary special education teacher candidates. Additionally, because I coordinate the Masters in Exceptional Children and Youth 4+1 program, it is essential that I investigate the barriers and facilitators of coteaching beyond the elementary setting. Therefore, I would use the same criteria as the previous study to determine (a) whether secondary teachers identify the same barriers and facilitators; and (b) how we might need to change the mentorship and professional development for secondary special education teacher candidates.

Finally, the literature review was also successful in reducing any bias I may have had toward coteaching because I was able to learn what factors facilitate effective coteaching and what factors act as barriers to coteaching. The literature review was critical to this research because it augmented what had previously been, for me, conclusions founded on only my own background knowledge, experiences, and prior training on coteaching. Lastly, the literature review taught me that structures like master schedules and coplanning time are essential facilitators that must be in place to provide opportunities for teachers to develop a coteaching partnership because coteaching does not come naturally. It takes time and effort for teachers to establish mutual trust, respect, and parity (Conderman & Hedin, 2017; Mastropieri, Scruggs, Graetz, Norland, Gardizi, & McDuffie, 2005; Ploessl et al., 2010; Scruggs et al., 2007).

Furthermore, the literature review gave me a foundation to make changes to the way I mentor and provide professional development to EDUC 750 teacher candidates. Specifically, I have planned changes to the frequency and content of EDUC 750 seminars based on the findings in the literature review. For instance, in fall 2019, I met with my students only four times to discuss issues pertaining to course requirements, lesson planning, progress monitoring, and educational teacher performance assessment (edTPA). Now, after concluding my ELP, I have added five seminars starting in fall 2020, where the first two professional development sessions will include discussions on philosophy of coteaching, professional development, compatibility and rapport, scheduling, balancing responsibilities, and conflict.

In summary, because there was no professional development at UD on the barriers and facilitators of TAM before this research, the findings in this literature review prompted changes to the number of professional development offerings provided through EDUC 750 seminars. As a result, starting in fall 2020, EDUC 750 teacher candidates will begin a year-long professional development series, with the number of seminars increasing to nine in fall 2020 and to ten in spring 2021. The annual total will rise from nine in 2019–20 to 19 in 2020–21.

Artifact 2: Special Education Director Surveys and Interviews. The second improvement strategy to help me make concrete steps toward fully meeting my improvement goal and make changes to my organization was my surveys and interviews with special education directors. I designed this artifact for two reasons. The first was to learn about the decision-making factors that influence special

education service delivery models in Delaware. The second was to learn special education directors' perceptions of SAM and TAM service delivery models. I then used those findings to change the way I mentor teacher candidates on SAM and TAM. I also used the findings to make changes to the professional development provided to EDUC 750 teacher candidates during EDUC 750 seminars. This data allows me to proactively inform teacher candidates on how to manage the barriers and facilitators of SAM and TAM. Overall, this artifact was successful in identifying the barriers and facilitators of SAM and TAM for three reasons: the sampling method, the response rate, and the findings.

Specifically, the sampling method was successful because Delaware is a small state that consists of three counties (New Castle, Kent, and Sussex), and my research was specific to SAM and TAM service delivery models. I used purposive sampling to identify a population of 16 public special education directors across the three counties. Given the small population (n = 16), the minimum number of surveys and interviews needed to generate usable findings was at least one survey (n = 3) and one interview (n = 3) response from each county in Delaware. Therefore, when 11 of the 16 directors in Delaware responded to the survey, and three respondents participated in a follow-up interview, I knew the response rate was successful.

Given the success of the sampling plan and the satisfactory response rate, I was able to identify the factors that influenced how service delivery model decisions are made in Delaware school districts by special education directors. However, because the survey only consisted of eight questions, multiple-choice or Likert scale questions

asking participants whether they agree or disagree, it was also essential that directors had an opportunity to expand and clarify responses to the survey. Therefore, this artifact included interviews that allowed respondents to clarify their perceptions of SAM and TAM. Together, findings from the director surveys and interviews prompted me to take specific actions in the PDP and PD sessions, where I plan to use observation debriefing sessions to ask thoughtful, probing questions about the six coteaching models and collaboration, starting in spring 2020. For example, during observation debriefing sessions, teacher candidates are generally asked what worked, what they would change, and how they could improve their lesson, along with specific questions about the students with disabilities in their classroom, IEPs, progress monitoring, and differentiation. However, there has not been much discussion on coteaching during those debriefing sessions. Now, as a result of this research, I plan to ask teacher candidates to identify and use a different coteaching approach in their lessons plans, and I will identify in the lesson plan where I can see the coteaching model in practice. Starting in spring 2020, those debriefing sessions will include conversations about what collaboration looks like in the classroom along with discussions on how students and adults (e.g., the teacher candidate, special education teacher, general education teacher, and paraeducators) use language (e.g., “my teachers” or “my classroom helper”) and demonstrate parity in the classroom (Conderman & Hedin, 2017; Mastropieri et al., 2005; Murawski and Lochner, 2011; Ploessl et al., 2010; Scruggs et al., 2007).

Nevertheless, even though the director surveys and interview findings were

successful in helping me make changes to planned and immediate mentoring, there were limitations with the director interviews. For example, directors who chose to interview may have decided to participate because they have a bias toward SAM or TAM. Therefore, their responses might not be representative of the views of the other directors. Thus, the next step includes reaching out to the directors who did not agree to an interview this time in order to follow up and hopefully determine whether these remaining directors agree or disagree with the directors who initially participated.

Artifact 3: SAM and TAM Teacher Surveys and Questionnaires. My third improvement strategy was surveying and administering questionnaires to elementary school SAM and TAM teachers across Delaware. This improvement strategy allowed me to gather evidence to answer the second research question that guided this ELP. This question focused on understanding the barriers and facilitators (e.g., pull-out services and push-in services) that affect SAM and TAM teachers' ability to provide specialized instruction to students with disabilities and to learn about their beliefs on the benefits and limitations of SAM and TAM. This improvement strategy was critical because the results helped me identify what SAM and TAM teachers perceive as the barriers and facilitators of these two models.

As a result of those findings, I augmented my plans to change the mentoring and professional development by increasing the number of PD sessions (from four in fall 2019 to nine starting in fall 2020) to include sessions on an introduction to service delivery models, the connection between CEC Professional Standards and DPAS-II, barriers of SAM, facilitators of SAM, and SAM implementation. I also plan to make

changes to spring seminars, starting in spring 2021. For instance, instead of meeting five times during the spring semester to discuss content requirements, edTPA, and transition, I have planned to meet with my students ten times that semester to provide them with professional development on the barriers and facilitators of SAM and TAM.

Overall, the improvement strategy of using a survey and questionnaire to identify SAM and TAM teachers' perceived barriers and facilitators of both models was a successful step toward changing the mentoring and professional development I provide to EDUC 750 teacher candidates. Given that I obtained usable findings from New Castle County, where the majority of EDUC 750 students complete the requirements of their EDUC 750 graduate internship in elementary special education, and that the results from Kent and Sussex Counties exceeded the number of graduate internships in those counties, I was able to conclude and generalize based on the responses received. However, this artifact was not without its challenges.

I found that this improvement strategy was the most difficult because I encountered many unanticipated challenges. For example, although I knew approximately how many elementary school teachers there were in Delaware, I did not know how many SAM and TAM teachers there were across Delaware. It was also important to me that all teachers who had taught in a SAM or TAM classroom had an opportunity to participate in the research study. However, what I did not anticipate was how difficult it would be to recruit participants and obtain 90 survey responses (i.e., 30 per Delaware County) and three interviews from each county, based on the previously identified sample population. I quickly learned from district representatives

that many school districts in Delaware (a) do not participate in surveys, (b) felt that the survey did not align with current school district initiatives, or (c) were not using either SAM or TAM. Lastly, I concluded that it is challenging to recruit participants that (a) do not know who you are, (b) do not see the vested interest, and (c) do not have time due to the demands of their job.

I also discovered there were issues with the design of the survey, which may have affected my improvement effort results because not all SAM and TAM teachers had the opportunity to complete the entire survey. For example, the first issue was with the survey logic. When I set up the survey in *Qualtrics*© and asked respondents to select their teaching role, the survey logic only prompted those teachers who selected SAM or TAM as their teaching role to complete those questions. If the respondent selected *itinerant*, *push-in/pull-out*, or *other*, the survey did not allow respondents to complete the questions on SAM and TAM. Therefore, they were unable to share their perceptions of the two models, which could have affected the result. To remedy this omission, I would incorporate the following question into the survey: Have you ever taught SAM or TAM? If participants said that they had previously taught either or both, then the newly revised survey logic would prompt participants to complete the appropriate section(s) of the survey.

Another issue with the survey was the amount and type of questions. For example, when the survey asked teachers how many years they taught, some respondents only completed one or two of the boxes. Therefore, this question needs redesigning. Other questions asked SAM and TAM teachers to rank items. The

ranking questions were problematic because of their length, and some respondents may have also misunderstood the rubric, ranking items from *least to most challenging* rather than from *most to least challenging*. As a result, I am proposing that I limit the questions on the survey to multiple-choice and Likert scale response options.

The second component of this artifact was the questionnaires, which were originally intended as interviews. Though there was initial interest in the interviews — 11 respondents (33.33%) indicated they would be willing to participate in a follow-up interview — I had received no response from the first five respondents even after three follow-up attempts. I thus submitted an amendment to the original Institutional Review Board submission in order encourage more responses by offering the interview questions as an electronic questionnaire. As a result of this change, three (27.27%) respondents, one from each Delaware county, opted to complete the electronic interview questionnaire in place of a scheduled interview. However, because the original intention of the questions was to be part of a follow-up interview, the questions themselves were not designed for independent completion. Therefore, although the questions were appropriate, I was unable to ask follow-up questions for clarification.

Given the aforementioned challenges, the next steps related to this artifact include redesigning the survey and partnering with one or two school districts in New Castle County to determine whether there is a difference in the results of the original survey and the revised survey related to the barriers and facilitators of SAM and TAM. I would also like to propose making the SAM and TAM teacher survey a requirement

for clinical educators so that the mentoring and professional development provided to EDUC 750 teacher candidates can reflect the most-up-date barriers and facilitators of SAM and TAM.

Artifact 4: Teacher Evaluation Analysis. The fourth improvement strategy, Artifact 4, consisted of analysis between the Delaware Department of Education teacher evaluation rubric called the Delaware Performance Appraisal System II (DPAS-II) and the Council for Exceptional Children (CEC) Professional Standards, which are the foundation for special education teacher preparation programs across the United States, and are used to evaluate and certify teachers in special education.

This artifact was successful because the results showed that there is a need for mentoring and professional development on the evaluation system. For example, some areas of CEC Professional Standards where I was able to make a connection to DPAS-II (e.g., case management) were not seen by survey respondents as connecting to the evaluation rubric. Therefore, I concluded that there is a need for professional development on the language and vocabulary used in DPAS-II to describe its criteria and components. Second, results suggested that there may be a need for a new special education teacher evaluation rubric, specifically one that includes responsibilities that are unique and critical to the role of a special education teacher, items that are currently inadequately evaluated by DPAS-II.

Therefore, a primary next step related to this artifact is to implement the second professional development session in October 2020, as outlined in the professional development plan (artifact 5/appendix F) based on this research. In that

session I will discuss the available research on service delivery models, CEC Professional Standards, and DPAS-II, and by the end of that session students will be able to identify current research on service delivery models and make connections between these models, CEC Professional Standards, and DPAS-II. I also intend to share the results and recommendations of this analysis with the Delaware Department of Education. To begin, I first plan to contact Jamie Bailey in UD's Office of Clinical Studies, who is representing higher education on the DPAS-II Steering Committee, to share my findings with her. Then, I plan to ask Ms. Bailey to help facilitate a meeting with Seher Ahmad (Data Analytics, Educator Evaluations) and Raushann Austin (Education Associate, Alternative Evaluations Systems), both of whom work for the Delaware Department of Education, and who are also on the steering committee. My goal is to share my findings by May 2020. Lastly, I plan to expand my teacher evaluation analysis by looking at the teacher evaluation systems of neighboring states (i.e., Maryland, New Jersey, and Pennsylvania) to determine to what extent their teacher evaluation systems for special education teachers align with CEC Professional Standards, and to determine if there is anything I can learn from those states that would be beneficial to Delaware.

Topic 2: Professional Development. The next set of improvement strategies falls under professional development, which consisted of two artifacts. I created a professional development plan (PDP) and program evaluation matrix (artifact 5/appendix F) to inform teacher candidates of the barriers and facilitators of SAM and TAM that I had discovered through the first topic ELP. Next, I designed artifact 6, PD

Session 1: Introduction to Service Delivery Models, to serve as an introduction to the PD series for EDUC 750 teacher candidates. The PDP and program evaluation matrix along with the PD Session 1 were successful in meeting my first improvement goal because together they summarize my planned changes to the mentorship and professional development I provide to EDUC 750 teacher candidates.

Artifact 5: Professional Development Plan and Program Evaluation Matrix. The PDP and program evaluation matrix had three purposes. The first purpose was to create a scope and sequence of professional development on SAM and TAM service delivery models, in which many EDUC 750 teacher candidates complete their requirements for their graduate internship in special education. Second, the goal was for this artifact to serve as a guide for the professional development series on SAM and TAM provided to EDUC 750 teacher candidates. Lastly, the program evaluation matrix was designed to assess the effectiveness of the PDP.

To accomplish this improvement effort of adding a professional development series on SAM and TAM to EDUC 750, I drew from my findings in the literature review on TAM and the subsequent mixed-methods studies into perceptions of SAM and TAM. I organized the findings of the three studies into a sequence of activities with clear topics and objectives. Then, to determine the effectiveness of the PDP in helping teacher candidates understand barriers and facilitators of SAM and TAM, I created a program evaluation matrix.

The next steps related to this artifact include designing the remaining PD sessions (i.e., PD sessions 2–10) and creating the surveys and exit tickets that

correspond to the individual PD sessions, during spring 2020. I then plan to implement the full PDP in fall 2020, and I will use the program evaluation matrix to determine whether the PDP is meeting its targets (e.g., by March 2021, there will be a 50% increase in EDUC 750 students' understanding of the barriers of SAM and TAM).

Artifact 6: Professional Development Session 1: Introduction to Service Delivery Models. The last improvement strategy I used toward this improvement goal was the PD Session 1. This artifact demonstrates that I have taken a concrete step toward meeting my improvement goal and changing the professional development that I plan to provide to EDUC 750 teacher candidates. I designed this first PD session to provide strategies and resources to help preservice special education teacher candidates navigate the barriers and facilitators of SAM and TAM. The goal of the PD session is to proactively prepare teacher candidates to manage the demands faced by Delaware SAM and TAM teachers. The next steps include implementing PD Session 1: Introduction to Service Delivery Models in fall 2020 and revising and improving the session based on the formative feedback I have planned to gather (see program evaluation matrix in appendix F).

Improvement Goal 2: Make changes to my organization by communicating the types of supports that need to be in place for teacher candidates. As I reflect on my second improvement goal and the strategies that I employed to make changes to my organization by communicating the types of supports that need to be in place for teacher candidates, I believe that I was successful in identifying these supports because, without this ELP, there would be no policy

document with executive summary to share my recommendations. In addition, I have created actionable next steps to help me fully implement the recommendations in this ELP that are necessary to achieve this second improvement goal. To help me work toward this goal, I employed five improvement strategies: comprehensive literature review, two mixed-methods studies, a teacher evaluation analysis, and a policy document.

Artifact 1: Comprehensive Literature Review. The first improvement strategy to help me make concrete steps toward fully meeting my second improvement goal was the comprehensive review of the coteaching literature. The literature review enabled me to substantiate my claims and make recommendations to improve the quality of the special education teacher candidates that UD produces based on supports I identified in the scholarship. For example, researchers have suggested that teachers must have opportunities to practice and become proficient in skills that make special educators unique, such as incorporating specially designed, explicit instruction, and using strategies based on research to create lessons that are designed to meet the individual needs of students with disabilities (Friend, 2016; Scruggs and Mastropieri, 2017). Therefore, EDUC 750 teacher candidates must also have those opportunities to become proficient in those skills. To ensure that EDUC 750 teacher candidates have those opportunities, I used the evidence cited in the literature review to make the second recommendation outlined in the policy document, which was "Prioritize TAM classrooms over SAM classrooms for special education teacher candidate placements."

Although the literature review was successful in providing evidence to substantiate claims and to make recommendations in the policy document, the literature review only focused on coteaching applications in elementary settings. The next step is to conduct a comprehensive literature review of the coteaching literature in secondary settings. Even though I primarily instruct EDUC 750 elementary special education teacher candidates as a field instructor, I also provide field instruction to EDUC 750 secondary special education teacher candidates. Additionally, because I coordinate the Masters in Exceptional Children and Youth 4+1 program, it is essential that I investigate the barriers and facilitators of coteaching in secondary settings. Therefore, I would use the same criteria as the previous study to determine whether (a) secondary teachers identify the same barriers and facilitators, and (b) what changes to the second recommendation need to occur for secondary special education teacher candidates.

Artifacts 2 and 3: Special Education Director Surveys and Interviews and SAM and TAM Teacher Surveys and Questionnaires. The second improvement strategy to help me make concrete steps toward my improvement goal of communicating necessary supports was the special education director surveys and interviews. This study provided data on teacher certification, clinical educator selection bias, and SAM classrooms that I used to create and support the first two recommendations in the policy document: the careful selection of clinical educators, and a prioritization of TAM classrooms.

The third improvement strategy toward this improvement goal was the SAM

and TAM teacher surveys and questionnaires. The survey demographics revealed that 40% of respondents earned their special education certification through either alternative routes (i.e., noneducation background) or tan examination. Those results make it clear that a high percentage of current special education teachers lack the necessary special education–related knowledge and training to provide teacher candidates with effective feedback and supervision. Therefore, this finding informed the development of my first recommendation in the policy document, which was to carefully select special education clinical educators. Also, I used findings from survey questions on SAM and TAM teachers' respective abilities to meet the individual needs of students with disabilities (Friend, 2016; Scruggs et al., 2017) to inform my second policy recommendation, which was to prioritize TAM classrooms for special education teacher candidate placements. The results of those findings made it clear that SAM teachers struggle to find the balance between providing explicit and individualized instruction to students with disabilities and their nondisabled peers. Lastly, I used the findings from questions on teacher training and professional development to inform my third policy recommendation, which was that teacher candidates and educators should learn about the barriers and facilitators of SAM and TAM. The results of those findings made it clear that there is a need for ongoing professional development on (a) how SAM teachers can manage their workload and design classroom instruction that is seamless, going from differentiation to direct instruction, and (b) how TAM teachers can improve their communication and their use of the six coteaching models to move beyond *one teach, one assist*.

The next step for both mixed-methods studies is to share my findings with UD's Elementary Teacher Education (ETE) field instructors and the associate director of Undergraduate Studies. This is an important next step because although the conclusions and recommendations of this research are for graduate teacher candidates in EDUC 750. The results are also applicable to undergraduate special education teacher candidates in UD's ETE program, who also complete their requirements for special education certification in SAM and TAM classrooms. To accomplish this step, I plan to contact Vicki Goettel, lead field instructor for ETE, and Dr. Stephanie Kotch-Jester, associate director of Undergraduate Studies, to schedule a meeting in spring 2020 with ETE field instructors. The purpose is to determine whether the ETE program is interested in making changes to the mentoring and professional development provided to ETE special education teacher candidates enrolled in EDUC 400.

Artifact 7: Policy Document. The final improvement strategy toward my second improvement goal was the policy document. This strategy was successful because, without the document, I would be unable to provide evidence on what supports need to be in place for teacher candidates. The policy document provides three recommendations on how to improve the quality of the special education teacher candidates that UD produces. The policy document also serves as a guide for communication on the types of supports that must be in place for teacher candidates to become successful special education teachers.

The next steps include sharing the policy brief — a shortened version of the

full policy document —with the Office of Clinical Studies and other stakeholders (e.g., principals); implementing the PDP, the program evaluation matrix, and the PD sessions; and partnering with a school district to conduct a longitudinal study of EDUC 750 alumni teaching in Delaware, to determine whether the PDP and individual PD sessions have any effect on whether EDUC 750 teacher candidates remain in special education and Delaware. To accomplish this goal, I first plan to contact Dr. Kristina Najera, director of the Delaware Center for Teacher Education, and Jamie Bailey, assistant director of the UD Office of Clinical Studies, to schedule a meeting in spring 2020 to discuss my research findings and recommendations. At our meeting I plan to discuss Memorandums of Understanding (MOUs) between UD and Delaware school districts and the policies of the Delaware Center for Teacher Education regarding communication with Delaware School Districts and principals, as well as ways that I can disseminate the executive summary about placement recommendations for special education teacher candidates. I then plan to reach out to special education directors to see whether there is any interest in partnering and participating in a longitudinal study of EDUC 750 alumni teaching in Delaware, in order to determine whether the PDP and individual PD sessions have any effect on special education teacher attrition and retention in Delaware.

Conclusion

Based on my analysis of the seven artifacts that made up this ELP, I have taken concrete steps and created actionable next steps to meet both parts of my improvement goal, where I have identified ways to improve the mentoring and professional

development provided to EDUC 750 teacher candidates and ways to improve the organization. Thus, to fully implement this ELP, the next steps include implementing the PDP and program evaluation matrix, and communicating the supports that must be in place for teacher candidates to be successful, supports that are both within and outside of UD.

Specifically, as a result of completing my ELP, I plan to fully accomplish my first improvement goal by implementing the recommendations and next steps outlined in this ELP. Starting in fall 2020, my observation debriefing sessions will focus on a teacher candidate's placement (i.e., SAM or TAM) by asking them specific questions about its barriers and facilitators. Mentoring will also include asking students to make connections to the SAM and TAM PD sessions provided during the EDUC 750 seminar. I also have planned changes to the professional development that EDUC 750 teacher candidates receive. These changes include providing an additional ten seminars to support the creation of the SAM- and TAM-related PD sessions outlined in the PDP. Lastly, I plan to conduct a longitudinal study to determine whether the PD program I will deliver beginning in fall 2020 has any effects on attrition and retention. The longitudinal study would include an annual EDUC 750 alumni survey that asks alumni to report whether they are still teaching in special education and in the state, by aligning the alumni survey with the DDOE's exit survey used to produce the annual *Educator Effectiveness in Delaware: Recruitment to Retention* report. I will analyze the surveys to (a) determine the percentage of EDUC 750 alumni who have remained in special education or left for other careers, and (b) compare that percentage to the

overall rate of attrition in Delaware and among UD elementary special education teacher graduates.

To fully accomplish my second improvement goal, I plan to communicate the results of my ELP to UD's Office of Clinical Studies and other stakeholders (e.g., principals) by sharing the policy brief (a shortened version of the full policy document), and by implementing the PDP, the program evaluation matrix, and the PD sessions. I will reach out to the Delaware Center for Teacher Education and UD's Office of Clinical Studies to schedule a spring 2020 meeting to discuss my research findings and recommendations. At our meeting, I plan to discuss MOUs as well as policies regarding communication with Delaware School Districts and principals, in search of ways to disseminate the executive summary of my placement recommendations for special education teacher candidates.

Chapter 6

REFLECTIONS ON LEADERSHIP DEVELOPMENT

As I reflect on my growth as a scholar, problem-solver, and leader, I have come to realize that I am capable of a lot more than I ever anticipated. At the beginning of this journey, I did not know what to expect. All I knew was that I wanted to make a positive change in the lives of all those that special education touches, whether it was a special education teacher candidate, a parent or guardian of a student with disabilities, a special education or general education teacher, or students with disabilities. I was also not exactly sure how I was going to achieve this goal and make a positive change in special education happen. Therefore, I used my prior experiences as a special education teacher, a special education instructional team leader, and (my most significant role) a mother to a student with disabilities to guide me. Still, it was not until I began working with preservice teachers at UD that I began to see an opening and opportunities to make a difference in special education, which made me want to pursue my Doctor of Education in Educational Leadership.

As a scholar, I used the skills I gained in the course EDUC 828: Research in Educational Decision-Making, which taught me how to read and understand qualitative and quantitative studies. It was also during this course that I decided that I wanted my ELP to include mixed methods. Therefore, using the skills and knowledge I gained in two other courses, EDUC 827: Analysis of Secondary Data for Decision Making and EDUC 846: Collection and Analysis of Data for Decision Making, I learned about different data collection methods that helped me understand how to read

and code data. It was also during those two courses that I decided I wanted to conduct surveys and interviews as part of my research. Together those courses taught me how to analyze and interpret data and how I could use data tables to present findings.

Still, it was not until I began working on my ELP proposal that I started to use the literature to drive my decision-making. It was through the comprehensive literature review that I began to see my growth as a researcher. I started taking copious amounts of notes and began using citations to explore further my curiosity on coteaching and different research methods and studies. It was also through the literature review that I began to formulate questions that I wanted to ask in the surveys, interviews, and questionnaires. The literature review helped me discover resources (e.g., websites and worksheets) that I could share with EDUC 750 teacher candidates. It would later come into use again when I developed my professional development plan (PDP) and PD Session 1: Introduction to Service Delivery Models. It was through the comprehensive literature review that I became a problem-solver.

More importantly, as I was continuing to grow as a researcher and utilizing the knowledge from courses to make changes to my organization, I was also beginning to grow as a scholarly writer. At the beginning of this journey, I found it challenging to communicate my thoughts in writing. I was also struggling with learning how to write in the first person and making sure that my thoughts connected coherently. I began to use outlines and headings to help me transition my thoughts. I also started thinking more critically about my topic and conclusion sentences, and how to set the reader up for the upcoming content, but it was not until I began focusing on my revisions that I

was able to recognize and remedy the following issues with my writing: passive voice, parallel structure, consistency with the terminology, and effective use of citations.

I quickly realized I that needed to become a problem-solver when I conducted my first literature search in EDUC 828. That was when I realized that there was no available research on SAM. It was this lack of research on SAM that led me to begin to question how the use of SAM and TAM was affecting the quality of special education teacher candidates produced by UD. Therefore, I set out to learn more about the barriers and facilitators of SAM and TAM so that I could better mentor and prepare teacher candidates for a career in special education. To begin, I first needed to figure out how I was going to collect the data on SAM and TAM.

The first problem I had to solve was to narrow down the focus of this ELP. To do this, I created two research questions to guide this ELP:

1. How do special education directors decide what service delivery models are used for the least restrictive environment (LRE) A in their district? What factors (e.g., budget, human resources, educational philosophy, and teacher evaluations) do they consider as part of their decision-making process?
2. What are the barriers and facilitators (e.g., pull-out services and push-in services) that affect SAM and TAM teachers' ability to provide specialized instruction to students with disabilities?

I then used the two research questions to create artifacts that would lead to my two improvement goals. The first improvement goal was to change the mentoring and professional development I provide to EDUC 750 students. Specifically, I wanted to

proactively teach teacher candidates through mentoring and professional development how to navigate and overcome the barriers of SAM and TAM service delivery models that could help them avoid burnout and remain in special education, where it is reasonable to assume it could reduce attrition. My second goal was to use my results to communicate to UD's Office of Clinical Studies and other stakeholders (e.g., principals) the skills and experiences that EDUC 750 teacher candidates need to teach students with disabilities in either a SAM or TAM classroom.

The next problem I needed to solve was determining what data I wanted to collect and how I was going to collect it. Therefore, because I knew I wanted to learn about the barriers and facilitators of both models, I decided that I would directly ask those questions in the surveys, interviews, and questionnaires. However, when I reflect on recruitment and participation, I realize that these steps were much better conceived than executed. It was also during this process that I realized how difficult it was to collect data outside my organization. I learned that many school district teacher unions have workload stipulations outlined in negotiated agreements that stipulate that survey research is not allowed, resulting in some school districts choosing not to participate.

Another problem I had to solve was figuring out how to share the importance of my research and the potential benefits to school districts when these districts (e.g., representations, principals, and teachers) do not know me. This situation was especially difficult to navigate because they only have a brief snippet of my research to decide whether it is of interest to them. To solve this problem, I used snowball

sampling, which successfully increased my sample size, generating enough usable data.

After I collected the data from the surveys, interviews, and questionnaires, I then coded and analyzed it. Because I wanted to get the full picture of special education across Delaware, I analyzed and presented the findings of Artifacts 2 and 3 in both aggregate and disaggregate forms. I completed disaggregation to learn whether there are different barriers and facilitators between Northern Delaware (i.e., Kent County) and Southern Delaware (i.e., Kent and Sussex Counties). I also wanted to determine whether there are differences in how special education service delivery models are implemented and taught. Overall, I was able to gather enough data to generate usable findings to help me to achieve the two improvement goals of this ELP.

Lastly, when I look back on my growth as a leader, I know that this Doctorate in Educational Leadership program has taught me to reflect and to become more collaborative with my peers. Still, more importantly, it taught me how to become a scholar and to problem solve. When I first began this program, I was confident in my special education knowledge base. I also knew from the beginning that I wanted to focus on SAM and TAM. Since I was new to Delaware and had never seen a model like SAM before, I wanted to understand it better.

Given that my prior experiences were only in TAM and resource room special education classrooms, I was curious about SAM, as well as Delaware's use of both models. However, through the course of my program, and as I began to research special education service delivery models, I found no research on SAM. This problem

led me to inquire further and question the use of SAM. Specifically, I wanted to know more about SAM and how it became an acceptable service delivery model for students with disabilities. As a result, I knew that this area is where I wanted to focus and contribute as a leader in special education.

Furthermore, as a leader in special education, I have gained through this research a new authority over the mentorship and professional development I provide to EDUC 750 teacher candidates. This research has affected the content and course design of EDUC 750 and has helped me become a stronger leader by further advocating for the needs of EDUC 750 teacher candidates with UD's Office of Clinical Studies. Soon, I hope to make a broader difference by meeting with members of the Delaware Department of Education to share my findings and recommendations for special education teacher evaluations and teacher certification. Overall, I am pleased with this research. I also believe that the findings and recommendations in this ELP will make a difference in special education and improve the quality of special education teacher candidates produced by UD.

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Appendix A

PROPOSAL AND ARTIFACT TABLE

I work at the University of Delaware, where I supervise and mentor special education majors throughout their graduate internship. I also coordinate the Masters (MEd) in Exceptional Children and Youth 4+1 program, in which undergraduate education majors at the University of Delaware (UD) can earn their bachelor's and master's degrees in five years.

Because I work as a field instructor, supervising 4+1 elementary special education teacher candidates predominantly in elementary public schools, henceforth referred to as *teacher candidates*. I have noticed significant inconsistencies in the services rendered to students with disabilities in Delaware, particularly those students coded as Least Restrictive Environment (LRE) A, which means that they spend at least 80% of their time in the general education classroom. To meet these students' needs, Delaware has developed a unique approach to special education service delivery called Single Approach to Mastery (SAM), in which one teacher takes on the roles of both general education and special education teacher. The alternative approach is called Team Approach to Mastery (TAM) (i.e., coteaching). Coteaching is an organizational approach where one general education teacher "with expertise in understanding, structuring, and pacing of the curriculum; and one special education teacher, an expert in identifying students' unique learning needs and adapting the curriculum and instruction accordingly" share responsibilities in the classroom (Cothren-Cook, McDuffie-Landrum, Oshita, & Cook, 2017, p. 233).

Given the presence of two service delivery models for LRE A, I question whether teacher candidates who only experience one model are getting the exposure and experiences they need to become successful special education teachers who may work in either a SAM or TAM model of service delivery. If teachers are in a SAM classroom, where they are responsible for providing instruction to all students, they cannot provide general instruction "to one group of students while providing specific IEP-directed [individualized education program] special education supports/instruction to students whose IEP requires it at the same time" (Texas Education Agency, n.d.). Teacher candidates placed in SAM must also teach general education students, which makes it difficult for special education teacher candidates in SAM to become proficient in adapting the curriculum and instruction for students with disabilities. Teachers simply cannot provide support simultaneously to students with disabilities and general education students without ignoring the needs of one group (Texas Education Agency, 2011, n.d.). Likewise, teacher candidates in TAM face concerns of parity, multiple partners, common planning time, lack of training and administrative support, and frequent use of the coteaching model "one-teach, one-assist" (Conderman & Hedin, 2015, 2017; Isherwood, Barger-Anderson, & Erickson, 2013; Scruggs, Mastropieri, & McDuffie, 2007).

Furthermore, I am concerned that without sufficient exposure and experience to both a SAM and TAM setting, UD's teacher candidates may not be adequately prepared to take on the challenges that come with each model of service delivery. This deficit, in turn, may affect Delaware's ability to retain special education teachers. By

researching the barriers and facilitators of SAM and TAM, I can identify areas that could be contributing to special education teacher attrition, a well-known issue in special education (Billingsley, 2004; Borman & Dowling, 2008; Certo & Fox, 2002; DeAngelis & Presley, 2011; Ingersoll, 2001; Nance & Calabrese, 2009; Samuels & Harwin, 2018). Therefore, I want to learn more about the issues (e.g., administrative support, student characteristics, classroom size, professional development, data collection, and paperwork) that affect the quality of special education services, and the conditions that must be put in place to ensure that UD's teacher candidates are successful in meeting students' needs, remain in the field, and are prepared to teach in SAM and TAM. Specifically, I want to investigate the barriers and facilitators of SAM and TAM in light of the following critical questions:

1. How do special education directors decide what service delivery models are used for the LRE A in their district? What factors (e.g., budget, human resources, educational philosophy, and teacher evaluations) do they consider as part of their decision-making process?
2. What are the barriers and facilitators (e.g., pull-out services and push-in services) that affect SAM and TAM teachers' ability to provide specialized instruction to students with disabilities?

The results of my Educational Leadership Portfolio (ELP) could result in changes to the mentoring and professional development I provide as a field instructor and course instructor to teacher candidates in EDUC 750. Specifically, these inquiries could shed light on how to navigate and overcome the barriers of SAM and TAM service delivery

models to avoid burnout and reduce attrition as teacher candidates move from preservice to in-service positions.

Organizational Role

My role and responsibilities as a program coordinator and field instructor provide me with a unique opportunity to work in both higher education and P–12 settings, where I have seen firsthand the inconsistencies in special education services offered in Delaware. I am concerned that the use of SAM and TAM in school districts could be a determining factor for special education teacher attrition in Delaware. Therefore, I plan to use my ELP and my organizational roles to proactively prepare teacher candidates in EDUC 750 to persevere and to manage the conditions identified through this research that could affect whether they remain in special education or become a statistic in the ongoing problem of teacher attrition in special education.

Due to my dual roles as program coordinator and field instructor, this ELP will inform changes in my coordination of the MEd in Exceptional Children and Youth 4+1 program, which has more administrative functions; in addition, my role as field instructor gives me the authority to design and implement changes to course instruction (e.g., mentoring and professional development). My primary function is to coordinate the MEd in Exceptional Children and Youth 4+1 program, where I have the following responsibilities:

1. Collaborate with the special education faculty in program development and design (e.g., internship hour configurations; quantity of assignments; and

type of assignments including IEP meeting attendance, progress monitoring, types of lessons);

2. Schedule EDUC 750 seminars for course instructor(s) and provide direction with regard to teacher-internship requirements, content, and projects;
3. Identify, screen, and assist with the hiring of potential adjunct clinical faculty as needed for staffing the 4+1 graduate internship course (EDUC 750);
4. Collaborate with the Office of Clinical Studies to identify appropriate field placements (e.g., SAM and TAM) that will support the professional growth of teacher candidates;
5. Manage student field placement issues as appropriate, which includes reporting confidential student field placement issues as indicated; and
6. Develop 4+1 policy related to field placements in conjunction with special education faculty.

Additionally, in my role as a field instructor, I have the following responsibilities:

1. Instruct EDUC 750, which includes supervising graduate teaching internships for teacher candidates in the three 4+1 concentrations within the MEd in Exceptional Children and Youth (autism/severe disabilities, elementary special education, and secondary special education);

2. Implement and design seminar sessions regarding EDUC 750 requirements and projects, offer insights into the teaching profession, and facilitate research-based quality educational experiences;
3. Provide guidance and support according to current standards in the field and program requirements, including arranging orientation sessions when appropriate; and
4. Observe teacher candidates and engage them in formal conferences on a regular basis to give verbal and written feedback to facilitate their professional growth.

These responsibilities give me the authority to make changes to content, mentoring, and professional development provided to teacher candidates enrolled in EDUC 750, where, as a program coordinator, I provide direction to EDUC 750 instructor(s) concerning teacher-internship requirements, content, and projects. Because I am a program coordinator and field instructor, I can provide feedback and collaborate with the Office of Clinical Studies to identify appropriate field placements that will support the professional growth of teacher candidates. However, if it is not logistically feasible to place all teacher candidates in field placements that support their growth, the mentoring and professional development they receive must change so that they are prepared to teach and proactively manage the barriers and facilitators of SAM and TAM. As an instructor of EDUC 750, I implement and design seminar sessions based on EDUC 750 content requirements and projects.

Additionally, EDUC 750 seminars provide insights into the teaching profession, and research-based, quality educational experiences are also discussed. Therefore, I must learn about the barriers and facilitators of SAM and TAM so I can share my findings with my colleagues during the Special Education Faculty and Field Instructor meetings. These meetings provide an opportunity to discuss and address problems of practice, including special education placements and field requirements for special education teacher candidates, which critically contribute to the success of the 4+1 MEd in Exceptional Children and Youth program and the preparation of the teacher candidates that our program produces.

Organizational Context

Due to the nature of my position, I have a dual role where I work within two frameworks: higher education and P–12. Both frameworks have accountability

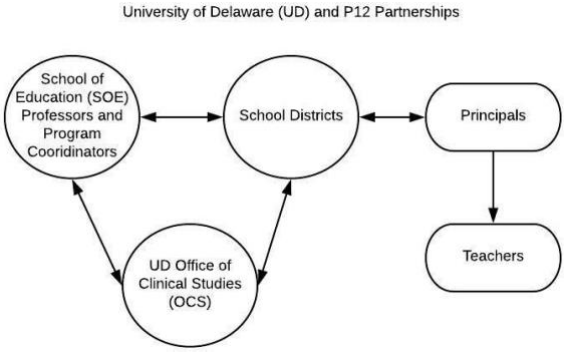

Figure A1. University of Delaware (UD) and P–12 Partnerships

systems and organizational structures in place to ensure their success. UD and P–12 schools also share mutual respect and admiration, and they often enter into partnerships. Figure A1 shows the relationship between UD and P–12 schools.

Both entities, UD, and P–12, have the same goals. UD wants to produce quality special education teachers who effectively increase the success of students with disabilities by improving their ability to become active, valued, and participating members of their community (Billingsley, Crockett, & Kamman, 2014; Lignugaris/Kraft & Harris, 2014). P–12 wants to hire and retain teachers with those qualities (Billingsley et al., 2014; SPED, 2017). However, without a clear understanding of the barriers and facilitators that affect a SAM or TAM teacher's ability to provide specialized instruction to students with disabilities, higher education cannot proactively teach teacher candidates how to persevere and develop the competencies needed to achieve those goals and remain in special education.

Indeed, as a field instructor, I have had the opportunity to supervise special education teacher candidates in Appoquinimink, Christina, Colonial, and Red Clay Consolidated School District, where I immediately noticed inconsistencies in special education among and within school districts. Districts variously use SAM, TAM, or both methods, which means that teacher candidates experience different service delivery models that may or may not be generalizable to other special education teaching positions in other Delaware districts or states. There are also inconsistencies in the number and type of students with disabilities in each placement, which could be a factor in special education attrition as UD graduates transition from preservice to in-service positions. Thus, structures must be in place to identify and define a quality special education teacher candidate placement (Blanton, McLeskey, & Taylor, 2014). Existing structures guiding UD special education teacher candidate placements come

from two sources: UD's Office of Clinical Studies and Delaware's Strategic Plan for Special Education.

To illustrate how research conducted in support of this ELP is situated in this broader context, I first overview the current guidelines that structure UD teacher candidate placements as defined by the Office of Clinical Studies and Delaware's Strategic Plan. Then, I explain how gaps in those guidelines and structures underscore the importance of this ELP research project.

UD's Office of Clinical Studies

The University of Delaware created the Office of Clinical Studies to streamline and secure placements for students who are in courses that include a practicum component, and to reduce confusion between districts and across UD education programs. The Office of Clinical Studies serves as the liaison between educational programs and school districts.

The Office of Clinical Studies had only one guideline for placing teacher candidates with clinical educators: to ensure a match between the teacher candidate and clinical educator's certification area. This lack of broader guidelines created several problems. For instance, several special education teacher candidates were placed in classrooms with teachers who did not have any students with disabilities, or who had only students with a single type of disability, such as speech-language impairments. These issues are not uncommon in the field and are recognized as critical to the quality of special education teacher training (Newton, Kennedy, Wilther-Thomas, & Cornett, 2011). Thus, to ensure suitable placements and address placement

inconsistencies, in August 2015, special education faculty created a list of requirements for the Office of Clinical Studies to follow when placing teacher candidates in schools:

1. Clinical Educator is certified in special education;
2. Clinical Educator is working in a special education role;
3. Elementary-age population is aligned with Elementary Certification area grades (no middle school grades);
4. The population of students with disabilities should be those who are accessing the general education curriculum (i.e., not students who were in a part of the alternative testing programs or who require a teacher who is certified to work with students with severe disabilities/autism).

Faculty also specified what constitutes an acceptable classroom setting when placing special education teacher candidates in schools:

1. Pull out/resource room placements (for the whole day or part of the day);
2. Intensive Learning Center or self-contained special education classroom for students participating in general education curriculum; not a setting with a sole focus on students with emotional/behavior disorders;
3. Coteaching model where the special education teacher works in a general education class (for the whole day or with more than one general education teacher across the day);
4. Special education teachers who provide Tier 2 (small group instruction to students with similar instructional needs) and Tier 3 instruction (where more

intensive instruction occurs, and parents become involved).

Lastly, special education faculty identified placements that are less than ideal but acceptable in the absence of any other options:

1. Dually certified teacher in a general education classroom (i.e., SAM) if there are a sufficient number of students with IEPs that include academic goals (a placement with only speech or motor needs or students with only Section 504 plans would not be appropriate as this would not allow them to complete student teaching requirements); and
2. Kindergarten (K. Ritchey, personal communication, August 26, 2015).

The goal was to expose teacher candidates to students with a wide variety of disabilities and to place them in classrooms with practicing special education teachers (Kent & Giles, 2016).

In 2016, concurrent with additional criteria dictated by Delaware's Special Education Strategic Plan (described next), the Office of Clinical Studies recognized that are concerns about the quality of clinical educators beyond the certifications they hold. As a result, the Office of Clinical Studies created a list called Characteristics of Clinical Educators (Office of Clinical Studies, n.d.), which established the following expectations for all clinical educators, including but not limited to those who supervise special education teacher candidates:

1. Minimum Requirements for Clinical Educators
    - Hold certification in the same area as the certification sought by the candidate.

- Hold certification at the appropriate developmental level of the pupils consistent with the certification sought by the candidate.
- Hold at least a bachelor's degree.
- Has taught full-time for at least three years.
- Does not have a personal relationship with the candidate (e.g., neighbor, former student).
- Received at least a satisfactory rating on all five components of the DPAS-II educator evaluation system or has an equivalent rating on a state, LEA- or private-school approved educator evaluation system in his/her most recent summative evaluation.
- Satisfactorily completed university preparation in candidate mentoring or supervision.

2. Clinical Educators Demonstrate the Following Teaching Practices
    - Uses observations and data to intentionally adapt practices to meet the diverse needs of the learners in his/her classroom.
    - Uses instructional practices related to the State Standards and Common Core State Standards.
    - Possesses strong classroom management skills.
    - Engages in best teaching practices.
    - Exhibits an understanding of the content taught.
    - Displays empathy and understanding of the cultural differences of

learners in his/her classroom.

- Maintains a central focus on learners' learning.
- Uses pupil data to frame pedagogical decisions.

3. Clinical Educators Demonstrate the Following *Attributes*
    - Collaborates with peers in the school community.
    - Demonstrates an interest in his/her practice and wants to expand his/her work, illustrating his/her desire to be a lifelong learner.
    - Seeks professional development opportunities.
    - Demonstrates effective communication skills.
    - Expresses interest in mentoring or coaching other adults.
    - Follows through with tasks and attends to details.
4. Clinical Educators *Build a Relationship* with the Teacher Candidate, Demonstrating
    - An enthusiasm for mentoring the next generation of teachers.
    - An openness to new ideas and multiple perspectives on teaching and learning, especially with research-based practices.
    - Respect for the candidates as professional colleagues.
    - Willingness to share the classroom, stepping in and out of lead instructional roles.
    - A positive attitude about the teaching profession.
    - Reflection and thoughtfulness about teaching and a willingness and

ability to articulate her/his thinking to others.

- Willingness to dedicate the time to plan and debrief after lessons.

The growing stringency of criteria for placing special education teacher candidates has drawn attention to the lack of quality placements available to teacher candidates. It has also shifted my attention to special education teacher attrition, where "attrition within three years of licensing is greater for short, alternative preparation routes (60%) than for standard 4-year programs (30%) or 5-year programs (10–15%)" (Higher Education Consortium for Special Education, 2014, p. 1). If highly qualified and motivated special education teachers are leaving the profession before they get an opportunity to mentor the next generation, this is an issue that needs addressing. Therefore, I must learn about the barriers and facilitators of SAM and TAM. Specifically, I want to learn what special education directors and SAM and TAM teachers perceive as barriers to and facilitators of SAM and TAM. I want to determine which model provides more significant opportunities for teacher candidates to practice incorporating specially designed instruction using evidence-based strategies, to practice embedding their knowledge from courses, and to incorporate their clinical educator's expertise and familiarity with the IEP objectives of students with disabilities. The results of this study can inform and drive future conversations I have with the Office of Clinical Studies about teacher candidate exposure to special education placements.

State of Delaware Special Education Strategic Plan

In October 2016, the State of Delaware recognized the need to improve the quality of special education services to students with disabilities. Representatives from

several groups collaborated to create Delaware's Special Education Strategic Plan, which was released in April 2017 and is still in effect at present. These groups were: Woodbridge School District, Autism Delaware, Colonial School District, Charter Schools, Parent Information Center of Delaware, Charter School Representatives, Legislators, Delaware State Education Association, Down Syndrome Association, Brandywine School District, Delaware Department of Education, Parent Advocates, Red Clay Consolidated School District, Delaware Autism Program, Governor's Advisory for Exceptional Citizens, UD's Center for Disabilities Studies, Delaware School Boards Association, Delaware School for the Deaf, Delaware Statewide Programs, Appoquinimink School District, and Division for the Visually Impaired. One outcome of their collaboration was the creation of the Special Education Strategic Plan Advisory Council, which monitors the strategic plan. Most council members are special education directors/statewide program directors and family/student advocates. The council also includes a variety of other stakeholders and state decision-makers. Its vision is for all children with disabilities to reach their full potential through a student-centered, individualized education system using a collaborative and supportive model (SPED, 2017). The council identified seven focus areas to achieve this vision: Students, Staff/Partners, Delivery Structures, Parents/Families, Resources, Policy/Regulations, and Community.

In May 2017, representatives from higher education and P–12 organizations collaborated at UD's Partnership for Public Education Academy, where representatives from P–12 discussed initiatives outlined in Delaware's Special

Education Strategic Plan. The initiatives led to the further revamping of student teaching requirements for special education teacher candidates. For instance, as of August 2017, an IEP project and progress monitoring (where special education teachers assess the progress a student with disabilities is making on their IEP objectives; Berkeley & Riccomini, 2017) became requirements for student teaching. To accommodate these changes, the number of lessons that special education teacher candidates were required to teach each week was reduced. The addition of IEP projects and progress monitoring to student teaching helped ensure that special education teacher candidates placed in SAM classrooms would have the opportunity to develop critical professional competencies in such previously not-required tasks as practicing data collection and writing IEPs.

The Need for Further Research

In light of the progress that higher education and P–12 organizations are making toward improving special education in Delaware, we need further research on service delivery models (Cothren-Cook et al., 2017) to determine whether the use of SAM and TAM contributes to special education teacher attrition. Without this research, teacher candidates can still be placed in SAM or TAM classrooms, and those are very different experiences. It is also essential to consider the goals outlined in the Special Education Strategic Plan. Goal 2.2 states, “increase retention rate and improve overall satisfaction rates among special educators, related service providers, and others directly involved in the education of students with disabilities” (SPED, 2017, p. 9). Likewise, it is essential that the delivery structure and systems outlined in Goal 3 of

the Special Education Strategic Plan happen. Goal 3 states, “to make available the same full array of current evidence-based practices and models of service delivery regardless of a student’s placement within the state, district, specialized programs, charter schools, etc.; and to improve our special education system to facilitate achievement of our other goals” (SPED, 2017, p. 13).

The research questions guiding my ELP focus on identifying the barriers and facilitators to SAM and TAM service delivery models across Delaware, they also align with the goals outlined in the Special Education Strategic Plan. As a result of answering these research questions, my ELP will inform the kinds of mentoring and professional development provided to teacher candidates enrolled in EDUC 750. Also, these inquiries could inform future conversations on acceptable and appropriate placements for preservice teachers and shed light on how to navigate and overcome the barriers of SAM and TAM service delivery models to avoid burnout and reduce attrition.

Problem Statement

In February 2014, the Delaware Department of Education released a report titled *Educator’s Effectiveness in Delaware: Recruitment to Retention* to the public. In the report, 821 new teacher hires from comprehensive, vocational, and magnet schools were tracked for four years from the 2007–2008 school year through the 2011–2012 school year. Of the 821 new hires, only 63.5% of those teachers were still teaching in Delaware at the study’s close. Reports like this are not uncommon in education and are often used by researchers and school systems to identify and further study ways to

reduce attrition in public schools.

Delaware, and the United States at large, has seen an increasing demand for highly qualified special education teachers, but the supply of teachers is unable to keep up with demand (Boe, 2014; Borman & Dowling, 2008) due to teacher attrition. According to the Center on Personnel Studies in Special Education (2004), special education teacher attrition is twice that of general education teachers, so it is reasonable to infer that of the teachers who left Delaware over the four years (i.e., 2007–2008 to 2011–2012), approximately 24% were special education teachers.

National data also suggests that the majority of teachers who leave the profession do so within the first three to five years of entering (Boe, 2014; Borman & Dowling, 2008; Certo & Fox, 2002). So why do so many leave special education? According to Boe (2014), "overall exit attrition accounted for 40%, out-switching to general education accounted for 46%, and growth accounted for the remaining 14%" (p. 71). Boe and other researchers suggest that age, teacher qualifications, work environment (e.g., administrative support, professional development, mentoring), stress (e.g., paperwork, legal mandates, high caseloads), and salary contribute to special education attrition. They recommend that districts offer financial incentives (e.g., loan forgiveness and higher teacher pay), reasonable work assignments and influence over the work environment, classroom assistance, mentoring, and professional development programs (Billingsley, 2004; Boe, 2014; DeAngelis & Presley, 2011; Nance & Calabrese, 2009). As a program coordinator, field instructor, and parent of a student with disabilities, I want to understand the conditions that are

happening locally to see whether there is a connection between the factors identified in research that contribute to special education attrition.

Therefore, I want to learn about the decision-making process behind the use of the two service delivery models. Specifically, what factors (e.g., budget, human resources, and teacher evaluations) do special education directors consider when determining the staffing needs of SAM and TAM settings, since both settings are used to provide IEP services to students coded as LRE A. I also want to learn about the barriers and facilitators (e.g., pull-out services and push-in services) of both service delivery models. Specifically, is there a relationship between the decision-making factors, and the barriers and facilitators of SAM and TAM.

Thus, to determine mentoring and professional development needs for 4+1 elementary special education teacher candidates, it is first necessary to learn more about SAM and TAM. Though the term SAM is indigenous to Delaware, prior research on special education dual certification programs (or programs that produce dually licensed spec-ed/gen-ed teachers) suggests that there may be limitations with this model due to issues of teacher quality and teacher support (e.g., administrative support, student characteristics, classroom size, professional development, data collection, paperwork, etc.) (Blanton & Pugach, 2011; Kent & Giles, 2016). Others have been concerned about dual licensure programs and question whether programs can sufficiently prepare candidates for both roles in a four-year undergraduate program (Blanton & Pugach, 2011).

TAM, or coteaching, has a more significant research base (Friend, Cook,

Hurley-Chamberlain, & Shamberger, 2010; Pancsofar & Petroff, 2016; Tzivinikou, 2015); however, researchers have also identified potential issues with that service delivery model, such as equity (Cothren-Cook et al., 2017). Researchers have also studied the essential role of administrative support in inclusion (Bettini et al., 2016; Sumbera, Pazey, & Lashley, 2014) and in the determination of a special education teacher's effectiveness (Bettini et al., 2016). Other study findings have suggested that classroom characteristics (e.g., instructional needs and class size) impact a special education teacher's ability to individualize instruction (Bettini et al., 2016). Lastly, it is unclear whether special education teachers have equal levels of academic support for students in SAM and TAM settings.

Therefore, I want to identify the barriers that impact a special education teacher's success with teaching in SAM and TAM so that I can provide 4+1 elementary teacher candidates with guidance and relevant professional development to overcome those barriers, persevere, and avoid burnout, thereby reducing attrition, a well-recognized issue in special education (Billingsley et al., 2014; Boe, 2014).

Specifically, I want to investigate SAM and TAM service delivery models in light of the following critical questions that guided my ELP:

1. How do special education directors decide what service delivery models are used for the LRE A in their district? What factors (e.g., budget, human resources, educational philosophy, and teacher evaluations) do they consider as part of their decision-making process?
2. What are the barriers and facilitators (e.g., pull-out services and push-in

services) that affect SAM and TAM teachers' ability to provide specialized instruction to students with disabilities?

To learn more about the issues that impact the quality of special education services and the conditions that need to be put in place to ensure the success of special education teachers, I plan to:

1. Identify the factors that influence service delivery model decisions and the supports (e.g., instructional and student resources) that special education directors provide in their districts (Question 1).
2. Identify the types of supports (e.g., instructional and student resources) that SAM and TAM teachers currently receive and need to meet the individual needs of students with disabilities (Question 2).

The results of these inquiries could affect the mentoring and professional development provided to teacher candidates enrolled in EDUC 750 as well as the guidance given to the Office of Clinical Studies about placements for special education teacher candidates. Specifically, these inquiries could shed light on how to navigate and overcome the barriers of SAM and TAM service delivery models to avoid burnout and reduce attrition.

Improvement Goal

My ELP has two goals. First, I plan to use findings from my ELP to inform the mentoring and professional development provided to teacher candidates in EDUC 750 to proactively teach them how to navigate and overcome the barriers of SAM and TAM service delivery models to avoid burnout and possibly reduce attrition. Second, I

plan to use my results to inform future conversations with the Office of Clinical Studies and other stakeholders (e.g., UD's Elementary Teacher Education program, 4+1 program coordinators, special education faculty, and school districts) by communicating the supports that need to put be in place to ensure that UD's graduates have the skills and experiences they need to teach students with disabilities in either a SAM or TAM classroom successfully, and by providing additional guidance on acceptable and appropriate placements for preservice teachers.

I will accomplish these goals by studying the perceived effectiveness of supports available to teachers to meet the needs of students with disabilities who receive services (e.g., specialized instruction) in SAM and TAM classrooms. I hope to identify the types of supports that SAM and TAM teachers require to provide specialized instruction to students with disabilities as dictated by the IEP. The findings will determine the kinds of mentoring and professional development teacher candidates will need as they transition from preservice to in-service positions. I also want to learn about the decision-making factors special education directors use to determine staffing SAM and TAM and their perceptions of both models. Specifically, does their educational philosophy drive how many SAM and TAM classrooms are in place in their districts?

Connections between Improvement Goal, Research Questions, and Artifacts

My artifacts all connect and help me achieve my improvement goal. The literature review (artifact 1) will help me identify the types of supports that special education teachers need. It will also identify the barriers and facilitators of TAM (i.e.,

coteaching), and the ways that those barriers affect a teacher's ability to provide individualized instruction to students with disabilities as dictated by their IEP. Specifically, the literature review will identify the different types of supports and conditions necessary so that special education teachers who coteach can teach students with disabilities. The literature review will also help inform the survey and interview questions used in artifacts 2 and 3 (special education director and teacher surveys and interviews). Artifacts 2 and 3 will inform the mentoring and professional development I provide to students in EDUC 750.

Artifact 4, the professional development plan and program evaluation matrix, will use the information gathered in artifacts 1, 2, and 3 to summarize the sequence of activities, topics, and objectives for each professional development seminar that I plan to provide to students in EDUC 750. Upon the completion of the professional development series, I will then use the program evaluation matrix to measure the effectiveness of the professional development plan. By collecting quantitative data and analyzing it with basic descriptive statistics and measures of pre–post change to examine mean differences (e.g., surveys, exit tickets, and debriefing sessions), I will determine the extent to which special education teacher attrition decreased for EDUC 750 students. Artifact 5, the professional development seminar, is the first seminar in the professional development (PD) series. It is designed to serve as an introduction and to set the tone for the remaining PD seminars.

Artifact 6, the teacher evaluation analysis, analyzes the alignment between (1) the Delaware Performance Appraisal-II (DPAS-II) for teachers and (2) the standards

set by the Council for Exceptional Children, used by teacher preparation programs across the United States. This artifact is vital because teacher candidates need to be aware of the degree to which Delaware's teacher evaluation system aligns or misaligns with the professional standards guiding special education teachers. If the evaluation system proves to be misaligned and teacher candidates are unaware, they may unwittingly focus on things that undermine their success as special educators. Alternatively, if they focus solely on the professional standards, teacher candidates may eventually find themselves insufficiently rated on the evaluation systems. This artifact is also used to support specific actions in surveys, interviews, the professional development seminar, and the policy document (artifact 7). The policy document is intended to inform and make recommendations to the Office of Clinical Studies and other stakeholders (e.g., UD's Elementary Teacher Education program, 4+1 program coordinators, special education faculty, and school districts). By identifying the types of supports needed, I can more effectively mentor and provide professional development to preservice teachers. The policy document will also ensure that UD's graduates have the skills and experiences they need to successfully teach students with disabilities in either a SAM or TAM classroom. Additionally, the results will provide guidance on acceptable and appropriate placements for preservice teachers.

These artifacts are designed to work together to achieve my improvement goals, which are (1) to proactively instruct teacher candidates on navigating and overcoming the barriers of SAM and TAM service delivery models to avoid burnout and possibly reduce attrition, and (2) to use this data to inform future conversations

with the Office of Clinical Studies and other stakeholders (e.g., UD's Elementary Teacher Education program, 4+1 program coordinators, special education faculty, and school districts) on acceptable and appropriate placements for preservice teachers. This data will thus ensure that UD's graduates have the skills and experiences they need to teach students with disabilities in either a SAM or TAM classroom successfully.

For instance, the literature review serves as the foundation for subsequent artifacts and will provide me with up-to-date research and knowledge on TAM service delivery models. It will also inform the recommendations I provide to the Office of Clinical Studies, and the mentoring and professional development I provide as a field instructor and course instructor to teacher candidates in EDUC 750. The two surveys and interviews are designed to illuminate varying perspectives of special education service delivery and to identify any relationships between what I uncover in the literature review and practice. The surveys and interviews will identify any factors (e.g., budget, human resources, and teacher evaluations) that affect districts' choice of service delivery model (i.e., SAM or TAM); potential barriers and facilitators (e.g., pull-out services and push-in services) to a SAM or TAM teacher's ability to provide specialized instruction to students with disabilities; and in-service teachers' beliefs about the benefits and limitations of SAM and TAM. Survey and interview responses will be used to inform artifacts 4 and 5.

The professional development plan and program evaluation matrix (artifact 4) provides background information on current supports and needs identified through the

surveys and interviews and is used to inform the design of artifact 5, the professional development seminar. The professional development seminar is the first in a series of professional development seminars for students enrolled in EDUC 750. The seminar will focus on the information gathered from the literature review, surveys and interviews, and teacher evaluation analysis (artifact 6). It will also identify the next steps, outlined in artifact 7, a policy document on SAM and TAM. The policy document is designed to provide recommendations and to assist educators—especially those who do not have a background in special education—in their understanding of special education service delivery models. The recommendations in the policy document also ensure that UD's graduates have the skills and experiences they need in order to teach students with disabilities in either a SAM or TAM classroom successfully. Lastly, the policy document will provide additional guidance on acceptable and appropriate placements for preservice teachers to UD's Office of Clinical Studies and other stakeholders (e.g., UD's Elementary Teacher Education program, 4+1 program coordinators, special education faculty, and school districts).

Research Questions (RQs)

1. How do special education directors decide what service delivery models are used for the LRE A in their district? What factors (e.g., budget, human resources, educational philosophy, and teacher evaluations) do they consider in their decision-making process?
2. What are the barriers and facilitators (e.g., pull-out services and push-in services) that affect SAM and TAM teachers' ability to provide specialized

instruction to students with disabilities?

List of Artifacts

The following artifacts will be completed to answer these research questions and achieve my improvement goal.

1. **Literature review:** The literature review focuses on the practices and applications of coteaching. The specific research question guiding this literature review is: What are the barriers and facilitators of coteaching in elementary schools? The goal is to reduce my bias about coteaching by learning more about coteaching. The literature will assist in answering RQ2 of this ELP: What are the barriers and facilitators that affect TAM teachers' ability to provide specialized instruction to students with disabilities?
2. **Special education director surveys and interviews:** This artifact consists of surveys and interviews with Delaware special education directors. The purpose is to identify the factors that influence service delivery model decisions and the way that those decisions are made in Delaware school districts. The surveys are intended to gather information from Delaware special education directors to identify their perceptions of SAM and TAM and to determine which factors (e.g., student achievement and infrastructure) influence their decision-making process. The interviews gather additional evidence about special education directors' decision-making processes.
3. **Teacher surveys and interviews:** This artifact consists of surveys and

interviews with Delaware elementary SAM and TAM teachers. The purpose is to identify their perceptions of barriers and facilitators affecting their ability to provide specialized instruction to students with disabilities.

4. **Professional development plan and program evaluation matrix:** The purpose of this artifact is to inform teacher candidates of the barriers and facilitators of SAM and TAM. It will also include an outline of the objectives, topics, and activities that teacher candidates will receive throughout their year-long graduate internship. This artifact will also serve as a guide that I will use to design and develop artifact 5, the professional development seminar for 4+1 students.
5. **Professional development seminar for 4+1 students:** The professional development module is designed to help teacher candidates enrolled in EDUC 750 understand the barriers and facilitators of SAM and TAM as identified in artifacts 2 and 3. This artifact also includes an evaluation component to measure the effectiveness of this PD seminar. Artifact 5 will serve as an introduction and set the tone for the remaining PD seminars. Additionally, this professional development will occur throughout the school year. I will be differentiating based on topics and needs assessment (i.e., surveys and exit tickets).
6. **Teacher-Evaluation Analysis:** This artifact analyzes the alignment between the Delaware Performance Appraisal-II (DPAS-II) for teachers and the professional standards of the Council for Exceptional Children. This analysis is

essential because any misalignment may cause special education teachers to focus on things that do not lead to success in their jobs (e.g., if they only focus on the DPAS-II items) and because, conversely, teachers who are very successful as special education teachers may not be sufficiently recognized on DPAS-II, which could be a factor affecting special education teacher attrition. The analysis will also support specific actions in surveys, interviews, the professional development seminar, and the policy document. Additionally, this artifact will inform artifacts 4, 5, and 7.

7. **Policy document:** This policy document is intended to inform educators without a background in special education of the differences between the two full-inclusion special education service delivery models (SAM and TAM) used by Delaware Public Schools to provide specialized instruction to students with disabilities coded as LRE A (students with disabilities who spend 80% or greater of their instructional day with nondisabled peers). Additionally, this policy document will provide evidence-based research on how the use of each model affects special education teacher candidates. It will also make recommendations to improve the quality of the special education teacher candidates that UD produces.

Artifact 1: Literature Review

This artifact is designed to understand the practices and applications of TAM or coteaching. The research question guiding this literature review is: What are the barriers and facilitators of coteaching in elementary schools? The goal of this literature

review is to integrate and generalize coteaching applications in the elementary setting and to reduce my bias by illuminating the strengths and weaknesses of coteaching. The literature review will assist in answering RQ2: What are the barriers and facilitators that affect TAM teachers' ability to provide specialized instruction to students with disabilities? Here is the proposed timeline for this artifact:

Timeline	Action Steps
September–October 2018	1. Identify keywords and descriptors, create a search query, and identify relevant sources. 2. Critically read and analyze literature.
October–November 2018	3. Synthesize the literature.
November 2018–January 2019	4. Organize the literature. 5. Write the literature review (Roberts, 2010).

Artifact 2: Special Education Director Surveys and Interviews

This artifact consists of surveys and interviews with Delaware special education directors to illuminate how service delivery modes are decided on, planned, and implemented in their district and to understand their perceptions of SAM and TAM. Currently, students with disabilities who are coded LRE A-Regular Setting receive special education services in either a SAM or TAM classroom. Survey and interview responses will be used to inform my improvement goal. This artifact connects to RQ1: How do special education directors decide what service delivery

models are used for the LRE A in their district? What factors do they consider as part of their decision-making process? Here is the proposed timeline and sampling plan for this artifact:

Timeline	Action Steps
October–December 2018	1. Submit IRB application. 2. Finalize survey items. 3. Develop an interview protocol to align with research questions and survey items.
January–March 2019	4. Recruit participants using purposive sampling. 5. Follow up on survey responses. 6. Conduct semi-structured interviews with identified participants.
March–April 2019	7. Code text-based or open-ended questions using multiple coding. Themes will be identified as they emerge. 8. Write a summary.

Sampling plan. Since SAM and TAM are unique to Delaware and this study focuses on public elementary school use of SAM and TAM, special education directors in charter and technical schools will be excluded from this study. Purposive sampling identified a population of sixteen public-education special education directors. All sixteen special education directors will receive the survey and will be invited to participate in an interview. Given the small population (n = 16), the

minimum number of surveys and interviews needed to generate usable findings is at least one survey (n = 3) and interview (n = 3) response from each county in Delaware (i.e., New Castle, Kent, and Sussex). The survey and interview responses will be used to understand how special education directors decide which service delivery models (for LRE A) they will use in their district and to identify any factors (e.g., budget, human resources, and teacher evaluations) that affect their decision-making. As I will be developing the survey instrument myself, it will not have been subjected to an evaluation of its reliability and validity. However, the survey will be developed according to best practices in survey development, such as the use of introductory questions, related questions, and logical sequence (e.g., Rea & Parker, 2005).

The survey will be sent electronically with follow-up phone calls, and interview participants will be identified through the survey. Interviews will be semi-structured using an interview guide with open-ended questions. A qualitative analysis will be conducted to determine any trends and to understand the process administrators use when making decisions on SAM and TAM.

Artifact 3: Teacher Surveys and Interviews

This artifact will consist of surveys and interview responses from elementary school SAM and TAM teachers who are currently teaching in Delaware. The surveys and interviews will be used to gather evidence to answer RQ2, which is focused on understanding the barriers and facilitators that affect SAM and TAM teachers' ability to provide specialized instruction to students with disabilities and to learn about their beliefs on the benefits and limitations of SAM and TAM. As I will be developing the

survey instrument myself, it will not have been subjected to an evaluation of its reliability and validity. However, the survey will be developed according to best practices in survey development, such as including introductory questions, related questions, and a logical sequence (Rea & Parker, 2005). Here is the proposed timeline and sampling plan for this artifact:

Timeline	Action Steps
October–December 2018	1. Submit IRB application. 2. Finalize survey items. 3. Develop an interview protocol to align with research questions and survey items.
January–March 2019	4. Recruit participants using purposive sampling. 5. Follow up on survey responses. 6. Conduct semi-structured interviews with identified participants.
March–April 2019	7. Code text-based or open-ended questions using multiple coding. Themes will be identified as they emerge. 8. Write a summary.

Sampling plan. All Delaware SAM and TAM teachers will be invited to participate using target population sampling and snowball sampling. Based on public data found through the Delaware Department of Education (n.d.; *Number of Full-Time Teachers Report 13–14*), there are approximately 600 elementary special education

teachers and approximately 2,800 elementary general education teachers. The current number of general education teachers in TAM is unknown; therefore, special education teachers will be asked to share this survey with their coteacher, if applicable. Teachers will be identified using school websites, where they will be contacted directly or through their school principal. According to Roberts (2010), a typical response rate for surveys is usually between 20% and 40%. For this artifact, I intend to obtain a minimum of 90 survey responses (i.e., 30 per county) and nine interviews with educators (i.e., three interviews per county). If the response rate does not generate the desired minimum number of surveys and interviews, I will then use snowball sampling.

The interview protocol will include a semi-structured interview guide with open-ended questions addressing SAM and TAM teachers' perceptions of the two service delivery models, and it will identify supports (e.g., pull-out and push-in services) and barriers as perceived by SAM and TAM teachers that impact their ability to provide specialized instruction to students with disabilities. A qualitative analysis will be conducted to identify in-service teachers' perceptions of, supports for, and barriers to school districts' use of SAM and TAM.

Artifact 4: Professional Development Plan and Program Evaluation Matrix

I am using the best practices identified in the literature review to develop a professional development plan. The professional development plan is intended to provide special education teacher candidates enrolled in EDUC 750 with the knowledge and resources needed to persevere and manage the barriers and facilitators

of SAM and TAM identified through this research. That could be a determining factor in whether special education teacher candidates remain in special education. This professional development plan will include a sequence of activities with clear topics and objectives for each professional development seminar identified through artifacts 1, 2, and 3. Additionally, a program evaluation matrix was created to determine whether the professional development seminars helped teacher candidates understand the barriers to and facilitators of SAM and TAM in Delaware.

The professional development plan with program evaluation matrix is completed as of November 2018; however, if revisions are necessary, they will be finished based on the timeline determined by the committee.

Artifact 5: Professional Development Seminar for 4+1 Students

This artifact is designed to help teacher candidates enrolled in EDUC 750 understand the barriers to and facilitators of SAM and TAM identified in artifacts 1, 2, and 3. I am using the literature review findings and data gathered in special education director and in-service interview and survey results to create a professional development seminar. This professional development seminar will be the first in a series of professional development seminars designed to provide strategies and resources to help preservice special education teacher candidates navigate the barriers to and facilitators of SAM and TAM. The goal is to proactively prepare teacher candidates to manage the demands that Delaware SAM and TAM teachers face and, ultimately, to reduce special education attrition rates in Delaware. This artifact directly connects to RQ2: What are the barriers and facilitators that affect SAM and TAM

teachers' ability to provide specialized instruction to students with disabilities? Here is the proposed timeline and sampling plan for this artifact:

Timeline	Action Steps
March–May 2019	1. Select topic based on literature recommendations and survey and interview responses. 2. Define the objective. 3. Create professional development seminar.

Artifact 6: Teacher Evaluation Analysis

The teacher evaluation analysis is an artifact created in EDUC 897: Curriculum Planning and Design. This artifact analyzes the alignment between the current Delaware Department of Education's teacher evaluation rubric, DPAS II, and the professional standards of the Council for Exceptional Children. This analysis is essential because any misalignment may cause special education teachers to focus on things that do not help them achieve success (e.g., a narrow focus on the DPAS-II items) or, conversely, to be very successful as special education teachers but not be sufficiently recognized on DPAS-II. This artifact connects to RQ2: What are the barriers and facilitators that affect SAM and TAM teachers' ability to provide specialized instruction to students with disabilities? This artifact will also be used to support specific actions in surveys, interviews, the professional development seminar, and the policy document (artifact 7) that will be shared with the Office of Clinical

Studies and other stakeholders (e.g., UD's Elementary Teacher Education program, 4+1 program coordinators, special education faculty, and school districts). The teacher evaluation analysis is completed as of November 2018; however, if revisions are necessary, they will be finished based on the timeline determined by the committee.

Artifact 7: Policy Document

The policy document is intended to inform and make recommendations to UD's Office of Clinical Studies and other stakeholders (e.g., UD's Elementary Teacher Education program, 4+1 program coordinators, special education faculty, and school districts) on the skills and experiences that special education teacher candidates need to teach students with disabilities in either a SAM or TAM classroom. This policy document will also summarize the findings of artifacts 1, 2, and 3. Based on these findings appropriate recommended actions and recommended future studies will be put forth for consideration. Here is the proposed timeline for this artifact:

Timeline	Action Steps
March–May 2019	1. Formulate recommendations. 2. Create a presentation. 3. Present findings from artifacts 1–3.

Artifact Table

Artifact	Research Question	Type and Description	Audience	Action Steps	Timeline
1: Literature Review	RQ2: What are the barriers and	Literature Review - focuses on	Committee and self	1. Identify keywords and	1–2: Sept–Oct 2018

	facilitators (e.g., pull-out services and push-in services) that affect SAM and TAM teachers' ability to provide specialized instruction to SWDs?	coteaching (i.e., TAM).		descriptors, create a search query, and identify relevant sources 2. Critically read and analyze literature 3. Synthesize the literature 4. Organize the literature 5. Write the literature review (Roberts, 2010)	3: Oct–Nov 2018 4–5: Nov 2018–Jan 2019
2: Special Education Director surveys and interviews	RQ1: How do special education directors decide what service delivery models (for LRE A) are used in their district? What factors (e.g., budget, human resources, and teacher evaluations) do they consider as part of their decision-making process?	Survey and Interviews - Consists of surveys and interviews of DE special education directors to learn how they make placement decisions.	Committee and self	1. Submit IRB application 2. Finalize survey items 3. Develop an interview protocol to align with research questions and survey items 4. Recruit participants using purposive sampling 5. Follow-up on survey responses. 6. Conduct semi-structured interviews with identified participants 7. Coding of text-based or	1–4: Oct 2018 5–6: Nov 2018 7–8: Nov 2018–Jan 2019

				open-ended questions using multiple coding will be used. Themes will be identified as they emerge. 8. Write a summary.	
3: SAM and TAM teacher surveys and interviews	RQ2: What are the barriers and facilitators (e.g., pull-out services and push-in services) that affect SAM and TAM teachers' ability to provide specialized instruction to SWDs?	Survey and Interviews - Consists of surveys and interviews of DE SAM and TAM teachers to learn about barriers and facilitators (e.g., pull-out services and push-in services) that affect their ability to provide specialized instruction to SWDs.	Committee and self	1. Submit IRB application 2. Finalize survey items 3. Develop an interview protocol to align with research questions and survey items 4. Recruit participants using purposive sampling 5. Follow-up on survey responses. 6. Conduct semi-structured interviews with identified participants 7. Coding of text-based or open-ended questions using multiple coding will be used. Themes will	1–4: Oct 2018 5–6: Nov 2018 7–8: Nov 2018–Jan 2019

				be identified as they emerge. 8. Write a summary.	
4: Professional Development Plan (PDP) and Program Evaluation Matrix (PEM)	Improvement Goal	PDP and PEM - justify how I decide to design and develop Artifact 5: PD Module.	Committee and self	Revise per committee feedback	Revisions to be completed based on the timeline determined by the committee
5: Professional Development (PD) Module	RQ1: How do special education directors decide what service delivery models (for LRE A) are used in their district? What factors (e.g., budget, human resources, and teacher evaluations) do they consider as part of their decision-making process? RQ2: What are the barriers and facilitators (e.g., pull-out services and push-in services) that affect SAM and TAM teachers' ability to provide specialized instruction to SWDs?	PD Module - is designed to help teacher candidates enrolled in EDUC 750 understand the barriers and facilitators of SAM and TAM.	Committee, self, and districts	1. Select topic based on literature recommendations, survey and interview responses. 2. Define objective 3. Create PD Module	1–3: Nov 2018–Jan 2019
6: Teacher Evaluation Analysis	RQ2: What are the barriers and facilitators (e.g., pull-out	Teacher Evaluation Analysis from EDUC	Committee, self, and districts	Revise per committee feedback	Revisions to be completed based on

	services and push-in services) that affect SAM and TAM teachers' ability to provide specialized instruction to SWDs?	897: Curriculum Planning and Design - Compares preservice and in-service teacher evaluations and identifies it as a potential barrier for SAM and TAM teachers.			the timeline determined by the committee
7: Policy Document	Improvement Goal	Presentation - The Policy Document is intended to inform the UD's ETE, 4+1 program coordinators, special education faculty, district and state policymakers what supports, barriers, and conditions SAM and TAM teachers need access to so they can provide specialized instruction SWDs as dictated by the IEP.	Committee, self, and districts	1. Formulate recommendations 2. Create presentation 3. Present findings from artifacts 1–4	1–4: Nov 2018–Jan 2019

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Appendix B

LITERATURE REVIEW

Introduction

There are many ways that special education teachers deliver specialized instruction (i.e., services) to students with disabilities. For instance, there are push-in/pull-out, itinerant, single approach to mastery, and team approach to mastery (i.e., coteaching) service delivery models. Push-in/pull-out is where a special education teacher provides support in the general education setting or pulls special education students out of the general education setting. The itinerant model is where a special education teacher consults with general education teachers on how to provide special education services to students with disabilities. The third model, single approach to mastery, is where one teacher takes on the roles of both general education and special education teacher. This teacher is dual certified in content and special education (Kent & Giles, 2016) and should not be confused with general education teachers in an inclusion setting, where they teach students with disabilities in the same classes as their nondisabled peers. General education teachers do not have the experiences or certifications needed to provide specialized services to students with disabilities.

However, team approach to mastery (i.e., coteaching) is unique in that it requires one general education teacher and one special education teacher teaching together in the same classroom (Friend, Cook, Hurley-Chamberlain, & Shamberger, 2010). These teachers are jointly responsible for teaching all students in their assigned classroom, which includes coplanning, co-instructing, and co-assessing. Coteaching is

different from the push-in/pull-out, itinerant, or single approach to mastery models because those models do not have the same level of joint responsibility.

Coteaching has become a more widely accepted service delivery model in education, yet there is a need for additional research across grade levels, subjects, and student learning characteristics (Friend et al., 2010). Specifically, it is unclear what factors facilitate effective coteaching (i.e., facilitators of coteaching) and what factors prevent effective coteaching (i.e., barriers to coteaching). Therefore, I completed a comprehensive literature review with selective citation of the coteaching literature spanning the years 2004 to present to answer the following research question: What are the facilitators and barriers of effective coteaching in elementary schools?

Because of my role as a university program coordinator and field instructor who primarily supervises and mentors 4+1 teacher candidates predominantly in public elementary schools, henceforth referred to as *teacher candidates*, this review focuses on elementary coteaching rather than on coteaching in secondary settings. By researching facilitators and barriers to effective coteaching at the elementary level, I will be able to better mentor and provide professional development to teacher candidates.

Before presenting the methods and findings of this literature review, I turn in the following section to additional background on coteaching.

Coteaching

Coteaching uses the presumption that two heads are better than one (Lava, 2012). It gained popularity in the early 2000s because it met the No Child Left Behind

mandates and least restrictive environment (LRE) components of the Individuals with Disabilities Education Improvement Act of 2004 (IDEA 2004). However, coteaching is still relatively new and is continually evolving. Beyond being a service delivery model for special education, coteaching is used with gifted and talented students and with English language learners.

Many universities have also adopted coteaching as part of their preservice student teaching experiences (Conderman & Hedin, 2017; Friend et al., 2010). At the University of Delaware (UD), teacher candidates and their clinical educators receive coteaching training through UD's Office of Clinical Studies. The expectation for teacher candidates is to coplan, co-instruct, and co-assess with their clinical educators using the six approaches to coteaching:

1. *Station Teaching*. Divide students into three (or more) groups. Each teacher delivers part of the lesson at a station; independent work occurs in the third station. Students rotate through all stations, so both teachers work with every student in the class.
2. *Parallel Teaching*. Divide students into two groups, and each teacher works with a group. Sometimes the teachers do identical work (such as test review), and sometimes they present instruction in two different ways (for example, using content at different reading levels or offering ways to learn multiplication).

3. *Alternative Teaching*. Most students remain with one teacher while the other teacher instructs a small group for reteaching, enrichment, assessment, preteaching, or another purpose.
4. *Teaming*. Students remain in a single group, and the teachers coinstruct, integrating their contributions throughout the lesson.
5. *One Teach, One Assist*. Students remain in a single group; one teacher leads instruction as the other briefly interacts with students individually, answering their questions, reexplaining concepts, focusing attention, and so on.
6. *One Teach, One Observe*. One teacher leads instruction while the other teacher gathers observational data on one student, a group of students, or the entire class (Friend, 2016).

Even though coteaching has increased in popularity since 2004, it is relatively new, and even with this requirement, UD teacher candidates have limited exposure to coteaching and the six coteaching approaches. Additionally, not all universities have adopted coteaching as a requirement during student teaching, a disparity that results in a workforce (i.e., special education and general education teachers) with varying degrees of experience and understandings of coteaching and cotaught instruction. Therefore, it is essential to identify in the literature the facilitators and barriers of effective coteaching in elementary schools so that in my role as a field instructor, I can better mentor and provide professional development to elementary special education teacher candidates.

Method

Inclusion Criteria

To begin this review, I narrowed my search and identified relevant articles according to the following plan:

1. I identified key electronic education databases: Education Source, ERIC (EBSCOhost), JSTOR, and Academic OneFile;
2. I excluded electronic education databases with references, summaries, dissertations, and books (e.g., ERIC [ProQuest], Educational Administration Abstracts, and Educator's References Complete);
3. I entered the following keywords in the first search box, with no field restrictions: *team teaching*, *teaching teams*, *coteaching*, *coteach*, *cooperative*, *collaborative*, and *triad*. Using the Boolean connector *and* in the second box, I entered the following keywords with no field restrictions: *regular and special education relationship*. Again, using the Boolean connector *and*, I entered the following terms in the third search box, limiting the search to the title of the publication to ensure relevance: *coteaching*, *co-teaching*, *coteach*, and *co-teach.*
4. I eliminated articles published before 2004, the year that Congress reauthorized the Individuals with Disabilities Education Act (IDEA), and the year that coteaching became more prominent.
5. Because the focus is of this review was to identify facilitators and barriers to effective coteaching at the elementary level, I excluded articles and studies on preservice teachers and co-teaching; co-teaching in multi-grades; middle and

high school (e.g., secondary school teachers and middle school teachers) in subject description; other coteaching applications (e.g., English as second language and gifted and talented or nonacademic forms of coteaching like assistive technology or technology) in the title to ensure relevance;

6. I limited articles to studies conducted in the United States and published in US journals;
7. I located additional articles using the reference list from articles identified in the initial search; if a foundational article was published prior to 2004, it was included;
8. I included empirical studies and reports.

Literature Search Method

Using the criteria outlined above, I started the literature review using the database ERIC and entered the following keywords (Boolean/Phrase) in the first search box: *team teaching*, *teaching teams*, *coteaching*, *coteach*, *cooperative*, *collaborative*, and *triad.* The initial search generated 74,156 results. Next, I entered keywords *regular and special education relationship* in field two, reducing the list to 865. In field three, I entered *coteaching*, *co-teaching*, *coteach*, and *co-teach*, using the title field. This step narrowed my search to 133 pieces of literature. Limiting results to scholarly (peer-reviewed) journals and to studies published since 2004 left 52 articles. Upon further reading, I realized that some articles did not meet the inclusion criteria due to the subject matter (e.g., preservice teachers and co-teaching; co-teaching in multi-grades or middle and high school) or to a geographic location outside of the

United States. After I applied these exclusion criteria, 15 articles remained. I then repeated this process using the same keywords in the remaining databases, JSTOR and Academic One File; this search did not produce any additional articles.

Table B1 provides a summary of the articles included in the present literature review that met the criteria outlined above. Authors in bold appear multiple times in the literature.

Table B1: Initial Search

Title	Author	Publish Date
Co-Teaching in Inclusive Classrooms: A Metasynthesis of Qualitative Research	**Scruggs, Mastropieri**, and **McDuffie**	2007
The Coteaching Partnership	**Friend**	2007
Co-Teaching and Students with Emotional and Behavioral Disorders	**McDuffie**, Landrum, and Gelman	2008
Coteaching Revisited: Redrawing the Blueprint	Kloo and Zigmond	2008
Response to Intervention, Collaboration, and Co-Teaching: A Logical Combination for Successful Systemic Change	**Murawski** and Hughes	2009
Using Co-Planning Time: Strategies for a Successful Co-Teaching Marriage	Howard and Potts	2009
Co-Teaching: An Educational Promise for Children with Disabilities or a Quick Fix to Meet the Mandates of No Child Left Behind?	Nichols, J., Dowdy, and Nichols, C.	2010

On the Same Page: Practical Techniques to Enhance Co-Teaching Interactions	Ploessl, Rock, Schoenfeld, and Blanks	2010
Co-Teaching: An Illustration of the Complexity of Collaboration in Special Education	**Friend**, Cook, Hurley-Chamberlain, Shamberger	2010
Observing Co-Teaching: What to Ask for, Look for, and Listen For	**Murawski** and Lochner	2011
Inquiry into Co-Teaching in an Inclusive Classroom	Lava	2012
Examining Co-Teaching through a Socio-Technical Systems Lens	Isherwood, Barger-Anderson, and Erickson	2013
Co-Teaching Students with Mild to Moderate Disabilities Using Literature-Based Reading Instruction	Swicegood and Miller	2015
Two Co-Teaching Applications: Suggestions for School Administrators	Conderman and Hedin	2017
Making Inclusion Work with Co-Teaching	**Scruggs** and **Mastropieri**	2017

Of the articles identified as acceptable, there were several authors with repeated research on coteaching: Marilyn Friend, Margo Mastropieri, Kimberly McDuffie, Wendy Murawski, and Thomas Scruggs. Using the same database, ERIC, I conducted an author search using the following method: I entered in field one the author (e.g., Friend), and in field two, I searched titles using keywords *coteaching*, *co-teaching*, *coteach*, and *co-teach* spanning the years 2004 to present. This search identified 17 additional articles, 11 of which either did not meet inclusion criteria or

were duplicates of articles identified in the initial search. Table B2 provides a summary of the six additional articles identified in the author search.

Table B2: Author Search		
Title	**Author**	**Publish Date**
Case Studies in Co-Teaching in the Content Areas: Successes, Failures, and Challenges	**Mastropieri**, **Scruggs**, Graetz, Norland, Gardizi, and **McDuffie**	2005
50 Ways to Keep Your Co-Teacher: Strategies for Before, During, and After Co-Teaching	**Murawski** and Dieker	2008
Five Keys to Co-Teaching in Inclusive Classrooms	**Murawski**	2008
State Level Approaches to Co-teaching	Muller, **Friend**, and Hurley-Chamberlain	2009
Welcome to Co-Teaching 2.0	**Friend**	2016
An Administrator's Guide to Co-Teaching	**Murawski** and Bernhardt	2016

In total, I reviewed 21 articles. After reading each article, I searched for critical factors that appeared to facilitate or prevent effective coteaching.

Findings

The synthesis of the literature identified the following six factors as facilitators, barriers, or both to effective coteaching in elementary schools: philosophy of coteaching, professional development, compatibility and rapport, scheduling, balancing responsibilities, and conflict. I discuss each item in turn.

Philosophy of Coteaching

Two philosophies of coteaching have emerged in the literature. Both philosophies may either facilitate or prevent effective coteaching. The first philosophy, a professional marriage, is where two teachers (i.e., coteachers) build a relationship, sharing instruction equally (Friend, 2016). These teachers see each other as equal partners, but the trouble with this philosophy is, like a marriage, it has a honeymoon period. In the beginning, both teachers communicate and compromise with each other. However, this relationship is not always sustainable over time and often becomes a barrier to coteaching when coteachers stop communicating and compromising with each other. The other philosophy, a business partnership, is where coteachers value each other for their individual contributions instead of trying to be interchangeable (Friend, 2016). Since these coteachers are not trying to be interchangeable, this philosophy acts as a facilitator to coteaching.

Many researchers have described coteaching as a professional marriage. Marilyn Friend (2016), who is well known for her work on coteaching and the six coteaching models (Conderman & Hedin, 2017; Friend et al., 2010; Kloo & Zigmond, 2008; Lava, 2012; Murawski & Dieker, 2008; Murawski & Hughes, 2009; Nichols, J., Dowdy, & Nichols, C., 2010; Scruggs, Mastropieri, & McDuffie, 2007; Scruggs & Mastropieri, 2017), suggests that the original intent of coteaching was for students with disabilities to learn alongside their nondisabled peers and for teachers to create a professional marriage. However, as research continues to grow in the area of coteaching, researchers such as Friend, T. E. Scruggs, and M. A. Mastropieri have evolved their views on coteaching. Friend (2016) recommends that coteaching should

no longer be a professional marriage because coteachers have become too comfortable with each other. She suggests that when teachers become too comfortable, academic achievement stalls for students with disabilities. For example, instead of providing explicit instruction to students with disabilities, special education teachers are providing on-the-spot prompting and coaching. Friend recommends that coteaching should be about each teacher's contributions to creating a classroom of culture and acceptance, in which learning variations and strategies are the norm. This sort of coteaching is viewed as a business partnership rather than as a professional marriage where teachers are interchangeable. Scruggs and Mastropieri (2017) suggest that new special education teachers should focus on engaging in active collaboration with coteachers and provide explicit instruction to students with disabilities.

Given that neither of these prior philosophies is perfect, perhaps a third philosophy — or a cohesive union where coteachers create an interconnected (i.e., organized and integrated) classroom that demands explicit instruction, integrating components of both coteaching philosophies — should be researched. Until then, school administrators and teachers need to recognize that the professional marriage philosophy can be a barrier to effective coteaching because teachers can become too comfortable with one another and lose the benefits (e.g., coplanning, co-instructing, and co-assessing) of having two teachers in the classroom. Additionally, school administrators also need to recognize that although the business partnership philosophy facilitates coteaching, it requires coteachers to establish clear roles, where

the special educator incorporates specially designed instruction using evidence-based strategies instead of trying to be interchangeable with the general education teacher.

Professional Development

Professional development has emerged as both a facilitator and a barrier to coteaching and provides educators with an opportunity to learn more about educational practices to improve their professional know-how. For example, by learning about the philosophies of coteaching, teachers can decide which philosophy they want to adopt since these approaches (e.g., professional marriage, business partnership, or cohesive union) to coteaching are vastly different. One way to educate teachers about the different philosophies is to provide coteachers with continuous professional development, which better facilitates effective coteaching than discontinuous professional development.

Nevertheless, there are concerns regarding proper professional development and the risk of coteaching becoming a "quick fix" or solution to providing services to students with disabilities (Conderman & Hedin, 2017; Nichols et al., 2010). Conderman and Hedin (2017) recommend that professional development occurs before coteaching begins and needs to be ongoing, "one- or two-day workshops generally have limited impact on teachers' everyday practices" (p. 22). Professional development should also move beyond the six coteaching models to focus on inclusion, coteaching, and collaboration for specific groups and specific purposes and roles (e.g., paraeducator) (Murawski and Bernhardt, 2016). Furthermore, if professional development can also embed a special education teacher's expertise and

familiarity with individualized education program (IEP) goals and objectives, the teacher can utilize that time to identify opportunities to incorporate goals into class discussions, the existing classroom structure, and assessment of students with disabilities (Howard & Potts, 2009), adding new coteaching approaches over time (Lava, 2012).

Professional development needs to be research based, ongoing, and sustained over time. If professional development is not based in research, ongoing, or sustained over time, it becomes a barrier to effective coteaching instead of a facilitator.

Compatibility and Rapport

Compatibility, where two people can get along without problems or conflict, and rapport, where two people can communicate and understand each other's feelings, are difficult to build and thus, in their absence, are barriers to effective coteaching in elementary schools. However, compatibility and rapport can become facilitators to effective coteaching if supports are in place.

Coteaching does not come naturally; it takes time for teachers to develop mutual trust, respect, and parity (Conderman & Hedin, 2017; Mastropieri et al., 2005; Scruggs et al., 2007; Ploessl, Rock, Schoenfeld, & Blanks, 2010). Coteaching also requires administrative support and ongoing professional development to be effective. Therefore, it is essential that school administrators consider the compatibility of teachers before coteaching begins. Murawski and Dieker (2008, p. 47) warn:

> Too often, administrators throw coteachers into an arranged coteaching relationship; and the coteachers focus on their resentment that no one asked

them for their opinion, that they were not trained, or that they do now know the content or the special needs of the students the way the other educator does.

To avoid incompatible teacher pairings, a significant barrier to coteaching, researchers suggest that school administrators ask for volunteers because teachers who volunteer to coteach are more likely to make coteaching work (Conderman & Hedin, 2017; Murawski & Bernhardt, 2016; Nichols et al., 2010; Scruggs et al., 2007). However, when volunteering is not feasible, Murawski (2008) suggests that school administrators (1) send out surveys to teachers; (2) allow teachers to choose their partners; (3) provide professional development on coteaching; (4) assure common planning times; and (5) recuse new coteaching partners from other responsibilities (e.g., lunch duty) to help facilitate coteaching. School administrators who use Murawski's suggestions will demonstrate to teachers that their school administration has a basic level of understanding of what coteaching requires (e.g., professional development, common planning, and an adjusted workload) and are committed to making it work. Murawski's suggestions also provide an opportunity for teachers to share their opinions and indicate their preference.

Researchers also suggest that school administrators must carefully match coteachers to create a "professional marriage" (Conderman & Hedin, 2017; Friend et al., 2010; Kloo & Zigmond, 2008; Murawski & Bernhardt, 2016; Murawski & Dieker, 2008; Murawski & Hughes, 2009; Scruggs et al., 2007), so that teachers do not end up divorced due to differences in teaching philosophies and behavior management. Some indicators of incompatibility are teachers' resistance to coteaching, and lack of

communication, compromise, respect, or administrative support (Friend et al., 2010; Isherwood, Barger-Anderson, & Erickson, 2013; Lava, 2012; Murawski, 2008; Murawski & Bernhardt, 2016; Murawski & Hughes, 2009; Murawski & Lochner, 2011; Ploessl et al., 2010; Scruggs & Mastropieri, 2017; Scruggs et al., 2007).

One of the more significant barriers identified by researchers is lack of rapport (Isherwood et al., 2013; Lava, 2012). Teachers must shift their thinking and adjust from teaching on their own to working with a partner and sharing space, and this practice requires a different skillset (Murawski and Bernhardt, 2016). Researchers describe coteaching as a developmental process (Isherwood et al., 2013; Lava, 2012) that requires clear, open, and continuous communication (Ploessl et al., 2010; Scruggs & Mastropieri, 2017) and active listening, all of which are components of rapport.

For coteachers to develop rapport, they must be able to negotiate and share their roles and responsibilities (Friend et al., 2010). One of the initial barriers to developing rapport is teacher licensure and area of expertise. One way to facilitate rapport is for coteachers to share how their job descriptions might impact their ability to coteach. For example, special education teachers often have reduced flexibility because of special education paperwork and compliance issues (Isherwood et al., 2013; Lava, 2012). Likewise, general education teachers need to share how content knowledge (i.e., area of expertise), academic performance, and high stakes testing affect the coteaching relationship. One way to foster compatibility and rapport is to do things to ensure parity (i.e., equality). Murawski and Dieker (2008) suggest that coteachers need to ensure parity by putting both names on the roster, the report cards,

and any communications sent home to reduce the emphasis on one teacher over the other. Another way to foster compatibility and rapport is for coteachers to consider how combining their skills can maximize student learning and add depth; this exercise provides an opportunity for both teachers to capitalize on their strengths (Friend, 2007; Friend et al., 2010; Ploessl et al., 2010). When coteachers combine their skills, special education teachers can increase their content knowledge, and general education teachers can increase their classroom management skills and ability to adapt curriculum (Scruggs et al., 2007).

Coteachers may initially be incompatible or lack the interpersonal skills needed to coteach. To solve this problem, V. F. Lava (2012) suggests that before coteaching begins, coteachers should share their philosophy of teaching, professional values, and beliefs. In doing so, teachers can determine which teaching philosophy (e.g., professional marriage or business partnership) they want to adopt. Researchers suggest that coteachers need to ask critical questions before they begin to proactively address expected issues with coteaching (Murawski & Bernhardt, 2016; Nichols et al., 2010). Examples of such critical questions are: What are you looking forward to? What strengths do you think you will bring into the classroom? What fears do you have? Are you going to be able to give up things you care about? Who is responsible for the students in the classroom? Who gives the grades and how do they grade? Whose classroom rules will be enforced? Where is each teacher's space within the classroom? D. M. Ploessl et al. (2010) recommend that coteachers should conduct an

honest self-assessment using style inventories and use Venn diagrams to share their results to prepare for coteaching.

Lastly, for compatibility and rapport to shift from barrier to facilitator to effective coteaching in elementary schools, coteachers need administrative support, and they need to understand that developing compatibility and rapport is a development process that requires clear, open, and continuous communication (Ploessl et al., 2010; Scruggs & Mastropieri, 2017) and active listening. Indeed, compatibility and rapport require two people who are committed to making the relationship (e.g., professional marriage or business partnership) work because two people can have all the right conditions (e.g., common planning time, professional development, and administrative support) but still not utilize the supports in place. Each person must be committed and value the other person's contributions (Lava, 2012).

Scheduling

One of the more significant barriers to effective coteaching is the use of computer programs to produce school master schedules. Every year school administrators have the task of creating a master schedule for their assigned school building that results in the best possible learning environment for students and staff. School administrators create master schedules based on staffing allotments for each grade, content, individual building needs (e.g., special education, speech, reading specialist, English language learners, gifted and talented) and student numbers (e.g., by grade levels and by academic, social, and emotional needs). To assist in this process, many school administrators use a computer program to generate class lists to

create their master schedule (Murawski, 2008), but this method often leads to oversights that could affect coteaching and common planning time (Friend, 2007; Friend et al., 2010; Isherwood et al., 2013; Lava, 2012; Murawski and Lochner, 2011; Nichols et al., 2010; Scruggs et al., 2007; Swicegood & Miller, 2015).

To proactively address logistical barriers such as common planning time, class size, student composition, and teacher compatibility, Murawski and Bernhardt (2016) suggest hand-scheduling of teachers and students with disabilities to facilitate successful coteaching. They recommend no more than 30% of the entire class consist of students with disabilities, students with 504 plans, English language learners, and students who are gifted and talented. In an earlier work, Murawski (2008) emphasizes, "though it may be convenient to cluster more students with disabilities into one class, the desired benefits can be negated by this action, leading to lower academics, decreased behaviors and increased teacher frustration" (p. 29). Others emphasize that elementary schools must consider creating additional classrooms for newly identified students to keep classroom compositions and the ratio of special education students to general education students manageable (Isherwood et al., 2013).

To facilitate successful coteaching, school administrators need to identify general and special education teachers for coteaching before building the master schedule (Lava, 2012; Murawski, 2008; Murawski & Bernhardt, 2016). One recommendation is for school administrators to consider teacher compatibility when assigning coteaching pairs (Isherwood et al., 2013; Lava, 2012; Murawski & Lochner, 2011; Scruggs et al., 2007). Isherwood et al. (2013) recommend that elementary

school administrators consider common planning times and the time of day because special education teachers often coteach in multiple grades in elementary school. After identifying coteaching pairs, school administrators can then hand-schedule teachers and students, creating a master schedule that supports coteaching (Isherwood et al., 2013). Then, the computer program can generate the remaining teacher and student classroom assignments.

Overall, scheduling is a critical factor for effective coteaching. If the school schedule fails to create the best possible learning environment (e.g., grade levels, class size, and academic, social, and emotional needs) for students and staff, the quality of instruction will decline, leading to lower academics and increased teacher frustration (Murawski, 2008). However, if students with disabilities are hand-scheduled first with teacher assignments, this prioritization of the schedules of students with disabilities can enhance the quality of instruction they receive from coteachers, leading to higher academics and decreased teacher frustration.

Balancing responsibilities

Coteaching is relatively new, and in the last 20 years it has gained popularity, becoming a way for school districts to accommodate federal mandates such as No Child Left Behind (Friend et al., 2010), but having two teachers in every classroom is not always feasible due to funding (Muller, Friend, & Hurley-Chamberlain, 2009; Murawski & Hughes, 2009). Thus, as an alternative, school administrators in elementary schools may have a special education teacher coteach with multiple teachers across content areas and grade levels (Conderman & Hedin, 2017; Friend,

2007; Friend et al., 2010). Unfortunately, with this model, coplanning — where both teachers jointly decide on standards, assessments, accommodations or modifications, instructional strategies, and classroom logistics (e.g., preparation of materials and tests, facilitation of the warm-up, grading, roles within the classroom) — does not happen because special education teachers are stretched thin, working with multiple teachers across content areas and grade levels.

Lacking common planning time, coteachers end up relying heavily on the *one teach, one assist* coteaching model (Isherwood et al., 2013; Scruggs et al., 2007; Scruggs & Mastropieri, 2017), with the general education teacher being the lead teacher and the special education teacher the assistant. In turn, the frequent use of *one teach, one assist* results in special education teachers being viewed as "glorified assistants" (Murawski et al., 2011), which affects coteachers' ability to establish either a professional marriage or a business partnership. Additionally, the frequent use of *one teach, one assist* also diminishes coteachers' ability to become compatible and develop rapport.

Researchers suggest that when coplanning time is not feasible, school administrators should provide alternative options and incentives such as continuing education credits or monthly stipends for planning, hire substitutes, provide teacher coverage, release morning and afternoon duties, and purchase products (e.g., *Lisa Dicker's Co-Teaching Lesson Plan Book* or *Co-Teaching Solutions Systems: Co-Teachers' Toolbox*) to save time (Friend, 2007; Isherwood et al., 2013; Murawski, 2008; Ploessl et al., 2010). Other researchers suggest that coteachers need to advocate

for a coplanning time when it is unavailable or excluded from the master schedule (Swicegood & Miller, 2015) because successful coteaching takes time and intentional effort (Scruggs and Mastropieri, 2017).

If school administrators take factors such as compatibility and scheduling of teachers into account, the factor of balancing responsibilities goes away. School administrators who consider compatibility by assigning coteachers before creating the master schedule will eliminate one of the barriers to effective coteaching, imbalanced responsibilities, because special education teachers would not be scheduled to work with multiple teachers across content areas and grade levels. However, if compatibility and scheduling are an afterthought, school administrators need to support those coteachers with creative solutions and incentives to address the problem of special educators' stress from working across content, grade levels, and multiple classrooms.

Conflict

Conflict management is the ability to handle conflicts reasonably and fairly. Nevertheless, even with supports, issues and conflicts can occur between coteachers, and are a significant barrier to coteaching. One source of conflict between coteachers is a lack of communication or management of expectations. For example, general education teachers report frustration with special education teachers' heavy reliance on the *one teach, one assist* coteaching approach. Researchers have found that general education teachers report very little change in their routine (Nichols et al., 2010) and suggest that general educators do not see the value of having a special education teacher if they are going to rely on *one teach, one assist*. In contrast, special education

teachers report frustration when general education teachers do not want the special education teacher to talk during instruction or when they experience discomfort leading instruction (Friend, 2007), both situations that lead to special education teachers' reliance on *one teach, one assist*. This scenario illustrates the need for conflict management because lack of communication between coteachers leads to other issues, such as lack of trust, respect, understanding of problems, and parity, resulting in an unpleasant experience for students, teachers, and school administrators.

One-way that coteachers can reduce conflict is by respecting cultural differences. For example, Ploessl et al. (2010) recommend that coteachers make time to share personal stories and narratives and use differences to enrich classroom experiences. Another recommendation to reduce conflict is for coteachers to discuss minor issues before they escalate and turn differences into learning opportunities to help each other recognize the value of continuous improvement. Ploessl et al. (2010) also suggest that coteachers establish guidelines and ground rules to keep meetings focused, utilize timelines, and evaluate their progress as coteachers continuously. Along with other researchers, they also urge coteachers to let data guide their decision-making and use reflection as a tool to discuss lessons, student achievement, and coteaching (Howard & Potts, 2009; Lava, 2012; Ploessl et al., 2010; Swicegood & Miller, 2015).

Conflicts are inevitable, but many conflicts are manageable. School administrators and coteachers must be aware of potential sources of conflict. To proactively address this barrier to effective coteaching, school administrators and

coteachers should effectively communicate with each other by respecting cultural differences, discussing minor issues before they escalate, establishing guidelines and ground rules, and letting data guide their decision-making. However, if coteachers fail to communicate with each other, it can lead to other issues such as lack of trust, respect, and parity, resulting in an unpleasant experience for students, teachers, and school administrators.

Conclusion

Through this synthesis of the literature, findings identified the following six factors as facilitators and/or barriers to effective coteaching in elementary schools: philosophy of coteaching, professional development, compatibility and rapport, scheduling, balance of responsibilities, and conflict. To address the facilitators and barriers to effective coteaching in elementary schools, school administrators need to have a basic understanding of special education and the supports and resources available to increase their knowledge of special education, and they must be committed to making coteaching work (Isherwood et al., 2013). The same is true for teachers. Otherwise, coteaching does not work.

Coteaching requires that two teachers willingly come together to make a genuine commitment (Ploessl et al., 2010). Together they create a learning environment that leads to increased academic achievement, improved self-esteem, and stronger social skills for students (Murawski & Lochner, 2011; Nichols et al., 2010). Additionally, when coteachers are committed, they learn from each other and work together to achieve the same goal (Friend, 2007; Swicegood & Miller, 2015). They

also have fewer office referrals, and the smaller student-to-teacher ratio allows for more individual attention (McDuffie, Landrum, & Gelman, 2008; Murawski & Hughes, 2009; Murawski & Lochner, 2011; Nichols et al., 2010). Their commitment also contributes to improved classroom and behavior management by sharing accountability and responsibility for the learning of all students (McDuffie et al., 2008). Furthermore, coteachers also need to remain flexible while communicating effectively with teachers who have a different area of expertise (Friend et al., 2010; Murawski & Dieker, 2008; Ploessl et al., 2010; Scruggs & Mastropieri, 2017). Lastly, if coteachers are committed to coteaching and continue to develop rapport, coteaching can lead to increased morale and a reduction in teacher burnout (Isherwood et al., 2013; Murawski & Hughes, 2009; Murawski & Lochner, 2011).

In conclusion, if coteaching has administrative support and committed teachers, it can also lead to increased individual attention, improved self-esteem, and social skills, and increased academic achievement for students (Friend, 2007; Friend et al., 2010; Isherwood et al., 2013; McDuffie et al., 2008; Murawski & Hughes, 2009; Nichols et al., 2010; Ploessl et al., 2010; Scruggs et al., 2007). However, if just one of the factors identified in this literature review is unsupported, the results of coteaching can become discouraging and disheartening (Murawski & Lochner, 2011).

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Appendix C

ANALYZING THE FACTORS THAT INFLUENCE SERICE DELIVERY MODEL DECISIONS IN DELAWARE SCHOOL DISTRICTS

There is little research on the barriers to and facilitators of the two special education service delivery models used in Delaware elementary schools. Currently, students with disabilities coded as least restrictive environment (LRE) A, which means they spend 80% or more time in the general education classroom, can receive special education services in either a single approach to mastery (SAM) or team approach to mastery (TAM) classroom. SAM and TAM both provide special education services to students with disabilities in Delaware. However, SAM, a method that was developed in Delaware, uses a single teacher who takes on the roles of both general education and special education teacher. This teacher is dual certified in content and special education (Kent & Giles, 2016) and should not be confused with general education teachers teaching in an inclusion setting, where they teach students with disabilities in the same classes as their nondisabled peers. General education teachers do not have the experiences or certifications needed to provide specialized services to students with disabilities.

The second model, TAM (i.e., coteaching), is an organizational approach where one general education teacher "with expertise in understanding, structuring, and pacing of the curriculum; and one special education teacher, an expert in identifying students' unique learning needs and adapting the curriculum and instruction accordingly" (Cothren-Cook, McDuffie-Landrum, Oshita, & Cook, 2017, p. 233)

share responsibilities in the classroom.

Because of my role as a university program coordinator and field instructor who primarily supervises and mentors 4+1 teacher candidates in public elementary schools, henceforth referred to as *teacher candidates*. I wanted to learn more about the barriers and facilitators of SAM and TAM. I conducted a mixed-methods research study, where I surveyed and interviewed special education directors across Delaware. The purpose was to learn about special education directors' perceptions of both models and the factors they consider to be part of their service delivery decision-making process, so I can better mentor and provide professional development to teacher candidates. The research questions guiding this study were:

- How do special education directors decide which service delivery model (e.g., SAM or TAM) to use in their district? What factors (e.g., budget, human resources, educational philosophy, and teacher evaluations) do they consider as part of their decision-making process?
- What do special education directors perceive as the barriers and facilitators (e.g., pull-out services and push-in services) that affect SAM and TAM teachers' ability to provide specialized instruction to students with disabilities?

For this analysis, the director surveys are analyzed first, followed by the interviews. The discussion section summarizes both the quantitative (i.e., surveys) and the qualitative (i.e., interviews) data.

Method

Since SAM and TAM are unique to Delaware, and since this study focused on

public elementary school use of SAM and TAM, this study excluded special education directors in charters, academies, special schools (i.e., alternative schools, Brennen, Bush, Charlton, Consortium, Leach, ILC), and early learning centers, as well as intermediate, middle, high, and technical schools. The survey was anonymous except when respondents voluntarily provided their name and expressed interest in a follow-up interview.

Purposive sampling identified a population of 16 public special education directors. Next, I administered the Special Education Director Survey (included at the end of this appendix) by sending electronic invitations with informed consent to all 16 special education directors in Delaware public schools using the online platform *Qualtrics*© to collect data. Each respondent had the opportunity to indicate their perceptions of SAM and TAM and to participate in a follow-up interview (questions are included at the end of this appendix). Eleven of the 16 special education directors in Delaware public schools responded to the survey, and three respondents participated in follow-up interviews. I then analyzed the resulting data (i.e., surveys and interviews) about special education director perceptions of SAM and TAM service delivery models and the factors (e.g., student achievement and infrastructure) that influence their decision-making process.

Instrumentation

Given the uniqueness of SAM and Delaware's use of both models (i.e., SAM and TAM), it was necessary to create a survey instrument in the absence of any previously developed and validated instruments. While the present survey was not

subjected to an evaluation of reliability and validity, the development of the survey followed best practices, such as including introductory questions, related questions, and a logical sequence (Rea & Parker, 2005). The interview questions were created using a semi-structured interview guide with open-ended questions.

The survey was designed to learn about special education director perceptions of SAM and TAM service delivery models and to determine which factors (e.g., student achievement and infrastructure) influence their decision-making. The interview was designed to gather additional evidence of the factors that district special education directors use to decide which instructional delivery models (e.g., SAM and TAM) they use in their district.

Special Education Director Survey

A summary of the survey responses from the 11 special education directors is in Table C1. Of the respondents, four (36.36%) were from New Castle County School Districts, three (27.27%) were from Kent County School Districts, and four (36.36%) were from Sussex County School Districts. Respondents' experience in special education ranged from 6–10 to over 25 years. Respondents with fewer than 20 years of experience accounted for 36.36%, and respondents with over 25 years of special education experience accounted for 63.63% of the completed surveys.

Table C1. Special Education Director Respondents

	Frequency	Percent
New Castle County	4	36.36%
Kent County	3	27.27%
Sussex County	4	36.36%
Total	11	100.0%

The nine survey questions fell into three categories. The first set of questions asked about the respondents' demographic information (e.g., location and number of years in special education), the second category asked about service delivery models, and the third category asked about the factors that influence service delivery model decisions. The last question asked respondents whether they would be willing to participate in a follow-up interview. I categorized and coded each response. Table C2 shows the explanation of codes.

Table C2. Explanation of Variable Labels and Coding	
Delaware County	1 = New Castle County; 2 = Kent County; 3 = Sussex County
Service Delivery Model	1 = itinerant; 2 = push-in/pull=out; 3 = team approach to mastery (TAM); 4 = single approach to mastery (SAM); 5 = resource
Experience	1 = 1 to 5 years; 2 = 6 to 10 years; 3 = 11 to 15 years; 4 = 16 to 20 years; 5 = 21 to 25 years; 6 = Over 25 years
Number of Classrooms	0 = n/a; 1 = 1 to 2 classrooms; 2 = 3 to 4 classrooms; 3 = 5 to 6 classrooms; 4 = 7 to 8 classrooms; 5 = 9 to 10 classrooms; 6 = >10 classrooms
Likert Scale	1 = strongly agree; 2 = somewhat agree; 3 = neither agree nor disagree; 4 = somewhat disagree; 5 = strongly disagree

Service Delivery Models

Directors indicated a wide range of service delivery models in their district. Table C3 shows the reported frequency (n = 11) and the percentage by respondents of

each service delivery model (i.e., itinerant, push-in/pull-out, a single approach to mastery [SAM], team approach to mastery [TAM], and other [e.g., resource] across Delaware.

Table C3. Summary of Special Education Service Delivery Models across Delaware

Label	Itinerant	Push-in/Pull-out	SAM	TAM	Other (e.g., Resource)
N/A	8 (72.72%)	2 (18.18%)	---	---	10 (90.90%)
1 to 2 Classrooms	---	---	1 (9.09%)	---	---
3 to 4 Classrooms	1 (9.09%)	---	1 (9.09%)	---	---
5 to 6 Classrooms	2 (18.18%)	---	1 (9.09%)	---	1 (9.09%)
7 to 8 Classrooms	---	2 (18.18%)	1 (9.09%)	1 (9.09%)	---
9 to 10 Classrooms	---	2 (18.18%)	1 (9.09%)	2 (18.18%)	---
More Than 10 Classrooms	---	5 (45.45%)	6 (54.54%)	8 (72.72%)	---
Total	11 (100.0%)	11 (100.0%)	11 (100.0%)	11 (100.0%)	11 (100.0%)

Notes: Frequency data is based on the data collected in Table 1.0.

Of the Special Education Directors who responded, eight (72.72%) indicated that the most frequently used service delivery model was TAM with more than ten classrooms. This was followed by SAM with six (54.54%) respondents reporting more than ten classrooms. Push-in/Pull-out ranked third with five (45.45%) respondents reporting more than ten classrooms. The itinerant model ranked fourth with two (18.18%) respondents indicating five to six classrooms. Lastly, one (9.09%) respondent indicated that the least frequently used service delivery is other (e.g., resource) with

five to six classrooms.

The next two questions on the survey used a Likert scale to ask directors their beliefs about SAM and TAM. Table C4 shows a summary of the special education director beliefs about SAM and TAM.

Table C4. Summary of Special Education Director Beliefs

Label	TAM is effective	SAM is effective
Strongly Agree	7 (63.63%)	1 (9.09%)
Somewhat Agree	4 (36.36%)	5 (45.45%)
Neither Agree Nor Disagree	---	1 (9.09%)
Somewhat Disagree	---	3 (27.27%)
Strongly Disagree	---	1 (9.09%)
Total	11 (100.0%)	11 (100.0%)

Of the special education directors who responded, all 11 (100.0%) either strongly agreed or somewhat agreed that: *The team approach to mastery service delivery model is an effective way of meeting the goals and needs of students with disabilities*. Respondents agreed less strongly that: *Single approach to mastery service delivery model is an effective way of closing the achievement gap*. Six respondents (54.54%) either strongly agreed or somewhat agreed; 1 (9.09%) respondent neither agreed nor disagreed, and 4 (36.36%) either somewhat disagreed or strongly disagreed. Therefore, special education directors think TAM is more effective than SAM.

Questions 6, 7, and 8 used a Likert scale to ask directors about their perceptions of the factors that influenced their decision-making.

The Factors That Influence Service Delivery Model Decisions

Special education directors reported a wide range of factors that influenced service delivery model decisions for their district. Table C5 shows a summary of their perceptions.

Table C5. Summary of the Factors That Influence Service Delivery Model Decisions

Label	Non-Personnel Budget Factors	Ratio of Special Education Students to Special Education Teachers	Special Education Student Achievement Data
Strongly Agree	1 (9.09%)	---	2 (18.18%)
Somewhat Agree	4 (36.36%)	6 (54.54%)	7 (63.63%)
Neither Agree nor Disagree	1 (9.09%)	2 (18.18%)	---
Somewhat Disagree	1 (9.09%)	1 (9.09%)	2 (18.18%)
Strongly Disagree	4 (36.36%)	2 (18.18%)	---
Total	11 (100.0%)	11 (100.0%)	11 (100.0%)

Five (45.45%) respondents indicated that non-personnel budget factors (e.g., infrastructure, special equipment, and postage) influenced service delivery model decisions, but another five (45.45%) disagreed that non-personnel budget factors influenced service delivery model decisions for their district. Six (54.54%) respondents somewhat agreed that the ratio of special education students to special education teachers influenced service delivery model decisions, but three (27.27%) respondents indicated they disagreed. Lastly, nine (81.81%) respondents indicated

they agreed that special education achievement data was a factor that influenced service delivery model decisions, but two (18.18%) respondents indicated they disagreed. On the whole, there was the greatest consensus among special education directors that student achievement data affected service delivery model decisions, followed by the ratio of special education students to special education teachers, and non-personnel budget factors, which reflected the least consensus among the respondents.

To summarize the survey results, the most frequently used service delivery model was TAM, and 100% of special education directors reported agreement (strong or somewhat) that this model is an effective way of meeting the goals and needs of students with disabilities. There was less consensus about the effectiveness of SAM. Lastly, most special education directors reported that special education student achievement was the number one influencer when making service delivery model decisions for their district.

Special Education Director Interviews

The special education director interviews gathered additional evidence of special education directors' decision-making process and the factors they used to decide which instructional delivery models to use in their district.

Sample

Of the 11 (see Table C1) special education directors who completed the survey, seven respondents (63.63%) indicated they would be willing to participate in a follow-up interview. However, after three follow-up attempts, only three (27.27%)

respondents participated in the follow-up interview. In order to preserve confidentiality, I am not reporting demographic information or identifying the county of participants, and I have replaced all names with pseudonyms.

Method

After analyzing the survey data, I then contacted each self-identified respondent and scheduled an interview. Before each interview, I provided the respondent with a copy of the informed consent and shared the purpose of the study. Each respondent then signed the informed consent form and agreed to be audio recorded. Interviews were then conducted using a semi-structured interview guide with open-ended questions (see questions at the end of this appendix). After each interview, (a) I created de-identified transcripts from the original audio recordings, denoting directors not by name but only by role/number (e.g., Director 1); and (b) I deleted the original recordings after completing the transcriptions, resulting solely in Word documents that cannot be linked back to the original participants.

A general inductive approach (Thomas, 2006) was used to analyze qualitative data from the director interviews to identify any trends pertinent to the research questions guiding this study, which were:

- How do special education directors decide which service delivery models (e.g., SAM or TAM) to use in their district? What factors (e.g., budget, human resources, educational philosophy, and teacher evaluations) do they consider as part of their decision-making process?

- What do special education directors perceive as the barriers and facilitators (e.g., pull-out services and push-in services) that affect SAM and TAM teachers' ability to provide specialized instruction to students with disabilities?

Interview data was then analyzed to determine any trends, to understand the process administrators use when making decisions on SAM and TAM, and to identify directors' perceptions of SAM and TAM.

Findings

The special education director interviews gathered additional evidence of special education directors' decision-making process and the factors that district special education directors use to decide which instructional delivery models (e.g., SAM and TAM) to use in their district. Respondents identified the following service delivery models: SAM, TAM, push-in/pull-out, itinerant, and resource. However, given my interest in SAM and TAM, and given that these models were by far the most commonly reported service delivery models for LRE A based on the survey results, the interviews focused solely on the decision-making related to these two models. What follows is a discussion of the directors' responses across the following categories: continuum of services, barriers to SAM and TAM, facilitators of SAM and TAM, advantages of SAM and TAM, and policies and supports.

Continuum of Services

The continuum of services means that students with disabilities are provided specialized instruction in their LRE. In Delaware, the continuum ranges from LRE A, in which students with disabilities spend 80% or more time with their nondisabled

peers, to LRE D, which means that students with disabilities receive services in a public or private separate day school for more than 50% of the school day. The remaining LRE services (i.e., residential facility, homebound or hospital, and correctional facilities) provide services outside of public school buildings.

At the beginning of all interviews, directors discussed and described what a continuum of services looks like for their district. For example, "We work hard to provide that continuum of services in all schools, not just in one school, but in all schools so that a student does not have to go outside of his or her attendance area to access a B level setting which would essentially incorporate resource." Another director stated, "We have schools that are all along the continuum in terms of how they are planning for and determining service delivery models… It's just trying to get everybody moving along that continuum." These responses reveal that special education directors make it a goal to provide a variety of options for students with disabilities to receive a meaningful education within their school district.

However, directors were also very forthcoming and shared their concerns about service delivery model discussions that go on in their district. One director shared,

> When it comes to LRE, we had people that were saying, *Well, kids shouldn't be in setting A*. We had other people that said, *Kids, can only be in setting A because we don't have any staff to do a small group setting*. I think that it's that continuum of services for whatever reason, whether it's because of staffing issues, whether it's because of mindset issues, but that continuum of services is often a problem.

Similarly, another director stated,

> Many of us are still in the, *well if it's this disability they have to go there. If it's this* and not thinking kids based on their needs. They're thinking about kids based on their categories. And sometimes by their physical appearance, like still we still got some old school myths I would say out there with special education.

A third director pointed out,

> Trying to make those decisions that are in the best interest of the child. And we make those decisions with the best of intentions, but we also, we can look, we were getting more pushback from parents. You would think they want their children in inclusive settings, but they liked that small group or individualized assistance, and they're kind of not willing to let go of that sometimes. The real conundrum as to whether or not to move in the student and do a bigger classroom, you've become somewhat dependent on the support that they're receiving. You're trying to wean them off that support, fade that support and see. It's kind of similar to when you're trying to fade or one-on-one. So, you've got to do it very deliberately and very incremental.

I found these statements enlightening and learned that while the continuum of services provides options for students with disabilities, it does not always mean that the decisions made about individual students are based on the student's need or in the best interest of the student. Even though districts have multiple instructional settings that provide a meaningful education to students with disabilities in their LRE, misconceptions about special education services and the ideal setting for students with disabilities are barriers to special education service delivery models. As one director put it,

> We shouldn't focus so much on the *where* because special education is not a place. It is a set of services, intense services, basic services, complex services that are delivered in wherever it's the least. Everybody deserves the same education, the same materials, the same access, and only when we find that meaningful participation is a problem, progress is a problem that we would scale back, and we need lots of data, but we can't just say this is a problem

time to go. Where is the data?

Special education teacher candidates must understand how a continuum of services can become a barrier to LRE, so they know how to guide the individualized education program (IEP) team and use data rather than their emotions or the student's disability to make LRE decisions. Special education teacher candidates must be prepared to lead conversations that result in the IEP team looking at the whole child, and to use data to drive the team's decision-making.

Barriers to SAM and TAM

The following set of questions asked directors what they perceived to be the barriers to SAM and TAM being effective service delivery models in their district.

SAM. Across the interviews, directors identified the following as barriers affecting SAM: lack of research, reduction in numbers of special education teachers, background knowledge, equity, classroom composition, and professional development. For instance, one director shared, "The whole SAM model isn't a research-based model necessarily, it's something that morphed into what I perceive as Delaware public schools' lack of the funding units or enough staff to kind of cover what needed to be covered." A second director stated, "I've never felt, I've never been a big fan of that [i.e., SAM]. I know that a lot of times we're constrained, by resources and by the funding formula and what have you." These statements confirm that the creation of SAM was perceived to be not the result of a strong research base showing its effectiveness, but rather the result of budgetary issues (e.g., reduction in force and fewer resources for the classroom).

In addition to the lack of evidence supporting SAM, another barrier to SAM's effectiveness is a reduction in hiring special education teachers because, with SAM, it is necessary to hire dually certified teachers. One director remarked, "we're very upfront that we typically, we'll only hire someone, hire teachers who are dually certified." School administrators see SAM as advantageous because instead of hiring two teachers for a classroom, they can hire one teacher with the knowledge and skills to teach students with a variety of needs. This model thus means that school administrators can be less concerned about who is teaching students with disabilities. However, directors shared one factor that is often not considered: how a teacher becomes certified in special education. Specifically, did that dually certified teacher complete coursework in special education, take an examination, or earn certification through alternative routes programs (e.g., Teach for America)? There is a significant difference between teachers who completed coursework in special education and those who took became certified in special education by passing an examination on the subject. For those reasons another barrier, background knowledge, was identified, with one director sharing,

> One of the challenges is if that's the way you got certified, and then your principal's looking you up on DEEDS, and it says you have special ed. certification, and then they're saying, *Oh, yeah. You can run a SAM model. You can be a case manager for these kids.* It can be problematic because if you don't have knowledge of special ed., and then you're being put in a place where you're not even collaborating with somebody else, you're the one that's directly responsible, it becomes a big challenge. That has been a challenge at several of our elementaries because principals saw that people were certified, and put them into that role when they hadn't had the training and support to be ready for that.

So, although SAM resulted in hiring dually certified teachers, it also created classrooms with teachers who may not have had the training and support needed. These teachers are required to create specially designed instruction, monitor progress, and write IEPs for their students with disabilities, in addition to providing instruction to their nondisabled peers. This situation overburdens SAM teachers.

Given that SAM teachers are responsible for all students regardless of disability, with their workload exceeding that of general education teachers who are not responsible for providing services to students with disabilities, another barrier that was identified by all three directors was equity. One director commented, "it's the sheer work that's put upon one individual" and went on to say,

> You can't just monitor them [i.e., students with disabilities] per quarter or per progress, it is supposed to be weekly progress monitoring. It just puts upon the teacher to spend more hours outside of school. And, then, to me, it becomes an equity conversation. So, how do you say that that teacher is equitable to a general education teacher who has no students with IEPs for class?

Similarly, another director commented, "The teachers who are being asked to be in those roles have 24, 25 kids in their class, and then they're being asked also to case manage and provide the specially designed instruction for kids on their caseload in that class." A different director remarked, "our special needs teachers are overwhelmed and say it needs to be a TAM setting." This director further explained,

> If you're doing interval recording and stuff like that, they just can't keep up with that kind of, fixing them every 15 minutes. Are they seated? Are they on task? Are they, it's just too much for them, and they're a very open and honest with us and saying it's too much.

Directors' responses convey a concern that the workload of a SAM teacher is unmanageable, and they question whether SAM teachers can provide specialized services to students with disabilities while balancing the demands of their nondisabled peers. Additionally, the lack of equity affects the overall well-being of SAM teachers and draws attention to another perceived barrier, classroom composition (e.g., class and caseload size).

The classroom composition of a SAM classroom was brought up and identified as a critical barrier to SAM's effectiveness by the directors. One director shared their dissatisfaction with SAM and questioned, "Does that teacher have time to get to the intervention or specially designed instruction that that student needs?" and followed up with, "For me, the barriers with SAM are definitely class size and the time for the teacher to get to that service." Another expressed,

> The ridiculous SAM has half of the class with IEPs half without and the teacher's told, *Have at it. They're all yours.* That's ridiculous, so let's just say the principal understands special education and three to four or five students are placed in the class who happen to have IEPs. That I hope would not be intense or complex, right, in terms of needs.

Besides the need to provide specialized services to students with disabilities, the third director brought up concerns about mental health in SAM classrooms, stating,

> Teachers are overwhelmed with a lot of the mental health issues both ways, that are prevalent with special needs students as well as with our regular ed. population. And we don't have the mental health supports in the schools that we need. And one or two kids can really upset the apple cart in that instance.

As a result, class size, caseload size, and mental health are contributing barriers to SAM. These factors must be a consideration when schools use SAM.

The final identified barrier for SAM was the scheduling of professional development for one district. One director explained,

> The SAM folks, when we have a PD [professional development] day, a lot of times, curriculum is requiring certain trainings. If I'm an elementary second-grade teacher and we're rolling out new curriculum, they have to do that math curriculum training. At the same time, if we're offering training on interventions and things that we're doing with the special ed. teachers, those SAM teachers are not necessarily getting that because they have to go to the general ed. curriculum training… The only thing we've been able to require for those SAM teachers is the IEP development training… It goes back to time again with them is that because they're in two roles during training days, they're not getting all the trainings that are being offered for both roles. They can't go to all of it.

Although the other directors did not bring up professional development as a barrier for their districts, I can infer that this barrier is presumably occurring in other districts across Delaware and is not district specific.

In summary, due to the lack of research and increased use of SAM, directors are frustrated with this model. One director summed up their thoughts on SAM: "but we completely, it's not a nice world, but we have bastardized it. We have, we have taken complete advantage of it. No wonder people leave the profession." Furthermore, because of the lack of research, reduction in numbers of special education teachers, background knowledge, equity, classroom composition, and professional development priorities, directors perceive SAM as slowly wreaking havoc in Delaware schools. In contrast, directors perceive TAM (i.e., coteaching) to have fewer barriers, as is discussed next.

TAM. Special education directors identified what they perceived to be the barriers affecting TAM: master schedules and school structures (e.g., funding), coplanning, professional development, and administrator knowledge.

Every year school administrators have the task of creating a master schedule for their assigned school building that results in the best possible learning environment for students and staff. School administrators create master schedules based on staffing allotments for each grade, content, individual building needs (e.g., special education, speech, reading specialist, English language learners, gifted and talented) and student numbers (by grade levels and by academic, social, and emotional needs). However, special education directors reported that one of the most significant barriers they encounter is master schedules and school structures. For example, one director stated,

> I oversee all the special education units. I allocate them as the needs are laid out, and I feel like I have been part of that process for so long. I am fairly good at being able to match the needs with the units we have, but once they are in the building how much power do I have over the principal.

The director continued,

> You [i.e., the principal] lay it all out on a big old piece of paper and it literally just says Teacher 1, Teacher 2, Teacher 3, and you organize the needs of kids, and so you are all there. Then as the principal, you decide who is Teacher 1? Oh, I see that's Susie, that's Johnny, who we better get our best at delivering this specialized instruction for decoding and we are going to pick this teacher. Does that always happen? Or is it relationship-based, seniority-based, friendship-based? But this is just the realities of what we see and what we are trying to shape and mold.

Another director agreed and expressed concerns with scheduling, "It just becomes really challenging because you're staffing a lot, but then you have to be

disproportionate in the way you're putting those classrooms together if you want those kids to be in the co-taught classroom." The director further explained logistical concerns with the master schedule, if special education teachers are doing more than just coteaching,

> The teachers there, they have partial coteaching and partial small group, self-contained. It's difficult because a lot of times when they're, whomever they're coteaching with when that person has planning, that's usually when they're teaching a small group. So even though they're in elementary, because they're not coteaching all day, they end up having a hard time coplanning just because of the way their schedules are.

The directors were all in agreement: master schedules are crucial to the success of TAM. Specifically, school administrators need to utilize the staff allotments provided by special education directors to assign students and teachers carefully.

To illustrate the significant barrier of master schedules and school structures, the directors discussed the challenges of coplanning. One director commented, "I've seen some of our elementary teachers that are coteaching with two different teachers, but across two different grades. So, then it's not just about the coplanning, but understanding the curriculum at the two different grade levels." Another director emphasized the importance of coplanning, "Common planning is essential, but it's not always the reality. So that is a problem." The director added, "Using Google docs, using all kinds of other electronic means to kind of plan or to communicate, communication's key as well, and that's not always possible. A lot of it's on the fly." Therefore, school administrators must ensure that TAM teachers' have time built into the master schedule for coplanning. Additionally, school administrators need to ask

themselves whether TAM teachers have time to plan together and to make things work, so that instruction does not have to happen on the fly.

The last two barriers that emerged were professional development and administrator knowledge. One director rationalized:

> So many principals are asking me for training on service delivery models, and my feedback to them is, *I'm not bringing anybody in here to talk about coteaching until your master schedules are such that people have common planning time. That the PLC time is thought out and purposeful, and that you have a schedule such that people are able to be good coteachers.* So, I've not yet had coteaching training in this district because I'm still working on master schedules.

The director's response conveys that the identified barriers—master schedules, school structures, coplanning, and professional development—are all connected, creating a domino effect of barriers, and that there is a disconnect between school administrators, and the demands of special education. One director explained, "I found that a lot of administrators that don't have a special ed. background, really don't understand the intricacies." Another director echoed those concerns, "Many, most of our school administrators have had no special education training whatsoever." The directors' statements suggest a need for more training in special education for school administrators.

In sum, special education directors responded openly about what they perceived as the barriers affecting SAM and TAM service delivery models in their district. As a result of these findings, I can proactively provide teacher candidates with guidance and relevant professional development on how to overcome those barriers.

Facilitators of SAM and TAM

The next set of questions asked directors what they perceived to be the facilitators to SAM and TAM as effective service delivery models in their district.

SAM. Although across the interviews directors were critical of the SAM model, they did perceive some facilitators: classroom composition and teacher strengths. One directed shared,

> I think that SAM could be effective if you were careful about the composition of the classroom. I do think SAM can be successful if it's done purposively and the IEPs are read and understood by someone and we find the individual is capable and so when I laid out my master schedule I got all the coteachers plugged in and I would say, which general education teachers do I have that are dual certified that this kid could use advanced supports or the support facility.

Another echoed their response: "SAM, I think, if you're in an ideal situation, maybe you have 15 kids, and you're also servings kids, and they have more of a more basic level of needs, they're not super intensive, I think it can work." This director further explained:

> I think that when it comes to SAM, what makes it work is, definitely you have to have a teacher that has a strong understanding, not only of the content, but also of special ed. supports and services because they don't have the collaboration necessarily from another special ed. teacher that's working with them.

These statements convey that for SAM to work, school administrators must consider the following facilitators: classroom composition (e.g., number of students with disabilities and the intensity of the disabilities) and the strengths and weaknesses of their dually certified teachers.

In summary, according to these directors, SAM can be facilitated when school administrators consider the background knowledge of their teachers, the classroom composition of students, and professional development opportunities for SAM teachers.

TAM. Across the interviews, directors' perceptions were more favorable toward TAM. Directors identified what they perceived to be the facilitators making TAM effective: an excellent research base and committed teachers. One director stressed, "First of all, TAM has an excellent research base," and then discussed Marilyn Friend's six coteaching models. This director further explained,

> The good thing I saw with TAM were parallel teaching, alternative teaching I mean, I just saw some excellent lessons where everyone was able to participate and be involved and have meaningful opportunities to access the curriculum. I think with what two minds and careful planning can do, you can serve all kids.

Additionally, another director commented, "With elementary coteaching, it can work well, as long as both people are having shared goals and shared commitment to that."

Separately from naming barriers to TAM, the directors indirectly implied additional facilitators that would make TAM effective. These potential facilitators include master schedules that include coplanning time; professional development with job-embedded coaching; and school administrators who understand the intricacies of special education. For example, one director stated, "First, you have to [have] structures in place. If you don't have the structures in place you're wasting your time, even having professional development. Then would come the high-quality professional development." Directors also emphasized how administrators with a

special education background could be instrumental in the success of TAM. For instance, one director stated, “The ones [i.e., administrators] that we have who do have that background and I put it simply and say, they get it. [Those] who do get it, it’s so much easier to work with those folks.” Another director shared,

> I think the schools that have been the most successful are schools where the administrators have some level. I'm not saying that they’re experts in special ed., but they have some level of understanding of the models. They’re supportive of the teachers, and when the teachers come to them with concerns. The special ed. teachers, when they come to her with concerns, she sits down, and problem solves with them, really works through the schedule. I, being at the district level, I know when they call me about a problem, I know that they have really tried to work through it. It’s not like they haven’t thought about it, and they’re just calling the district office and saying, *We need something.*

To sum up, these remarks suggest that since TAM is research based and is an effective service delivery model when supports (e.g., coplanning and professional development) are available, and there is a commitment from both school administrators and teachers.

Advantages of SAM and TAM

The following set of questions asked directors what they perceived to be the advantages of SAM and TAM service delivery models in their district.

SAM. Despite directors’ criticisms of SAM, directors perceived SAM to have some advantages for students with disabilities who need advanced supports (e.g., very basic services). Directors reported:

> I think that, that SAM could be successful with kids who need advanced supports, like very basic services and maybe even support facilitation, that middle model.
>
> With SAM, one of the benefits can be that teacher that has that student throughout the day knows them so well.

> I think that teacher if they have the right skill set they can seamlessly go from core instruction, into RTI, into specially designed instruction fluidly. So, when you're in that room, you don't even almost realize all the different things that that teacher is doing. I think it can be beneficial for the students because those students are staying in the room and getting all of those supports.
>
> There's not a lot of transition. Sometimes when you think about students being pulled out for services, depending on the schedule and when they're being pulled out, they can be so disruptive to them, especially some of our kids that have trouble transitioning, and they're going in and out of the room.

Even though there are some barriers to SAM, it can be advantageous if the proper conditions are in place. "Proper conditions" means that school administrators must:

1. Assign teachers who received special education training through an accredited program;
2. Limit the number of students in SAM classrooms; and
3. Avoid overloading the smaller classroom with students who have complex, intense, or behavioral and emotional needs.

If school administrators adhere to those conditions, the special education directors interviewed for this study perceived that students with disabilities who have basic services can thrive in the SAM classroom.

TAM. The directors perceived TAM as advantageous for both teachers and students with disabilities, conveying that it provides a continuum of services for kids with intense and complex needs, and opportunities for teachers to learn from one another. One director reported, "A TAM model can be very supportive if you have a highly complex student whom you are trying to gain that meaningful participation

and/or a cluster of kids with intense or complex needs." Additionally, other directors expressed similar sentiments:

> It's just having a colleague to bounce things off of, to plan with, to get different perspectives, to differentiate against, and scaffold. That's the ideal setting as far as I'm concerned. If the planning time is there, and you can really make the best use of those two teachers in the classroom, and they mesh.

And,

> I think transitions for kids and having more adult support in the classroom. I also think if it's done effectively, it's such an inclusive model because all kids get what they need, whether they're identified or not. I think if it's done the way it's intended to be done, where both teachers are there for all kids, and it's really blended, where [you] can't even tell who's general ed., who's special ed., that's really the ideal. Even if I have a student in the classroom who doesn't have an IEP or doesn't have a 504, maybe they're just struggling with a particular thing, I can wrap them into the support I'm providing. That's really beneficial versus just having one teacher in the room who's trying to tackle all the needs. I really love coteaching.

The directors' responses conveyed that they openly favor TAM and see it as the most advantageous service delivery model for students with disabilities. However, directors also perceived SAM to have advantages for students with disabilities, particularly those who have basic or less intense needs. These responses tell me that both models have their advantages, but there is not a one-size-fits-all approach. Instead, thoughtful, data-driven conversations need to occur between all stakeholders to determine which model is going to be most advantageous for a student.

Policies and Supports

The next set of questions centered on policies and supports for implementing service delivery models. Directors were candid in what they shared:

> There hasn't been any policy related to decision-making on service delivery models. I think we're trying to take it right now from a professional development approach and getting everybody's skills there before it's a mandatory thing, but I could see it becoming that because the schools that are not engaging in it, I think I said before, I'm really concerned about what models they're really using.
>
> The only guidelines we have are the ratios, the 1:24 elementary class size ratios are dictated by the state are really the only. And then it's kind of a general guideline that we want to ensure that your classes are balanced and you're not overwhelming and teacher, but really the only guidelines to the class size. Maybe we should have something, maybe there should be, but I don't think there was anything. There's nothing else that's been dictated by the state.
>
> We made the decision at the district office we're not going to prescribe. When I was a teacher, there was a lot of prescriptive kind of things like, *This whole school is going to use SAM Model*. Or, *In this place, we're going to be using all co-teaching*. The problem that I saw with that is sometimes it worked well for certain kids, but then other kids really needed a different type of services.

These responses convey that it is up to school administrators to determine how they are going to staff classrooms to support students with disabilities in their building. The implication of this policy for special education teachers is that they may be a SAM or a TAM teacher at some point in their career, and teachers may need to shift and adjust how they are going to instruct students with a variety of needs, not just students with disabilities. This variability may be very difficult to manage depending on special education teachers' preservice training experiences and their special education training.

Next, I asked directors what kind of supports (e.g., professional development) are available to SAM and TAM teachers in their districts. The directors professed little

to no professional development for SAM teachers. For example, “We have not specifically had exclusive training on single approach to mastery. We have had training on coteaching models.” Another director stated, “I’m not sure if there’s any training out there for how a dually certified teacher manages a classroom.” The third director remarked, “So, what I am saying to principals is, once you pass our test of structures [e.g., master scheduling] then I will individually schedule the coteaching and/or it could be single approach to mastery training.” These findings justify a need for professional development on both models. However, they also reveal that there is little to no professional development available to SAM teachers, confirming a critical need for such professional development.

As a result, teacher candidates must understand that there are currently no policies in place that mandate class size, dictate service delivery models, or limit the workload of a special education teacher. One director stated, “There’s been a lot of concerns. Our union has brought up concerns about that model [i.e., SAM].” Another director disclosed, “I hear it [i.e., workload] in part of the district cabinet, and we meet monthly with the Teachers Union.” These statements suggest an awareness that special education teachers are overburdened, and that changes may need to occur to retain highly qualified special education teachers in Delaware.

Summary of Interview Findings

To summarize the interview findings: all directors reported that their district offers a continuum of services, but they also cautioned that a continuum of services could become a barrier to LRE if the IEP team uses their own emotions or the

student's disability to make LRE decisions. Instead, they recommended letting the data drive the decision-making. When asked about the barriers to both models, directors identified more barriers to SAM than TAM, which was consistent with their responses when they discussed facilitators and the advantages of both models. Directors also acknowledge how overburdened special education teachers are by the sheer work that is put on them, indicating that both models lack policies and supports to safeguard these teachers from their respective demands (e.g., instruction of all students, paperwork, and coplanning).

Discussion

The purpose of this study was to understand special education directors' decision-making process further and to identify the factors behind the instructional delivery models (e.g., SAM and TAM) they use in their district. Data from the surveys suggest that the directors perceive TAM as the most effective service delivery model, and this finding is supported by their frequent use of TAM. Directors also reported that the strongest factor in service delivery model decisions is student achievement. Thus, TAM is the most frequently used service delivery model because it results in higher student achievement.

Data from the interviews suggest that although there is a continuum of services and two service delivery options (i.e., SAM and TAM) for students coded as LRE A, there is not a one-size-fits-all placement for students with disabilities. Directors were hesitant to prescribe SAM or TAM to school administrators because some students may benefit from one model over the other. Instead, directors indicate making

recommendations when it comes to master scheduling and providing parameters for class size and classroom composition. Additionally, the interview questions allowed respondents to clarify their perceptions of SAM and TAM. Again, directors reported favoring TAM over SAM because of the latter's issues with more barriers, fewer facilitators, and fewer advantages.

When I compared survey and interview results, the following key factors emerged: equity (e.g., workload demands and specialized instruction), scheduling, classroom composition, professional development, administrator knowledge, and support. The survey data revealed a lack of consensus that SAM was an effective way to close the achievement gap. The interviews verified that there were concerns about SAM teachers having time to provide specialized instruction and monitor progress, with directors questioning whether SAM teachers can provide specialized services to students with disabilities while balancing the demands of their nondisabled peers. Because SAM is not a research-based model and was developed in Delaware to address budgetary issues (e.g., reduction in force and fewer resources for the classroom), there is not a lot of information available about the model. However, other states have policies against a SAM model, which validates the directors' concerns. For example, an excerpt from the Texas Education Agency's 2018–19 Student Attendance Accounting Handbook states,

> A student with a disability receives specially designed instruction. The specially designed instruction documented in the IEP is provided by special education personnel. One teacher, even if dually certified, must not serve in both a general education and a special education role simultaneously when serving students in grades K–12. (p. 107)

This regulation reflects an understanding that dually certified teachers cannot provide support simultaneously to students with disabilities and general education students without ignoring the needs of one group (Texas Education Agency, n.d., 2011). Moreover, prior research on special education dual certification programs (or programs that produce dually licensed special education and general education teachers) confirms the barriers of SAM (i.e., dual certification) identified by directors. Researchers noted limitations with SAM due to issues with administrative support, student characteristics, classroom size, professional development, data collection, and paperwork (Blanton & Pugach, 2011; Kent & Giles, 2016).

When the survey asked directors which model they perceive as effective in meeting the needs of students with disabilities, 100% of respondents agreed that TAM was an effective way to meet the goals and needs [i.e., specialized instruction] of these students, a finding that was supported by the interviews, in which directors stated why they perceive TAM as more effective than SAM. One director noted that TAM is an inclusive model, "because there is more adult support in the classroom and all kids get what they need, whether they're identified or not." In addition to revealing favorable perceptions of TAM, directors noted that for TAM to be successful, those teachers need proper professional development. Literature suggests that professional development should focus on inclusion, coteaching, and collaboration for specific groups and specific purposes and roles (e.g., paraeducator) (Murawski and Bernhardt, 2016).

Furthermore, the literature reveals that if professional development can also foster a special education teacher's expertise with IEP objectives, the teacher can utilize that time to identify opportunities to incorporate goals into class discussions, the existing classroom structure, and assessment of students with disabilities (Howard & Potts, 2009), adding new coteaching approaches over time (Lava, 2012). This sort of professional development makes TAM an effective way of meeting the goals and needs (e.g., specialized instruction) of students with disabilities.

Lastly, the results suggest that directors perceive school administrators and their level of understanding as having the most significant impact on the effectiveness of SAM or TAM. Directors indicated that when school administrators understand the factors (e.g., equity [workload demands and specialized instruction], scheduling, classroom composition, professional development, background knowledge, and support) that facilitate SAM and TAM, all stakeholders (e.g., administrators, teachers, students, and parents or guardians) benefit. However, when administrators do not consider those facilitators, everyone (e.g., stakeholders) is negatively affected (Isherwood, Barger-Anderson, & Erickson, 2012; McDuffie, Landrum, & Gelman, 2008; Ploessl, Rock, Schoenfeld, & Blanks, 2010; Scruggs, Mastropieri, & McDuffie, 2007).

Furthermore, although there is a lack of research on SAM, the research that is available on TAM could apply under the right framework. For example, instead of looking up teachers' credentials on DEEDS (Delaware Educator Data System, 2019) and then assigning SAM and TAM positions, administrators could ask teachers to

volunteer for SAM and TAM positions in their schools. However, when volunteering is not feasible, school administrators could apply Murawski's (2008) suggestions for identifying coteaching pairs to the process of identifying SAM teachers. To illustrate how that would look, administrators could (a) send out surveys to potential SAM or TAM teachers; (b) allow teachers to choose their partners or identify whether they would prefer to provide services using a SAM model; (c) provide professional development on coteaching or SAM; (d) assure common planning times or provide additional planning for SAM; and (e) recuse new coteaching partners or SAM teachers from other responsibilities (e.g., lunch duty) to help facilitate coteaching and individualized instruction. These steps would demonstrate to teachers that their school administration has a basic understanding of coteaching's requirements (e.g., professional development, common planning, and an adjusted workload). Likewise, applying these suggestions to SAM would demonstrate that administrators know what SAM requires (e.g., limits on the number of students in SAM classrooms, and an avoidance of overloading the smaller classroom with students who have complex behavioral or emotional needs). Following these steps will demonstrate to teachers that their school administrators are committed to making both models work. Murawski's suggestions also provide an opportunity for teachers to share their opinions and indicate their preference.

Limitations

The limitations of this study were sample size and methodology. Since the coexistence of SAM and TAM is unique to Delaware, a small state that consists of

only three counties (New Castle, Kent, and Sussex), there was a relatively small sample size. Additionally, because the focus was on public elementary schools' use of SAM and TAM, special education directors in charters, academies, special schools (e.g., alternative schools, Brennen, Bush, Charlton, Consortium, Leach, ILC), and early learning centers, as well as intermediate, middle, high, and technical schools were not included in this study, which further reduced the sample size. It is also possible that the three people who agreed to be interviewed may have had a bias toward SAM or TAM that is not felt by the other directors. However, the interview data is mostly consistent with the survey data, suggesting that this group of respondents is not unique.

A third limitation was instrumentation. The survey instrument that I used was researcher developed and not subject to prior validation. However, the survey achieved the goal of providing me with information about Delaware special education directors' decision-making factors in order to inform the professional development and mentoring I provide to teacher candidates. Future research includes partnering with special education directors on a longitudinal study to determine whether professional development has any effects on attrition and retention.

Conclusions

Based on the information in the director surveys and interviews, I came to the following conclusions. First, this study suggests that special directors perceive SAM to have been implemented in Delaware to reduce costs due to budgetary issues (e.g., reduction in force and fewer resources for the classroom) rather than effectiveness.

However, that SAM is an option is seen as advantageous for districts. Teacher candidates must receive mentoring and professional development on how SAM teachers can manage their workload and design classroom instruction that is seamless, going from differentiation to direct instruction.

Second, both models have their advantages, but they depend on the supports that are in place. If school administrators consider facilitators to SAM—classroom composition, caseload size, certification (e.g., through an approved program), and ongoing professional development for SAM teachers—then SAM teachers can manage the workload, and SAM can be an effective service delivery model for students with disabilities with basic or less intense services. However, if those facilitators are not a consideration, SAM can lead to an inequitable workload and teacher burnout. The same is true for TAM. For TAM to be considered an effective service delivery model, school administrators must consider building their master schedules around special education services, to include coplanning time, and they must include ongoing, research-based professional development on coteaching models, inclusion, and collaboration for specific groups, purposes, and roles (Murawski and Bernhardt, 2016). Therefore, I plan to provide ongoing professional development on the six coteaching models and collaboration. Additionally, I plan to use observation debriefing sessions to ask thoughtful, probing questions about the six coteaching models and collaboration.

Special Education Director Survey

Q1 Your district is located in which Delaware county?

- ○ New Castle
- ○ Kent
- ○ Sussex

Q2 How many years have you worked in special education?

- ○ 1–5 years
- ○ 6–10 years
- ○ 11–15 years
- ○ 16–20 years
- ○ 21–25 years
- ○ Over 25 years

Q3 How many classrooms of each service delivery model are in *elementary* schools in your district?

	N/A	1–2	3–4	5–6	7–8	9–10	Greater than 10
Itinerant	○	○	○	○	○	○	○
Push-in/Pull-out	○	○	○	○	○	○	○
Single Approach to Mastery	○	○	○	○	○	○	○
Team Approach to Mastery	○	○	○	○	○	○	○
Other	○	○	○	○	○	○	○

Q4 The team approach to mastery service delivery model is an effective way of meeting the goals and needs of students with disabilities.

- ○ Strongly agree
- ○ Somewhat agree
- ○ Neither agree nor disagree
- ○ Somewhat disagree
- ○ Strongly disagree

Q5 Single approach to mastery service delivery model is an effective way of closing the achievement gap.

- ○ Strongly agree
- ○ Somewhat agree
- ○ Neither agree nor disagree
- ○ Somewhat disagree
- ○ Strongly disagree

Q6 Non-personnel budget factors (e.g., infrastructure, special equipment, postage, etc.) influence what service delivery models are used in my district.

- ○ Strongly agree
- ○ Somewhat agree
- ○ Neither agree nor disagree
- ○ Somewhat disagree
- ○ Strongly disagree

Q7 The ratio of special education students to special education teachers influences what service delivery models are used in my district.

- ○ Strongly agree
- ○ Somewhat agree
- ○ Neither agree nor disagree
- ○ Somewhat disagree
- ○ Strongly disagree

Q8 Special education student achievement data influences what service delivery models are used in my district.

- ○ Strongly agree
- ○ Somewhat agree
- ○ Neither agree nor disagree
- ○ Somewhat disagree
- ○ Strongly disagree

Q9 Would you be willing to participate in a follow-up interview? If yes, please enter contact information.

- ○ Yes _____
- ○ Maybe
- ○ No

Interview Questions for Special Education Directors

1. How are service delivery models decided, planned, and implemented for your district?
2. What do you see as the barriers to service delivery models (e.g., SAM, TAM, Push-In/Pull-out, etc.) used in your district to provide specialized instruction to students with disabilities (SWDs)?
3. What do you see as the facilitators to service delivery models (e.g., SAM, TAM, Push-In/Pull-out, etc.) used in your district to provide specialized instruction to SWDs?
4. What are the advantages of the single approach to mastery model versus other models?
5. What are the advantages of the team approach to mastery model versus other models?
6. What supports/guidelines are in place for school administrators for implementing service delivery models?
7. What type of professional development is offered to single approach to mastery and team approach to mastery teachers in your district?
8. What is the biggest challenge you face as a special education director when it comes to LRE decisions?
9. What supports do you get from the state as a special education director?
10. If you had the power to change and implement any policy in special education what would it be?

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Appendix D

ANALYZING THE SUPPORTS AVAILABLE TO SINGLE APPROACH TO MASTERY AND TEAM APPROACH TO MASTERY TEACHERS IN DELAWARE ELEMENTARY SCHOOLS

There is little research on the barriers and facilitators to the two special education service delivery models used in Delaware elementary schools. Currently, students with disabilities coded as least restrictive environment (LRE) A, which means they spend 80% or more time in the general education classroom, can receive special education services in either a single approach to mastery (SAM) or team approach to mastery (TAM) classroom. SAM and TAM both provide special education services to students with disabilities in Delaware. However, SAM uses a single teacher who takes on the roles of both general education and special education teacher. This teacher is dual certified in content and special education (Kent & Giles, 2016) and should not be confused with a general education teacher in an inclusion setting, where the teacher teaches students with disabilities in the same classes as the students' nondisabled peers. General education teachers do not have the experiences or certifications needed to provide specialized services to students with disabilities.

The second model, TAM (i.e., coteaching), is an organizational approach where one general education teacher "with expertise in understanding, structuring, and pacing of the curriculum; and one special education teacher, an expert in identifying students' unique learning needs and adapting the curriculum and instruction accordingly" (Cothren-Cook, McDuffie-Landrum, Oshita, & Cook, 2017, p. 233) share responsibilities in the classroom.

Because of my role as a university program coordinator and field instructor who primarily supervises and mentors 4+1 teacher candidates in public elementary schools, henceforth referred to as *teacher candidates*, I wanted to learn more about the barriers and facilitators of SAM and TAM. I conducted a mixed-methods research study, where I surveyed and sent questionnaires to SAM and TAM teachers across Delaware. The purpose was to learn about the types of supports that SAM and TAM teachers currently receive and need to meet the needs of students with disabilities. I also wanted to identify the kinds of access and opportunities that SAM and TAM teachers have for professional learning and growth, so that I can better mentor and provide professional development to teacher candidates. The research question guiding this study was: what are the barriers and facilitators (e.g., pull-out services and push-in services) that affect SAM and TAM teachers' ability to provide specialized instruction to students with disabilities?

In this report, the teacher surveys are analyzed first, followed by the interviews or questionnaires. The discussion section summarizes both the quantitative (survey) and the qualitative (questionnaire and interview) data.

Method

Since the dual usage of SAM and TAM is unique to Delaware and this study focused on public elementary school use of the two models, I excluded teachers in charter schools, academies, special schools (e.g., alternative schools, Brennen, Bush, Charlton, Consortium, Leach, ILC), early learning centers, and intermediate, middle, high, and technical schools from this study. The survey was anonymous except for

respondents who voluntarily provided their name and expressed interest in completing a follow-up interview or questionnaire.

Public data indicates that there are approximately 600 elementary special education teachers and approximately 2,800 elementary general education teachers in Delaware. However, the number of designated SAM and TAM teachers is unknown. Additionally, there is no way of knowing the number of teachers who have taught SAM and TAM but are no longer teaching in those classrooms. Therefore, participants were identified using target population sampling and snowball sampling.

In January 2019, I administered the SAM and TAM Teacher Survey (included at the end of this appendix) by sending electronic invitations with informed consent to elementary school principals in the 16 school districts across the three counties in Delaware (New Castle, Kent, and Sussex) using the online platform *Qualtrics*© to collect data. Next, principals were asked to forward the survey invitation to SAM and TAM teachers in their buildings. SAM and TAM teachers then had the opportunity to indicate their perceptions of the types of supports and opportunities available to them and to participate in a follow-up questionnaire (included at the end of this appendix).

However, through the course of survey administration, three of the 16 Delaware school districts decided not to participate, conveying the following messages:

> Unfortunately, Ms. Duda, we do not participate in surveys, as we are constantly asked to complete them, and our teachers are already at capacity with additional responsibilities.
>
> Thank you for directing your request to the district. After consultation with

> stakeholders in the district, we are declining participation in this survey.
>
> I discussed your request with my cabinet last week, and we feel that with the current initiatives that we are conducting with our staff that we should not ask them to participate in the study. Good luck with your study.

Subsequently, I also received additional responses from district administration, principals, and directors, who conveyed a mix of responses:

> Sorry, we aren't using either of those models. Sorry, we couldn't help.
>
> Please be advised that I told our principals you may distribute the surveys; however, it will remain voluntary. I have copied our Director in this email, and you may send an email regarding survey/interview.
>
> Survey for TAM/SAM teachers from UD…please complete it if you're willing to participate.
>
> Our school district does not have many teachers who are TAM in elementary schools.
>
> Sent an email to about 20 teachers today who I thought might take time to complete the survey. Good luck!

A combination of factors thus reduced the total number of possible participants: the districts that declined to participate, the lack of use of either model in some schools, and the survey's voluntary nature. Due to a low interview response rate, in March, an amendment to the original Institutional Review Board submission was completed and approved to encourage more responses by offering the interview questions as an electronic questionnaire. In May 2019 surveys and questionnaires were closed. In total, 88 educators consented to the survey, 74 educators partially completed the survey, 60 educators fully completed the survey, three respondents completed the interview questionnaire, and zero respondents completed an individual interview.

I analyzed the resulting data from those who fully completed the survey (*n* = 60), seeking to understand SAM and TAM teachers' perceptions of the types of supports and opportunities available to them. I have presented the findings in the tables below in both aggregated and disaggregated forms. Disaggregation was done by county to get the full picture of special education across Delaware, and to learn whether there are different barriers and facilitators between northern Delaware (i.e., Kent County) and southern Delaware (i.e., Kent and Sussex Counties) in how special education service delivery models are implemented and taught. However, I only discuss the disaggregated data if it revealed different trends by Delaware county.

Instrumentation

Given the uniqueness of SAM and Delaware's use of both models (i.e., SAM and TAM), it was necessary to create a survey instrument rather than to rely on a previously developed and validated survey. Though the present survey was not subjected to an evaluation of reliability and validity, it was developed following best practices, including the use of introductory questions, related questions, and a logical sequence (Rea & Parker, 2005). The survey was designed to identify the barriers and facilitators of SAM and TAM and to gather evidence from SAM and TAM teachers to identify their perceptions, current supports, and needs.

The interview questions were created using a semi-structured interview guide with open-ended questions, which were then adapted to the questionnaire format. The interview questionnaire was designed to gather additional evidence to understand further the barriers and facilitators (e.g., pull-out services and push-in services) that

affect SAM and TAM teachers' ability to provide specialized instruction to students with disabilities.

In total, participants completed between 25 and 30 survey questions depending on their responses (i.e., the survey used skip logic). The question types varied, including multiple choice, side-by-side, 5-point Likert scale, and text response. The survey questions fell into four categories: (1) Demographics; (2) SAM; (3) TAM; and (4) Training, Support, and Evaluation. The first set of questions asked about the respondents' demographic information (e.g., location and number of years in special education) and their teaching role. If the respondent selected "SAM, Dually Certified in Elementary and Special Education" as their teaching role, the respondent completed questions on SAM. If a respondent selected "TAM, General Education Teacher (i.e., coteaching) or TAM, Special Education Teacher (i.e., coteaching)" as their teaching role, the respondent completed questions on TAM. If the respondent did not select SAM or TAM, the respondent went on to complete the final category that all respondents completed: Training, Support, and Evaluation. The last question for both SAM and TAM teachers asked whether they would be willing to participate in a follow-up interview. I then categorized and coded each response. Table D1 shows the explanation of codes.

Table D1. Explanation Of Variable Labels And Coding	
Delaware County	1 = New Castle; 2 = Kent; 3 = Sussex; 4 = Across
Highest Degree Earned	1 = Bachelor's; 2 = Master's; 3 = Doctorate
Certification	1 = Dual (i.e., elementary and special education);

	2 = Special Education; 3 = Elementary
Path to Certification	1 = Approved Program; 2 = Alternative Routes; 3 = Examination
Experience	0 = 0 years; 1 = 1–5 years; 2 = 6–10 years; 3 = 11–15 years; 4 = 16–20 years; 5 = 21–25 years; 6 = Over 25 years
Grade Levels Taught	1 =K–2; 2 = 3–5; 3 = multiple grades (e.g., K–5); 4 = Other
Likert Scale A	1 = strongly agree; 2 = somewhat agree; 3 = neither agree nor disagree; 4 = somewhat disagree; 5 = strongly disagree
Likert Scale B	1 = always; 2 = most of the time; 3 = about half the time; 4 = sometimes; 5 = never
Likert Scale C	1 = daily; 2 = 4–6 times per week; 3 = 2–3 times per week; 4 = once per week; 5 = never
SAM Supports	1 = professional development; 2 = administrative support; 3 = instructional support; 4 = smaller class size; 5 = reduced caseload; 6 = other
Likert Scale D	1 = extremely satisfied; 2 = somewhat satisfied; 3 = neither satisfied nor dissatisfied; 4 = somewhat dissatisfied; 5 = extremely dissatisfied
Likert Scale E	1 = extremely important; 2 = very important; 3 = moderately important; 4 = slightly important; 5 = not at all important
Likert Scale F	1 = a great deal; 2 = a lot; 3 = a moderate amount; 4 = a little; 5 = none at all
TAM Supports	1 = professional development; 2 = administrative support; 3 = instructional support; 4 = smaller class size; 5 = common planning
Likert Scale G	1 = strongly agree; 2 = agree; 3 = somewhat agree; 4 = neither agree nor disagree; 5 = somewhat disagree

Results

SAM and TAM Teacher Survey

A summary of the survey responses is in Table D2. Of the 60 completed surveys, 35 (58.33%) respondents were from New Castle County School Districts, 16 (26.66%) respondents were from Kent County School Districts, and 9 (15.0%) respondents were from Sussex County School Districts, representing a total of ten school districts in Delaware.

Table D2. SAM and TAM Teacher Survey Responses across Delaware Counties

	Completed Surveys	
	Frequency	Percent
New Castle	35	58.33
Kent	16	26.66
Sussex	9	15.0
Total	60	100.0

Respondents' educational background ranged from bachelor's to doctorate degrees. Respondents with bachelor's degrees accounted for 31.67%, respondents with master's degrees accounted for 66.67%, and one respondent with a doctorate accounted for 1.67%. Similarly, respondents' teaching certifications varied. Respondents with dual certification in elementary and special education accounted for 76.67%, respondents with only special education certification accounted for 13.33%, and respondents with only an elementary certification accounted for 10.0%.

In total, 90% of respondents held a special education certification. However, their path to special education certification was diverse. Some respondents earned certification through an approved program (e.g., coursework in special education),

while other respondents only took and passed an examination (e.g., Praxis II) for certification. Of those respondents with special education certification, only 62.96% earned special education certification through an approved program (e.g., coursework). Respondents who earned special education certification through alternative routes program (e.g., Teach for America) accounted for 5.56%, and respondents who earned special education certification through examination accounted for 31.48%. Table D3 shows a summary of respondents' education, certification type, and the path to special education certification across Delaware and by county. Percentages are calculated by county (i.e., they should be read by horizontal row, not vertical column).

Table D3. Respondents' Education, Certification, and Path to Certification (Percentages in Parentheses)

Highest Degree	Bachelor's	Master's	Doctorate	Total
New Castle	11 (31.42)	23 (65.71)	1 (2.86)	35 (100.0)
Kent	4 (25.0)	12 (75.0)	---	16 (100.0)
Sussex	4 (44.44)	5 (55.56)	---	9 (100.0)
Across	19 (31.67)	40 (66.67)	1 (1.67)	60 (100.0)
Certification	Dual	Special Ed. Only	Elementary Only	Total
New Castle	25 (71.43)	6 (17.14)	4 (11.43)	35 (100.0)
Kent	14 (87.5)	1 (6.25)	1 (6.25)	16 (100.0)
Sussex	7 (77.78)	1 (11.11)	1 (11.11)	9 (100.0)
Across	46 (76.67)	8 (13.33)	6 (10.0)	60 (100.0)
Path to Certification	Approved Program	Alternative Routes	Examination	Total
New Castle	21 (67.74)	3 (9.68)	7 (22.58)	31 (100.0)
Kent	7 (46.67)	---	8 (53.33)	15 (100.0)
Sussex	6 (75.0)	---	2 (25.0)	8 (100.0)
Across	34 (62.96)	3 (5.56)	17 (31.48)	54 (100.0)

Respondents' teaching experience ranged from one year to over 25 years. Table D4 shows a summary of teaching experience and the number of years that respondents had taught SAM, TAM or other (e.g., Push-in/Pull-out, Instructional Coach, Itinerant). Percentages are calculated by county (i.e., they should be read by horizontal row, not vertical column).

Table D4. Number of Years of Teaching Experience (Percentages in Parentheses)

Years	Zero	1–5	6–10	11–15	16–20	21–25	Over 25	Total
Total Years Teaching								
New Castle	---	12 (34.29)	5 (14.29)	6 (17.14)	7 (20.0)	3 (8.57)	2 (5.71)	35 (100.0)
Kent	---	4 (44.44)	---	2 (22.22)	2 (22.22)	---	---	16 (100.0)
Sussex	---	1 (16.67)	---	2 (33.33)	1 (16.67)	---	---	9 (100.0)
Across	---	17 (28.33)	13 (21.67)	12 (20.0)	10 (16.67)	4 (6.67)	4 (6.67)	60 (100.0)
Years in SAM								
New Castle	16 (45.71)	10 (28.57)	5 (14.29)	1 (2.86)	2 (5.71)	---	1 (2.86)	35 (100.0)
Kent	3 (18.75)	10 (62.5)	2 (12.5)	---	1 (6.25)	---	---	16 (100.0)
Sussex	3 (33.33)	3 (33.33)	1 (11.11)	1 (11.11)	---	1 (11.1)	---	9 (100.0)
Across	22 (36.67)	23 (38.33)	8 (13.33)	2 (3.33)	3 (5.0)	1 (1.67)	1 (1.67)	60 (100.0)
Years in TAM								
New Castle	18 (51.43)	11 (31.43)	2 (5.71)	2 (5.71)	2 (5.71)	---	---	35 (100.0)
Kent	9 (56.25)	5 (31.25)	1 (6.25)	---	---	---	1 (6.25)	16 (100.0)
Sussex	---	5 (55.56)	1 (11.11)	2 (2.22)	---	1 (11.1)	---	9 (100.0)
Across	27 (45.0)	21 (35.0)	4 (6.67)	4 (6.67)	2 (3.33)	1 (1.67)	1 (1.67)	60 (100.0)
Years in a Combination of Models								
New Castle	19 (54.29)	10 (28.57)	3 (8.57)	1 (2.86)	1 (2.86)	---	1 (2.86)	35 (100.0)
Kent	12 (75.0)	3 (18.75)	---	---	---	---	1 (6.25)	16 (100.0)
Sussex	9 (100.0)	---	---	---	---	---	---	9 (100.0)
Across	40 (66.67)	13 (21.67)	3 (5.0)	1 (1.67)	1 (1.67)	---	2 (3.33)	60 (100.0)

Notes: Frequency and percentage were calculated based on number of years in each model. For example, a teacher who taught 16 years may have only taught SAM for three and TAM for five.

Of the teachers who completed the SAM and TAM teacher survey, 66.67% held a master's degree, 76.67% were dually certified in special and elementary education, and 62.96% earned certification through an approved program. The majority of respondents had fewer than five years' experience, with the overall number of respondents teaching SAM, TAM, or a combination of both models.

Respondents then indicated what grade levels they taught. The responses appear in table D5; percentages are calculated by county (i.e., they should be read by horizontal row, not vertical column).

Table D5. Summary of Grade Levels Taught by Respondents

Grades	K–2	3–5	Multiple	Other	Total
New Castle	13 (37.14)	15 (42.86)	5 (14.29)	2 (5.71)	35 (100.0)
Kent	5 (31.25)	6 (37.5)	3 (18.75)	2 (12.5)	16 (100.0)
Sussex	1 (11.11)	8 (88.89)	---	---	9 (100.0)
Across	19 (31.67)	29 (48.33)	8 (13.33)	4 (6.67)	60 (100.0)

Respondents who taught grades K–2 accounted for 31.67%, respondents who taught grades 3–5 accounted for 48.33%, respondents who taught in multiple grades (e.g., 1 and 3 or K–5) accounted for 13.33%, and respondents who taught in other areas (e.g., instructional coach) accounted for 6.67% of the completed surveys.

Lastly, the survey asked respondents to identify their teaching role. Table D6 shows a summary of respondents' identified teaching role. Percentages are calculated by county (i.e., they should be read by horizontal row, not vertical column).

Table D6. Summary of Current Teaching Positions

Teaching Position	SAM	TAM		Other – Special Ed.	Other	Total
		Gen. Ed.	Spec. Ed.			
New Castle	9 (37.5)	3 (8.57)	3 (8.57)	17 (48.57)	3 (48.57)	35 (100.0)
Kent	9 (37.5)	1 (6.25)	---	5 (31.25)	1 (31.25)	16 (100.0)
Sussex	6 (25.0)	1 (11.11)	1 (11.11)	---	1 (11.11)	9 (100.0)
Across	24 (40.0)	5 (8.33)	4 (6.67)	22 (36.67)	5 (8.33)	60 (100.0)

Notes: *Other – Special Ed* includes respondents who identified as a special education teacher, but who are teaching special education using one of the following models: autism support teacher; fluid between itinerant level of support, push-in, and pull-out; separate classroom; itinerant; a mix between itinerant, push-in, and coteach; push-in/pull-out and TAM; and TAM between three homerooms; push-in/pull-out. Respondents who identified as *Other* includes respondents who identified as special education coordinator; instructional coach; and principal.

Respondents who identified as SAM accounted for 40.0%, respondents who identified as TAM accounted for 15%, respondents who identified as other – special ed. accounted for 36.67%, and respondents who identified as other accounted for 8.33%. Although only 55% of respondents identified as either a SAM or TAM teacher, the remaining respondents were able to provide their perceptions in the Training, Support, and Evaluation section that followed the SAM and TAM sections.

The next two sections — Single Approach to Mastery and Team Approach to Mastery — were respondent dependent. Participants only answered questions for the sections that corresponded to their teaching position in SAM or TAM. As with earlier questions, data is reported in both aggregated and disaggregated form by Delaware county; results are interpreted in aggregated form unless trends clearly differed by county.

Single Approach to Mastery

Twenty-four (40.0%) of the 60 respondents selected SAM, dually certified in

elementary and special education, as their teaching role. Of the 24 self-identified SAM teachers, 9 (37.5%) respondents were from New Castle County School Districts, 9 (37.5%) respondents were from Kent County School Districts, and 6 (25.0%) respondents were from Sussex County School Districts.

SAM teachers were asked to answer nine questions specific to their teaching model. The first question asked SAM teachers whether they had volunteered to teach SAM. Of the 24 respondents, 54.17% volunteered to teach SAM, and 45.83% of respondents had not volunteered to teach SAM.

Questions 10, 13, and 17 used Likert Scale A to ask SAM teachers their perceptions of the effectiveness of SAM and their beliefs on teacher training. Table D7 shows a summary of their responses. Percentages are calculated by county (i.e., they should be read by horizontal row, not vertical column).

Table D7. Summary of SAM Teachers' Perceptions on the Effectiveness of SAM and Teacher Training (Percentages in Parentheses)

	Strongly Agree	Somewhat Agree	Neither Agree, Nor Disagree	Somewhat Disagree	Strongly Disagree	Total
The support provided to students with disabilities in a SAM classroom is sufficient.						
New Castle	---	3 (33.33)	1 (11.11)	2 (22.22)	3 (33.33)	9 (100.0)
Kent	1 (11.11)	4 (44.44)	---	2 (22.22)	2 (22.22)	9 (100.0)
Sussex	2 (33.33)	1 (16.67)	---	2 (33.33)	1 (16.67)	6 (100.0)
Across	3 (12.5)	8 (33.33)	1 (4.16)	6 (25.0)	6 (25.0)	24 (100.0)
The majority of students with disabilities in a SAM classroom have their needs met.						
New Castle	---	5 (55.56)	1 (11.11)	2 (22.22)	1 (11.11)	9 (100.0)
Kent	2 (22.22)	4 (44.44)	1 (11.11)	1 (11.11)	1 (11.11)	9 (100.0)
Sussex	1 (16.67)	2 (33.33)	1 (16.67)	---	2 (33.33)	6 (100.0)
Across	3 (12.5)	11 (45.83)	3 (12.5)	3 (12.5)	4 (16.67)	24 (100.0)
Special education teachers are better trained than general education teachers to teach students with disabilities.						
New Castle	---	6 (66.67)	1 (11.11)	1 (11.11)	1 (11.11)	9 (100.0)
Kent	2 (22.22)	3 (33.33)	---	2 (22.22)	2 (22.22)	9 (100.0)
Sussex	5 (83.33)	---	1 (16.67)	---	---	6 (100.0)
Across	7 (45.83)	9 (37.5)	2 (8.33)	3 (12.5)	3 (12.5)	24 (100.0)

Respondents' perceptions varied, ranging from *strongly agree* to *strongly disagree* across questions. The first question asked respondents whether they agreed or disagreed that the support provided to students with disabilities in a SAM classroom was sufficient. Across counties, 11 (45.83%) respondents indicated they either *strongly* or *somewhat agreed* that the support was sufficient. Twelve (50.0%) respondents indicated they either *somewhat disagreed* or *strongly disagreed* that the support provided to students with disabilities was sufficient. When asked whether the majority of students with disabilities have their needs met, respondents' responses varied. Fourteen (58.33%) respondents either *strongly agreed* or *somewhat agreed*, and seven (29.17%) respondents either *strongly disagreed* or *somewhat disagreed*. So, although the respondents were not in agreement on whether the support provided to students with disabilities in SAM classrooms was sufficient, overall, respondents agreed that SAM classrooms were able to meet the needs of students with disabilities. They also felt that special education teachers are better trained than general education teachers to teach students with disabilities.

Question 11 used Likert Scale B to ask SAM teachers their perceptions on the impact of the following factors on student outcomes: class size, instructional needs of students, behavioral needs of students, administrative support, teacher experience, teacher efficacy, and teacher beliefs on inclusion. Table D8 shows a summary of their responses. Percentages are calculated by county (i.e., they should be read by horizontal row, not vertical column).

Table D8. Summary of SAM Teachers' Perceptions of Student Outcomes (Percentages in Parentheses)

	Always	Most of the Time	About Half the Time	Sometimes	Never	Total
Class Size						
New Castle	6 (66.67)	1 (11.11)	2 (22.22)	---	---	9 (100.0)
Kent	5 (55.56)	2 (22.22)	1 (11.11)	1 (11.11)	---	9 (100.0)
Sussex	4 (66.67)	1 (16.67)	---	1 (16.67)	---	6 (100.0)
Across	15 (62.5)	4 (16.67)	3 (12.5)	2 (8.33)	---	24 (100.0)
Instructional Needs of Students						
New Castle	5 (55.56)	3 (33.33)	1 (11.11%)	---	---	9 (100.0)
Kent	7 (77.78)	1 (11.11)	1 (11.11)	---	---	9 (100.0)
Sussex	4 (66.67)	2 (33.33)	---	---	---	6 (100.0)
Across	16 (66.67)	6 (25.0)	2 (8.33)	---	---	24 (100.0)
Behavioral Needs of Students						
New Castle	7 (77.78)	1 (11.11)	1 (11.11)	---	---	9 (100.0)
Kent	8 (88.89)	---	1 (11.11)	---	---	9 (100.0)
Sussex	3 (50.0)	1 (16.67)	---	2 (33.33)	---	6 (100.0)
Across	18 (75.0)	2 (8.33)	2 (8.33)	2 (8.33)	---	24 (100.0)
Administrative Support						
New Castle	4 (44.44)	1 (11.11)	3 (33.33)	1 (11.11)	---	9 (100.0)
Kent	3 (33.33)	2 (22.22)	2 (22.22)	1 (11.11)	1 (11.11)	9 (100.0)
Sussex	3 (50.0)	1 (16.67)	2 (33.33)	---	---	6 (100.0)
Across	10 (41.67)	4 (16.67)	7 (29.17)	2 (8.33)	1 (4.16)	24 (100.0)
Teacher Experience						
New Castle	2 (22.22)	4 (44.44)	2 (22.22)	1 (11.11)	---	9 (100.0)
Kent	2 (22.22)	4 (44.44)	2 (22.22)	1 (11.11)	---	9 (100.0)
Sussex	3 (50.0)	2 (33.33)	1 (16.67)	---	---	6 (100.0)
Across	7 (29.17)	10 (41.67)	5 (20.83)	2 (8.33)	---	24 (100.0)
Teacher Efficacy						
New Castle	2 (22.22)	7 (77.78)	---	---	---	9 (100.0)
Kent	4 (44.44)	1 (11.11)	1 (11.11)	3 (33.33)	---	9 (100.0)
Sussex	5 (83.33)	1 (16.67)	---	---	---	6 (100.0)
Across	11 (45.83)	9 (37.5)	1 (4.16)	3 (12.5)	---	24 (100.0)
Teacher Beliefs on Inclusion						
New Castle	4 (44.44)	5 (55.56)	---	---	---	9 (100.0)
Kent	4 (44.44)	---	1 (11.11)	3 (33.33)	1 (11.11)	9 (100.0)
Sussex	3 (50.0)	1 (16.67)	1 (16.67)	1 (16.67)	---	6 (100.0)
Across	11 (45.83)	6 (25.0)	2 (8.33)	4 (16.67)	1 (4.16)	24 (100.0)

When asked whether specific factors affected student outcomes, SAM teachers' responses varied from *always* to *never*. I looked at the first indicator, *always*, followed by the second indicator, *most of the time*, to determine the order of perceived significance of the various factors for student outcomes. Eighteen (75.0%) respondents

indicated that the behavioral needs of students *always* affect student outcome; 16 (66.67%) respondents indicated that the instructional needs of students *always* affect student outcome; and 15 (62.5%) respondents indicated that class size *always* affects student outcome. The remaining four factors (administrative support, teacher experience, teacher efficacy, and teacher beliefs on inclusion) were perceived to have less of an impact, with less than 50.0% of respondents indicating *always*.

To examine the remaining factors (teacher efficacy, teacher experience, teacher beliefs, and administrative support), I used the first two indicators (*always* and *most of the time*) to determine the most significant to least significant impact. Twenty (83.33%) respondents indicated that teacher efficacy *always* or *most of the time* affects student outcome; 17 (70.83%) respondents indicated that teacher experience and teacher beliefs on inclusion *always* or *most of the time* affect student outcome; and 14 (58.34%) respondents indicated that administrative support *always* or *most of the time* affects student outcome. In conclusion, SAM teachers conveyed that the behavioral needs of students have the most significant impact on student outcomes. Administrative support was perceived to have the least significant impact on student outcomes in SAM classrooms.

SAM teachers were then asked to rank the following teaching challenges from most to least challenging, with a rank of one being most challenging and ten being least challenging as a SAM teacher. Table D9 shows how respondents ranked their perceived teaching challenges.

Table D9. Respondents' Rankings of Beliefs on Teaching Challenges

	Min	Max	Mean	Std Deviation	Variance	Total
Class Size						
New Castle	1	9	3.44	2.83	8.03	9
Kent	1	8	3.67	2.29	5.25	9
Sussex	1	10	5.17	3.76	14.17	6
Across	1	10	3.96	2.87	8.22	24
Instructional Needs of Students						
New Castle	1	5	2.56	1.51	2.28	9
Kent	1	8	2.67	2.45	6.00	9
Sussex	1	8	3.67	2.80	7.87	6
Across	1	8	2.88	2.19	4.81	24
Behavioral Needs of Students						
New Castle	1	4	1.89	.93	0.86	9
Kent	1	9	3.33	3.08	9.50	9
Sussex	2	8	3.83	2.32	5.37	6
Across	1	9	2.92	2.34	5.47	24
Administrative Support						
New Castle	4	8	6.33	1.50	2.25	9
Kent	1	10	5.44	3.57	12.78	9
Sussex	5	10	7.67	2.16	4.67	6
Across	1	10	6.33	2.65	7.01	24
Teacher Experience						
New Castle	3	9	6.11	2.09	4.36	9
Kent	4	9	6.78	1.72	2.94	9
Sussex	5	10	6.50	2.07	4.30	6
Across	3	10	6.46	1.89	3.56	24
Teacher Efficacy						
New Castle	1	9	6.44	2.35	5.53	9
Kent	5	10	6.67	1.80	3.25	9
Sussex	3	10	5.60	2.70	7.30	5
Across	1	10	6.35	2.17	4.69	23
Teacher Beliefs on Inclusion						
New Castle	1	10	7.22	2.68	7.19	9
Kent	1	10	5.89	2.93	8.61	9
Sussex	2	7	5.20	2.05	4.20	5
Across	1	10	6.26	2.68	7.20	23
Differentiation						
New Castle	1	8	4.22	2.44	5.94	9
Kent	1	7	4.56	2.19	4.78	9
Sussex	2	9	5.83	2.79	7.77	6

Across	1	9	4.75	2.42	5.85	24
Explicit Instruction						
New Castle	2	9	5.22	2.33	5.44	9
Kent	1	7	4.33	2.12	4.50	9
Sussex	4	9	7.00	2.35	5.50	5
Across	1	9	5.42	2.38	5.66	23
Other						
New Castle	1	10	9.14	2.27	5.14	7
Kent	2	10	7.40	3.71	13.80	5
Sussex	10	10	10	0	0	2
Across	2	10	8.64	2.76	7.63	14

Notes: Rankings are coded on a 1–10 scale, with means closest to 1 being equal to an ordinal ranking of 1, and means closest 10 being equal to an ordinal ranking of 10, with a rank of 1 being most challenging and 10 being least challenging as a SAM teacher.

Based on the ranked order of the means, with 1 being most challenging and 10 being least challenging, SAM teachers ranked the following factors from most challenging to least challenging: instructional needs of students (mean = 2.88); behavioral needs of students (mean = 2.92); class size (mean = 3.96); differentiation (mean = 4.75); explicit instruction (mean = 5.42); teachers' beliefs on inclusion (mean = 6.26); administrative support (mean = 6.33); teacher efficacy (mean = 6.35); teacher experience (mean = 6.46); and other (mean = 8.64).

SAM question 12 asked teachers to indicate how often they provide students with disabilities with explicit and individualized instruction. Table D10 shows a summary of the results. Percentages are calculated by county (i.e., they should be read by horizontal row, not vertical column).

Table D10. Frequency of SAM Teachers' Explicit and Individualized Instruction (Percentages in Parentheses)

	Daily	4–6 times per week	2–3 times per week	Once per week	Never	Total
New Castle	7 (77.78)	1 (11.11)	1 (11.11)	---	---	9 (100.0)
Kent	6 (66.67)	2 (22.22)	1 (11.11)	---	---	9 (100.0)
Sussex	3 (50.0)	2 (33.33)	---	1 (16.67)	---	6 (100.0)
Across	16 (66.67)	5 (20.83)	2 (8.33)	1 (4.16)	---	24 (100.0)

Respondents across all three Delaware counties stated frequencies of instruction that ranged from *daily* to *once a week*. Sixteen (66.67%) respondents indicated they provide explicit and individualized instruction *daily* to students. Five (20.83%) respondents indicated they provide explicit and individualized instruction *four to six times* per week. Two (8.33%) respondents indicated they provide explicit and individualized instruction *two to three times* per week. Finally, one (4.16%) respondent indicated they provided explicit and individualized instruction *once a week*. Thus, even though SAM teachers perceived the behavioral needs of students as having the most significant impact on student outcomes, and most also stated that meeting the instructional needs of students was the most challenging factor for SAM teachers, 21 (87.5%) SAM teachers self-reported being able to provide explicit and individualized instruction *daily* to *four to six times* per week to students with disabilities.

The survey then asked SAM teachers to select all the supports (e.g., professional development, administrative support, instructional support, small class size, reduced caseload) they receive. Table D11 shows a summary of the supports.

Percentages are calculated by county (i.e., they should be read by horizontal row, not vertical column).

Table D11. Summary of SAM Teachers' Supports (Percentages in Parentheses)

	Prof. Develop.	Admin. Support	Instruct. Support	Smaller Class Size	Reduced Caseload	Other	Count per Support
New Castle	5 (55.56)	3 (33.33)	2 (22.22)	3 (33.33)	3 (33.33)	---	9
Kent	4 (44.44)	1 (11.11)	4 (44.44)	3 (33.33)	---	---	9
Sussex	2 (33.33)	1 (16.67)	4 (66.67)	---	3 (50.0)	---	6
Across	11 (45.83)	5 (20.83)	10 (42.67)	6 (25.0)	6 (25.0)	---	24

Supports identified by respondents across Delaware counties included professional development, administrative support, instructional support, smaller class size, and reduced caseload. However, the supports provided within Delaware counties varied. For example, SAM teachers in New Castle County indicated they receive all five identified supports. In contrast, SAM teachers in Kent County indicated they do not receive a smaller caseload, and SAM teachers in Sussex County indicated they do not have smaller class sizes. Across Delaware, the most widespread support reported was professional development, with 45.83% of respondents indicating they receive professional development, followed by instructional support with 42.67%, and administrative support with 20.83%.

Finally, SAM teachers used a Likert scale to indicate their satisfaction as a SAM teacher, as is reported in Table D12. Percentages are calculated by county (i.e., they should be read by horizontal row, not vertical column).

Table D12. Summary of SAM Teacher Satisfaction (Percentages in Parentheses)

	Extremely Satisfied	Somewhat Satisfied	Neither Satisfied nor Dissatisfied	Somewhat Dissatisfied	Extremely Dissatisfied	Total
New Castle	---	1 (11.11)	4 (44.44)	2 (22.22)	2 (22.22)	9 (100.0)
Kent	1 (11.11)	3 (33.33)	---	3 (33.33)	2 (22.22)	9 (100.0)

Sussex	1 (16.67)	---	1 (16.67)	2 (33.33)	2 (33.33)	6 (100.0)
Across	2 (8.33)	4 (16.67)	5 (20.83)	7 (29.17)	6 (25.0)	24 (100.0)

SAM teachers' satisfaction with the model varied from *extremely dissatisfied* to *extremely satisfied*. Thirteen (54.17%) respondents indicated they were *somewhat* or *extremely* dissatisfied with SAM; five (20.83%) respondents indicated they were *neither satisfied nor dissatisfied* with SAM; and six (25.0%) respondents indicated they were *somewhat* or *extremely* satisfied with SAM. So, although some SAM teachers reported being satisfied with the service delivery model, most respondents were dissatisfied with SAM.

Summary of SAM survey results. Respondents agreed that the factors that have the most significant impact on SAM are the behavioral needs of students, the instructional needs of students, and class size. SAM teachers also conveyed that the most challenging factor for SAM teachers was meeting the instructional needs of students with disabilities. Despite these perceptions, most respondents reported they were able to provide explicit and individualized instruction at least four to six times per week and were able to meet the needs of students with disabilities. But although SAM teachers provided frequent explicit and individualized instruction, there was less consensus on whether the support provided to students with disabilities in SAM classrooms was sufficient. Lastly, while some SAM teachers reported being satisfied with this model, most respondents were dissatisfied with SAM and would like more supports.

Team Approach to Mastery

Nine (15.0%) respondents identified themselves as TAM teachers. Of these individuals, five respondents selected "TAM, General Education Teacher (i.e., co-teaching)," and four respondents selected "TAM, Special Education Teacher (i.e., co-teaching)." Of the nine self-identified TAM teachers, six (66.67%) respondents were from New Castle County School Districts, with three general education and three special education teachers; one (11.11%) general education teacher was from Kent County School Districts; and two (22.22%) respondents, one general education and one special education teacher, were from Sussex County School Districts. Thus, the data is reported by Delaware county, across counties, and by job title (i.e., general ed. and special ed.). However, all results are interpreted in aggregate form unless the data reveals a discrepancy between counties and job title, which I then discuss in turn.

TAM teachers were then asked to answer 14 questions specific to TAM. The first question asked TAM teachers whether they had volunteered to teach TAM. Of the nine respondents, 44.44% had volunteered to teach TAM, and 55.56% had not.

The next question used a Likert scale to ask TAM teachers their perceptions of the support provided to students with disabilities in TAM classrooms. Table D13 shows a summary of their responses.

Table D13. Summary of TAM Teachers Perceptions of Support (Percentages in Parentheses)

		Strongly Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Strongly Disagree	Total
The support provided to students with disabilities in a TAM classroom is sufficient.							
New Castle	Gen. Ed.	2 (66.67)	1 (33.33)	---	---	---	3 (100.0)
	Spec. Ed.	---	3 (100.0)	---	---	---	3 (100.0)
Kent	Gen. Ed.	---	---	---	1 (100.0)	---	1 (100.0)
	Spec. Ed.	---	---	---	---	---	---
Sussex	Gen. Ed.	---	1(50.0)	---	---	---	1 (100.0)

	Spec. Ed.	1 (50.0)	---	---	---	---	1 (100.0)
All counties: Gen.		2 (40.0)	2 (40.0)	---	1 (20.0)	---	5 (100.0)
All counties: Spec.		1 (25.0%)	3 (75.0)	---	---	---	4 (100.0)
Total across counties		3 (33.33%)	5 (55.56)	---	1 (11.11)	---	9 (100.0)
Special education teachers are better trained than general education teachers to teach students with disabilities.							
New Castle	Gen. Ed.	1 (33.33)	2 (66.67)	---	---	---	3 (100.0)
	Spec. Ed.	---	2 (66.67)	---	---	1 (33.33)	3 (100.0)
Kent	Gen. Ed.	---	---	---	1 (100.0)	---	1 (100.0)
	Spec. Ed.	---	---	---	---	---	---
Sussex	Gen. Ed.	---	1 (100.0)	---	---	---	1 (100.0)
	Spec. Ed.	1 (100.0)	---	---	---	---	1 (100.0)
All counties: Gen.		1 (20.0)	3 (60.0)	---	1 (20.0)	---	5 (100.0)
All counties: Spec.		1 (25.0)	2 (50.0)	---	---	1 (25.0)	4 (100.0)
Total across counties		2 (22.22)	5 (55.56)	---	1 (11.11)	1 (11.11)	9 (100.0)

When the survey asked respondents their perceptions of whether the support provided to students with disabilities in a TAM classroom was sufficient, across counties, eight (88.89%) respondents indicated they either *strongly* or *somewhat agreed* the support was sufficient. One (11.11%) respondent indicated they *somewhat disagreed* that the support provided to students with disabilities was sufficient. Overall, respondents agreed that TAM classrooms were able to meet the needs of students with disabilities. They also felt that special education teachers are better trained than general education teachers to teach students with disabilities.

Using another Likert scale, the survey asked respondents their perceptions of the importance of the following factors to effective coteaching: communication, common planning, content knowledge, and parity. Table D14 shows a summary of their responses.

Table D14. Summary of TAM Teachers' Perceptions of Coteaching Factors

		Extremely Important	Very Important	Moderately Important	Slightly Important	Not at All Important	Total
Communication							
New Castle	Gen. Ed.	3 (100.0)	---	---	---	---	3 (100.0)
	Spec. Ed.	3 (100.0)	---	---	---	---	3 (100.0)
Kent	Gen. Ed.	1 (100.0)	---	---	---	---	1 (100.0)
	Spec. Ed.	---	---	---	---	---	---
Sussex	Gen. Ed.	1 (50.0)	---	---	---	---	1 (100.0)
	Spec. Ed.	1 (50.0)	---	---	---	---	1 (100.0)
All counties: Gen.		5 (100.0)	---	---	---	---	5 (100.0)
All counties: Spec.		4 (100.0)	---	---	---	---	4 (100.0)
Total across counties		9 (100.0)	---	---	---	---	9 (100.0)
Common planning							
New Castle	Gen. Ed.	2 (66.67)	1 (33.33)	---	---	---	3 (100.0)
	Spec. Ed.	3 (100.0)	---	---	---	---	3 (100.0)
Kent	Gen. Ed.	1 (100.0)	---	---	---	---	1 (100.0)
	Spec. Ed.	---	---	---	---	---	---
Sussex	Gen. Ed.	---	---	1 (100.0)	---	---	1 (100.0)
	Spec. Ed.	1 (100.0)	---	---	---	---	1 (100.0)
All counties: Gen.		3 (60.0)	1 (20.0)	1 (20.0)	---	---	5 (100.0)
All counties: Spec.		4 (100.0)	---	---	---	---	4 (100.0)
Total across counties		7 (77.78)	1 (11.11)	1 (11.11)	---	---	9 (100.0)
Content knowledge							
New Castle	Gen. Ed.	2 (66.67)	1 (33.33)	---	---	---	3 (100.0)
	Spec. Ed.	3 (100.0)	---	---	---	---	3 (100.0)
Kent	Gen. Ed.	1 (100.0)	---	---	---	---	1 (100.0)
	Spec. Ed.	---	---	---	---	---	---
Sussex	Gen. Ed.	---	1 (100.0)	---	---	---	1 (100.0)
	Spec. Ed.	1 (100.0)	---	---	---	---	1 (100.0)
All counties: Gen.		3 (60.0)	2 (40.0)	---	---	---	5 (100.0)
All counties: Spec.		4 (100.0)	---	---	---	---	4 (100.0)
Total across counties		7 (77.78)	2 (22.22)	---	---	---	9 (100.0)
Parity							
New Castle	Gen. Ed.	2 (66.67)	1 (33.33)	---	---	---	3 (100.0)
	Spec. Ed.	3 (100.0)	---	---	---	---	3 (100.0)
Kent	Gen. Ed.	1 (100.0)	---	---	---	---	1 (100.0)
	Spec. Ed.	---	---	---	---	---	---
Sussex	Gen. Ed.	---	---	1 (100.0)	---	---	1 (100.0)
	Spec. Ed.	1 (100.0)	---	---	---	---	1 (100.0)
All counties: Gen.		2 (40.0)	1 (20.0)	1 (20.0)	---	---	5 (100.0)
All counties: Spec.		4 (100.0)	---	---	---	---	4 (100.0)
Total across counties		6 (66.67)	1 (11.11)	1 (11.11)	---	---	9 (100.0)

All respondents (100%) agreed that communication is an *extremely important* factor for coteaching. However, for the remaining factors — common planning, content

knowledge, and parity — there was not a consensus among general and special educators.

Indeed, all four of the special educators conveyed that common planning, content knowledge, and parity were *extremely important*. There was less of a consensus among general education teachers. Two of the general education teachers indicated that common planning, content knowledge, and parity were either *very important* or *moderately important*. The data suggests that special educators view common planning, content knowledge, and parity as essential to coteaching, whereas some general education teachers view these factors as less important to successful coteaching.

The survey then asked respondents the open-ended question *Are there other important things needed for successful coteaching?* Of the nine self-identified TAM teachers, four answered the open-ended question, two general education and two special education teachers. The TAM teachers' responses convey that general education teachers want consistency and a common understanding of expectations between the two teachers. The two general education teachers responded:

> Common expectations and use of the same language and strategies across settings.

> The opportunity to teach with the same partner (if it is working) for several years. There are growing pains in the beginning, and it is easier for kids once you have your routine set and can really focus on learning and not your partnership.

Special education teachers' comments indicated agreement with the general educators;

however, they also believe that flexibility is necessary for successful coteaching. The two special education teachers shared, “flexibility to changes throughout the year in response to curriculum/student needs,” and “understanding of the roles that each teacher needs to play and what that looks like in the classroom, flexibility to routines.” All coteachers agreed that communication is extremely important for coteaching.

Question 14 used a Likert scale to ask TAM teachers about the effectiveness of coteaching with multiple coteaching partners. Five of the nine TAM teachers (two general education and three special education teachers, all of them from New Castle and Sussex Counties) indicated that they work with multiple coteachers. Table D15 shows a summary of TAM teachers’ perceptions of how the presence of multiple coteachers affects coplanning, coteaching, co-evaluating, communication, and their professional relationship.

Table D15. Summary of TAM Teachers Perceptions of the Effectiveness of Multiple Coteachers (Percentages in Parentheses)

		A Great Deal	A Lot	Moderate Amount	A Little	Not at All	Total
How does having multiple coteachers affect coplanning?							
New Castle	Gen. Ed.	---	1 (100.0)	---	---	---	1 (100.0)
	Spec. Ed.	---	1 (50.0)	1 (50.0)	---	---	2 (100.0)
Sussex	Gen. Ed.	---	---	1 (100.0)	---	---	1 (100.0)
	Spec. Ed.	1 (100.0)	---	---	---	---	1 (100.0)
All counties: Gen.		---	1 (50.0)	1 (50.0)	---	---	2 (100.0)
All counties: Spec.		1 (33.33)	1 (33.33)	1 (33.33)	---	---	3 (100.0)
Total across counties		1 (20.0)	2 (40.0)	2 (40.0)	---	---	5 (100.0)
How does having multiple coteachers affect coteaching?							
New Castle	Gen. Ed.	---	1 (100.0)	---	---	---	1 (100.0)
	Spec. Ed.	---	2 (100.0)	---	---	---	2 (100.0)
Sussex	Gen. Ed.	1 (100.0)	---	---	---	---	1 (100.0)
	Spec. Ed.	1 (100.0)	---	---	---	---	1 (100.0)
All counties: Gen.		1 (50.0)	1 (50.0)	---	---	---	2 (100.0)
All counties: Spec.		1 (33.33)	2 (66.67)	---	---	---	3 (100.0)
Total across counties		2 (40.0)	3 (60.0)	---	---	---	5 (100.0)
How does having multiple coteachers affect co-evaluating?							

New Castle	Gen. Ed.	---	1 (100.0)	---	---	---	1 (100.0)
	Spec. Ed.	---	---	1 (50.0)	1 (50.0)	---	2 (100.0)
Sussex	Gen. Ed.	---	---	1 (100.0)	---	---	1 (100.0)
	Spec. Ed.	1 (100.0)	---	---	---	---	1 (100.0)
All counties: Gen.		---	1 (50.0)	1 (50.0)	---	---	2 (100.0)
All counties: Spec.		1 (33.33)	---	1 (33.33)	1 (33.33)	---	3 (100.0)
Total across counties		1 (20.0)	1 (20.0)	2 (40.0)	1 (20.0)	---	5 (100.0)
How does having multiple coteachers affect communication?							
New Castle	Gen. Ed.	---	---	---	1 (100.0)	---	1 (100.0)
	Spec. Ed.	---	---	2 (100.0)	---	---	2 (100.0)
Sussex	Gen. Ed.	---	1 (100.0)	---	---	---	1 (100.0)
	Spec. Ed.	1 (100.0)	---	---	---	---	1 (100.0)
All counties: Gen.		---	1 (50.0)	---	1 (50.0)	---	2 (100.0)
All counties: Spec.		1 (33.33)	---	2 (66.67)	---	---	3 (100.0)
Total across counties		1 (20.0)	1 (20.0)	2 (40.0)	1 (20.0)	---	5 (100.0)
How does having multiple coteachers affect the professional relationship?							
New Castle	Gen. Ed.	---	---	---	1 (100.0)	---	1 (100.0)
	Spec. Ed.	---	---	1 (50.0)	1 (50.0)	---	2 (100.0)
Sussex	Gen. Ed.	---	1 (100.0)	---	---	---	1 (100.0)
	Spec. Ed.	1 (100.0)	---	---	---	---	1 (100.0)
All counties: Gen.		---	1 (50.0)	---	1 (50.0)	---	2 (100.0)
All counties: Spec.		1 (33.33)	---	1 (33.33)	1 (33.33)	---	3 (100.0)
Total across counties		1 (20.0)	1 (20.0)	1 (20.0)	2 (40.0)	---	5 (100.0)

When asked about the effect of multiple coteachers on coplanning, coteaching, co-evaluating, communication, and their professional relationship, TAM teachers' responses ranged from *a great deal* to *a little*. TAM teachers were all in agreement that having multiple coteachers affects coteaching *a great deal* or *a lot*. They also agreed that having multiple coteachers affects coplanning *a great deal* or *a moderate amount*. When the teachers were asked, *how does having multiple teachers affect communication and co-evaluation?* their responses varied from *a great deal* to *a little*, with two (40.0%) respondents indicating that it affected coteaching *a moderate amount*, and one (20.0%) indicating that it affected coteaching *a little*. The last question asked whether having multiple coteachers affected their professional relationship. Again, responses varied from *a great deal* to *a little*; however, this time,

two (40.0%) respondents indicated that having multiple coteachers affected their professional relationship *a little*. In sum, TAM teachers suggested that having multiple coteachers affects the following factors from most to least: coteaching; coplanning; communication and co-evaluating (tie); and their professional relationship.

The survey then asked respondents which coteaching models they use. Respondents across districts self-reported used some combination of all six coteaching models: station teaching; parallel teaching; alternative teaching; teaming; one teach, one assist; and one teach, one observe. The two models used most frequently were *one teach, one assist* and *teaming*; together, these models accounted for 88.89% of responses. *Parallel* and *alternative* teaching followed with 77.78% of respondents indicating use. Five (55.56%) respondents indicated that they used *station teaching*. Respondents indicated *one teach, one observe* as the least frequently used model. Although most TAM teachers reported that they use *one teach, one assist* and *teaming* most frequently, they also reported that they used between one and six models in their classroom.

TAM question 16 used a Likert scale to ask TAM teachers their perceptions of the impact that the following factors have on student outcomes: class size, instructional needs of students, behavioral needs of students, administrative support, teacher experience, teacher efficacy, and teacher beliefs on inclusion. Table D16 shows a summary of their responses.

Table D16. Summary of TAM Teachers' Perceptions of Student Outcomes (Percentages in Parentheses)

	Always	Most of the Time	About Half the Time	Sometimes	Never	Total
Class Size						
New Castle	4 (66.67)	2 (33.33)	---	---	---	6 (100.0)
Kent	1 (100.0)	---	---	---	---	1 (100.0)
Sussex	2 (100.0)	---	---	---	---	2 (100.0)
Across	7 (77.78)	2 (22.22)	---	---	---	9 (100.0)
Instructional Needs of Students						
New Castle	1 (16.67)	5 (83.33)	---	---	---	6 (100.0)
Kent	1 (100.0)	---	---	---	---	1 (100.0)
Sussex	2 (100.0)	---	---	---	---	2 (100.0)
Across	4 (44.44)	5 (55.56)	---	---	---	9 (100.0)
Behavioral Needs of Students						
New Castle	2 (33.33)	4 (66.67)	---	---	---	6 (100.0)
Kent	1 (100.0)	---	---	---	---	1 (100.0)
Sussex	2 (100.0)	---	---	---	---	2 (100.0)
Across	5 (55.56)	4 (44.44)	---	---	---	9 (100.0)
Administrative Support						
New Castle	2 (33.33)	3 (50.0)	1 (16.67)	---	---	6 (100.0)
Kent	1 (100.0)	---	---	---	---	1 (100.0)
Sussex	1 (50.0)	---	1 (50.0)	---	---	2 (100.0)
Across	4 (44.44)	3 (33.33)	2 (11.11)	---	---	9 (100.0)
Teacher Experience						
New Castle	---	5 (83.33)	1 (16.67)	---	---	6 (100.0)
Kent	---	---	---	1 (100.0)	---	1 (100.0)
Sussex	---	1 (50.0)	1 (50.0)	---	---	2 (100.0)
Across	---	6 (66.67)	2 (22.22)	1 (11.11)	---	9 (100.0)
Teacher Efficacy						
New Castle	2 (33.33)	3 (50.0)	1 (16.67)	---	---	6 (100.0)
Kent	1 (100.0)	---	---	---	---	1 (100.0)
Sussex	1 (50.0)	---	1 (50.0)	---	---	2 (100.0)
Across	4 (44.44)	3 (33.33)	2 (22.22)	---	---	9 (100.0)
Teacher Beliefs on Inclusion						
New Castle	4 (66.67)	2 (33.33)	---	---	---	6 (100.0)
Kent	---	1 (100.0)	---	---	---	1 (100.0)
Sussex	1 (50.0)	---	1 (50.0)	---	---	2 (100.0)
Across	5 (55.56)	3 (33.33)	1 (11.11)	---	---	9 (100.0)

When asked about how often certain factors affected student outcomes, TAM teachers reported answers ranging from *always* to *sometimes*. Variously, across the factors, I looked at the first indicator (*always*), the second indicator (*most of the time*), the third indicator (*about half the time*), and the fourth indicator (*sometimes*) to

determine which factor was perceived as having the strongest impact on student outcomes.

Based on only the first indicator, seven (77.78%) respondents indicated that class size *always* affects student outcomes. For the next two factors, I used the first two indicators (i.e., *always* and *most of the time*) to examine the impact. Five (55.56%) respondents indicated *always* and four (44.44%) indicated *most of the time* that the behavioral needs of students affect student outcomes. Four (44.44%) respondents indicated *always*, and five (55.56%) indicated *most of the time* that the instructional needs of students affect student outcomes.

The final four factors — beliefs on inclusion, teacher efficacy, administrative support, and teacher experience — were categorized based on the first four indicators. When asked how often teacher beliefs on inclusion affect student outcomes, five (55.56%) respondents indicated *always*, three (33.33%) indicated *most of the time*, and one (11.11%) indicated *about half the time*. The next questions asked how often teacher efficacy and administrative support affect student outcomes. Four (44.44%) respondents indicated *always*, three (33.33%) indicated *most of the time*, and two (22.22%) indicated *about half the time.* Lastly, when asked how often teacher experience affects student outcomes, six (66.67%) respondents indicated *most of the time*, two (22.22%) responded indicated *about half the time*, and one (11.11%) respondent indicated *sometimes*. In conclusion, TAM teachers conveyed that class size has the most significant impact on student outcomes, and that teacher experience has the least significant impact on student outcomes in TAM classrooms.

Next, TAM teachers were asked to rank teaching challenges from most to least challenging, with a rank of one being most challenging and 14 being least challenging. Table D17 shows a summary of respondents' beliefs on teaching challenges.

Table D17. Summary of Respondents' Ranked Beliefs on Teaching Challenges

	Min	Max	Mean	Std Deviation	Variance	Total
Class Size						
New Castle	3	12	6.80	3.27	10.70	5
Kent	---	---	---	---	---	---
Sussex	1	3	2.00	1.41	2.00	2
Across	1	12	5.43	3.60	12.95	7
Instructional Needs of Students						
New Castle	1	11	5.40	4.16	17.30	5
Kent	---	---	---	---	---	---
Sussex	2	9	5.50	4.95	24.50	2
Across	1	11	5.43	3.95	15.62	7
Behavioral Needs of Students						
New Castle	1	6	3.60	1.95	3.80	5
Kent	---	---	---	---	---	---
Sussex	1	2	1.50	0.71	0.50	2
Across	1	6	3.00	1.91	3.67	7
Administrative Support						
New Castle	1	11	7.20	3.90	15.20	5
Kent	---	---	---	---	---	---
Sussex	6	11	8.50	3.54	12.50	2
Across	1	11	7.57	3.55	12.62	7
Teacher Experience						
New Castle	4	13	10.40	3.78	14.30	5
Kent	---	---	---	---	---	---
Sussex	5	12	8.50	4.95	24.50	2
Across	4	13	9.86	3.80	14.48	7
Teacher Efficacy						
New Castle	5	11	7.60	2.41	5.80	5
Kent	---	---	---	---	---	---
Sussex	7	11	9.00	2.83	8.00	2
Across	5	11	8.00	2.38	5.67	7
Teacher Beliefs on Inclusion						
New Castle	1	9	4.20	3.96	15.70	5

Kent	---	---	---	---	---	---
Sussex	5	10	7.50	3.54	12.50	2
Across	1	10	5.14	3.89	15.14	7
Communication with Coteacher						
New Castle	2	8	4.40	2.51	6.30	5
Kent	3	3	3	---	---	1
Sussex	7	8	7.50	0.71	0.50	2
Across	2	8	5.00	2.51	6.29	8
Common Planning						
New Castle	3	11	7.40	3.65	13.30	5
Kent	4	4	4	---	---	1
Sussex	9	13	11.00	2.83	8.00	2
Across	3	13	7.88	3.72	13.84	8
Multiple Partners						
New Castle	2	12	8.20	4.49	20.20	5
Kent	---	---	---	---	---	---
Sussex	10	13	11.50	2.12	4.50	2
Across	2	13	9.14	4.10	16.81	7
Compatibility						
New Castle	3	13	7.20	4.87	23.70	5
Kent	---	---	---	---	---	---
Sussex	3	12	7.50	6.36	40.50	2
Across	3	13	7.29	4.75	22.57	7
Respect						
New Castle	4	13	7.80	3.35	11.20	5
Kent	1	1	1	---	---	1
Sussex	4	8	6.00	2.83	8.00	2
Across	1	13	6.50	3.63	13.14	8
Shared Responsibility						
New Castle	7	11	9.20	1.48	2.20	5
Kent	2	2	2	---	---	1
Sussex	4	6	5.00	1.41	2.00	2
Across	2	11	7.25	3.11	9.64	8

Rankings are coded on a 1–14 scale, with a mean closest to 1 being equal to an ordinal ranking of 1, and a mean closest 14 being equal to an ordinal ranking of 14, with a rank of 1 being most challenging and 14 being least challenging as a TAM teacher.

Based on a ranking scale in which 1 was most challenging and 14 was least challenging, TAM teachers ranked the following factors from most challenging to

least challenging: behavioral needs of students (mean = 3.00); communication with coteacher (mean = 5.00); beliefs on inclusion (mean = 5.14); instructional needs of students (mean = 5.43); class size (mean = 5.43); respect (mean = 6.50); shared responsibility (mean = 7.25); compatibility (mean = 7.29); administrative support (mean = 7.57); common planning (mean = 7.88); teacher efficacy (mean = 8.00); teacher experience (mean = 9.86); and multiple partners (mean = 11.50).

TAM question 17 asked respondents to indicate how often they provide students with disabilities with explicit and individualized instruction. Table D18 shows a summary of the results.

Table D18. Summary of TAM Teachers' Explicit and Individualized Instruction (Percentages in Parentheses)

	Daily	4–6 times per week	2–3 times per week	Once per week	Never	Total
New Castle	3(50.0)	3 (30.0)	---	---	---	6 (100.0)
Kent	---	1 (100.0)	---	---	---	1 (100.0)
Sussex	1 (50.0)	1 (50.0)	---	---	---	2 (100.0)
Across	4 (44.44)	5 (55.56)	---	---	---	9 (100.0)

TAM teachers across Delaware counties reported frequency of instruction ranging from *daily* to *four to six times per week*. Four (44.44%) respondents indicated they provide explicit and individualized instruction *daily* to students. Five (55.56%) respondents indicated they provide explicit and individualized instruction *four to six times* per week. Thus, even though TAM teachers perceived class size as having the most significant impact on student outcomes, and reported that meeting the behavior needs of students was the biggest challenge, 100% of TAM teachers self-reported

being able to provide explicit and individualized instruction *daily* or *four to six times* per week to students with disabilities.

TAM Question 20 asked respondents to select all the supports (i.e., professional development, administrative, instructional, small class size, reduced caseload) they receive. Table D19 shows a summary of the supports.

Table D19. Summary of TAM Teachers' Perceived Supports (Percentages in Parentheses)

	Professional Development	Administrative Support	Instructional Support	Smaller Class Size	Common Planning	Count
New Castle	---	3 (50.0)	3 (50.0)	1 (16.67)	6 (100.0)	6 (100.0)
Kent	---	---	---	---	1 (100.0)	1 (100.0)
Sussex	1 (50.0)	2 (100.0)	1 (50.0)	1 (50.0)	2 (100.0)	2 (100.0)
Across	1 (11.11)	5 (55.56)	4 (44.44)	2 (22.22)	9 (100.0)	9 (100.0)

Supports across Delaware counties included professional development, administrative support, instructional support, smaller class size, and common planning. However, the supports provided within Delaware counties varied. For example, TAM teachers in Sussex County indicated that they receive all five identified supports, whereas TAM teachers in New Castle and Kent County indicated that they do not receive professional development, and the one TAM teacher in Kent County indicated that the only support they receive is common planning. Thus, although TAM teachers indicated a variety of supports across the state, the most widespread support was common planning, followed by administrative support with 44.44%, and instructional support with 20.83%.

The last question for TAM teachers asked how satisfied they are with their TAM position. Table D20 shows a summary of TAM teacher satisfaction.

Table D20. Summary of TAM Teacher Satisfaction (Percentages in Parentheses)

	Extremely Satisfied	Somewhat Satisfied	Neither Satisfied nor Dissatisfied	Somewhat Dissatisfied	Extremely Dissatisfied	Total
New Castle	3 (50.0)	1 (16.67)	2 (33.33)	---	---	6 (100.0)
Kent	---	---	---	1 (100.0)	---	1 (100.0)
Sussex	---	2 (100.0)	---	---	---	2 (100.0)
Across	3 (33.33)	3 (33.33)	2 (22.22)	1 (11.11)	---	9 (100.0)

TAM teachers' satisfaction with the model varied from *extremely satisfied* to *somewhat dissatisfied*. Six (66.67%) respondents indicated that they are either *somewhat* or *extremely satisfied* with TAM. Two (22.22%) respondents indicated that they are *neither satisfied nor dissatisfied* with TAM; and one (11.11%) respondent indicated that they are *somewhat dissatisfied* with TAM. Thus, although some TAM teachers reported less satisfaction, most respondents are satisfied with TAM.

Summary of TAM survey results. Respondents agreed that the factors that have the most significant impact on TAM are class size, the behavioral needs of students, the instructional needs of students, and teacher beliefs on inclusion. TAM teachers also conveyed that meeting the behavioral needs of students was the biggest challenge, and that good communication is necessary for coteaching. Respondents indicated that if a TAM teacher works with multiple partners, their ability to coteach effectively is affected. Working with multiple partners also affects communication, making communication even more essential when there are multiple coteaching pairs. Additionally, when coteachers can communicate effectively and commit to coplanning, coteachers can address the behavioral and instructional needs of students by moving beyond *one teach, one assist* to incorporate the other coteaching models.

TAM teachers indicated that they receive a variety of supports, but the data revealed that only one county offered professional development for TAM teachers. If districts can provide professional development on the behavioral and instructional needs of students in TAM classrooms and the six coteaching models, districts might reduce the instructional and behavioral challenges that TAM teachers experience. However, despite the lack of professional development, class sizes, and challenges of managing the behavioral and instructional needs of students, most respondents self-reported that they were able to provide explicit and individualized instruction at least *four to six times* per week to meet the needs of students with disabilities. Lastly, while 66.67% of respondents were *satisfied* with TAM, only 33.33% of TAM teachers are *neither satisfied nor dissatisfied/somewhat dissatisfied* with this model.

Training, Support, and Evaluation

All respondents (see Table D6) completed the last section of the survey, entitled Training, Support, and Evaluation. However, not all questions in this section of the survey were a forced response, or required respondents to rank all categories; therefore, the number of responses across questions in the Training, Support, and Evaluation section varies from 28 to 60 (100.0%).

Respondents were asked to answer six questions to help identify other barriers and facilitators not addressed in the SAM and TAM sections of the survey. Additionally, this section allowed respondents who may have taught SAM and TAM (but did not select it) an opportunity to express their perceptions on Delaware service delivery models, administrative support, and teacher evaluations. Respondents were

asked to rank the different service delivery models in Delaware and answer an open-ended question, *What types of training do you receive to help you be successful?* The next set of questions asked respondents about administrative support, and the final two questions asked respondents about the Delaware Performance Appraisal System (DPAS-II).

The first question in this section asked respondents to rank service delivery models from one (most effective) to six (least effective) on their ability to provide instruction directly connected to the student's individualized education program (IEP) goals and documented needs. Table D21 shows a summary of respondents' perceptions of Delaware service delivery models.

Table D21. Respondents' Perceptions of Delaware Service Delivery Models

	Min	Max	Mean	Std Deviation	Variance	Total
Itinerant model						
New Castle	2	6	4.34	1.06	1.11	35
Kent	2	6	4.29	1.20	1.45	14
Sussex	3	5	4.57	0.82	0.67	6
Across	2	6	4.36	1.06	1.12	56
Push-in/Pull-out						
New Castle	1	5	2.23	0.97	0.95	35
Kent	1	4	1.87	0.83	0.70	15
Sussex	1	6	2.67	1.97	3.87	6
Across	1	6	2.18	1.08	1.17	56
Resource						
New Castle	1	5	2.91	1.12	1.26	35
Kent	1	5	2.80	1.26	1.60	15
Sussex	1	6	3.17	1.72	2.97	6
Across	1	6	2.91	1.21	1.46	56
SAM						
New Castle	1	6	3.91	1.15	1.32	35
Kent	1	6	3.87	1.41	1.98	15
Sussex	1	6	3.57	1.72	2.95	7

Across	1	6	3.86	1.27	1.62	57
TAM						
New Castle	1	4	1.71	1.05	1.09	35
Kent	1	6	2.27	1.53	2.35	15
Sussex	1	5	2.50	1.76	3.10	6
Across	1	6	1.95	1.29	1.65	56
Other						
New Castle	5	6	5.94	0.24	0.06	18
Kent	6	6	6.0	---	---	5
Sussex	1	6	5.0	2.24	5.0	5
Across	5	6	5.96	0.19	0.04	28
Notes: Rankings are coded on a 1–6 scale, with means closest to 1 being equal to an ordinal ranking of 1, and means closest 6 being equal to an ordinal ranking of 6, with a rank of 1 being most effective and 6 being least effective. Additionally, not all respondents included *other* in their ranking.						

Teachers ranked the following Delaware service delivery models from most effective to least effective: TAM (mean = 1.95); push-in/pull-out (mean = 2.18); resource (mean = 2.91); SAM (mean = 3.86); itinerant (4.36); and other (mean = 5.96). Two teachers from Sussex County selected *other* for service delivery model, explaining, “I think this [i.e., ranking] depends on the staff involved,” and “Cannot rank these because students with more needs, need more service and more individualized instruction. However, I do not think that TAMS are effective.” Overall, this data suggests that teachers perceive TAM to be the most effective service delivery model, with itinerant as the least effective model. However, comments indicate that students with disabilities may benefit from different models depending on the intensity of services needed.

Next, respondents answered the open-ended question, *What type(s) of training do you receive to help you be successful?* Eighteen (51.43%) respondents from New

Castle County commented, with three (16.67%) stating that they do not receive any training to help them succeed. One respondent shared, “None. Just great communication with my teaching partner.” Of those from New Castle County who received training, many indicated the training was minimal. One respondent shared, “I do not receive much training from my district in regards to being a SAM teacher. Most of our district-provided training focuses on our curriculum, our new grade reporting system, etc. There is not much special education-related training, unfortunately.” Another respondent commented, “Aside from my formal educational training and district-wide in-service PD, I have not received any other training.” Others indicated, “We have special education PLC [professional learning community] twice a month,” or “Universal Design for learning. IEP updates and the law. My own research - as needed for a wide variety of topics.” Another respondent suggested, “I think that more training on differentiated instruction within new curriculums would be beneficial.” Data from respondents in New Castle County suggested there is very little training for special education teachers.

Ten (62.5%) respondents from Kent County shared that they all receive professional development. One respondent shared, “teachers have choices when they have professional development days.” Others conveyed they have, “Meetings with the Special Education Case Worker Trainings on how to write IEPs.” Another respondent specified, “Special Ed trainings/IEP trainings from the district and/or state; Curriculum trainings from the district; PLC meetings weekly focusing on math, reading, behavior, or school culture.” Teachers from Kent County conveyed that they

receive supports and training to help them succeed during the school year. Teachers from Kent County also shared that teachers have optional professional learning opportunities over the summer months.

Four (44.44%) respondents from Sussex County conveyed a range in their perceptions of training. One teacher commented, “Differentiation -Curricular -Social Emotional Wellness -IEP Development.” In contrast, three respondents indicated that they do not receive training. One teacher shared,

> I have a background in Special Education from being the Gen. Ed teacher in a TAM room, so I was familiar with the setting and the environment. Other than the Praxis certification, and a few PLCs with the Special Education teachers in the building, I really did not receive much training to help me this year.

Data from teachers in Sussex County indicates there is not much training outside of school buildings. Instead, training consists of in-house training with other teachers and professionals in their school buildings.

Additionally, two general education teachers from different Delaware counties shared their frustration with the lack of special education training for general education teachers. One stated, “I have been a regular ed teacher in an inclusion room for approximately 10 years. I have never received any training. All information has come from the Special Education Co-teacher or the Educational Diagnostician.” The second general education teacher shared, “General education teachers need more training on how to support their special education students when they are not with the special education teacher.” These statements by general education teachers revealed that they want training on how to meet the needs of students with disabilities in their

classrooms.

When asked, *What type(s) of training do you receive to help you be successful?* teachers from across Delaware conveyed a wide range of answers, from ongoing training to no additional training needed. Teachers in Kent County received the most support, whereas teachers in New Castle County varied in their answers, with some reporting that they did receive training, and others that they did not. Teachers in Sussex County reported the least amount, ranging from no training to training available but only within their school buildings. General education teachers also shared that they would like to receive some training to help students with disabilities in their classrooms. Overall, this data conveys that there is a need for additional training in special education beyond how to write an IEP and what pitfalls to avoid when working in special education.

The next question on the survey used a Likert scale to ask respondents their perception of the importance of administrator support. Table D22 shows a summary of respondents' perceptions by Delaware county.

Table D22. Perceptions of the Importance of Administrative Support (Percentages in Parentheses)

	Extremely Important	Very Important	Moderately Important	Slightly Important	Not at All Important	Total
New Castle	28 (80.0)	4 (11.43)	3 (8.57)	---	---	35 (100.0)
Kent	12 (75.0)	3 (18.75)	1 (6.25)	---	---	16 (100.0)
Sussex	6 (66.67)	2 (22.22)	1 (11.11)	---	---	9 (100.0)
Across	46 (76.67)	9 (15.0)	5 (8.33)	---	---	60 (100.0)

Respondents' perceptions of administrator support varied from *extremely important* to *moderately important*. Forty-six (77.67%) respondents indicated that administrator support is *extremely important*, nine (15.0%) respondents indicated that administrator

support is *very important*, and five (8.33%) respondents indicated that administrator support is *moderately important*. So, although some respondents conveyed that administrator support is only *moderately important*, most respondents indicated that it is *extremely important*.

Next, the survey asked teachers their perceptions of administrators' knowledge of special education. Table D23 shows a summary of respondents' perceptions of school administrators' knowledge.

Table D23. Summary of Respondents' Perceptions of Administrators' Knowledge of Special Education (Percentages in Parentheses)

	Strongly Agree	Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Total
Administrators in my building have a strong background in special education.						
New Castle	6 (17.14)	5 (14.29)	12 (34.29)	6 (17.14)	6 (17.14)	35 (100.0)
Kent	2 (12.5)	8 (50.0)	4 (25.0)	2 (12.5)	4 (25.0)	16 (100.0)
Sussex	---	4 (44.44)	4 (44.44)	---	1 (11.11)	9 (100.0)
Across	8 (13.33)	17 (28.33)	20 (33.33)	8 (13.33)	11 (18.33)	60 (100.0)
Administrators in my building understand the IEP process.						
New Castle	8 (22.86)	10 (28.57)	11 (31.43)	1 (2.86)	5 (14.29)	35 (100.0)
Kent	3 (18.75)	7 (43.75)	5 (31.25)	1 (6.25)	---	16 (100.0)
Sussex	3 (33.33)	2 (22.22)	3 (33.33)	---	1 (11.11)	9 (100.0)
Across	14 (23.33)	19 (31.67)	19 (31.67)	2 (3.33)	6 (10.0)	60 (100.0)
Administrators in my building understand disabilities.						
New Castle	6 (17.14)	13 (37.14)	12 (34.29)	1 (2.86)	3 (8.57)	35 (100.0)
Kent	4 (25.0)	7 (43.75)	4 (25.0)	1 (6.25)	---	16 (100.0)
Sussex	3 (33.33)	4 (44.44)	1 (11.11)	---	1 (11.11)	9 (100.0)
Across	13 (21.67)	24 (40.0)	17 (28.33)	2 (3.33)	4 (6.67)	60 (100.0)
Administrators in my building review progress monitoring data.						
New Castle	4 (11.43)	10 (28.57)	7 (20.0)	4 (11.43)	9 (25.71)	34 (100.0)
Kent	4 (25.0)	3 (18.75)	4 (25.0)	2 (12.5)	3 (18.75)	16 (100.0)
Sussex	1 (11.11)	2 (22.22)	4 (44.44)	---	2 (22.22)	9 (100.0)
Across	9 (15.25)	15 (25.42)	15 (25.42)	6 (10.17)	14 (23.73)	59 (100.0)
Administrators in my building provide ongoing professional development.						
New Castle	2 (5.71)	6 (17.14)	15 (42.86)	5 (14.29)	7 (20.0)	35 (100.0)
Kent	1 (6.25)	5 (31.25)	4 (25.0)	1 (6.25)	5 (31.25)	16 (100.0)
Sussex	2 (22.22)	3 (33.33)	1 (11.11)	---	3 (33.33)	9 (100.0)
Across	5 (8.33)	14 (23.33)	20 (33.33)	6 (10.0)	15 (25.0)	60 (100.0)
Administrators in my building consider special education caseload when assigning students to classrooms.						
New Castle	6 (17.14)	10 (28.57)	8 (22.86)	4 (11.43)	7 (20.0)	35 (100.0)

Kent	1 (6.25)	3 (18.75)	6 (37.5)	2 (12.5)	4 (25.0)	16 (100.0)
Sussex	3 (33.33)	2 (22.22)	1 (11.11)	---	3 (33.33)	9 (100.0)
Across	10 (16.67)	15 (25.0)	15 (25.0)	6 (10.0)	14 (23.33)	60 (100.0)
Administrators in my building consider the impact of a student's disability when assigning students to classrooms.						
New Castle	6 (17.14)	11 (31.43)	9 (25.71)	1 (2.86)	8 (22.86)	35 (100.0)
Kent	1 (6.25)	2 (12.5)	7 (43.75)	3 (18.75)	3 (18.75)	16 (100.0)
Sussex	3 (33.33)	2 (22.22)	2 (22.22)	1 (11.11)	1 (11.11)	9 (100.0)
Across	10 (16.67)	15 (25.0)	18 (30.0)	5 (8.33)	12 (20.0)	60 (100.0)

The survey asked respondents whether administrators in their building have background knowledge in special education, understand the IEP process, understand disabilities, review progress monitoring data, provide ongoing professional development, consider special education caseload when assigning students to classrooms, and consider the impact of a student's disability when assigning students to classrooms. Ninety percent of respondents perceived their administrator to understand disabilities. There was strong agreement that administrators understand the IEP process (86.67%) and have background knowledge in special education (75.0%). However, there was less strong agreement that administrators consider the impact of a student's disability when assigning students to classrooms (71.67%), or that they review progress monitoring data and provide ongoing professional development (65.0%). Overall, respondents' perceptions across categories varied, but most respondents agreed that administrators in their building have some knowledge of special education.

The next two survey questions asked teachers their beliefs about the effectiveness of the Delaware Performance Appraisal System (DPAS II). Table D24

shows how many participants from New Castle, Kent, and Sussex Counties responded to the DPAS II survey questions.

Table D24. Number of Survey Participants by County for DPAS II Questions (Percentages in Parentheses)

	DPAS II effectively evaluates all aspects of my job description.	What aspects of your job are not effectively evaluated?
New Castle	35 (59.32)	22 (62.86)
Kent	15 (25.42)	9 (25.71)
Sussex	9 (15.25)	4 (11.42)
Total	59 (100.0)	35 (100.0)

Of the 59 respondents who answered the first question, only 35 answered the open-ended question. Table D25 summarizes teachers' beliefs on the effectiveness of DPAS II.

Table D25. Respondents' Assessment of the Effectiveness of DPAS II (Percentages in Parentheses)

	Strongly Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Strongly Disagree	Total
New Castle	2 (5.71)	7 (20.0)	8 (22.86)	8 (22.86)	10 (28.57)	35 (100.0)
Kent	---	5 (33.33)	3 (20.0)	6 (40.0)	1 (6.67)	15 (100.0)
Sussex	2 (22.22)	2 (22.22)	3 (33.33)	1 (11.11)	1 (11.11)	9 (100.0)
Across	4 (6.78)	14 (23.73)	14 (23.73)	15 (25.25)	12 (20.33)	59 (100.0)

Of the 59 responses to this question, 18 (30.51%) teachers either *strongly agreed* or *somewhat agreed* that DPAS II effectively evaluates all aspects of their job description. Fourteen (23.73%) respondents *neither agreed nor disagreed*, and 27 (45.76%) either *somewhat disagreed* or *strongly disagreed*. Therefore, most respondents think that DPAS II does not effectively evaluate all aspects of their job description.

The second question in the survey was open ended and allowed respondents to explain further the aspects of their job that are not effectively evaluated. Of the 59

respondents who answered the previous question, 35 (58.33%) responded to the open-ended question: What aspects of your job are not effectively evaluated? Here are some examples of their responses:

> Case management, writing IEPs, and communication with parents, assessment of students on IEP goals, not just standards.
>
> The amount/degree of planning that goes into adapting and modifying materials for my students. The training I need to seek out on my own in order to ensure I am successful. The growth my students make may not necessarily look the same as a general education student, but I am being measured the same way.
>
> I am evaluated on both special education and general education students for a classroom that I am only in for 3 hours a day. IEP writing and compliance is not taken into effect.
>
> I feel like a huge part of my job pertains to writing, implementing IEPs. There is no discussion of this when I am evaluated, and I feel like IEP writing is one of my strengths.
>
> Behind the scenes paperwork, and collaboration with teachers/agencies/families.
>
> Admin unsure of exact goals for my role.
>
> Student growth because sometimes I feel the students are making growth, but it's not what is expected, and then those students don't get recognized or rewarded because they didn't hit a magic number.

One respondent critiqued the evaluation criteria in depth:

> I feel that many of the "Highly Effective" criteria do not take into account the amount of direct and repeated instruction many special education students require. When providing instruction using methods determined to be most effective for a specific group of students, I may not be able to meet the "highly effective" criteria as a teacher. I do not feel that this provides a true reflection of my students' growth and abilities.

Similarly, another respondent reported,

> The requirements for professional responsibilities, in particular, 4b [recording data in a student record system on DPAS II], as a special educator. I feel DPAS II is too vague. There should be one for gen ed. and a different one for spec ed. The legal ramifications are greater in spec ed. than gen ed.

Based on the open-ended text responses, I can infer that special education teachers are frustrated because the current evaluation system does not evaluate the critical aspects of their job description.

Summary of Training, Support, and Evaluation results. The data first suggests that special education teachers (SAM, TAM, and other special ed. teachers) perceive that TAM is the most effective service delivery model, with itinerant as the least effective model. General education (n = 5) and other educators (n = 5) also perceive TAM to be the most effective service delivery model, with 90% of those teachers also ranking TAM as most effective. However, comments indicate that students with disabilities may benefit from different models depending on the intensity of services needed. Second, respondents from across Delaware conveyed a wide range of needs for professional development, from ongoing training to no additional training, to help them be successful. Both general education and special education teachers conveyed that they would like to receive additional training to help students with disabilities in their classrooms, beyond the writing of an IEP and the pitfalls to avoid when working in special education. Third, respondents conveyed that administrators are knowledgeable of special education, and all agreed that administrator support is essential to special education. However, special education teachers also indicated that they are dissatisfied with the current evaluation system, DPAS II. Instead, they would

like their evaluations to reflect all aspects of their job description, such as case management and writing IEPs.

Conclusion to Survey Results

In conclusion, when I compared the SAM and TAM data, I found that more teachers volunteered to teach SAM than TAM. SAM and TAM teachers' perceptions of the level of support provided to students with disabilities varied, with 88.89% of TAM teachers agreeing that the support was sufficient, showing a positive trend, whereas, SAM teachers showed less consensus that the level of support provided was sufficient, producing a bimodal response. SAM and TAM teachers also indicated their perceptions of how several factors — class size, instructional needs of students, behavioral needs of students, administrative support, teacher experience, teacher efficacy, and teacher beliefs on inclusion — affect student outcomes. Both sets of teachers agreed that the instructional needs of students, the behavioral needs of students, and class size have the most significant effect on student outcomes. SAM and TAM teachers were also in agreement when they ranked teaching challenges; they again indicated that the instructional needs of students, the behavioral needs of students, and class size were the greatest challenges. Thus, even though SAM and TAM teachers agreed on the instructional needs of students, behavioral needs of students, and class size as having the greatest impact on student outcomes and as being the most challenging, the survey results indicated that SAM teachers provide fewer sessions of explicit and individualized instruction to students with disabilities than do TAM teachers.

Additionally, the survey asked teachers about supports that they receive to help them succeed in the classroom. SAM teachers indicated that they receive more supports than do TAM teachers, but even so, SAM teachers were less satisfied with that service delivery model than TAM teachers were with TAM. Nevertheless, the survey also indicated that TAM might not work for all students, and other options must be available to students with disabilities. Lastly, teachers expressed their frustration with a lack of training and professional development, as well as with the current evaluation system, DPAS-II.

Teacher Interview Questionnaires

The SAM and TAM teacher interview questionnaires gathered additional evidence to further understand the barriers and facilitators (e.g. pull-out services and push-in services) that affect SAM and TAM teachers' ability to provide specialized instruction to students with disabilities.

Sample

Of the 33 SAM and TAM teachers who completed the survey (55.0% of the total number of respondents), 11 teachers (33.33%) indicated a willingness to participate in a follow-up interview. However, after three follow-up attempts with no response from the first five respondents who indicated such a willingness, I filed an amendment to the original Institutional Review Board submission to encourage more responses by offering the interview questions as an electronic questionnaire. This amendment was accepted. Three (27.27%) respondents, one from each Delaware county (i.e., New Castle, Kent, and Sussex Counties) opted to complete the electronic

interview questionnaire in place of completing a scheduled interview.

Method

Before responding to the questionnaire, each respondent signed an electronic informed consent that shared the purpose of the study. Each respondent then completed the questionnaire independently (see the end of this appendix for the questionnaire). After each respondent submitted their responses to the electronic questionnaire, I (a) created de-identified reports from *Qualtrics*©, denoting different teachers not by name but only location (e.g., "New Castle County," "Kent County," and "Sussex County"); and (b) deleted the original responses, resulting in Word® documents that cannot be ever linked back to the original participants. Table D26 shows a summary of the three questionnaire respondents' demographic data.

Table D26. Respondents' Demographic Data by Delaware County

	New Castle	Kent	Sussex
Degree	Master's	Bachelor's	Bachelor's
Grade Level	3–5	3–5	3–5
Years Teaching	6	3	7
Teaching Role	SAM	SAM	SAM
Taught SAM	Yes	Yes	Yes
Taught TAM	Yes	No	Yes
Notes: Respondents' teaching role was determined by their selection on the survey. Respondents also had the opportunity to indicate prior teaching assignments for SAM and TAM.			

Across the three respondents, one has a master's degree, and the other two have bachelor's degrees. All three respondents teach grades 3–5 and identify as SAM teachers. Two of the respondents have taught students with disabilities in SAM and TAM, whereas one respondent has no prior experience with TAM.

Qualitative data from the teacher interviews was analyzed to identify any trends pertinent to the research question guiding this study: What are the barriers and facilitators (e.g., pull-out services and push-in services) that affect SAM and TAM teachers' ability to provide specialized instruction to students with disabilities?

Results

What follows is a discussion of the teachers' responses across the following categories: Building-Level Perspectives, Professional Development and Resources, Barriers to SAM and TAM, Facilitators to SAM and TAM, Balancing Act, and Other Contributing Factors.

Building-Level Perspectives

"Building-level perspectives" refer to questions that asked about what special education looks like at the school level, including things like service delivery models, inclusion, and academic achievement. The questionnaire first asked teachers to explain how service delivery models are decided, planned, and implemented in their school. Of the three respondents, only two were able to describe how service delivery models are decided, planned, and implemented for their school. In New Castle County, service delivery models are decided, "by the district administration on some level and then building administration." In Kent County, "service delivery models are decided when writing the IEP. The SAM teacher writes the IEP and consults with the special education case manager." Both responses convey that a procedure is in place. However, because these responses are from a questionnaire rather than an interview, the answers may reflect an error of understanding (e.g., the respondent from New

Castle County may have simply interpreted the question as it relates to staffing, whereas the respondent from Kent County responded by describing the IEP process).

The next question asked respondents, *What are the key factors that support inclusion and improved academic achievement outcomes in your school?* and further asked respondents, *Why does inclusion work?* The teacher from Sussex County identified differentiation as a key factor but qualified that response, stating "Differentiation doesn't always work unless the teacher knows how to differentiate." The respondents from New Castle and Kent Counties differed in their opinions. The respondent from New Castle County conveyed, "Inclusion is not working in our school because there are not the supports needed in order to make it effective." However, the Kent County respondent identified the following key factors: "Smaller class size, support from Paras [i.e., paraprofessionals], and the flexibility of pulling small groups often." This teacher added, "Classroom management of behaviors is important too," further explaining,

> Inclusion works because the classroom teacher gets to take control of their special education students' learning. They [i.e., special educations students] are not getting taught and pulled all the time by other teachers. It also helps the teacher become a better educator to all students.

These responses reveal that SAM or TAM teachers perceive that inclusion works when teachers know how to differentiate, have smaller class sizes, and get additional academic and behavioral support from Paraprofessionals; it also suggests that when SAM teachers have smaller class sizes and additional adult support, they can work with students in smaller groups, which leads to improved academic outcomes for

students with disabilities.

In summary, building-level perspectives varied by county. The results suggest that when service delivery model decisions are made in the best interest of students with disabilities, and when school-based administrators communicate those needs to their district administrators, it is possible for SAM and TAM teachers to have smaller class sizes and receive additional staffing support. However, when service delivery model decisions are not made in the best interest of the child or these interests are simply not considered, it can result in larger class sizes and reduced classroom support (e.g., fewer paraprofessionals).

Barriers to SAM and TAM

The questionnaire asked respondents a variety of questions that provided an opportunity for them to share their perspectives on SAM and TAM. Respondents identified what they perceived to be the barriers to SAM and TAM's efficacy in their district.

In their answers to the questionnaire, teachers identified the following as barriers affecting SAM and TAM: professional development, staffing, academic and behavioral needs of students, and time. For instance, in New Castle County the teacher reported that there is no specific professional development for SAM. In Sussex County the teacher reported, "There is not adequate PD in Delaware. All my PD came from teaching in another state. I wish Delaware gave more PD that is actually useful." Teachers also shared their concerns regarding staffing. The teacher in Kent County

reported, “We do not get much Para support to help with everyday tasks or progress monitoring.” This teacher further explained,

> When class sizes grow, it becomes harder to give the extra support for the special education students, especially when there are behaviors. Some classrooms have almost 20 students and six special education students. Making it very difficult to provide all the supports efficiently.

The teacher from New Castle County shared, “A SAM teacher without additional adult support is not able to meet the needs of all students when many students require additional small group support.” The teachers from Kent and New Castle Counties also brought up concerns about meeting the academic and behavioral needs of students. In Kent County, the teacher stated, “this is my third year of SAM, but the first year of having a lot of behavior problems. This affects being able to pull for small groups.” The teacher in New Castle County agreed, stating “the academic and behavior needs are not being met due to lack of resources.” The teacher from Sussex County did not indicate academic or behavioral concerns but did share an issue with, “teachers who don’t differentiate or having students at so many different levels makes it difficult to group students.” The last barrier identified by teachers was time. The teacher from Kent County stated,

> Time is the biggest barrier. It is difficult to pull students a lot. Also, in a SAM room, teachers are in charge of all the progress monitoring and IEP work. This takes up a lot of time, and finding extra time in the day for this is difficult.

The New Castle County teacher noted that “SAM is a poorly funded service delivery model.” Teachers’ responses conveyed their perceptions of barriers. However, with some of their responses, it was unclear as to whether they were explicitly sharing their

perceptions of SAM, TAM, or both models. Nevertheless, based on the questionnaire responses and respondents' stated teaching role, we can conclude that SAM teachers appear to be struggling with staying on top of their workload (e.g., IEP case management), managing classroom behaviors, and providing specialized services to students with disabilities while balancing the demands of their nondisabled peers.

Facilitators to SAM and TAM

The questionnaire asked respondents a variety of questions about SAM and TAM to give them adequate opportunity to share their perspectives. Respondents identified what they perceived to be the facilitators to SAM and TAM as effective service delivery models in their district.

Across the questionnaires, teachers identified the following as facilitators of SAM and TAM: professional development, in-house supports, and academic strategies. For example, though the teacher in New Castle County indicated that there were no professional development opportunities for SAM teachers, the respondents from Kent and Sussex Counties shared, "We have had multiple trainings on IEP development and weekly meetings with our special education case manager," and, "guided reading, special education conferences, common core math, and number talks." The teacher from Kent County emphasized, "We received a good amount of resources and support from our case manager." When the questionnaire asked respondents, *How would you describe how services are delivered to students with disabilities and others who struggle to learn academic skills?* responses from the Kent and Sussex Counties teachers were positive. For instance, in Kent County, "they

deliver academic service through many means. Depending on the student, they can get pull out services for reading RTI [response to intervention]. They can get pulled in a small group during instruction, and receive individual assistance." In Sussex County,

> Services are delivered by differentiation and accommodations in the classroom. Students can use manipulatives, charts, and reading tools. Questions can be altered or graded differently. Learning may be more scaffolded or may have more time to practice. Questions may be read aloud.

Teachers' responses conveyed that there are some professional development opportunities for teachers in Kent and Sussex Counties. However, it was unclear what supports are available to TAM teachers in New Castle County. Respondents also indicated utilizing in-house supports and incorporating a variety of academic strategies as effective facilitators.

Other Contributing Factors

Other contributing factors consist of the need to balance the available resources, administrative support, and school community, and the ways that these factors contribute to student achievement.

SAM and TAM teachers shared how they balanced available resources and student support. Two respondents expressed positive sentiments. The teacher from Kent County shared, "it is difficult to balance the use of resources and providing sufficient student support. Sometimes, I create an extra math or reading group to provide those extra supports." In Sussex County, the teacher suggested the utility of "planning thoroughly ahead of time and thinking about all the misconceptions." Conversely, the teacher from New Castle County conveyed, "it is not balanced.

Students get what is possible with limited resources." Thus, although some teachers can work around and get creative with the lack of resources, other teachers struggle to provide sufficient support to students.

Next, the questionnaire asked respondents about their perceptions of principal involvement in supporting SAM or TAM and improved student achievement. Respondents' perceptions varied. In Kent County, the teacher expressed, "the principal tries to find ways to get Paras into our classroom, but Paras end up having to be pulled for things daily, so the support is inconsistent." In New Castle County, the teacher shared, "the principal has some say in creating SAM or TAM classrooms, but they do not have the means for acquiring additional support." Lastly, in Sussex County, the respondent was not sure about their principal's involvement. Teachers' responses revealed that they are not entirely sure how much say their principal has to ensure the adequate staffing of classrooms for students with disabilities. However, teachers also suggested that, given the staffing allotment, principals do try to support their teachers the best they can.

The final question on the questionnaire asked respondents to describe the sense of community that exists in their school. The teachers' responses reveal a dichotomy. The respondent from Kent County shared, "I think the sense of community this year is trusting. Our principal trusts us to do what is best for our students, which helps in a SAM classroom," whereas the teacher from New Castle County commented, "the culture is really suffering because so many teachers are overwhelmed and frustrated by struggling students (academic and behavioral) and no avenue to make any

changes." The teacher from Sussex County shared, "some teachers are close, but I wouldn't say we are all a community. There is a divide between people that do their job and those who don't."

The responses from the New Castle and Sussex County teachers indicate frustration with their school environment. Their responses also suggest that they want more supports so that they can meet the academic and behavioral needs of students.

Summary of interview questionnaire responses. Teachers reported a range of ways that their school decides, plans, and implements special education. In some cases, the process begins at the student's IEP meeting, in others with the administrators at both the district- and building-level when they determine how to meet the needs of students with disabilities (i.e., SAM or TAM classroom). When asked about the barriers to a successful, inclusive program, teachers shared that they are struggling with balancing their workload (e.g., IEP case management), managing classroom behaviors, and providing specialized services to students with disabilities while attending to their nondisabled peers. Teachers also indicated that there are minimal supports available to help them manage their workload, classroom behaviors, and specialized services for students with disabilities. Teachers implied that the lack of supports is because there is not enough funding to provide schools with additional staff and professional development, conveying that they will continue to do what they can with the resources and support they have to meet students' individual needs despite their frustrations.

Discussion

The purpose of this study was to learn what barriers and facilitators affect SAM and TAM teachers' ability to provide specialized instruction to students with disabilities. Data from the surveys suggests that teachers perceive TAM as the most effective service delivery model and that they can provide explicit and individualized instruction *daily* to *four to six* times per week on this model. Despite facing challenges with meeting the instructional and behavioral needs of students and with managing class size, TAM teachers also have an overall satisfaction rating of 66.67%. Nevertheless, the survey also indicated that TAM might not work for all students, and other options must be available to students with disabilities. Lastly, teachers expressed their frustration with a lack of training and professional development, and with the current evaluation system, DPAS-II.

Data from the surveys and questionnaires suggests that teachers are frustrated with SAM. They indicated that they are struggling with balancing their workload (e.g., IEP case management), managing classroom behaviors, and providing specialized services to students with disabilities while attending to their nondisabled peers. Teachers also indicated that there are minimal supports available to help them manage their workload and classroom behaviors or provide specialized services to students with disabilities. Teachers implied that the lack of supports results from a lack of funding for additional staff and professional development. Additionally, the questionnaire allowed respondents to clarify their perceptions of SAM and TAM, but teachers shared more specific frustrations with SAM, not with TAM.

When I compared survey and interview results, the following barriers emerged as affecting a SAM teacher's ability to provide specialized instruction to students with disabilities: the instructional needs of students, the behavioral needs of students, class size, equity (e.g., workload demands and specialized instruction), professional development, administrator knowledge, and support. Respondents agreed that the factors that have the most significant impact on SAM are the behavioral needs of students, the instructional needs of students, and class size. SAM teachers also conveyed that the most challenging factor for SAM teachers was meeting the instructional needs of students with disabilities. The survey data revealed a lack of consensus on whether the support provided to students with disabilities in SAM classrooms was sufficient. The questionnaires verified that there were concerns about SAM teachers having time to provide specialized instruction and monitor progress. Because SAM is not a research-based model but was rather developed in Delaware to address budgetary issues (e.g., reduction in force and fewer resources for the classroom), there is not a lot of information available. However, other states have policies against a SAM model, validating the directors' concerns. For example, the Texas Education Agency's *2018–2019 Student Attendance Accounting Handbook* states,

> A student with a disability receives specially designed instruction. The specially designed instruction documented in the IEP is provided by special education personnel. One teacher, even if dually certified, must not serve in both a general education and a special education role simultaneously when serving students in grades K–12. (2018, p. 107)

This regulation means that dually certified teachers cannot provide support simultaneously to students with disabilities and general education students without ignoring the needs of one group (Texas Education Agency, n.d., 2011). Moreover, prior research on special education dual certification programs (or programs that produce dually licensed special education and general education teachers) confirms the barriers to SAM (e.g., dual certification) identified by teachers, where researchers noted limitations with SAM due to issues with administrative support, student characteristics, classroom size, professional development, data collection, and paperwork (Blanton & Pugach, 2011; Kent & Giles, 2016).

Lastly, the results suggest that teachers perceive school administrators in their buildings to be knowledgeable about special education, but teachers would like to see specific job requirements (e.g., IEP case management) of special education teachers reflected in their evaluations. Additionally, teachers want more training and support to help students with disabilities.

To address training, the literature suggests that professional development should focus on inclusion, coteaching, and collaboration for specific groups and specific purposes and roles (e.g., paraeducators) (Murawski and Bernhardt, 2016). Additionally, the literature supports the theory that, if professional development can also incorporate a special education teacher's expertise and familiarity with IEP goals and objectives, professional development time can be dedicated to identifying opportunities to incorporate goals into class discussions, the existing classroom structure, and assessment of students with disabilities (Howard & Potts, 2009).

Furthermore, although some respondents indicated that they volunteered to teach SAM or TAM, 45.83% of SAM and 55.56% of TAM teachers did not volunteer. Therefore, when volunteering is not always feasible, Murawski's (2008) suggestions to school administrators for identifying coteaching pairs could also be extended to SAM teachers. To illustrate how that model would look, administrators could (a) send out surveys to potential SAM or TAM teachers; (b) allow teachers to choose their partners or identify whether they would prefer to provide services using a SAM model; (c) provide professional development on coteaching or SAM; (d) confirm common planning times or provide additional planning for SAM; and (e) recuse new coteaching partners or SAM teachers from other responsibilities (e.g., lunch duty) to help facilitate coteaching and individualized instruction. If school administrators use Murawski's suggestions or apply them to SAM, they will will demonstrate to teachers that they have a basic understanding of what coteaching requires (e.g., professional development, common planning, and an adjusted workload). Second, using the suggestions will demonstrate that administrators know what SAM requires (e.g., smaller class sizes; not too many students with complex behavioral and emotional needs in a single classroom). Third, it will demonstrate to teachers that school administrators are committed to making both models work.

Limitations

The primary limitation of this study was its sample size and methodology. Since the dual usage of SAM and TAM is unique to Delaware, a small state with only three counties (i.e., New Castle, Kent, and Sussex), there was a relatively small sample

size to draw from. Additionally, because the focus was on public elementary school use of SAM and TAM, special education directors in charters, academies, special schools (i.e., alternative schools, Brennen, Bush, Charlton, Consortium, Leach, ILC), early learning centers, and intermediate, middle, high, and technical schools were not included in this study, reducing the sample size even further. Further, due to the reduced sample size and a low response rate, I converted the teacher interviews to electronic questionnaires. Because of this change, I was unable to get clarification on teachers' responses as to which model they were referring to in their questionnaire response. Lastly, because respondents volunteered to take the survey and questionnaire (that is, because participation was not mandatory), their responses may have situational and self-reporting biases.

A second limitation was instrumentation, where there were flaws with the survey logic. In the survey, question eight asked respondents what their teaching role is. Based on their response, respondents completed the items designed for SAM or TAM teachers. If respondents did not choose SAM or TAM as their teaching role, they moved on and only completed the remaining questions on teacher training, administrators, and teacher evaluation. Instead, the survey logic should have allowed respondents to choose multiple responses and included two additional options: previously taught SAM, and previously taught TAM. In doing so, this would have captured all survey respondents who previously taught in a SAM or TAM classroom, providing them with an opportunity to complete questions on SAM or TAM, which would have provided additional data on both models. Perhaps, respondents may have

even perceived different barriers and facilitators of SAM and TAM such as, the level and frequency of support provided to students with disabilities in SAM or TAM, the factors that impact student outcomes, and teaching challenges. Additionally, because I was unable to identify other states using SAM or a similar model, and given the relatively small sample size, reliability checks of the surveys were not conducted. However, my goal was merely to learn about the types of supports that SAM and TAM teachers receive and need to meet the individual needs of students with disabilities, to identify the kinds of access and opportunities that SAM and TAM teachers have for professional learning and growth, and to inform the professional development and mentoring I provide to teacher candidates. Future research includes partnering with Delaware School districts to conduct a longitudinal study to follow 4+1 alumni, in order to determine whether the mentoring and professional development provided to EDUC 750 teacher candidates has any impact on Delaware's special education attrition and retention rates. Specifically, I want to know how many EDUC 750 alumni teaching in Delaware has remained in special education, left teaching altogether, or left special education. I also plan to revise the survey instrument and methodology to reconduct the study with partnered Delaware School districts.

Conclusions

Based on the information in the SAM and TAM surveys and interviews, I came to the following conclusions. First, the results of this study confirm that SAM and TAM teachers have the same challenges: meeting the instructional and behavioral

needs of students, and dealing with larger class sizes. However, each model has its own barriers. SAM teachers struggle to find the balance between providing explicit and individualized instruction to students with disabilities and doing so for their nondisabled peers. They also need additional support to manage classroom behavior and progress monitoring. Therefore, there is a need for ongoing professional development for SAM teachers on how to manage their workload and design classroom instruction that is seamless, going from differentiation to direct instruction. In contrast, TAM teachers indicated communication issues, coteaching models, and lack of professional development as barriers, and they identified a need for ongoing professional development for TAM teachers on communication and the six coteaching models, so that teachers can move beyond *one teach, one assist*. For these reasons, it is essential that I use my role as a field instructor to change the types of professional development that EDUC 750 teacher candidates receive in seminar to address the identified barriers of SAM and TAM. Further, I must make changes to the mentoring I provide during the field instruction that occurs off-campus in their SAM or TAM special education placement.

Second, both models have their advantages, but they are dependent on the supports that are in place. If school administrators consider the identified facilitators — classroom composition, caseload size, certification (i.e., through an approved program), and ongoing professional development — SAM teachers can manage the workload and effectively deliver specialized services to students with disabilities with a range of needs. However, if those facilitators are not considered, SAM teachers can

face an inequitable workload and teacher burn-out. The same is true for TAM. For TAM to be regarded as an effective service delivery model, school administrators must consider how to build their master schedules around special education services, including coplanning time, and how to offer ongoing, professional development on coteaching models, inclusion, and collaboration for specific groups, purposes, and roles (Murawski and Bernhardt, 2016). Therefore, it is also essential that teacher candidates receive professional development on the advantages and facilitators of both models so that they can identify and advocate for the supports they need (e.g., smaller class sizes, coplanning time, and ongoing professional development) to become successful special education teachers.

SAM and TAM Teacher Survey

Section 1: Descriptive Statistics (All Respondents)

Q1. What is your education level?

- ○ Bachelor's degree
- ○ Master's degree
- ○ Doctorate

Q2. What grade level do you teach?

- ○ K–2
- ○ 3–5
- ○ Other _____

Q3. What certifications do you have? Please check all that apply.

- ☐ Elementary Teacher (K–6)
- ☐ Exceptional Children, Special Education Teacher (K–12)
- ☐ Other _____

Q4. How did you acquire your teaching certification? Please check all that apply.

Approved Program: Earned certification by completing student teaching and holds a degree in education from a college or university

Praxis: Earned certification by taking an exam (no prior coursework in certification area)

Alternative Routes: Did not earn a degree in education; Earned certification

Additional Coursework: Courses in the new certification area

	Approved Program		Praxis		Alternative Routes		Additional Coursework	
	Yes	No	Yes	No	Yes	No	Yes	No
Elementary Teacher (K–6)	○	○	○	○	○	○	○	○
Exceptional Children, Special Education Teacher (K–12)	○	○	○	○	○	○	○	○
Other	○	○	○	○	○	○	○	○

Q5. How many years have you taught...

	Years	Single Approach to Mastery	Team Approach to Mastery
General Education			
Special Education			
Other			

Q6. In what school district do you work?

- ○ Appoquinimink
- ○ Brandywine
- ○ Caesar Rodney
- ○ Cape Henlopen
- ○ Capital
- ○ Christina
- ○ Colonial
- ○ Delmar
- ○ Indian River
- ○ Lake Forest
- ○ Laurel
- ○ Milford
- ○ Red Clay Consolidated School District
- ○ Seaford
- ○ Smyrna
- ○ Woodbridge

Q7. Use the following definitions to answer: How are special education services delivered to students in your school? Please check all that apply.

Itinerant: special education teacher consults and provides services

Push-in/Pull-out: special education teacher provides support in the general education setting or pulls special education students out of the general education classroom to provide services.

Single Approach to Mastery (SAM): the teacher is dually certified in special education and content area and provides special education services

Team Approach to Mastery (TAM) or co-teacher: two teachers, one general education teacher and one special education teacher, share responsibilities in the classroom.

- ☐ Itinerant
- ☐ Push-in/Pull-out
- ☐ Single Approach to Mastery
- ☐ Team Approach to Mastery
- ☐ Other _____

Q8. What is your teaching role?

- ○ Itinerant
- ○ Push-in/Pull-out
- ○ Single Approach to Mastery, Dually Certified in Elementary and Special Education
- ○ Team Approach to Mastery, General Education Teacher (i.e., co-teaching)
- ○ Team Approach to Mastery, Special Education Teacher (i.e., co-teaching)
- ○ Other _____

Section 2: Training, Support, and Evaluation (All Respondents)

Q9/18S/22T. Please rank the following service delivery models on their ability to provide instruction directly connected to the student's IEP goals and documented needs (1 most effective, 6 least effective).

_____ Itinerant
_____ Push-in/Pull-out
_____ Resource Room
_____ Single Approach to Mastery
_____ Team Approach to Mastery
_____ Other

Q10/19S/23T. What type(s) of training do you receive to help you be successful?

_____

_____

_____

_____

_____

Q11/20S/24T. How important is administrative support?

- ○ Extremely important
- ○ Very important
- ○ Moderately important
- ○ Slightly important
- ○ Not at all important

Q21/21S/25T. Administrators in my building...

	Strongly agree	Agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree
Have a strong background in special education	○	○	○	○	○
Understand the IEP process	○	○	○	○	○
Understand disabilities	○	○	○	○	○
Review progress monitoring data	○	○	○	○	○
Provide ongoing professional development	○	○	○	○	○
Consider special education caseload when assigning students to classrooms	○	○	○	○	○
Consider the impact of a student's disability when assigning students to classrooms	○	○	○	○	○

Q13/22S/26T.Delaware Performance Appraisal System II (DPAS II) effectively evaluates all aspects of my job description.

- ○ Strongly agree
- ○ Somewhat agree
- ○ Neither agree nor disagree
- ○ Somewhat disagree
- ○ Strongly disagree

Q14/Q23S/Q27T. What aspects of your job are not effectively evaluated?

_____

_____

_____

_____

_____

Q24S/Q28T. Would you be willing to participate in a follow-up interview? If yes, please provide contact information.

- ○ Yes _____
- ○ Maybe
- ○ No

Section 3: Single Approach to Mastery (Answer Dependent)

Q9S. Did you volunteer to be a single approach to mastery teacher?

- ○ Yes
- ○ No

Q10S. The support provided to students with disabilities in a single approach to mastery classroom is sufficient.

- ○ Strongly agree
- ○ Somewhat agree
- ○ Neither agree nor disagree
- ○ Somewhat disagree
- ○ Strongly disagree

Q11S. How often do the following impact student outcomes?

	Always	Most of the time	About half the time	Sometimes	Never
Class size	○	○	○	○	○
Instructional needs of students	○	○	○	○	○
Behavioral needs of students	○	○	○	○	○
Administrative support	○	○	○	○	○
Teacher experience	○	○	○	○	○
Teacher efficacy	○	○	○	○	○
Teacher beliefs on inclusion	○	○	○	○	○

Q12S. Explicit and individualized instruction occur on average how many times per week for students with disabilities?

- ○ Daily
- ○ 4–6 times a week
- ○ 2–3 times a week
- ○ Once a week
- ○ Never

Q13S. The majority of students with disabilities in a single approach to mastery class have their needs met.

- ○ Strongly agree
- ○ Somewhat agree
- ○ Neither agree nor disagree
- ○ Somewhat disagree
- ○ Strongly disagree

Q14S. Please rank the following teaching challenges, a rank of 1 being **most challenging** and 10 being **least challenging** as a single approach to mastery teacher.

_____ Class Size
_____ Instructional Needs of Students
_____ Behavior Needs of Students
_____ Administrative Support
_____ Teacher Experience
_____ Teacher Efficacy
_____ Teacher Beliefs on Inclusion
_____ Differentiation
_____ Explicit Instruction
_____ Other

Q15S. What kinds of supports do you receive as a single approach to mastery teacher? Please check all that apply.

- ☐ Professional Development
- ☐ Administrative Support
- ☐ Instructional Support
- ☐ Smaller Class Size
- ☐ Reduced Caseload
- ☐ Other _____

Q16S. How satisfied are you as a single approach to mastery teacher?

- ○ Extremely satisfied
- ○ Somewhat satisfied
- ○ Neither satisfied nor dissatisfied
- ○ Somewhat dissatisfied
- ○ Extremely dissatisfied

Q17S. Special education teachers are better trained than general education teachers to teach students with disabilities.

- ○ Strongly agree
- ○ Somewhat agree
- ○ Neither agree nor disagree
- ○ Somewhat disagree
- ○ Strongly disagree

Section 4: Team Approach to Mastery (Answer Dependent)

Q9T. Did you volunteer to be a team approach to mastery teacher (i.e., co-teacher)?

- ○ Yes
- ○ No

Q10T. The support provided to students with disabilities in a cotaught classroom is sufficient.

- ○ Strongly agree
- ○ Somewhat agree
- ○ Neither agree nor disagree
- ○ Somewhat disagree
- ○ Strongly disagree

Q11T. How important are the following for coteaching?

	Extremely important	Very important	Moderately important	Slightly important	Not at all important
Communication	○	○	○	○	○
Common Planning	○	○	○	○	○
Content Knowledge	○	○	○	○	○
Parity	○	○	○	○	○

Q12T. Are there other important things needed for successful coteaching?

_____

_____

_____

_____

_____

Q13T. Do you work with multiple co-teachers?

- ○ Yes
- ○ No

Q14T. How does having multiple co-teachers affect the following?

	A great deal	A lot	A moderate amount	A little	Not at all
Coplanning	○	○	○	○	○
Coteaching	○	○	○	○	○
Co-evaluating	○	○	○	○	○
Communication	○	○	○	○	○
Professional Relationship	○	○	○	○	○
Other	○	○	○	○	○

Q15T. Use the following definitions of coteaching models to answer: What coteaching models do you use in your classroom? Please check all that apply.

Station Teaching: Students are divided into three (or more) groups. Each teacher delivers part of the lesson at a station; independent work occurs in the third station. Students rotate through all stations, so both teachers work with every student in the class.

Parallel Teaching: Students are divided into two groups, and each teacher works with a group. Sometimes the teachers do identical work (such as test review), and sometimes they present instruction in two different ways (for example, using content at different reading levels or offering different ways to learn multiplication).

Alternative Teaching: Most students remain with one teacher while the other teacher instructs a small group for reteaching, enrichment, assessment, preteaching, or another purpose.

Teaming: Students remain in a single group, and the teachers co-instruct, integrating their contributions throughout the lesson.

One Teach, One Assist: Students remain in a single group; one teacher leads instruction as the other briefly interacts with students individually, answering their questions, reexplaining concepts, focusing attention, and so on.

One Teach, One Observe: One teacher leads instruction while the other gathers observational data on one student, a group of students, or the entire class.

- ☐ Station Teaching
- ☐ Parallel Teaching
- ☐ Alternative Teaching
- ☐ Teaming
- ☐ One teach, one assist
- ☐ One teach, one observe

Q16T. How often do the following impact student outcomes?

	Always	Most of the time	About half the time	Sometimes	Never
Class size	○	○	○	○	○
Instructional needs of students	○	○	○	○	○
Behavioral needs of students	○	○	○	○	○
Administrative support	○	○	○	○	○
Teacher experience	○	○	○	○	○
Teacher efficacy	○	○	○	○	○
Teacher Beliefs on Inclusion	○	○	○	○	○

Q17T. Explicit and individualized instruction occur on average how many times per week?

- ○ Daily
- ○ 4–6 times a week
- ○ 2–3 times a week
- ○ Once a week
- ○ Never

Q18T. Special education teachers are better trained than general education teachers to teach students with disabilities.

- ○ Strongly agree
- ○ Somewhat agree
- ○ Neither agree nor disagree
- ○ Somewhat disagree
- ○ Strongly disagree

Q19T. Please rank the following challenges, a rank of 1 being **most challenging** and 14 being **least challenging** as a team approach to mastery teacher.

_____ Class Size
_____ Instructional Needs of Students
_____ Behavior Needs of Students
_____ Administrative Support
_____ Teacher Experience
_____ Teacher Efficacy
_____ Teacher Beliefs on Inclusion
_____ Communication with Coteacher
_____ Common Planning
_____ Multiple Partners
_____ Compatibility
_____ Respect
_____ Shared Responsibility
_____ Other

Q20T. What kinds of supports do you receive as a team approach to mastery teacher? Please check all that apply.

☐ Professional Development

☐ Administrative Support

☐ Instructional Support

☐ Smaller Class Size

☐ Common Planning

☐ Other _____

Q21T. How satisfied are you with the team approach to mastery model?

- ○ Extremely satisfied
- ○ Somewhat satisfied
- ○ Neither satisfied nor dissatisfied
- ○ Somewhat dissatisfied
- ○ Extremely dissatisfied

Questionnaire for Teachers

1. How are service delivery models decided, planned, and implemented for your school ?
2. What type of professional development have you received to support your success as a SAM or TAM teacher?
3. Have you received adequate resources to support SAM or TAM in your classroom?
4. How would you describe how services are delivered to students with disabilities and others who struggle to learn academic skills?
5. What are the key factors that support inclusion and improved academic achievement outcomes in your school? Why does inclusion work?
6. What are the main barriers or impediments to a successful inclusive program?
7. How do you balance the use of resources and providing sufficient student support?
8. How is your principal involved in supporting SAM or TAM and improved student achievement?
9. How would you describe the sense of community that exists in your school?

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Appendix E

TEACHER EVALUATION ANALYSIS

Background

The National Council for Accreditation of Teacher Education has adopted the 2012 Council for Exceptional Children Special Education Professional Practice Standards (CEC Professional Standards) as the criteria for the preparation of special education teachers. As the 4+1 program coordinator and field instructor, it is my job to assess and mentor students (e.g., in the EDUC 750: Graduate Teaching Internship) using the CEC Professional Standards. Because the CEC Professional Standards are heavily embedded in and assessed throughout the special education teacher preparation program (i.e., 4+1), students are very familiar with the CEC Professional Standards.

However, once a 4+1 teacher candidate, henceforth referred to as *teacher candidate*. has completed the 4+1 program, they are no longer evaluated using those standards, and they need to be aware of the degree to which Delaware's teacher evaluation system aligns or misaligns with the professional standards guiding special education teachers. If the evaluation system proves to be misaligned and teacher candidates are unaware, they may unwittingly focus on things that undermine their success as special educators. Alternatively, if they focus solely on the professional standards, teacher candidates may eventually find themselves insufficiently rated on the evaluation system. Therefore, it is essential to identify any misalignment between the teacher evaluation rubric Delaware Performance Appraisal System II (DPAS II)

and the CEC Professional Standards. Once any misalignment is identified, it will be possible to improve the mentoring and professional development I provide to teacher candidates enrolled in EDUC 750 so that they can successfully transition from preservice to in-service teachers.

This appendix presents the methods and findings of this analysis, but first, the following section presents additional background on the two evaluation systems: DPAS II and the CEC Professional Standards.

Evaluations

According to Delaware's Department of Education website, DPAS II is designed to assure and support: (1) Educators' professional growth; (2) Continuous improvement of student outcomes; and (3) Quality educators in every school building and classroom. Delaware uses DPAS II for all educators; there are not separate evaluation methods for general and special education teachers.

In contrast, the CEC Professional Standards are the foundation for special education teacher preparation programs across the United States. These standards are used to evaluate and certify teachers in special education. The CEC Professional Standards consist of nine categories: (1) Teaching and Assessment; (2) Professional Credentials and Employment; (3) Professional Development; (4) Professional Colleagues; (5) Paraeducators; (6) Parent and Families; (7) Research; (8) Case Management; and (9) Non-Educational Support. While special education teacher preparation programs broadly adopt the CEC Professional Standards here in Delaware,

they are not formally adopted by the Delaware Department of Education for in-service teachers.

Introduction

Recent research has revealed a lack of formal measures to evaluate special education teachers in the United States. In response, Sara Woolf (2015) conducted a study using CEC Professional Standards to evaluate and measure special education teacher effectiveness in foundations, instructional design, learning environment, communication, instructional planning, assessment, ethics, and collaboration. She explored whether special education stakeholders perceived those skills that are included within nationally endorsed professional special education standards to be important to teacher effectiveness. According to Woolf's report, the measures were all deemed valid and appropriate. Woolf's questionnaire results yielded strong internal reliability for seven of the eight domains. Five of the seven domains (learning environment, instructional planning, assessment, ethics, and collaboration) demonstrated significant internal reliability ($\alpha = .92$, $\alpha = .92$, $\alpha = .91$, $\alpha = .94$, $\alpha = .95$). The internal reliability for instructional design was found to be reliable ($\alpha = .79$), and the communication domain was just below the level of significance ($\alpha = .67$). Given the reliable results of the skill scales and the fact that those results come from special education stakeholders, I made the following generalization: the CEC Professional Standards are a substantially reliable instrument to measure special education teacher effectiveness. Therefore, using the principles of Woolf's work, I evaluated the alignment between Delaware's Department of Education teacher evaluation rubric

DPAS II and the CEC Professional Standards. The purpose was to identify areas of misalignment that could cause teacher candidates to either (a) unwittingly focus on things that undermine their success as special educators (e.g., focus on the DPAS II items), or (b) focus on the professional standards that DPAS II does not recognize.

Method

In this analysis, I cross-referenced the four components of DPAS II that were designed to establish consistent educator and student performance expectations and outcomes across all schools with the nine categories of the CEC Professional Standards, which are used by teacher preparation programs to evaluate and certify teachers in special education. I then cross-referenced the DPAS II evaluation with CEC Professional Standards.

To gather additional evidence, I surveyed Delaware special education teachers to learn about their perceptions of Delaware's teacher evaluation rubric, DPAS II. To recruit teachers, I used purposive and snowball sampling to identify elementary school principals in Delaware. Once I identified principals, they received a recruitment email that asked them to share my survey with special education teachers in their building. Principals who elected to share the survey forwarded the electronic invitations. Survey data was collected using the online platform *Qualtrics*©. The survey itself asked participants to answer 25–30 respondent-dependent questions. The questions varied and included multiple choice, side-by-side, 5-point Likert scale, and open-ended text response. Two of the survey questions asked special education teachers their beliefs about the effectiveness of DPAS II, and those are the questions that are pertinent to the

current artifact. Table E1 shows how many participants from New Castle, Kent, and Sussex Counties in Delaware responded to the DPAS II survey questions.

Table E1. Number of Survey Participants by County in Delaware (Percentages in Parentheses)

	DPAS II effectively evaluates all aspects of my job description.	What aspects of your job are not effectively evaluated?
New Castle	35 (59.32)	22 (62.86)
Kent	15 (25.42)	9 (25.71)
Sussex	9 (15.25)	4 (11.42)
Total	59 (100.0)	35 (100.0)

Findings

My analysis of the Delaware Department of Education DPAS II Framework and the CEC Professional Standards found that of the 56 CEC Professional Standards, 11 standards (1.10, 1.11, 2.1, 2.2, 3.5, 4.5, 4.6, 5.5, 7.1, 7.3, and 7.4) would not be appropriate to or applicable for teacher evaluation (i.e., DPAS II). The remaining CEC Professional Standards, identified in Table E2, are all essential indicators to determine the success of a special education teacher. However, beyond the CEC Professional Standards captured in this table, there are an additional 12 CEC Professional Standards (3.2, 4.1, 4.2, 4.3, 4.4, 5.1, 5.2, 5.3, 5.4, 8.2, 9.1, and 9.2) for which I could find no direct link found with DPAS II. With only 33 (59%) of the CEC Professional Standards aligning with DPAS II in such a way that they can be evaluated, it is clear that there is insufficient alignment between the DPAS II and the CEC Professional Standards (see the end of this artifact for the full text of both of these documents).

Table E2. Comparison of DPAS II and CEC Professional Standards

DPAS II (August 2015)	**CEC Professional Standards** (October 2011)

Component 1: Planning and Preparation a) Selecting Instructional Goals b) Designing Coherent Instruction c) Demonstrating Knowledge of Content and Pedagogy d) Demonstrating Knowledge of Students e) Designing Student Assessments	1: Teaching and Assessment 2: Professional Credentials & Employment 4: Professional Colleagues 7: Research 8: Case Management
Component 2: The Classroom Environment a) Managing Classroom Procedures b) Managing Student Behavior c) Creating an Environment to Support Learning d) Organizing Physical Space	7: Research 8: Case Management
Component 3: Instruction a) Engaging Students in Learning b) Demonstrating Flexibility and Responsiveness c) Communicating Clearly and Accurately d) Using Questioning and Discussion Techniques e) Using Assessment in Instruction	1: Teaching and Assessment 7: Research 8: Case Management
Component 4: Professional Responsibilities a) Communicating with Family b) Recording Data in a Student Record System c) Growing and Developing Professionally d) Reflecting on Professional Practice	2: Professional Credentials & Employment 3: Professional Development 4: Professional Colleagues 5: Paraeducators 6: Parent & Families 7: Research 8: Case Management
Notes: The CEC Professional Standards are labeled 1–9, according to the following standards: 1: Teaching and Assessment; 2: Professional Credentials and Employment; 3: Professional Development; 4: Professional Colleagues; 5: Paraeducators; 6: Parent and Families; 7: Research; 8: Case Management; 9: Non-Educational Support	

Through this analysis, I was alarmed to discover that special education teachers are currently not evaluated on the following critical standards:

- 3.2: Maintain current knowledge of procedures, policies, and laws relevant to practice;
- 4.3: Collaborate with both general and special education professional colleagues as well as other personnel serving individuals with exceptionalities to improve outcomes for individuals with exceptionalities; and
- 8.2: Follow appropriate procedural safeguards, for example, prior written notice, which is a parent's right to receive written information about the public agency's (i.e., schools) actions concerning their child's early intervention or special education services), and assist the school in providing due process.

Additionally, this analysis discovered two CEC Professional Standards — 5 (Paraeducators) and 9 (Non-Educational Support) — that did not easily fall into one of the four components of DPAS II. This discovery led me to the following questions: Why are these two standards (e.g., 5.1, 5.2, 5.3, 5.4, 9.1, and 9.2) not clearly assessed in special education teacher evaluations, when they are required to direct, work, and collaborate with paraeducators and non-educational support? What are the significant implications of not evaluating special education teachers on the three critical CEC Professional Standards of 3.2, 4.3, and 8.2?

These questions led me to examine the survey results to determine the degree to which special education teachers believe DPAS II to be effective at evaluating their job responsibilities (see Table E3).

Table E3. Teacher Views on the Effectiveness of DPAS II (Percentages in Parentheses)

Code	Label	DPAS II is effective
1	Strongly Agree	4 (6.78)
2	Somewhat Agree	14 (23.73)
3	Neither Agree Nor Disagree	14 (23.73)
4	Somewhat Disagree	15 (25.25)
5	Strongly Disagree	12 (20.33)
Total		59 (100.0)

Notes: Beliefs are coded on a 1–5 scale, with 1 being equal to strongly agree, and 5 being equal to strongly disagree.

Of the responses, 18 (30.51%) special education teachers either strongly agreed or somewhat agreed that DPAS II effectively evaluates all aspects of their job description. Fourteen (23.73%) respondents neither agreed nor disagreed, and 27 (45.76%) either somewhat disagreed or strongly disagreed. Therefore, the majority of respondents think that DPAS II does not effectively evaluate all aspects of their job description.

The second question in the survey was open ended and allowed respondents to explain further what aspects of their job are not effectively evaluated. Of the 59 respondents, 35 (58.33%) responded to the open-ended question. Here are some examples of their responses:

> Case management, writing IEPs, and communication with parents, assessment of students on IEP goals, not just standards [CEC 4.3, 8.2].

> The amount/degree of planning that goes into adapting and modifying materials for my students. The training I need to seek out on my own in order to ensure I am successful. The growth my students make may not necessarily look the same as a general education student, but I am being measured the same way [CEC 3.2, 4.3].

> I am evaluated on both special education and general education students for a classroom that I am only in for 3 hours a day. IEP writing and compliance is not taken into effect [CEC 3.2, 8.2].
>
> I feel like a huge part of my job pertains to writing, implementing IEPs. There is no discussion of this when I am evaluated, and I feel like IEP writing is one of my strengths [CEC 8.2].
> Behind the scenes paperwork, and collaboration with teachers/agencies/families [CEC 3.2, 4.3, Standards 5 and 9].
>
> Admin unsure of exact goals for my role [CEC 3.2].
>
> Student growth because sometimes I feel the students are making growth, but it's not what is expected, and then those students don't get recognized or rewarded because they didn't hit a magic number [CEC 3.2, 4.3].
>
> I feel that many of the "Highly Effective" criteria do not take into account the amount of direct and repeated instruction many special education students require. When providing instruction using methods determined to be most effective for a specific group of students, I may not be able to meet the "highly effective" criteria as a teacher. I do not feel that this provides a true reflection of my students' growth and abilities.
>
> The requirements for professional responsibilities, in particular, 4b, as a special educator. I feel DPAS II is too vague. There should be one for gen ed. and a different one for spec ed. The legal ramifications are greater in spec ed. than gen ed. [CEC 3.2].

Based on the open-ended text responses, I can infer that special education teachers are frustrated because the current evaluation system does not evaluate the critical aspects of their job description. This inference is consistent with my results from cross-referencing DPAS II with CEC Professional Standards.

Discussion

The results of this study demonstrate problematic areas of misalignment between the DPAS II and the CEC Professional Standards. This misalignment may

have consequences for students with disabilities because it may result in special education teachers leaving the profession if they perceive themselves to be unfairly evaluated (Curran, 2017). One special education teacher reported,

> Since my time is split between being in general education classrooms to support non-certified SE teachers and taking small groups for reading and math, I am being evaluated on a class of students that I don't see all day long. This is unfair to me to be evaluated on their reading growth if I am not in the classroom with them during all of time allotted for reading instruction. If the state requires a cohort of 10 or more students, but my groups are capped at 6 students, I am forced to use the class data for my evaluations instead of a more accurate group of students that I work with daily.

Additionally, the results of the present study confirm Woolf's (2015) premise that there is insufficient research focused on special education evaluation and the potential of using professional skills to evaluation special education teacher effectiveness.

These results have implications for professional development and teacher evaluation. First, there is a need for more training for teachers regarding where CEC Professional Standards and DPAS II do and do not align. For example, some areas where I made connections between DPAS II and the CEC Professional Standards (e.g., case management), were not seen by survey respondents as connecting to DPAS II. Second, the results suggest that there may be a need for a new teacher evaluation rubric that accounts for the specific responsibilities of a special education teacher that are not effectively evaluated by DPAS II. Indeed, the results of this study imply that:

5. DPAS II Framework does not evaluate special education teachers on all critical CEC Professional Standards.

6. DPAS II evaluation system needs to evaluate teachers based on their essential duties and responsibilities.
7. By not assessing special education teachers' essential responsibilities (e.g., case management and collaboration), administrators cannot accurately assess special education teachers.
8. Therefore, special education teachers may find themselves insufficiently rated on the evaluation system. Even if they rate highly, that rating may not sufficiently reflect key aspects of their job performance.

Implications for My Improvement Goal

The results of this analysis will inform the professional development I provide to teacher candidates in EDUC 750 on the current evaluation system. Likewise, the results will also change the way I mentor teacher candidates. Making changes to the professional development and mentoring I provide will result in teacher candidates being able to identify where the teacher evaluation system aligns or misaligns with the professional standards guiding special education teachers and to avoid unwittingly focusing on things that undermine their success as special educators as they transition from preservice to in-service teachers.

Additional steps, from here, would include sharing the results and recommendations of this analysis with stakeholders (e.g., Delaware Department of Education). The first recommendation would include expanding DPAS II to incorporate the critically identified missing CEC Professional Standards (i.e., 3.2, 4.3, 8.2, and standards 5 and 9), and to eliminate areas in the evaluation that may not be

applicable given the nature of each special education position. My second recommendation would be to add a fifth component, one with a discipline-specific criterion, to DPAS II. This step would allow administrators to adequately assess the level of performance (highly effective, effective, needs improvement, and ineffective) for special education teachers.

Providing teachers and administrators with professional development on understanding and acknowledging each other's differences and perspectives could help reshape how special education is valued and perceived. Indeed, consider Block's work (as cited in Schiro, 2013):

> If educators can acknowledge and clarify the conflicts and tensions that exist among colleagues who hold different beliefs about education and who use words in different ways to express their beliefs, there arises the potential to enable those colleagues to understand better and appreciate their differences and to work together more constructively. (pp. 523–527)

Lastly, the CEC Professional Standards should be a consideration when determining how effective a special education teacher is. Therefore, a specialized evaluation system needs to be put in place to evaluate a special education teacher properly. Additionally, I plan to expand the teacher evaluation analysis to neighboring states (i.e., Maryland, New Jersey, and Pennsylvania) to see if there is something Delaware can learn from those states.

Council for Exceptional Children
Special Education Professional Practice Standards[1]

1.0 Teaching and Assessment

Special Education Professionals:

1.1. Systematically individualize instructional variables to maximize the learning outcomes of individuals with exceptionalities

1.2. Identify and use evidence-based practices that are appropriate to their professional preparation and are most effective in meeting the individual needs of individuals with exceptionalities.

1.3. Use periodic assessments to accurately measure the learning progress of individuals with exceptionalities, and individualize instruction variables in response to assessment results.

14. Create safe, effective, and culturally responsive learning environments which contribute to fulfillment of needs, stimulation of learning, and realization of positive self-concepts.

1.5. Participate in the selection and use of effective and culturally responsive instructional materials, equipment, supplies, and other resources appropriate to their professional roles.

1.6. Use culturally and linguistically appropriate assessment procedures that accurately measure what is intended to be measured, and do not discriminate against individuals with exceptional or culturally diverse learning needs.

1.7. Only use behavior change practices that are evidence-based, appropriate to their preparation, and which respect the culture, dignity, and basic human rights of individuals with exceptionalities

1.8. Support the use of positive behavior supports and conform to local policies relating to the application of disciplinary methods and behavior change procedures, except when the policies require their participation in corporal punishment.

1.9. Refrain from using aversive techniques unless the target of the behavior change is vital, repeated trials of more positive and less restrictive methods have failed, and only after appropriate consultation with parents and appropriate agency officials.

1.10. Do not engage in the corporal punishment of individuals with exceptionalities.

1.11. Report instances of unprofessional or unethical practice to the appropriate supervisor.

1.12. Recommend special education services necessary for an individual with an exceptional learning need to receive an appropriate education.

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1 Approved October 2011

2 Throughout this document wherever "culture" and its derivatives are used to mean the sum of a group's socially transmitted behavior patterns, thoughts and experiences, and its perceptions, values, and assumptions about living that influence behavior and how those emerge with interactions and communications with other cultures.

2.0 Professional Credentials and Employment

Special Education Professionals:

2.1. Represent themselves in an accurate, ethical, and legal manner with regard to their own knowledge and expertise when seeking employment.

2.2. Ensure that persons who practice or represent themselves as special education teachers, administrators, and providers of related services are qualified by professional credential.

2.3. Practice within their professional knowledge and skills and seek appropriate external support and consultation whenever needed.

2.4. Provide notice consistent with local education agency policies and contracts when intending to leave employment.

2.5. Adhere to the contracts and terms of appointment, or provide the appropriate supervisor notice of professionally untenable conditions and intent to terminate such employment, if necessary.

2.6. Advocate for appropriate and supportive teaching and learning conditions

2.7. Advocate for sufficient personnel resources so that unavailability of substitute teachers or support personnel, including paraeducators, does not result in the denial of special education services.

2.8. Seek professional assistance in instances where personal problems interfere with job performance.

2.9. Ensure that public statements made by professionals as individuals are not construed to represent official policy statements of an agency.

2.10. Objectively document and report inadequacies in resources to their supervisors and/or administrators and suggest appropriate corrective action(s).

2.11. Respond objectively and non-discriminatively when evaluating applicants for employment including grievance procedures.

2.12. Resolve professional problems within the workplace using established procedures.

2.13. Seek clear written communication of their duties and responsibilities, including those that are prescribed as conditions of employment.

2.14. Expect that responsibilities will be communicated to and respected by colleagues, and work to ensure this understanding and respect

2.15. Promote educational quality and actively participate in the planning, policy development, management, and evaluation of special education programs and the general education program.

2.16. Expect adequate supervision of and support for special education professionals and programs provided by qualified special education professionals.

2.17. Expect clear lines of responsibility and accountability in the administration and supervision of special education professionals

3.0 Professional Development

Special Education Professionals:

3.1. Maintain a personalized professional development plan designed to advance their knowledge and skills, including cultural competence, systematically in order to maintain a high level of competence.

3.2. Maintain current knowledge of procedures, policies, and laws relevant to practice.

3.3. Engage in the objective and systematic evaluation of themselves, colleagues, services, and programs for the purpose of continuous improvement of professional performance.

3.4. Advocate that the employing agency provide adequate resources for effective school-wide professional development as well as individual professional development plans.

3.5. Participate in systematic supervised field experiences for candidates in preparation programs.

3.6. Participate as mentors to other special educators, as appropriate.

4.0 Professional Colleagues

Special Education Professionals:

4.1. Recognize and respect the skill and expertise of professional colleagues from other disciplines as well as from colleagues in their own disciplines.

4.2. Strive to develop positive and respectful attitudes among professional colleagues and the public toward persons with exceptional learning needs.

4.3. Collaborate with colleagues from other agencies to improve services and outcomes for individuals with exceptionalities.

4.4. Collaborate with both general and special education professional colleagues as well as other personnel serving individuals with exceptionalities to improve outcomes for individuals with exceptionalities.

4.5. Intervene professionally when a colleague's behavior is illegal, unethical, or detrimental to individuals with exceptionalities

4.6. Do not engage in conflicts of interest.

5.0 Paraeducators

Special Education Professionals:

5.1. Assure that special education paraeducators have appropriate training for the tasks they are assigned.

5.2. Assign only tasks for which paraeducators have been appropriately prepared.

5.3. Provide ongoing information to paraeducators regarding their performance of assigned tasks.

5.4. Provide timely, supportive, and collegial communications to paraeducators regarding tasks and expectations

5.5. Intervene professionally when a paraeducator's behavior is illegal, unethical, or detrimental to individuals with exceptionalities

6.0 Parent & Families

Special Education Professionals:

6.1. Use culturally appropriate communication with parents and families that is respectful and accurately understood.

6.2. Actively seek and use the knowledge of parents and individuals with exceptionalities when planning, conducting, and evaluating special education services and empower them as partners in the educational process.

6.3. Maintain communications among parents and professionals with appropriate respect for privacy, confidentiality, and cultural diversity.

6.4. Promote opportunities for parent education using accurate, culturally appropriate information and professional methods.

6.5. Inform parents of relevant educational rights and safeguards.

6.6. Recognize and practice in ways that demonstrate respect for the cultural diversity within the school and community.

6.7. Respect professional relationships with students and parents, neither seeking any personal advantage, nor engaging in inappropriate relationships.

7.0 Research

Special Education Professionals:

7.1. Do not knowingly use research in ways that mislead others.

7.2. Actively support and engage in research intended to improve the learning outcomes of persons with exceptional learning needs.

7.3. Protect the rights and welfare of participants in research.

7.4. Interpret and publish research results with accuracy.

7.5. Monitor unintended consequences of research projects involving individuals with exceptionalities, and discontinue activities which may cause harm in excess of approved levels.

7.6. Advocate for sufficient resources to support long term research agendas to improve the practice of special education and the learning outcomes of individuals with exceptionalities

8.0 Case Management

Special Education Professionals:

8.1. Maintain accurate student records and assure that appropriate confidentiality standards are in place and enforced.

8.2. Follow appropriate procedural safeguards and assist the school in providing due process.

8.3. Provide accurate student and program data to administrators, colleagues, and parents, based on efficient and objective record keeping practices.

8.4. Maintain confidentiality of information except when information is released under specific conditions of written consent that meet confidentiality requirements.

8.5. Engage in appropriate planning for the transition sequences of individuals with exceptionalities

9.0 Non-Educational Support

Special Education Professionals:

9.1. Perform assigned specific non-educational support tasks, such as administering medication, only in accordance with local policies and when written instructions are on file, legal/policy information is provided, and the professional liability for assuming the task is disclosed.

9.2. Advocate that special education professionals not be expected to accept non-educational support tasks routinely.

II. DPAS II and the Delaware Framework for Teachers

Component 1: Planning and Preparation

CRITERION	LEVEL OF PERFORMANCE			
	INEFFECTIVE	NEEDS IMPROVEMENT	EFFECTIVE	HIGHLY EFFECTIVE
1a: Selecting Instructional Goals	Teacher's goals represent trivial learning, are unsuitable for students, or are stated only as instructional activities, and they do not permit viable methods of assessment.	Teacher's goals are of moderate value or suitability for students in the class consisting of a combination of goals and activities, some of which permit viable methods of assessment.	Teacher's goals represent valuable learning and are suitable for most students in the class; they reflect opportunities for integration and permit viable methods of assessment.	Teacher's goals reflect high-level learning relating to curriculum frameworks and standards; they are adapted, where necessary, to the needs of individual students and permit viable methods of assessment.
1b: Designing Coherent Instruction	The various elements of the instructional design do not support the stated instructional goals or engage students in meaningful learning and the lesson or unit has no defined structure.	Some of the elements of the instructional design support the stated instructional goals and engage students in meaningful learning, while others do not. Teacher's lesson or unit has a recognizable structure.	Most of the elements of the instructional design support the stated instructional goals and engage students in meaningful learning and the lesson or unit has a clearly defined structure.	All of the elements of the instructional design support the stated instructional goals, engage students in meaningful learning, and show evidence of student input. Teacher's lesson or unit is highly coherent and has a clear structure.
1c: Demonstrating Knowledge of Content and Pedagogy	Teacher displays little understanding of the subject, or structure of the discipline, or of content-related pedagogy.	Teacher's content and pedagogical knowledge represents basic understanding but does not extend to connections with other disciplines or to possible student misconceptions.	Teacher demonstrates solid understanding of the content and its prerequisite relationships and connections with other disciplines. Teacher's instructional practices reflect current pedagogical knowledge.	Teacher's knowledge of the content and pedagogy is extensive, showing evidence of a continuing search for improved practice. Teacher actively builds on knowledge of prerequisites and misconceptions when describing instruction or seeking causes for student misunderstanding.
1d: Demonstrating Knowledge of Students	Teacher makes little or no attempt to acquire knowledge of students' backgrounds, skills, or interests and does not use such information in planning.	Teacher demonstrates partial knowledge of students' backgrounds, skills, and interests and attempts to use this knowledge in planning for the class as a whole.	Teacher demonstrates thorough knowledge of students' backgrounds, skills, and interests and uses this knowledge to plan for groups of students.	Teacher demonstrates thorough knowledge of students' backgrounds, skills, and interests and uses this knowledge to plan for individual student learning.
1e: Designing Student Assessments	Teacher's plan for assessing student learning contains no clear criteria or standards, is poorly aligned with the instructional outcomes, or is inappropriate to many students. The results of assessment have minimal impact on the design of future instruction.	Teacher's plan for student assessment is partially aligned with the instructional outcomes, without clear criteria, and inappropriate for at least some students. Teacher intends to use assessment results to plan for future instruction for the class as a whole.	Teacher's plan for student assessment is aligned with the instructional outcomes, uses clear criteria, and is appropriate to the needs of the students. Teacher intends to use assessment results to plan for future instruction for groups of students.	Teacher's plan for student assessment is fully aligned with the instructional outcomes and uses clear criteria and standards that show evidence of student contribution to their development. Assessment methodologies may have been adapted for individuals, and the teacher intends to use assessment results to plan future instruction for individual students.

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Component 2: The Classroom Environment

CRITERION	LEVEL OF PERFORMANCE			
	INEFFECTIVE	NEEDS IMPROVEMENT	EFFECTIVE	HIGHLY EFFECTIVE
2a: Managing Classroom Procedures	Classroom routines and procedures are either nonexistent or inefficient, resulting in the loss of much instruction time.	Classroom routines and procedures have been established but function unevenly or inconsistently with some loss of instruction time.	Classroom routines and procedures have been established and function smoothly for the most part, with little loss of instruction time.	Classroom routines and procedures are seamless in their operation, and students assume considerable responsibility for their smooth functioning.
2b: Managing Student Behavior	Student behavior is poor, with no clear expectations, no monitoring of student behavior, and inappropriate responses to student misbehavior.	Teacher makes an effort to establish standards of conduct for students, monitor student behavior, and respond to student misbehavior, but these efforts are not always successful.	Teacher is aware of student behavior, has established clear standards of conduct, and responds to student misbehavior in ways that are appropriate and respectful of the students.	Student behavior is entirely appropriate, with evidence of student participation in setting expectations and monitoring behavior. Teacher's monitoring of student behavior is subtle and preventive, and teacher's response to student misbehavior is sensitive to individual student needs.
2c: Creating an Environment to Support Learning	The classroom does not represent a culture for learning and is characterized by low teacher commitment to the subject, low expectations for student achievement, and little student pride in work.	The classroom environment reflects only a minimal culture for learning, with only modest or inconsistent expectations for student achievement, little teacher commitment to the subject, and little student pride in work. Both teacher and students are performing at the minimal level to "get by."	The classroom environment represents a genuine culture for learning, with commitment to the subject on the part of the teacher and students, high expectations for student achievement, and student pride in work.	Students assume much of the responsibility for establishing a culture for learning in the classroom by taking pride in their work, initiating improvements to their products, and holding the work to the highest standard. Teacher demonstrates a passionate commitment to the subject.
2d: Organizing Physical Space	Teacher makes poor use of the physical environment, resulting in unsafe or inaccessible conditions for some students or a serious mismatch between the furniture arrangement and the lesson activities.	Teacher's classroom is safe and essential learning is accessible to all students, but the furniture arrangement only partially supports the learning activities.	Teacher's classroom is safe and learning is accessible to all students; teacher uses physical resources well and ensures that the arrangement of furniture supports the learning activities.	Teacher's classroom is safe and students contribute to ensuring that the physical environment supports the learning of all students.

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Component 3: Instruction

CRITERION	LEVEL OF PERFORMANCE			
	INEFFECTIVE	NEEDS IMPROVEMENT	EFFECTIVE	HIGHLY EFFECTIVE
3a: Engaging Students in Learning	Students are not at all intellectually engaged in significant learning as a result of inappropriate activities or materials, poor representations of content, or lack of lesson structure.	Students are intellectually engaged only partially, resulting from activities or materials of uneven quality, inconsistent representations of content, or uneven structure or pacing.	Students are intellectually engaged throughout the lesson with appropriate activities and materials, instructive representations of content and suitable structure, and pacing of the lesson.	Students are highly engaged throughout the lesson and make material contributions to the representation of content, the activities, and the materials. The structure and pacing of the lesson allow for student reflection and closure.
3b: Demonstrating Flexibility and Responsiveness	Teacher adheres to the instruction plan in spite of evidence of poor student understanding or of students' lack of interest and fails to respond to students' questions; teacher assumes no responsibility for students' failure to understand.	Teacher demonstrates moderate flexibility and responsiveness to students' needs and interests during a lesson and seeks to ensure the success of all students.	Teacher seeks ways to ensure successful learning for all students, making adjustments as needed to instruction plans and responding to student interests and questions.	Teacher is highly responsive to students' interests and questions, making major lesson adjustments if necessary, and persists in ensuring the success of all students.
3c: Communicating Clearly and Accurately	Teacher's oral and written communication contains errors or is unclear or inappropriate to students.	Teacher's oral and written communication contains no errors but may not be completely appropriate or may require further explanations to avoid confusion.	Teacher communicates clearly and accurately to students, both orally and in writing.	Teacher's oral and written communication is clear and expressive, anticipating possible student misconceptions.
3d: Using Questioning and Discussion Techniques	Teacher makes poor use of questioning and discussion techniques with low-level questions, limited student participation, and little true discussion.	Teacher's use of questioning and discussion techniques is uneven with some high-level questions, attempts at true discussion, and moderate student participation.	Teacher's use of questioning and discussion techniques reflects high-level questions, true discussion, and full participation by most students.	Students formulate many of the high-level questions and assume responsibility for the participation of all students in the discussion. Teacher employs cognitive coaching in questioning.
3e: Using Assessment in Instruction	Assessment is used for the purpose of grading rather than informing instruction. Students are not aware of the assessment criteria; the teacher does not monitor progress of students, nor provide feedback to them. Students are not engaged in self-assessment.	Assessment is occasionally used to support instruction through some monitoring of progress of learning by teacher and/or students. Feedback to students is uneven, and students are aware of only some of the assessment criteria used to evaluate their work. Assessment is primarily summative, although formative and informal assessments are used occasionally.	Assessment is regularly used during instruction through monitoring of progress of learning by teacher and/or students and through high quality feedback to students. Occasional formative assessment is used and students are aware of most summative assessment criteria.	Assessment is used in a sophisticated manner in instruction through student involvement in establishing the assessment criteria, self-assessment by students and monitoring of progress by both students and teachers, and high quality feedback to students from a variety of sources. Formative assessment is used regularly and students are aware of summative assessment criteria.

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Component 4: Professional Responsibilities

CRITERION	LEVEL OF PERFORMANCE			
	INEFFECTIVE	NEEDS IMPROVEMENT	EFFECTIVE	HIGHLY EFFECTIVE
4a: Communicating with Family	The teacher provides little or no information to families and makes no effort to engage families in the instructional program.	The teacher complies with school procedures/policies for providing information to families and makes an effort to engage families in the instructional program.	The teacher communicates frequently with families and successfully engages families in the instructional program.	The teacher communicates frequently with families; communication is sensitive to families' cultures and values. The teacher successfully engages families in the instructional program. Students participate in communication with families.
4b: Recording Data in a Student Record System	The teacher does not maintain and record accurate data which results in errors and confusion.	The teacher maintains accurate data, but the teacher officially records data in a rudimentary and ineffective manner.	The teacher maintains and records accurate data in an efficient and effective manner.	The teacher maintains and records accurate data in an efficient and effective manner. Data are always recorded in a timely manner and readily accessible for those who have permission to access them.
4c: Growing and Developing Professionally	The teacher does not participate in professional development activities even when such activities are clearly needed for the development of teaching skills.	The teacher has limited participation or involvement in professional development activities.	The teacher actively participates in professional development activities and contributes to the profession.	The teacher makes a substantial contribution to the profession through activities such as action research and mentoring new teachers and actively pursues professional development.
4d: Reflecting on Professional Practice	The teacher does not accurately reflect on the lesson or propose ideas on how the lesson could be improved.	The teacher's reflection on the lesson is generally accurate and the teacher makes global suggestions about how the lesson may be improved.	The teacher's reflection on the lesson is accurate, citing general characteristics of the lesson, and the teacher provides specific suggestions about how the lesson may be improved.	The teacher's reflections on the lesson are accurate and perceptive, citing specific examples within the lesson and specific suggestions for improvement. The teacher draws on an extensive repertoire to support suggestions for alternative strategies.

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Appendix F

PROFESSIONAL DEVELOPMENT PLAN AND PROGRAM EVALUATION MATRIX

I work at the University of Delaware, where I supervise and mentor special education majors throughout their graduate internship. I also coordinate the Masters (MEd) in Exceptional Children and Youth 4+1 program, in which undergraduate education majors at the University of Delaware (UD) can earn their bachelor's and master's degrees in five years.

The graduate internship requires special education teacher candidates, henceforth *teacher candidates* enrolled in EDUC 750 to complete 16 hours each week in a special education classroom. There they are required to plan and adapt lessons for individual students, support instruction led by the clinical educator, lead instruction as planned with the clinical educator, provide individual and small-group tutoring/lessons, collaborate with related services, participate in individualized education program (IEP) meetings, progress monitor, and engage in parent communication led by the clinical educator. Additionally, teacher candidates are required to attend seminars that I plan based on topics I select to provide them with insights into the teaching profession, and research-based, quality educational experiences. Past seminars have included: Standards-based IEPs, Grade Band Extensions, Transitions, edTPA, and Lesson Planning.

Rationale for Professional Development (PD) Plan

Currently, students with disabilities coded as least restrictive environment (LRE) A, which means they spend 80% or greater time in the general education classroom, can receive special education services in either a single approach to mastery (SAM) or team approach to mastery (TAM) classroom. The first model, SAM, developed in Delaware, uses a single teacher who takes on the roles of both general education and special education teacher. This teacher is dual certified in content and special education (Kent & Giles, 2016) and should not be confused with general education teachers in an inclusion setting, where they teach students with disabilities in the same classes as their nondisabled peers. General education teachers do not have the experiences or certifications needed to provide specialized services to students with disabilities. The second model, TAM (i.e., coteaching), is an organizational approach where one general education teacher "with expertise in understanding, structuring, and pacing of the curriculum; and one special education teacher, an expert in identifying students' unique learning needs and adapting the curriculum and instruction accordingly" (Cothren-Cook, McDuffie-Landrum, Oshita, & Cook, 2017, p. 233) share responsibilities in the classroom.

These SAM and TAM classrooms are where many teacher candidates fulfill their graduate internship requirements and practice their skills from their teacher preparation program (i.e., 4+1) to demonstrate the competencies needed to become an effective special education teacher. Furthermore, given the presence of the two service delivery models for LRE A, and a limited number of highly qualified clinical educators, not all teacher candidates get to experience both models. Therefore, teacher

candidates must learn about the barriers and facilitators of both models through professional development. For example, if teacher candidates only experience a SAM classroom, they are fulling their EDUC 750 requirements by teaching and designing lessons as a single teacher to both students with disabilities and their nondisabled peers, which requires a different skillset than garnered by teacher candidates who are in TAM classrooms, where there is additional adult support. However, because teacher candidates in SAM classrooms may not have additional adult support, they can face difficulty in becoming proficient in adapting the curriculum and instruction for students with disabilities (Cothren-Cook et al., 2017; Texas Education Agency, n.d., 2011) and in progress monitoring, two critical components for teacher candidates who want to become effective special education teachers. Lastly, due to the design of a SAM classroom, teacher candidates in this environment are not provided the same opportunities as their TAM counterparts to learn how to work with multiple individuals, establish parity in the classroom, and practice the six coteaching models.

Similarly, if teacher candidates only experience a TAM classroom, they are fulling their EDUC 750 requirements in classrooms where they can focus on adapting the curriculum and instruction for students with disabilities and experience planning with a general education teacher. However, they do not have opportunities to practice teaching and designing lessons as a single teacher, which is concerning because many school districts in Delaware are moving toward a SAM service delivery model. Therefore, not only do teacher candidates in TAM classrooms not have the same opportunities as teacher candidates in SAM classrooms, but they may also have to

overcome additional barriers than their SAM counterparts. For example, teacher candidates in TAM classrooms are learning to work with multiple individuals, learning how to establish parity in the classroom, and getting opportunities to practice the six coteaching models. All three of these activities can be facilitators to coteaching, but these same facilitators can also serve as barriers to coteaching, according to the literature review and the two mixed-methods studies that I conducted. The literature review suggests that TAM classrooms, through their reliance on working with multiple individuals, lack of common planning time and parity, and frequent use of the one-teach, one-assist coteaching model, can impede a teacher candidate's ability to become proficient in adapting the curriculum and instruction for students with disabilities (Conderman & Hedin, 2015, 2017; Isherwood, Barger-Anderson, & Erickson, 2012; Scruggs, Mastropieri, & McDuffie, 2007).

Finally, without enough exposure to both SAM and TAM settings, teacher candidates may not be adequately prepared to take on the challenges that come with each model of service delivery due to lack of preparation, which could lead to burnout and attrition (Billingsley, Crockett, & Kamman, 2014; Boe, 2014), affecting Delaware's ability to retain special education teachers. Furthermore, although the focus of this professional development plan is on SAM and TAM, it is also essential that teacher candidates can recognize how the skills and knowledge they must possess to be successful in SAM or TAM applies to all special education teachers regardless of the service delivery model used. Therefore, as I provide teacher candidates with professional development on SAM and TAM, I will facilitate in-class discussions that

require teacher candidates to think about the why and how the specific barriers and facilitators of SAM and TAM would affect all special education teachers. In conclusion, this professional development plan for UD teacher candidates enrolled in EDUC 750 with me as their instructor addresses the barriers and facilitators of SAM and TAM, as identified through the research I conducted in Artifacts 1, 2, and 3 (i.e., Appendices 2, 3, and 4 in this portfolio). The professional development plan also draws students' attention to the broad set of skills they need as special educators and the specific skillset they must apply in SAM or TAM.

Determining Topics to Include in the PD Plan

To accomplish my goal of adding a professional development series on the two LRE A models used in Delaware, I first learned about the barriers and facilitators of SAM and TAM. To begin, I started with a literature review on TAM (i.e., coteaching; Artifact 1/Appendix 2) because coteaching is an undergraduate student teaching requirement at UD, where undergraduate teacher candidates coplan, co-instruct, and co-assess with their clinical educators using the six approaches to coteaching: station teaching; parallel teaching; alternative teaching; teaming; one teach, one assist; and one teach, one observe (Friend, 2016). However, even with this requirement, UD undergraduate teacher candidates have limited exposure to coteaching and the six coteaching approaches. Additionally, not all universities have adopted coteaching as a requirement during student teaching, resulting in a workforce (e.g., special education and general education teachers) with varying degrees of experience and understanding of coteaching and cotaught instruction. Therefore, I conducted a literature review to

answer the research question: What are the facilitators and barriers of effective coteaching in elementary schools?

Upon completing the literature review, I conducted two mixed-methods research studies. The first mixed-methods research study (Artifact 2/Appendix C) focuses on Delaware's special education directors' perceptions of the two service delivery models SAM and TAM, in order to learn about the factors that they consider as part of their service delivery decision-making process. The research questions guiding this study were:

- How do special education directors decide what service delivery models (i.e., SAM or TAM) to use in their district? What factors (e.g., budget, human resources, educational philosophy, and teacher evaluations) do they consider as part of their decision-making process?
- What do special education directors perceive as the barriers and facilitators (e.g., pull-out services and push-in services) that affect SAM and TAM teachers' ability to provide specialized instruction to students with disabilities?

The purpose of the second mixed-methods study (Artifact 3/Appendix D) was to learn more about the barriers and facilitators of SAM and TAM, from SAM and TAM teachers across Delaware. Specifically, I wanted to learn what types of supports are in place for SAM and TAM teachers to meet the needs of students with disabilities. I also wanted to identify the kinds of access and opportunities that SAM and TAM teachers have for professional learning and growth. The research question guiding this study was: What are the barriers and facilitators (e.g., pull-out services

and push-in services) that affect SAM and TAM teachers' ability to provide specialized instruction to students with disabilities?

PD Framework

To ensure that teacher candidates are receiving meaningful professional development, Desimone (2011) suggests that effective professional development must include five core features: content focus, active learning, coherence, duration, and collective participation. This professional development plan (PDP) is designed using those core features to increase teacher candidates' knowledge and practice in special education. Table F1 shows a summary of how I applied the core features of Desimone's principles to this PDP.

Table F1. PDP Core Features

Five Principles of Effective Professional Development	Principles Applied to PDP by…
Content Focus	Having a content focus on Single Approach to Mastery and Team Approach to Mastery service delivery models.
Active Learning	Providing opportunities for active learning to include: Turn and Talks, Scavenger Hunts, Posters, Table Activities, Surveys, Exit Tickets, and Individualized Discussions at participants field placement(s).
Coherence	Incorporating UD's conceptual framework and Council for Exceptional Children (CEC) Professional Standards to align UD and the National Council for Accreditation of Teacher Education.
Duration	Ensuring there is a minimum of 20 hours or more of content time by creating a year-long PD series, where each PD session is two hours in length with additional contact time during scheduled

	visits to the teacher candidate's fall and spring graduate internship placement.
Collective Participation	Identifying participants through EDUC 750 enrollment to ensure collective participation through this PDP to build an interactive learning community.

To ensure the coherence of the PDP, each PD will incorporate the UD Conceptual Framework for Professional Education Programs and the CEC Professional Standards, which the National Council for Accreditation of Teacher Education has adopted as the criteria for the preparation of special education teachers (these documents appear at the end of this artifact). Additionally, UD uses a combination of theories (e.g., behaviorism, cognitive constructivism, and social constructivism) that I will incorporate into the different PD modules. Merriam (2001) suggested andragogy and self-directed learning as two pillars of adult learning theory. Adult learning theory integrates action learning, experiential learning, self-directed learning, and project-based learning (Conlan, Grabowski, & Smith, 2003). Therefore, each module within this PDP is designed to assist teacher candidates' learning and retention of the material presented.

Below, I provide an outline of the objectives, topics, and activities that teacher candidates will receive throughout their year-long graduate internship in EDUC 750 seminars. The topics listed in the PDP are intended to achieve three goals. The first goal is for teacher candidates to increase their understanding of the barriers of SAM and TAM. The second goal is for teacher candidates to increase their understanding of the facilitators of SAM and TAM. The third goal is for teacher candidates to recognize

how the skills and knowledge they must possess to be successful in SAM or TAM applies to all special education teachers regardless of the service delivery model used There is also a fourth, long-term goal, to decrease special education teacher attrition by better preparing teacher candidates for the challenges they may face in both SAM and TAM settings, so that they may persevere in the profession. Table F2 shows the identified barriers and facilitators from the mixed-methods studies.

Table F2. Barriers and Facilitators of SAM and TAM

	SAM	TAM
Barriers	• DPAS II – Teacher Evaluation • Lack of Research • Background Knowledge (e.g., no coursework in special education) • Equity • Classroom Composition and Size • Professional Development • Instructional Needs of Students • Behavioral Needs of Students • Specialized Instruction	• DPAS II – Teacher Evaluation • School Structures/Funding • Master Schedules • Administrator Knowledge • Coteaching with Multiple Partners • Coplanning • Classroom Composition and Size • Professional Development • Philosophy of Coteaching • Compatibility • Communication • Behavioral Needs of Students • Instructional Needs of Students
Facilitators	• Background Knowledge (e.g., coursework in special education) • Classroom Composition and Size • Fewer Transitions • Professional Development	• Research Based • School Structures/Funding • Administrator Knowledge • Master Schedules (Coplanning Time) • Compatibility • Classroom Composition and Size • Professional Development with Job Embedded Coaching • Philosophy of Coteaching • Communication • Committed Teachers

Notes: The identified barriers and facilitators of SAM and TAM come from three sources: Artifact 1/Appendix B: Literature Review; Artifact 2/Appendix C: Delaware Special Education Director Surveys and Interviews; and Artifact 3/Appendix D: Delaware SAM and TAM Teacher Surveys and Interviews.

Table F3 shows the PD schedule that incorporates the identified barriers and facilitators with planned objectives, topics, and activities, while incorporating

discussions on the specific skillsets needed for SAM, TAM, and as special educators, and how to demonstrate the competencies measured on DPAS II. Each PD session in this series is two hours in length, with additional contact time during scheduled visits to the teacher candidate's fall and spring graduate internship placement.

Table F3. PD Plan on Barriers and Facilitators of SAM and TAM

	Objectives (SWBAT…)	Topics	Activities
September 2020 Session 1: Introduction to Service Delivery Models	1. Identify service delivery models in Delaware. 2. Identify what policies and supports are available to SAM and TAM teachers.	1. Introduction to Service Delivery Models: SAM and TAM Professional Development Series. 2. Service Delivery Models 3. SAM and TAM Policies and Supports 4. SAM and TAM Study Findings	1. Introduction and Pre-PD Survey 2. K-W-L Activity on Service Delivery Models 3. Turn and Talk: Service Delivery Models 4. Study Findings – Quote Activity 5. Exit ticket and Session Evaluation
October 2020 Session 2: Connecting CEC Professional Standards and DPAS II to Service Delivery	1. Identify current research on service delivery models 2. Identify connections between service delivery models and CEC Professional Standards 3. Identify connections between CEC Professional Standards and DPAS II	1. Available Research on Service Delivery Models 2. CEC Professional Standards 3. DPAS II and Service Delivery Models	1. Examine Pre-PD Survey and Exit Ticket Results 2. Research Scavenger Hunt Activity 3. Poster Activity: CEC Professional Standards 4. DPAS II Findings – Quote Activity 5. CEC-DPAS II Venn Diagram Activity 6. Exit ticket and Session Evaluation
October 2020 Session 3: Barriers of SAM	1. Identify barriers of SAM.	1. Barriers of SAM a. Background Knowledge (e.g., no coursework in special education)	1. Barriers of SAM and TAM Pre-Survey 2. Table Activity: Barriers to SAM 3. Discussion 4. Scenario Activity

		b. Classroom Composition & Size c. Professional Development d. Instructional Needs e. Behavioral Needs f. Specialized Instruction	5. Discussion 6. Next steps, addressing the Barriers of SAM 7. Exit ticket and Session Evaluation
November 2020 Session 4: Facilitators of SAM	1. Identify facilitators to SAM. 2. Identify connections to DPAS II	1. Facilitators of SAM. a. Background Knowledge (e.g., coursework in special education) b. Classroom Composition & Size c. Fewer Transitions d. Professional Development 2. Facilitators of SAM and DPAS II.	1. Facilitators of SAM and TAM Pre-Survey 2. Discussion: Why do you think Background Knowledge is both a Barrier and Facilitator of SAM? 3. Discussion 4. Classroom Composition Activity 5. Discussion 6. The Role Professional Development and Advocacy Activity 7. DPAS II Activity 8. Exit ticket and Session Evaluation
December 2020 Session 5: SAM Implementation	1. Design an effective SAM classroom and SAM sample lesson plans 2. Evaluate their lesson using DPAS II.	1. Practice and Plan 2. DPAS II	1. Lesson plan and PM notebook activity 2. Share 3. DPAS II Rating Activity 4. Next Steps 5. Exit ticket and Session Evaluation
February 2021 Session 6: Barriers of TAM, Part 1	1. Identify barriers of TAM outside the classroom.	1. Barriers of TAM a. School Structures/Funding b. Administrator Knowledge c. Master Schedules d. Coteaching with Multiple Partners	1. Table Activity: Barriers to TAM 2. Discussion 3. Scenario Activity 4. Discussion 5. Next steps addressing the Barriers of TAM

		e. Coplanning f. Classroom Composition & Size g. Professional Development	outside of the classroom. 6. Exit ticket and Session Evaluation
February 2021 Session 7: Barriers of TAM, Part 2	1. Identify barriers of TAM inside the classroom. 2. Identify their philosophy of coteaching.	1. Barriers of TAM a. Philosophy of Coteaching b. Compatibility c. Communication d. Behavioral Needs of Students e. Instructional Needs of Students	1. Activity: Philosophy of Coteaching 2. Discussion 3. Activity: Compatibility and Communication (e.g., Keirsey Temperament Sorter II and Actual Me) 4. Discussion 5. Behavioral and Instructional Needs of Students Scenario Activity 6. Discussion 7. Exit ticket and Session Evaluation
March 2021 Session 8: Facilitators of TAM	1. Identify facilitators to TAM. 2. Identify their contributions to TAM success. 3. Identify connections to DPAS II.	1. Facilitators of TAM a. Research-Based b. School Structures and Funding c. Master Schedules (Coplanning Time) d. Compatibility e. Classroom Composition & Size f. Professional Development with Job Embedded Coaching g. Philosophy of Coteaching h. Communication i. Committed Teachers 2. Facilitators of TAM and DPAS II.	1. Barriers of SAM and TAM Post-Survey 2. Activity: How do research, school structures and funding, master schedules, teacher compatibility, classroom composition, and size relate? What is the big picture? 3. Discussion 4. Activity: 50 Ways to Keep Your Coteacher 5. Discussion 6. Activity: Coteaching: What to ask for, look for, and listen for 7. Discussion 8. DPAS II follow-up Activity

			9. Exit ticket and Session Evaluation
April 2021 Session 9: TAM Implementation and Coteaching Models	1. Design an effective TAM classrooms and lesson plans. 2. Identify ways to incorporate four of the coteaching models: station teaching, parallel teaching, alternative teaching, and teaming. 3. Evaluate their lesson using DPAS II.	1. Six Coteaching Models. 2. Design a coteaching classroom. 3. Practice and plan coteaching lessons. 4. DPAS II	1. Facilitators of SAM and TAM Post-Survey 2. Coteaching Models Activity 3. Needs and advocacy 4. Lesson plan and PM notebook activity: Using co-planning time: strategies for a successful coteaching marriage worksheet. 5. Share 6. DPAS II Rating Activity 7. Next Steps 8. Exit ticket and Survey
May 2021 Session 10: SAM and TAM of Tomorrow	1. Communicate effectively with coteachers, specialists, administration (e.g., principal, assistant principal, and district office), and parents. 2. Understand the importance of research. 3. Identify connections between the skills needed as SAM and TAM teachers vs. the skills needed for all special education teachers.	1. Communication with stakeholders. 2. The role research plays in ongoing professional development for service delivery models. 3. The broad set of skills all special education teachers must possess to meet the needs of students with disabilities.	1. Review Post survey results from Barriers of SAM and TAM and Facilitators of SAM and TAM sessions. 2. Discussion 3. Email, telephone, face-to-face communication activity. 4. Discussion 5. How research will help you professionally? 6. Next Steps 7. KWL 8. Exit ticket and PD Post-Survey
Notes: Each PD session is two hours in length, with additional contact time during scheduled visits to the teacher candidate's fall and spring graduate internship placement.			

The first session will serve as an introduction and set the tone for the remaining PD sessions. I will be differentiating based on topics and needs assessments (e.g., exit tickets and PD surveys). I also plan to support teacher candidates by providing opportunities for continual assessment. These opportunities will include feedback, goal setting, support, and progress assessment. These continual opportunities could include webinars or distance learning activities (Math and Science Partnership, n.d.) and training modules. To determine whether teacher candidates are using new knowledge and skills to make connections, field instructors will ask them to identify barriers and facilitators as relate to their EDUC 750 placement during lesson debriefings.

Additionally, at the end of each PD session, there will be an exit ticket to evaluate whether learners have met the objectives, and a session evaluation with Likert scale and open-ended questions. For example: Was their time well spent? Did participants acquire the intended knowledge and skills? Were sufficient resources made available? By incorporating session evaluations into every PD session, I will be able to determine what is working, what needs to improve, and what changes need to occur before the next workshop. I will then use that data to reevaluate the PD structure, delivery, and content. Furthermore, by using exit tickets and session evaluation data, I will be able to identify trends (e.g., positive and negative) to make improvements. Finally, at the end of the PD series, there will be a survey, as well as an opportunity for teacher candidates to provide feedback on the course evaluation for EDUC 750.

After the PD series concludes, I will use the SAM and TAM PDP program evaluation matrix for students enrolled in EDUC 750 (included at the end of this artifact) to measure the effectiveness of this PDP. This matrix specifies the data that is needed to determine the effectiveness of the PD series. For example, quantitative data (e.g., PD survey, Barriers of SAM and TAM survey, Facilitators of SAM and TAM survey, exit tickets, and debriefing sessions) will be collected throughout the PD series at specified time intervals. The mean differences of the quantitative data will be analyzed to measure pre–post change in students' understanding of the material covered in the PD series. If the mean differences show a 50% increase in EDUC 750 students' understanding of the barriers and facilitators of SAM and TAM, then I will know that the PD series was effective. If the mean differences do not show an increased understanding, I will know that the PD series was ineffective, and I will analyze the data across categories to identify areas needed for improvement.

Furthermore, there is also an opportunity to create a longitudinal study using the Alumni Survey from UD's Office of Clinical Studies to determine the extent to which special education teacher attrition decreases for EDUC 750 students. If, after implementing the PDP, there is a decrease in EDUC 750 alumni leaving special education for other careers, it may suggest that the PDP met its fourth, long-term goal, which is to proactively prepare teacher candidates in EDUC 750 to persist in a career in special education. Teaching EDUC 750 students how to persevere and manage the barriers and facilitators of SAM and TAM could mean the difference between them

remaining in special education or becoming a statistic for the ongoing problem of teacher attrition in the field.

Evaluation Matrix for Students Enrolled in EDUC 750 Professional Development Seminar Series

	Logic Model Component	Evaluation Questions	Indicators	Targets	Data Source	Data Collection	Data Analysis
Strategies and Activities / Initial Implementation	EDUC 750 Professional Development seminars	In what ways were seminars implemented?	Implementation of seminars	By September 2020, EDUC 750 professional development seminars will be implemented with fidelity.	PD Survey Observation of PD	Surveys administered pre and post professional development seminars (September and May). Observation of PD	PD surveys analyzed using basic descriptive statistics and measures of pre- post change will be used to examine mean differences.
	EDUC 750 Barriers of SAM and TAM Curriculum	In what ways was EDUC 750 Barriers of SAM and TAM curriculum implemented?	Implementation of Barriers of SAM and TAM curriculum.	By September 2020, EDUC 750 Barriers of SAM and TAM curriculum will be implemented with fidelity.	Barriers of SAM and TAM Survey	Surveys administered pre and post professional development seminars (October and March).	Surveys analyzed using basic descriptive statistics and measures of pre- post change will be used to examine mean differences.
	EDUC 750 Facilitators of SAM and TAM Curriculum	In what ways was EDUC 750 Facilitators of SAM and TAM curriculum implemented?	Implementation of Facilitators of SAM and TAM curriculum.	By September 2020, EDUC 750 Facilitators of SAM and TAM curriculum will be implemented with fidelity.	Facilitators of SAM and TAM Survey	Surveys administered pre and post professional development seminars (November and April).	Surveys analyzed using basic descriptive statistics and measures of pre- post change will be used to examine mean differences.

	Logic Model Component	Evaluation Questions	Indicators	Targets	Data Source	Data Collection	Data Analysis
Short-term/Early and Intermediate Objectives	Increased understanding of the barriers of SAM and TAM	To what extent did understanding of the barriers of SAM and TAM increase?	Number of EDUC 750 students reporting they understand the barriers of SAM and TAM.	By March 2021, there will be a 50% increase in EDUC 750 students understanding of barriers of SAM and TAM.	Barriers of SAM and TAM Survey (s): Pre and Post	Surveys will be administered twice (October: Pre and March: Post).	Surveys analyzed using basic descriptive statistics and measures of pre- post change will be used to examine mean differences.
	Increased understanding of the facilitators of SAM and TAM	To what extent did understanding of the facilitators of SAM and TAM increase?	Number of EDUC 750 students reporting they understand the facilitators of SAM and TAM.	By April 2021, there will be a 50% increase in EDUC 750 students understanding of facilitators of SAM and TAM.	Facilitators of SAM and TAM Survey (s): Pre and Post	Surveys will be administered twice (November: Pre and April: Post).	Surveys analyzed using basic descriptive statistics and measures of pre- post change will be used to examine mean differences.
Long-term Goals	Decreased special education teacher attrition.	To what extent did special education teacher attrition decrease for EDUC 750 students?	Number of EDUC 750 alumni reporting they are still teaching special education.	By May 2026, there will be a 50% decrease in EDUC 750 alumni leaving special education for other careers.	EDUC 750 Alumni Survey	Administered annually in May.	Surveys analyzed to measure change from baseline attrition data using basic descriptive statistics.

University of Delaware Conceptual Framework for Professional Education Programs
Effective Fall 2012

The University of Delaware Conceptual Framework provides the goals and outcomes for the candidates, faculty, and administrators in professional education programs. The University prepares educators with the knowledge, skills, and dispositions that are required to fulfill the responsibilities of an uncompromised commitment to serving the needs and interests of students, families, and communities. As professionals in education, the preservice teachers, inservice teachers, and other educators[1] in our programs will implement recognized best practices and continue throughout their careers as leaders in the advancement of their profession. They will recognize students and professionals as whole persons who are developing across the cognitive, social, emotional, and physical domains within families, communities, cultural, and economic contexts.

To these ends, candidates in University of Delaware professional education programs will:

- continuously engage in inquiry, reflection, learning and improvement of their practice, informed by evidence and their experience, as well as by research and professional literature, and they will help contribute to the knowledge base of education through their own professional learning and experience;
- respond in creative, empathetic and flexible ways to the needs and interests of the students, families and communities whom they will serve and advocate for their needs and interests both in their own institutions and in broader policy arenas;
- be committed to their students' academic, social and emotional learning and inspire their students' desire for learning and for the content being learned;
- be passionate about their profession and seek opportunities for professional growth and leadership;
- situate their knowledge in local, state, national and global contexts and recognize others' perspectives; and
- believe that all students can learn and structure their practices to promote equity and equality in education.

Candidates will embody three qualities as they move on their trajectory to become the professionals described above: knowledge and skills, leadership and commitment to equity. They will develop these interdependent qualities through rich experiences in their programs and achieve the following outcomes associated with them.

<u>Knowledge and Skills</u>
Candidates will have a deep understanding of the content of their discipline and apply this knowledge appropriately and flexibly, using deliberate and informed decision-making based on evidence. Preservice and inservice teachers will know how to make this significant content, as represented in standards, accessible to students through creative, developmentally appropriate and challenging learning experiences. The learning experiences they plan will be grounded in knowledge of how students learn, engage students in their own learning through inquiry about

[1] Examples of other educators are school psychologists, school leaders, and school librarians.

ideas or problems and motivate students to make connections to their lived worlds. They will create classroom and school environments that encourage and facilitate learning and use teaching strategies and technologies for the range of abilities and backgrounds in the diverse populations served. They will be able to apply multiple, research-based assessment methods to improve instruction and student learning. Other educators will have the knowledge and skills to support and promote continual improvement in communities of learning.

Leadership

Well-prepared leaders are essential in the school improvement and reform process. Candidates will be leaders who have the skills and drive to be a part of the decision-making process that impacts students and schools and have the capacity to influence instructional and policy decisions about teaching and learning. Candidates will be advocates for students, families, and communities and collaborate with families, colleagues and community service providers to develop and implement effective programs to support the development and learning of all students. They will engage in critical examination of current policies and practices to advance individual and collective efficacy; they want to move the profession forward.

Commitment to Equity

Increasingly, the participants in the U.S. education system represent a range of diversities that include ethnicity, gender, race, religion, socio-economic status, family composition, age, geographic area, language, sexual orientation and identification, abilities and disabilities. Candidates will have an understanding of the diverse students' learning needs and backgrounds, a recognition and understanding that equity and equality are not the same and the compassion to modify teaching and leadership practices to respond to the needs of diverse learners and their families, teachers, and administrators.

Outcomes

The outcomes for candidates are consistent with Delaware state standards, national accreditation standards, national specialty organization standards, and the InTASC Model Core Teaching Standards. Candidates will demonstrate in their professional education programs:

1. a commitment to education as a scholarly profession that requires ethical standards, a continuing process of learning, evidence-based decision making, and the reflective re-examination of content knowledge and pedagogy.
2. a commitment to the belief that learners of all ages and abilities can be educated by interacting with others appropriately and respectfully, addressing preconceptions, being receptive to feedback and employing strategies that emphasize interacting in a positive manner.
3. the capacity to create and implement productive, safe, and engaging learning experiences and evidence-based assessments that reflect an understanding of:
    a. human development and learning so that their actions are developmentally appropriate for students of all ages and abilities;
    b. the content knowledge and pedagogical content knowledge that promotes students' knowledge, skill development, critical reflection and problem-solving according to the methods of inquiry and standards of evidence used in their area of expertise;

c. appropriate and effective use of technologies; and
d. the range of diversity in students including their ethnicity, gender, race, religion, socio-economic status, family composition, age, geographic area, language, sexual orientation and identification, abilities and disabilities.

4. the capacity to work as partners with students, families, other professionals and the wider community to provide a supportive, safe, and caring learning environment to optimize every learner's educational attainment.

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Council for Exceptional Children
Special Education Professional Practice Standards[1]

1.0 Teaching and Assessment

Special Education Professionals:

1.1. Systematically individualize instructional variables to maximize the learning outcomes of individuals with exceptionalities

1.2. Identify and use evidence-based practices that are appropriate to their professional preparation and are most effective in meeting the individual needs of individuals with exceptionalities.

1.3. Use periodic assessments to accurately measure the learning progress of individuals with exceptionalities, and individualize instruction variables in response to assessment results.

14. Create safe, effective, and culturally responsive learning environments which contribute to fulfillment of needs, stimulation of learning, and realization of positive self-concepts.

1.5. Participate in the selection and use of effective and culturally responsive instructional materials, equipment, supplies, and other resources appropriate to their professional roles.

1.6. Use culturally and linguistically appropriate assessment procedures that accurately measure what is intended to be measured, and do not discriminate against individuals with exceptional or culturally diverse learning needs.

1.7. Only use behavior change practices that are evidence-based, appropriate to their preparation, and which respect the culture, dignity, and basic human rights of individuals with exceptionalities

1.8. Support the use of positive behavior supports and conform to local policies relating to the application of disciplinary methods and behavior change procedures, except when the policies require their participation in corporal punishment.

1.9. Refrain from using aversive techniques unless the target of the behavior change is vital, repeated trials of more positive and less restrictive methods have failed, and only after appropriate consultation with parents and appropriate agency officials.

1.10. Do not engage in the corporal punishment of individuals with exceptionalities.

1.11. Report instances of unprofessional or unethical practice to the appropriate supervisor.

1.12. Recommend special education services necessary for an individual with an exceptional learning need to receive an appropriate education.

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1 Approved October 2011

2 Throughout this document wherever "culture" and its derivatives are used to mean the sum of a group's socially transmitted behavior patterns, thoughts and experiences, and its perceptions, values, and assumptions about living that influence behavior and how those emerge with interactions and communications with other cultures.

2.0 Professional Credentials and Employment

Special Education Professionals:

2.1. Represent themselves in an accurate, ethical, and legal manner with regard to their own knowledge and expertise when seeking employment.

2.2. Ensure that persons who practice or represent themselves as special education teachers, administrators, and providers of related services are qualified by professional credential.

2.3. Practice within their professional knowledge and skills and seek appropriate external support and consultation whenever needed.

2.4. Provide notice consistent with local education agency policies and contracts when intending to leave employment.

2.5. Adhere to the contracts and terms of appointment, or provide the appropriate supervisor notice of professionally untenable conditions and intent to terminate such employment, if necessary.

2.6. Advocate for appropriate and supportive teaching and learning conditions

2.7. Advocate for sufficient personnel resources so that unavailability of substitute teachers or support personnel, including paraeducators, does not result in the denial of special education services.

2.8. Seek professional assistance in instances where personal problems interfere with job performance.

2.9. Ensure that public statements made by professionals as individuals are not construed to represent official policy statements of an agency.

2.10. Objectively document and report inadequacies in resources to their supervisors and/or administrators and suggest appropriate corrective action(s).

2.11. Respond objectively and non-discriminatively when evaluating applicants for employment including grievance procedures.

2.12. Resolve professional problems within the workplace using established procedures.

2.13. Seek clear written communication of their duties and responsibilities, including those that are prescribed as conditions of employment.

2.14. Expect that responsibilities will be communicated to and respected by colleagues, and work to ensure this understanding and respect

2.15. Promote educational quality and actively participate in the planning, policy development, management, and evaluation of special education programs and the general education program.

2.16. Expect adequate supervision of and support for special education professionals and programs provided by qualified special education professionals.

2.17. Expect clear lines of responsibility and accountability in the administration and supervision of special education professionals

3.0 Professional Development

Special Education Professionals:

3.1. Maintain a personalized professional development plan designed to advance their knowledge and skills, including cultural competence, systematically in order to maintain a high level of competence.

3.2. Maintain current knowledge of procedures, policies, and laws relevant to practice.

3.3. Engage in the objective and systematic evaluation of themselves, colleagues, services, and programs for the purpose of continuous improvement of professional performance.

3.4. Advocate that the employing agency provide adequate resources for effective school-wide professional development as well as individual professional development plans.

3.5. Participate in systematic supervised field experiences for candidates in preparation programs.

3.6. Participate as mentors to other special educators, as appropriate.

4.0 Professional Colleagues

Special Education Professionals:

4.1. Recognize and respect the skill and expertise of professional colleagues from other disciplines as well as from colleagues in their own disciplines.

4.2. Strive to develop positive and respectful attitudes among professional colleagues and the public toward persons with exceptional learning needs.

4.3. Collaborate with colleagues from other agencies to improve services and outcomes for individuals with exceptionalities.

4.4. Collaborate with both general and special education professional colleagues as well as other personnel serving individuals with exceptionalities to improve outcomes for individuals with exceptionalities.

4.5. Intervene professionally when a colleague's behavior is illegal, unethical, or detrimental to individuals with exceptionalities

4.6. Do not engage in conflicts of interest.

5.0 Paraeducators

Special Education Professionals:

5.1. Assure that special education paraeducators have appropriate training for the tasks they are assigned.

5.2. Assign only tasks for which paraeducators have been appropriately prepared.

5.3. Provide ongoing information to paraeducators regarding their performance of assigned tasks.

5.4. Provide timely, supportive, and collegial communications to paraeducators regarding tasks and expectations

5.5. Intervene professionally when a paraeducator's behavior is illegal, unethical, or detrimental to individuals with exceptionalities

6.0 Parent & Families

Special Education Professionals:

6.1. Use culturally appropriate communication with parents and families that is respectful and accurately understood.

6.2. Actively seek and use the knowledge of parents and individuals with exceptionalities when planning, conducting, and evaluating special education services and empower them as partners in the educational process.

6.3. Maintain communications among parents and professionals with appropriate respect for privacy, confidentiality, and cultural diversity.

6.4. Promote opportunities for parent education using accurate, culturally appropriate information and professional methods.

6.5. Inform parents of relevant educational rights and safeguards.

6.6. Recognize and practice in ways that demonstrate respect for the cultural diversity within the school and community.

6.7. Respect professional relationships with students and parents, neither seeking any personal advantage, nor engaging in inappropriate relationships.

7.0 Research

Special Education Professionals:

7.1. Do not knowingly use research in ways that mislead others.

7.2. Actively support and engage in research intended to improve the learning outcomes of persons with exceptional learning needs.

7.3. Protect the rights and welfare of participants in research.

7.4. Interpret and publish research results with accuracy.

7.5. Monitor unintended consequences of research projects involving individuals with exceptionalities, and discontinue activities which may cause harm in excess of approved levels.

7.6. Advocate for sufficient resources to support long term research agendas to improve the practice of special education and the learning outcomes of individuals with exceptionalities

8.0 Case Management

Special Education Professionals:

8.1. Maintain accurate student records and assure that appropriate confidentiality standards are in place and enforced.

8.2. Follow appropriate procedural safeguards and assist the school in providing due process.

8.3. Provide accurate student and program data to administrators, colleagues, and parents, based on efficient and objective record keeping practices.

8.4. Maintain confidentiality of information except when information is released under specific conditions of written consent that meet confidentiality requirements.

8.5. Engage in appropriate planning for the transition sequences of individuals with exceptionalities

9.0 Non-Educational Support

Special Education Professionals:

9.1. Perform assigned specific non-educational support tasks, such as administering medication, only in accordance with local policies and when written instructions are on file, legal/policy information is provided, and the professional liability for assuming the task is disclosed.

9.2. Advocate that special education professionals not be expected to accept non-educational support tasks routinely.

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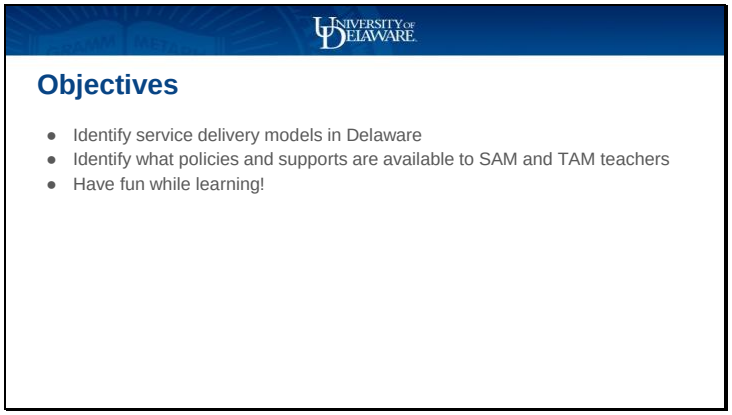
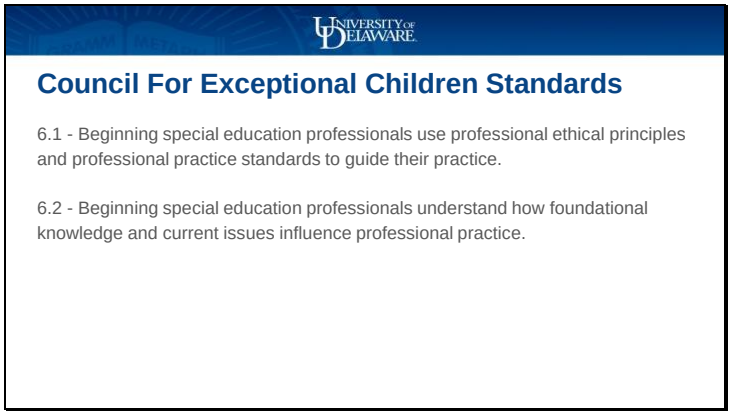
Appendix G

PROFESSIONAL DEVELOPMENT SESSION 1

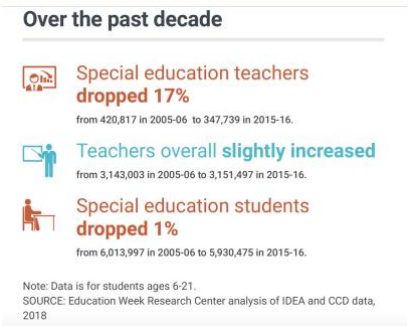




Survey

https://delaware.ca1.qualtrics.com/jfe/form/SV_eDuRDy7CgO0n96R

Password: Class of 2021



Know-Want-Learn

What do I KNOW about Service Delivery Models?	What do I WANT to know about Service Delivery Models?	What did I LEARN about Service Delivery Models?

Turn and Talk

1. Name and define as many special education service delivery models as you can.
2. Identify the number of special education students, you would expect on the special education teachers caseload.
3. Put a star on which models you have observed.
4. Put a check mark on which models you had during student teaching or at your current school.

Service Delivery Models

Itinerant: special education teacher consults and provides services.

Push-in/Pull-out: special education teacher provides support in the general education setting or pulls special education students out of the general education classroom to provide services.

Single Approach to Mastery (SAM): the teacher is dually certified in special education and content area and provides special education services.*

Team Approach to Mastery (TAM) or co-teacher: two teachers, one general education teacher and one special education teacher share responsibilities in the classroom.

SAM Policies and Support

Table 9. Summary of SAM Teachers' Supports

	1	2	3	4	5	6	
	Professional Development	Administrative Support	Instructional Support	Smaller Class Size	Reduced Caseload	Other	Count per Support
New Castle	5 (55.56%)	3 (33.33%)	2 (22.22%)	3 (33.33%)	3 (33.33%)	---	9
Kent	4 (44.44%)	1 (11.11%)	4 (44.44%)	3 (33.33%)	---	---	9
Sussex	2 (33.33%)	1 (16.67%)	4 (66.67%)	---	3 (50.0%)	---	6
Across	11 (45.83%)	5 (20.83%)	10 (42.67%)	6 (25.0%)	6 (25.0%)	---	24

Notes: Supports coding is on a 1-5 scale, with 1 being equal to professional development; 2 = administrative support; 3 = instructional support; 4 = smaller class size; 5 = reduced caseload; 6 = other

TAM Policies and Support

Table 17. Summary of TAM Teachers' Perceived Supports

	1	2	3	4	5	
	Professional Development	Administrative Support	Instructional Support	Smaller Class Size	Common Planning	Count
New Castle	---	3 (50.0%)	3 (50.0%)	1 (16.67%)	6 (100.0%)	6 (100.0%)
Kent	---	---	---	---	1 (100.0%)	1 (100.0%)
Sussex	1 (50.0%)	2 (100.0%)	1 (50.0%)	1 (50.0%)	2 (100.0%)	2 (100.0%)
Across	1 (11.11%)	5 (55.56%)	4 (44.44%)	2 (22.22%)	9 (100.0%)	9 (100.0%)

Notes: Supports coding is on a 1-5 scale, with 1 being equal to professional development; 2 = administrative support; 3 = instructional support; 4 = smaller class size; 5 = common planning

Study Findings

"There hasn't been any policy related to decision-making on service delivery models. I think we're trying to take it right now from a professional development approach and getting everybody's skills there before it's a mandatory thing, but I could see it becoming that because the schools that are not engaging in it, I think I said before, I'm really concerned about what models they're really using."

"The only guidelines we have are the ratios, the one to 24 elementary, class size ratios are dictated by the state are really the only. And then it's kind of a general guideline that we want to ensure that your classes are balanced and you're not overwhelming and teacher, but really the only guidelines to the class size. Maybe we should have something, maybe there should be, but I don't think there was anything. There's nothing else that's been dictated by the state."

"In the case of attrition, national data suggest that approximately 7% of teachers leave the profession each year (Ingersoll, 2003)."

"50% of novice teachers "flee" during their 1st five years" (pg. 599).

Next Seminar

- Examine Survey and Exit Ticket Results
- Discuss available Research
- DPAS II and Service Delivery Models

Exit Ticket

Go to www.menti.com

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Appendix H

POLICY DOCUMENT: SINGLE APPROACH TO MASTERY AND TEAM APPROACH TO MASTERY

This policy document explains the differences between the two full-inclusion special education service delivery models — single approach to mastery (SAM) and team approach to mastery (TAM) — used by Delaware Public Schools to provide specialized instruction to students with disabilities coded as least restrictive environment (LRE) A, which means students with disabilities who spend 80% or greater of their instructional day with nondisabled peers. Both models have the same goal: to provide specialized instruction to students with disabilities in the general education setting with nondisabled peers. However, because these models are significantly different, it is essential that educators, especially those who do not have a background in special education, understand the differences between the two models and the way that these differences affect 4+1 special education teacher candidates, henceforth *teacher candidates*. This policy document provides evidence on how the use of each model affects special education teacher candidates and makes recommendations to improve the quality of the teacher candidates that UD produces. The recommendations are based on the results of three research studies that I conducted as part of my Executive Leadership Portfolio: Artifact 1 (Appendix B), Literature Review on Coteaching; Artifact 2 (Appendix C), Special Education Director Surveys and Interviews; and Artifact 3 (Appendix D), SAM and TAM Surveys and Questionnaires.

Special Education Timeline

Up until the 1970s, people with disabilities were viewed by many as having an abnormality and not deserving of an education (Duhaney & Salend, 2010). It was not until 1975, when Congress enacted the Education for All Handicapped Children Act (EAHCA) or Public Law 94-142, which made local education agencies responsible for providing students with disabilities a free and appropriate public education (FAPE). Over the decades, PL 94-142 was renamed and reauthorized as new federal mandates (e.g., No Child Left Behind, 2001) and statutes challenged the courts. Today, PL 94-142 is known as the Individuals with Disabilities Education Improvement Act (IDEIA, 2004). Furthermore, since 1975, many families have questioned FAPE and have brought their concerns to the courts. For example, in *J. L. v. Mercer Island School District* (2006), the parents of J. L. challenged the courts to clarify IDEIA's central requirement of FAPE by tying a student's individualized education program (IEP) goals (and subsequent efforts to support such goals) to providing *meaningful* education to students with disabilities (Sumbera, Pazey, & Lashley, 2014). In this case, the courts ruled in favor of J. L., which required school districts to provide a meaningful education to students with disabilities. Then most recently, in *Endrew F. v. Douglas County School District*, the Supreme Court ruled that it is no longer enough for schools to offer *de minimus* or more than trivial or minor benefit (United States Department of Education, 2017) to students with disabilities. Because of these and other court rulings, special education has evolved from a focus on *access* to education to one on the *quality* of education (United States Department of Education, 2017), and

states are now trying to decide how to define and provide quality education to students with disabilities.

What Is Single Approach to Mastery?

Single Approach to Mastery (SAM) is a special education service delivery model developed in Delaware. Students with disabilities in a SAM classroom receive specialized instruction from a single teacher who takes on the roles of both general education and special education teacher. The SAM teacher is dual certified in content and special education (Kent & Giles, 2016) and should not be confused with a general education teacher in an inclusion setting who teaches students with disabilities in the same class as nondisabled peers, but who does not have the experiences or certifications needed to provide specialized services to students with disabilities.

What is Team Approach to Mastery?

Team Approach to Mastery (TAM) (i.e., coteaching) is another special education service delivery model used in Delaware, but it was not developed in Delaware. Coteaching is a widely accepted organizational approach in education where one general education teacher "with expertise in understanding, structuring, and pacing of the curriculum; and one special education teacher, an expert in identifying students' unique learning needs and adapting the curriculum and instruction accordingly" (Cothren-Cook, McDuffie-Landrum, Oshita, & Cook, 2017, p. 233) teach together in the same classroom (Friend, Cook, Hurley-Chamberlain, & Shamberger, 2010). These teachers also have joint responsibility for teaching all students, which includes coplanning, co-instructing, and co-assessing. Coteaching is

also different from a push-in or pull-out, itinerant, or SAM model because, in those models, there is not the same level of joint responsibility.

The History of SAM and TAM in Delaware

Since the 1970s, special education has evolved. In 1996, Minke, Bear, Deemer, and Griffin conducted a study in Delaware to examine teachers' experiences with inclusion. Before the study, many students with disabilities across the United States received instruction solely from special education teachers. But as federal mandates came into place, the way that students with disabilities received instruction changed, and schools across the United States moved toward a full-inclusion model. However, according to Minke et al. (1996), one district in Delaware was at the forefront of the inclusion movement, due to its nearly two-decade usage of TAM:

> The district has no resource rooms at the elementary and middle school levels. Children without disabilities are randomly assigned to TAM classes. These students attend TAM class for only one year and then are placed in a traditional class the following year. Given this arrangement, nearly all special education teachers teach in a TAM program. (p. 156)

Additionally, in my study Special Education Director Surveys and Interviews, a special education director agreed with Minke et al. about how special education was approached in the 1990s, stating, "the initial rollout of TAM was very purposeful, very research-based, there was a manual. We, as teachers, were able to partake in professional development opportunities" (Duda, Artifact 2/Appendix C). However, since the 1990s, due to reduced funding and new federal mandates (e.g., No Child Left Behind, 2001; IDEIA, 2004), it became difficult for Delaware to maintain and continue to support TAM in that way.

Therefore, Delaware, like many states, was forced to think creatively to meet federal mandates. In response, Delaware created and introduced SAM into the vernacular of educators across the state. Today, as a result, Delaware has fewer TAM classrooms. Delaware now has dually certified teachers who can teach a content area while also providing special education services inclusive education to all students. But since SAM is not research based, there are no real guidelines for best practices.

Consequences of Adopting SAM

Delaware's use of SAM has not been without consequences because there was no research-based evidence to support SAM when it was deemed acceptable and adopted by Delaware. Therefore, something that had great intentions has morphed into classrooms with 20–25 students who have a variety of needs (e.g., students with disabilities and behavioral and emotional needs, English Language Learners, and 504 plan students), where, according to Delaware district special education directors, SAM teachers are overwhelmed. Currently, SAM teachers receive very little professional development, due to curriculum requirements and negotiated agreements between school districts and teacher unions, where both special education directors and teachers' unions have shared their concerns (Duda, Artifact 2/Appendix C).

However, a consequence of trying to provide additional support and time for SAM teachers to meet student needs has been a paucity of special education professional development opportunities provided to SAM teachers. According to one special education director,

> The SAM folks, when we have a PD day, a lot of times, the curriculum is requiring certain trainings. If I'm an elementary second-grade teacher and we're rolling out new curriculum, they have to do to that Math curriculum training. At the same time, if we're offering training on interventions and things that we're doing with the special ed. teachers, those SAM teachers are not necessarily getting that because they have to go to the General ed. curriculum training. The only thing we've been able to require for those SAM teachers is the IEP development training. It goes back to time again with them is that because they're in two roles during training days, they're not getting all the trainings that are being offered for both roles. They can't go to all of it. (Duda, Artifact 2/Appendix C).

Additionally, because there is very little time dedicated to ongoing special education professional development for all teachers, the special education professional development that is provided to SAM and TAM teachers is often minimal and done by outside trainers (e.g., Stetson and Associates, Inc.), leaving teachers ill-prepared to manage the conditions of their job requirements (Duda, Artifact 2/Appendix C). Likewise, because there is very little special education professional development offered to SAM and TAM teachers, any such teachers who became certified by examination are not receiving the training they need to teach students with disabilities, which is concerning.

Special Education Certification

In Delaware, before June 30, 2016, teachers with an initial teaching certificate could simply take an examination (i.e., Praxis II) in special education to receive special education certification, with no additional training in special education required. While such courses are now required, the Delaware Department of Education (DDOE), Teacher and Administrator Quality Development, sent a newsletter to HR directors and universities and colleges across Delaware in 2016, recommending that

educators (e.g., administrators and teachers) take the Praxis II exam before the new regulations went into effect. Therefore, DDOE directly encouraged teachers to take Praxis II for a Standard Certificate, to avoid having to submit both "a passing score on Praxis II Test 5354 and documentation showing the completion of 15 credits (or equivalent in professional development) listed in Regulation 1571 for a Standard Certificate in Special Education" (Delaware Department of Education, 2016). Consequently, because DDOE encouraged teachers to become certified in special education before July 1, 2016, many elementary school teachers in Delaware are dual certified in elementary and special education, which also means that any one of these teachers can become a SAM or TAM teacher. As a special education director explained in an interview, "I know this is no longer allowable, but we do still have several people with special education certification that just took Praxis. They didn't have any special education classes." This director further clarified that:

> One of the challenges is if that's the way you got certified, and then your principal's looking you up on DEEDS, and it says you have special ed. certification, and then they're saying, *Oh, yeah. You can run a SAM model. You can be a case manager for these kids.* It can be problematic because if you don't have knowledge of special ed., and then you're being put in a place where you're not even collaborating with somebody else, you're the one that's directly responsible, it becomes a big challenge. That has been a challenge at several of our elementarys because principals saw that people were certified, and put them into that role when they hadn't had the training and support to be ready for that. (Duda, Artifact 2/Appendix C)

Subsequently, another special education director shared, "they [i.e., school districts] are now only hiring teachers with dual certification" (Duda, Artifact 2/Appendix C). So, although SAM resulted in hiring dually certified teachers, it also raises the

possibility that the recommendation from DDOE may have influenced teachers to take Praxis II out of fear of losing their jobs as districts moved toward SAM. Additionally, because teachers were encouraged to become certified in special education, the push from HR may have inadvertently created classrooms with teachers who may not have had the training and support needed to create specially designed instruction, progress monitor, and write IEPs for their students with disabilities.

In conclusion, even though Delaware made changes to special education certification, there are still SAM and TAM teachers who earned certification through an examination, and many SAM and TAM teachers are receiving minimal special education professional development on how to differentiate and design classroom instruction that is effective for all students. Furthermore, those SAM and TAM teachers who earned certification through examination may still be unprepared to teach students with disabilities. Therefore, principals must also consider how a teacher became certified in special education before assigning that teacher to special education, either SAM or TAM.

What does this situation mean for the University of Delaware's special education teacher candidates?

First, teaching in SAM and TAM classrooms are two very different experiences. SAM requires the teacher candidate to work with a clinical educator who takes on the roles of both general education and special education teacher. Conversely, TAM requires teacher candidates to work with both special education and general education teachers, and this arrangement could be across content areas and grades with

multiple general education teachers. Additionally, principals must also consider how a teacher became certified in special education before recommending or approving that teacher to work with a teacher candidate. Otherwise, the teacher candidate might become frustrated if their clinical educator is unable to provide support on how to design and implement explicit instruction, model best practices in special education, or answer their questions on how to embed IEP goals and progress monitoring into daily lessons.

Therefore, educators (e.g., school principals) should support the university's efforts to ensure that special education teacher candidates have the experiences and supports needed to become highly effective special education teachers. However, for this goal to come to fruition, special education teacher candidates must have opportunities to practice and become proficient in skills that make special educators unique, such as incorporating specially designed, explicit instruction, and using evidence-based strategies to create lessons that are designed to meet the individual needs of students with disabilities (Friend, 2016; Scruggs & Mastropieri, 2017). Additionally, teacher candidates must also have opportunities to coteach with their clinical educator, collaborate with related services, participate in IEP meetings, progress monitor, and engage in parent communication led by the clinical educator throughout their special education placement. Therefore, I provide three recommendations to better prepare teacher candidates for a career in special education.

Recommendation 1: Carefully select special education clinical educators. Currently, school districts have a liaison that works with UD's Office of Clinical

Studies. The Office of Clinical Studies takes the list provided by districts and matches teacher candidates with clinical educators according to the certification area. However, these lists are often outdated and, more importantly, do not reflect how a teacher earned certification. Thus, the first recommendation considers two factors — special education teacher certification and clinical educator selection biases — and recommends the careful selection of special education clinical educators for teacher candidates.

Rationale. The first factor examines special education certification and recommends that teacher candidates only work with clinical educators who earned special education certification through coursework, not solely through an examination. This policy change would ensure that the clinical educator possesses the necessary special education–related knowledge and training needed to provide teacher candidates with effective feedback and supervision. The motivation for using special education certification as a criterion in the selection of clinical educators is that by carefully selecting highly effective clinical educators who have the background knowledge and expertise in special education, we would provide a quality special education placement for UD teacher candidates. Additionally, teacher candidates in those classrooms will see how to implement the best practices they have learned through their teacher preparation program. Lastly, if teacher candidates have an ideal placement, they will learn how to manage the requirements and demands (e.g., specialized instruction and paperwork) that special education requires of its teachers. Otherwise, teacher candidates may become frustrated, or they may encounter

additional struggles in their first few years teaching special education because they do not know how to manage the requirements of special education, which is a contributing factor to special education teacher attrition, a well-known issue in the field (Billingsley, 2004; Borman & Dowling, 2008; Certo & Fox, 2002; DeAngelis & Presley, 2011; Ingersoll, 2001; Nance & Calabrese, 2009; Samuels & Harwin, 2018). Therefore, a system must be put in place to ensure that teacher candidates are assigned to clinical educators who have the background knowledge, skills, and desire to work in special education, so teacher candidates can learn and see how to implement the best practices they have learned through their teacher preparation program.

The second factor is intended to eliminate bias in clinical educator selection, which can come from two sources: teacher self-selection through school district sign-ups or contact with UD's Office of Clinical Studies, and principal recommendation. Unfortunately, when there is self-selection, biases can occur. For example, with self-selection there may be great clinical educators out there that choose not to volunteer or are unaware that they can volunteer, or there may be teachers who sign up who should not be clinical educators because they do not exhibit the characteristics needed to work with teacher candidates (e.g., enthusiasm and openness to new ideas).

Another source of clinical educator selection bias can come from principal recommendation, which may be based on the principal's experiences with a special education teacher. For example, the first special education director I interviewed questioned whether principals are following best practices when it comes to assigning teachers to classrooms, stating,

> I am fairly good at being able to match the needs with the units we have, but once they are in the building how much power do I have over the principal to say you too. Especially with the Stetson model of scheduling you lay it all out on a big old piece of paper and it literally just says Teacher 1, Teacher 2, Teacher 3, and you organize the needs of kids, and so you are all there. Then as the principal, you decide who is Teacher 1? Oh, I see that's Bridget, that's Josh, who we better get our best at delivering this specialized instruction for decoding, and we are going to pick this teacher. Does that always happen, or is it relationship-based, seniority-based, friendship-based, but this is just the realities of what we see and what we are trying to shape and mold? (Duda, Artifact 2/Appendix C)

It is reasonable to expect that a principal who does not have a background in special education may think that an ineffective special education teacher is highly effective. This misjudgment could be because the principal sees a few appropriate lessons, the classrooms are under control, and parents are not complaining. However, what principals do not always realize is that a few suitable lessons do not always mean that best practices in special education are in use.

Intended Consequences. To address this recommendation, to carefully select clinical educators based on special education teacher certification, and to eliminate clinical educator selection biases, I am first proposing that DDOE place an asterisk or footnote on a teacher's credentials in the Delaware Educator Data System (DEEDS) to identify the teachers who earned special education certification through coursework. This practice would serve as an alert system for principals and the Office of Clinical Studies, prompting both to consider and prioritize that special education teacher as a clinical educator for special education teacher candidates. Second, to eliminate clinical educator selection bias and avoid placement recommendations based on relationships, seniority, and friendship, I am proposing that the Office of Clinical Studies and

principals consult with district special education personnel (e.g., directors, assistant directors, or supervisors) since they are the experts for their district and know whether a special education teacher should mentor the next generation of special education teachers.

Recommendation 2: Prioritize TAM classrooms over SAM classrooms for special education teacher candidate placements. The next recommendation considers special education certification and the findings from two mixed-method studies that I conducted in Delaware: Special Education Director Surveys and Interviews, and SAM and TAM Teacher Surveys and Interviews. The results of these studies focused on identifying and providing opportunities for special education teacher candidates to practice their skills from their teacher preparation program. Based on the results of these studies, the second recommendation is to prioritize TAM classrooms over SAM classrooms for special education teacher candidates.

Rationale. Special education directors were all in agreement that TAM is an effective way of meeting the goals and needs of students with disabilities. The results suggested that special education directors perceived TAM as advantageous for both teachers and students with disabilities because it provides a continuum of services for kids with intense and complex needs and opportunities for teachers to learn from one another. One director reported, “A TAM model can be very supportive if you have a highly complex student whom you are trying to gain that meaningful participation and/or a cluster of kids with intense or complex needs.” Another director expressed,

> It's just having a colleague to bounce things off of, to plan with, to get different perspectives, to differentiate against, and scaffold. That's the ideal setting as far as I'm concerned. If the planning time is there, and you can really make the best use of those two teachers in the classroom, and they mesh.

Subsequently, this data demonstrated that a TAM teacher would have multiple opportunities to provide feedback to their teacher candidate because of how a TAM classroom is designed (e.g., low student-to-teacher ratio). In contrast, when I asked directors about SAM, they were all in agreement that the current SAM service delivery model is not effective in meeting the needs of students with disabilities. They also questioned, "Does that teacher [i.e., SAM] have time to get to the intervention or specially designed instruction that that student needs?" Significantly, the findings from the second mixed-method study support this data from the directors.

In the second mixed-methods study, SAM teachers confirmed that they do not provide adequate support. One teacher conveyed, "A SAM teacher without additional adult support is not able to meet the needs of all students when many students require additional small-group support," further stating that "the academic and behavior needs are not being met." These statements demonstrate that even if a SAM teacher had have a teacher candidate, they would not be able to provide specific feedback to the teacher candidate because they would be too busy managing the needs of the students in the classroom. This data also suggests that the traditional roles of general education and special education teacher often get muddled in SAM classrooms; due to a clinical educator's dual role and a teacher candidate's limited knowledge, it can be difficult to distinguish between the two roles. Another factor to consider is that the teacher

candidate is not going to ignore the needs of students in the SAM classroom, putting that teacher candidate, who is trying to become proficient in special education at a disadvantage. Table H1 shows a summary of characteristics that SAM and TAM placements must possess, based on recommendation 1 and the two mixed-methods studies. The table also shows the ideal conditions needed for UD's teacher candidates to fulfill their graduate internship requirements and practice their skills from their teacher preparation program (i.e., 4+1) to demonstrate the competencies needed to become an effective special education teacher.

Table H1. Characteristics of SAM and TAM Special Education Teachers and Classrooms

SAM and TAM Special Education Teacher Qualifications	
• Background Knowledge (e.g., coursework in special education) and Special Education Certification • Role as a Special Education Teacher (e.g., responsible for progress monitoring and IEPs) • Experience writing **S**pecific-**M**easurable-**A**chievable-**R**elevant-**T**imebound IEPs • A least three years' experience in special education and satisfactory rating on DPAS II or equivalent teacher evaluation • Openness to new ideas • Characteristics established by Dr. Kristen Ritchey and UD's Office of Clinical Studies (Duda, Proposal/Appendix A).	
SAM	TAM
• Smaller classroom composition and size than non-SAM classrooms • At least three students with disabilities with academic goals that do not require intensive services. • The behavior needs of students are minimal • Multiple opportunities for specialized instruction • Progress monitoring and opportunities to participate in IEP development and meetings	• Smaller classroom composition and size than non-TAM classrooms • Coplanning time • At least three students with disabilities with academic goals that do not require intensive services • The behavior needs of students is minimal • Coteaching with two or fewer general education teachers • Working in two or fewer grade levels • Committed teachers • Multiple opportunities for specialized instruction

	• Progress monitoring and opportunities to participate in IEP development and meetings

However, the second recommendation requires districts to have TAM classrooms, which are slowly disappearing over time in favor of SAM classrooms. Therefore, given the results of those two studies and the lack of research to support a SAM service delivery model, my second recommendation is to prioritize placing teacher candidates in TAM classrooms over SAM.

Intended Consequence. The second recommendation is designed to ensure that teacher candidates are set up for success so that they can practice planning, implementing, and assessing individualized instruction, which is the heart of special education. Therefore, by making TAM classrooms a priority for special education teacher candidates to complete their graduate internship requirements, the teacher candidates can get feedback from both teachers. Additionally, a TAM placement requires the establishment of clear roles, where the teacher candidate can practice incorporating specially designed instruction using evidence-based strategies and has multiple opportunities to practice embedding their knowledge from courses, while also incorporating their clinical educator's expertise and familiarity with the IEP goals of students with disabilities.

Lastly, because TAM requires teacher candidates to coteach with a general education teacher, the teacher candidate can learn how to collaborate with a general education teacher during coplanning or other mutually agreed-upon meeting times to discuss and identify opportunities to incorporate IEP goals into class discussions, the

existing classroom structure, and assessment of students with disabilities (Howard & Potts, 2009). These coplanning meetings also provide opportunities for teacher candidates to discuss new coteaching approaches over time with their clinical educator and general education teacher (Lava, 2012), giving the teacher candidate the necessary experience with explicit individualized instruction and progress monitoring that is special education.

However, if there are no other options and SAM placements are all that are available, SAM classrooms must have the following characteristics: small class size (i.e., fifteen or fewer), students without intensive needs (Duda, Artifact 2/Appendix C), ability to work with students in small groups, at least three students with academic goals on their IEP, grade levels older than kindergarten (K. Ritchey, personal communication, August 26, 2015), and a teacher who earned certification through coursework.

Recommendation 3: Teacher candidates and educators should learn about the barriers and facilitators of SAM and TAM. My third recommendation is a proactive approach that takes into consideration the challenges (e.g., a limited number of TAM placements, teacher qualifications, and competition for placements with other universities) that affect the Office of Clinical Studies in its search for quality special education clinical educators. Although I have recommended placing teacher candidates in TAM classrooms whenever possible, it may not be feasible to do so, and teacher candidates may still complete their student teaching requirements in a SAM

classroom. My third recommendation is thus to provide teacher candidates with professional development on both SAM and TAM service delivery models.

Rationale. Since placing all teacher candidates in TAM classrooms may not be feasible, all teacher candidates must learn about the barriers and facilitators of SAM and TAM through professional development, but it is similarly crucial that educators (e.g., principals) are aware of the barriers and facilitators of both models, so that they know what characteristics of SAM and TAM classrooms to avoid (i.e., barriers) and what characteristics to look for (i.e., facilitators) when identifying special education classrooms for teacher candidates. Table H2 shows a summary of the barriers and facilitators identified in Artifacts 1, 2, and 3 (i.e., Appendices B, C, and D).

Table H2. Barriers and Facilitators of SAM and TAM

	SAM	TAM
Barriers	• DPAS II – Teacher Evaluation • Lack of Research • Background Knowledge (e.g., no coursework in special education) • Equity • Classroom Composition and Size • Professional Development • Instructional Needs of Students • Behavioral Needs of Students • Specialized Instruction	• DPAS II – Teacher Evaluation • School Structures/Funding • Master Schedules • Administrator Knowledge • Coteaching with Multiple Partners • Coplanning • Classroom Composition and Size • Professional Development • Philosophy of Coteaching • Compatibility • Communication • Behavioral Needs of Students • Instructional Needs of Students
Facilitators	• Background Knowledge (e.g., coursework in special education) • Classroom Composition and Size • Fewer Transitions • Professional Development	• Research Based • School Structures/Funding • Administrator Knowledge • Master Schedules (Coplanning Time) • Compatibility • Classroom Composition and Size • Professional Development with Job Embedded Coaching • Philosophy of Coteaching • Communication • Committed Teachers

Additionally, because there is a limited number of high-quality placements, UD's teacher candidates may not be adequately prepared to take on the challenges that come with both models. This situation could result in teacher candidates becoming frustrated with special education because of their experience, or, if they see that some districts have more supports for their special education teachers, they may choose to go elsewhere (e.g., a different district from their student teaching placement or another state). This scenario may, in turn, affect Delaware's ability to attract and retain special education teachers due to lack of preparation.

Conclusion

If educators consider the recommendations outlined in this policy document, the likelihood of assigning teacher candidates to a clinical educator that has the necessary background knowledge and experience in special education increases, which can have a tremendous impact on whether a teacher candidate pursues a career in special education. Specifically, if educators (e.g., principals) prioritize TAM placements over SAM placements, teacher candidates will have the opportunities needed to practice and provide that explicit individualized instruction and progress monitoring that is special education. Additionally, by providing teacher candidates with professional development on the barriers of SAM and TAM, we can address any gaps in their understanding of both models due to the limited number of high-quality placements. Plus, the professional development would proactively prepare teacher

candidates on how to manage the barriers and facilitators to both models in order to sustain a career in special education, whether that be in SAM or TAM.

Furthermore, these recommendations may also assist Delaware in meeting its goals outlined in the Special Education Strategic Plan. Goal 2.2 states, “increase retention rate and improve overall satisfaction rates among special educators, related service providers, and others directly involved in the education of students with disabilities” (SPED 2017, p. 9). By implementing these recommendations, higher education can produce quality special education teachers who can effectively increase the success of students with disabilities by improving their ability to become active, valued, and participating members of their community (Billingsley, Crockett, & Kamman, 2014; Lignugaris/Kraft & Harris, 2014), and P–12 can hire and retain special education teachers with those qualities (Billingsley et al., 2014; SPED, 2017).

Executive Summary

Based on the results of all my prior artifacts, I drafted three policy recommendations and included them in a broader policy document about SAM and TAM placements. The policy brief was intended to (a) inform UD's Office of Clinical Studies and other stakeholders (e.g., school principals) about issues surrounding special education teacher placements in SAM and TAM classrooms; and (b) make recommendations regarding appropriate placements for special education teacher candidates, henceforth *teacher candidates*. The three recommendations identified in the policy brief were: (1) carefully select special education clinical educators; (2) prioritize TAM classrooms over SAM classrooms for elementary special education teacher candidate placements; and (3) foster knowledge of the barriers and facilitators of SAM and TAM among both teacher candidates and educators.

Recommendation 1: Carefully select special education clinical educators. Currently, school districts have a liaison that works with UD's Office of Clinical Studies to place candidates. The Office of Clinical Studies takes the list provided by districts and matches teacher candidates with clinical educators according to certification area. However, these lists are often outdated and, more importantly, do not reflect how a teacher earned certification. Thus, the first recommendation considers two factors: special education teacher certification and clinical educator selection biases. I recommend the careful selection of special education clinical educators for teacher candidates.

Rationale. The first factor examines special education certification and recommends that only clinical educators who earned special education certification through coursework (not solely through an examination) work with teacher candidates. This guideline would ensure that the clinical educator possesses the necessary special education–related knowledge and training needed to provide teacher candidates with effective feedback and supervision. The motivation for using special education certification as a criterion in the selection of clinical educators is that by carefully selecting highly effective clinical educators who have the background knowledge and expertise in special education, we can provide a quality special education placement for UD teacher candidates. Additionally, teacher candidates in those classrooms will see how to implement the best practices they have learned through their teacher preparation program. Lastly, if teacher candidates have an ideal placement, they will learn how to manage the requirements and demands (e.g., specialized instruction and paperwork) that special education requires of its teachers. Otherwise, teacher candidates may become frustrated, or they may encounter additional struggles in their first few years teaching special education because they do not know how to manage its requirements, which is a contributing factor to special education teacher attrition, a well-known issue in the field (Billingsley, 2004; Borman & Dowling, 2008; Certo & Fox, 2002; DeAngelis & Presley, 2011; Ingersoll, 2001; Nance & Calabrese, 2009; Samuels & Harwin, 2018). Therefore, a system must be put in place to ensure that teacher candidates are assigned to clinical educators who have the background knowledge, skills, and desire to work in special education, so that teacher candidates

can learn and see how to implement the best practices they have learned through their teacher preparation program.

The second factor is intended to eliminate bias in clinical educator selection, which can come from two sources: self-selection by teachers through school district sign-up or contact with UD's Office of Clinical Studies, and principal recommendation. Self-selection leaves the door open for certain biases to come into play: there may be great clinical educators out there that choose not to volunteer or are unaware that they can do so, or there may (conversely) be teachers who sign up who should not be clinical educators because they do not have the proper enthusiasm and openness for the role). Just as concerning as a source of clinical educator selection bias is principal recommendation, which may be based on the principal's personal experiences with a special education teacher rather than on the teacher's qualifications.

Intended Consequences. To address this recommendation and to carefully select clinical educators based on special education teacher certification, while also eliminating clinical educator selection biases, I am first proposing that the Delaware Department of Education (DDOE) place an asterisk or footnote on a teacher's credentials in the Delaware Educator Data System (DEEDS) to identify teachers who have earned special education certification through coursework. This practice would serve as an alert system for principals and the Office of Clinical Studies, prompting both to consider and prioritize those special education teachers for the role of clinical educators for teacher candidates. Second, to eliminate clinical educator selection bias

and avoid placement recommendations based on relationships, seniority, and friendship, I am proposing that the Office of Clinical Studies and principals consult with district special education personnel (e.g., directors, assistant directors, or supervisors) since they are the experts for their district and will have a much better idea of whether a special education teacher should mentor the next generation of educators.

Recommendation 2: Prioritize TAM classrooms over SAM classrooms for special education teacher candidate placements. The next recommendation considers special education certification and the findings from two mixed-method studies that I conducted in Delaware: special education director surveys and interviews, and SAM and TAM teacher surveys and interviews. The results of these studies focused on identifying and providing opportunities for special education teacher candidates to practice their skills from their teacher preparation program. Therefore, based on the results of the two mixed-method studies, the second recommendation is to prioritize TAM classrooms over SAM classrooms for special education teacher candidates.

Rationale. The directors were all in agreement that TAM is an effective way of meeting the goals and needs of students with disabilities. The results suggested that special education directors perceived TAM as advantageous for both teachers and students with disabilities because it provides a continuum of services for kids with intense and complex needs and opportunities for teachers to learn from one another. Subsequently, the data from the directors also demonstrated that a TAM teacher would

have multiple opportunities to provide feedback to their teacher candidate because of how a TAM classroom is designed (e.g., low student-to-teacher ratio). In contrast, when I asked directors about SAM, they were all in agreement that the current SAM service delivery model is not effective in meeting the needs of students with disabilities. They also questioned, “Does that teacher [i.e., SAM] have time to get to the intervention or specially designed instruction that that student needs?” These directors’ comments were echoed by the findings from the second mixed-methods study that I conducted.

In this second study, SAM teachers confirmed that they do not provide adequate support. One teacher conveyed, “A SAM teacher without additional adult support is not able to meet the needs of all students when many students require additional small group support,” further stating, “the academic and behavior needs are not being met.” These statements demonstrate that even if a SAM teacher is given a teacher candidate, they would not be able to provide specific feedback to the teacher candidate because they are too busy managing the needs of the students in the classroom. This data also suggests that the traditional roles of general education and special education teacher often get muddled in SAM classrooms; the clinical educator’s dual role makes it difficult for the teacher candidate, with their more limited knowledge, to distinguish between the two roles. Another factor to consider is that the teacher candidate is not going to ignore the needs of students in the SAM classroom, putting that teacher candidate at a disadvantage because they are unable to solely focus on special education.

Intended Consequence. The second recommendation is designed to ensure that teacher candidates are set up for success so that they can practice planning, implementing, and assessing individualized instruction, which is the heart of special education. By making TAM classrooms a priority for special education teacher candidate placement, we can increase the amount of feedback that teacher candidates are likely to receive (since there are two other teachers in the classroom). Additionally, a TAM placement requires the establishment of clear roles. The teacher candidate can practice incorporating specially designed instruction using evidence-based strategies, and they have multiple opportunities to practice embedding their knowledge from courses, while also incorporating their clinical educator's expertise and familiarity with the IEPs of students with disabilities.

Recommendation 3: Teacher candidates and educators should learn about the barriers and facilitators of SAM and TAM. My third recommendation is a proactive approach that takes into consideration the challenges (e.g., a limited number of TAM placements, teacher qualifications, and competition for placements with other universities) that affect the Office of Clinical Studies in its search for quality special education clinical educators. Although I have already recommended placing teacher candidates in TAM classrooms whenever possible, this practice is not always feasible, and teacher candidates may still have to complete their student teaching requirements in a SAM classroom. Therefore, my third recommendation is to provide teacher candidates — and educators — with professional development on both SAM and TAM service delivery models.

Rationale. Since placing all teacher candidates in TAM classrooms may not be feasible, all teacher candidates must learn about the barriers and facilitators of SAM and TAM through professional development. Likewise, it is crucial that educators (e.g., principals) are also aware of the barriers and facilitators of both models so that they know what characteristics of SAM and TAM classrooms to avoid (i.e., barriers) and what characteristics to look for (i.e., facilitators) when identifying special education classrooms for teacher candidates.

Together, these three recommendations, if followed by UD's Office of Clinical Studies, other stakeholders (e.g., school principals), and those who make special education placement decisions, will ensure that UD's graduates (i.e., formerly elementary special education teacher candidates) have the skills and experiences needed to teach students with disabilities in either a SAM or TAM classroom successfully, increasing the likelihood that they stay in Delaware and continue to teach students with disabilities, ultimately reducing special education attrition rates in Delaware.

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Appendix I

IRB/HUMAN SUBJECTS

RESEARCH OFFICE

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

DATE:	December 20, 2018
TO:	Bridget Duda, M.S.
FROM:	University of Delaware IRB
STUDY TITLE:	[1352916-1] Barriers and Facilitators of Single Approach to Mastery and Team Approach to Mastery
SUBMISSION TYPE:	New Project
ACTION:	APPROVED
APPROVAL DATE:	December 20, 2018
EXPIRATION DATE:	December 19, 2019
REVIEW TYPE:	Expedited Review
REVIEW CATEGORY:	Expedited review category # *(6,7)*

Thank you for your submission of New Project materials for this research study. The University of Delaware IRB has APPROVED your submission. This approval is based on an appropriate risk/benefit ratio and a study design wherein the risks have been minimized. All research must be conducted in accordance with this approved submission.

This submission has received Expedited Review based on the applicable federal regulation.

Please remember that informed consent is a process beginning with a description of the study and insurance of participant understanding followed by a signed consent form. Informed consent must continue throughout the study via a dialogue between the researcher and research participant. Federal regulations require each participant receive a copy of the signed consent document.

Please note that any revision to previously approved materials must be approved by this office prior to initiation. Please use the appropriate revision forms for this procedure.

All SERIOUS and UNEXPECTED adverse events must be reported to this office. Please use the appropriate adverse event forms for this procedure. All sponsor reporting requirements should also be followed.

Please report all NON-COMPLIANCE issues or COMPLAINTS regarding this study to this office.

Please note that all research records must be retained for a minimum of three years.

Based on the risks, this project requires Continuing Review by this office on an annual basis. Please use the appropriate renewal forms for this procedure.

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.

RESEARCH OFFICE

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Ph: 302/831-2136
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DATE:	March 7, 2019
TO:	Bridget Duda, M.S.
FROM:	University of Delaware IRB
STUDY TITLE:	[1352916-2] Barriers and Facilitators of Single Approach to Mastery and Team Approach to Mastery
SUBMISSION TYPE:	Amendment/Modification
ACTION:	APPROVED
APPROVAL DATE:	March 7, 2019
EXPIRATION DATE:	December 19, 2019
REVIEW TYPE:	Expedited Review
REVIEW CATEGORY:	Expedited review category # *(6,7)*

Thank you for your submission of Amendment/Modification materials for this research study. The University of Delaware IRB has APPROVED your submission. This approval is based on an appropriate risk/benefit ratio and a study design wherein the risks have been minimized. All research must be conducted in accordance with this approved submission.

This submission has received Expedited Review based on the applicable federal regulation.

Please remember that informed consent is a process beginning with a description of the study and insurance of participant understanding followed by a signed consent form. Informed consent must continue throughout the study via a dialogue between the researcher and research participant. Federal regulations require each participant receive a copy of the signed consent document.

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Please report all NON-COMPLIANCE issues or COMPLAINTS regarding this study to this office.

Please note that all research records must be retained for a minimum of three years.

Based on the risks, this project requires Continuing Review by this office on an annual basis. Please use the appropriate renewal forms for this procedure.

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.