SUNY Cortland Teacher Education Unit
Executive Summary of Case Studies of Completer Impact on Students
Fall 2019

Introduction
- Why we conducted case studies
- Background on how the research group was formed, meetings, discussion, development of research protocols and materials used in the research.

SUNY Cortland collected impact and application of knowledge/skills disposition data because there is an absence of such data from the New York State Education Department.

A Professional Learning Team (PLT) conducted case studies of program completers across various programs in order to both examine program completer impact on student learning (CAEP 4.1) through the review and discussion of available artifacts, and also to observe the effective application of professional knowledge, skills, and dispositions (CAEP 4.2) with the same participants through structured observation protocols and pre- and post-observation interviews.

We use these case studies to inform the systematic and ongoing investigation of program completers' impact on their students, which informs our own teacher education programs in all three schools of SUNY Cortland.

Dean Andrea Lachance proposed a Case Study Research design initially in 2017. This was when the Teacher Education Unit conducted their first case study project. In 2019, the Teacher Education Unit conducted a second round of case studies. The research team was comprised of faculty from various departments in the three schools of the university that house teacher education programs.

Five researchers (2 from Adolescence Education English, 1 from Physical Education and Health, 1 from Childhood/Early Childhood Education, and 1 from Foundations and Social Advocacy) convened in January 2019 to decide on initial protocols for recruiting program completers. Additional meetings were held to determine interview protocols connected to CAEP components 4.1 and 4.2 and observation protocols to use based on already validated observation rubrics in use in New York State (e.g. Danielson, 2011). A day-long workshop to establish validity and reliability protocols was also held. An IRB was submitted to the IRB Chair at SUNY Cortland and approved in February 2019. Research was conducted soon after with each member of the team conducting research on two teachers who were completers of education programs.

Overview of procedures and methods for all 10 case studies

The research team used a descriptive, multiple case study research design in examining 10 program completers across P-12 content and grade levels that included semi-structured

interviews and structured observations. A purposive sampling approach was used to focus on information-rich cases that produced data to inform the investigation of impact and effectiveness across a representative sample of program completers. The plan included collecting observation data using questions and prompts adapted from Charlotte Danielson's (2011) Framework for Teaching Evaluation Instrument, as applied within New York State for teacher observation and evaluation. The instrument used within Danielson's framework has been validated as a tool for observing teaching practice across multiple classrooms. The research team sent out an initial recruitment email to program completers from targeted SUNY Cortland teacher education programs, including the Childhood/Early Childhood Education, Foundations and Social Advocacy (special education), Health and Physical Education, and Adolescence English Education. The initial recruitment email described basic parameters for the study, including that each participant would share artifacts that demonstrate impact on student-learning growth.

The list of artifacts requested from each participant is detailed in Appendix D of the IRB Application, and included such items as APPR data from previous year's final scores, portfolios with Student Learning Outcomes (SLO) data, lesson plans, student work samples, teacher reflections, pre- and post-teaching assessments for individuals, small, and whole groups, teacher-generated curriculum guides, block plans, scope and sequence plans, communications with parents/community, efforts to differentiate instruction and student choices, and other artifacts selected by participants. Participants were expected to sample from this list and were not required to have most or all artifacts.

Each researcher conducted one initial interview to review artifacts with their participants, and then returned to conduct one structured classroom observation. Before the classroom observation, there was a second interview and then after the observation there was a third interview with each participant. Data were compiled within forms that were created by the research team. The data included what was gathered from the initial interview, a pre-observation interview, and a post-observation interview, and the classroom observation itself. Data also included structured observation tools used during the classroom observation and the completion of a Case Study Template to summarize and synthesize the information for each case.

Cross-case analysis was conducted in writing and at a final meeting in June 2019. A structural narrative analysis was conducted in stages where the group focused on themes within and across cases and then research team members checked these themes within and across the case study templates provided.

Changes made to this 2nd iteration of the Case Study Research

When the Case Study Research was first conducted in 2017, in spite of the rich data that we acquired, and the changes we made in our programs based on this data, we noticed two areas that were somewhat problematic. The first related to the study of artifacts that teachers

provided as evidence of their impact on student learning. The second had to do with reliability of scoring of classroom observations.

During the first research project, the research team left it up to teachers to produce artifacts that would demonstrate their impact of P-12 student learning. We found that sometimes teachers did not show the research team artifacts that demonstrated the impact they had had on student learning. For example, while a teacher may show a researcher student work (an essay where students did well), the student work in isolation did not show impact--it showed that students did well on a particular school task. Therefore, during the 2019 iteration of the research the research team was more direct in asking for particular artifacts, and made it clear to teachers that they needed to see items that would show how the teachers' impact influenced the quality of work by students. In this way, the research team was better able to evaluate teacher impact on student learning, and teachers had a better sense of what the researchers were looking for in terms of artifacts. The result, we found, enable us to have better data which demonstrated the impact that teachers made on P-12 student learning.

The second change had to do with reliability of the researchers' evaluation of teachers, especially classroom observations. During the first iteration of the research, the teacher team counted on their own experiences conducting observations of student teachers in order to assure that they were all evaluating separate teachers in the same way and with the same standards. The rubric that was used for the classroom observations is closely aligned to both our Student Teaching Evaluation and the Danielson rubric, and since each of the researchers use the Student Teaching Evaluation and are familiar with the Danielson rubric, we were confident that our evaluation of teachers would be reliable. And while the research team could have continued to conduct their work under similar assumptions, instead the research team held a day-long workshop in order to hone the evaluation standards. During this workshop, the research team watched a series of videos where a classroom teacher was engaged in a lesson. Each research team member then evaluated the classroom teacher using the rubric that would be used in the research project. After each member completed their evaluation, they discussed the scores that they gave to the teacher, and worked over a series of hours to find agreement on how they would score teachers in their research. By the end of the workshop, they were more aligned in their scoring of teacher practice, therefore assuring better reliability of their scores when they conducted the actual research project.

List of 10 teacher-participants, their grade level(s), subject area, and SUNY Cortland program from which they graduated.

Participant Code	Grade Level(s)	Subject Area(s)/School	SUNY Cortland Program
4201	2nd grade	teaches primarily math/urban school	Childhood/Early Childhood Education (2017)
4202	1st grade	teaches whole class/rural school	Childhood/Early Childhood Education (2018)

4203	6th grade	English/urban middle school	English Education (2016)
4204	9th grade	English/urban high school	English Education (2016)
4207	K-6	multiple grades in rural elementary school	Physical Education (2014)
4208	9-12th grade	multiple grades in high school	Physical Education (2017)
4209	Kindergarten	teaches whole class/rural school	Childhood/Early Childhood Education (2016)
4210	1st grade	teaches whole class/rural school	Childhood/Early Childhood Education (2015)
4211	9th and 12th grades	English in suburban school	MAT Program in English Education (2017)
4212	9th grade and 11th grade	9th grade literacy (remedial services) and 11th grade Regents course/suburban school	MAT Program in English Education (2017)

* 4205 and 4206 are missing because the Math Education researcher was unable to enlist research subjects.

Context and description of the P-12 learning data that was examined (CAEP 4.1 rubric)

The P-12 learning data that was examined included:

- lessons plans and lesson materials, including exit tickets
- pre- and post-data of lessons
- student work (including, but not limited to, math problems (with revisions), student writing samples, worksheets
- APPR evaluation data
- formative assessments of students during the course of the term
- DDI action plans (noting student growth and steps the teacher took to facilitate that growth)
- student learning outcomes
- FitnessGram testing results (specific to Physical Education)
- gymnastics checklist and Tchoukball challenge (specific to Physical Education)
- teaching observation records kept by teachers
- teacher unit plans
- curriculum guides

The context of this P-12 learning data includes data collected by 10 SUNY Cortland completers who work in rural, suburban, urban, and small village settings within New York State. The completers represent teachers of physical education and English in middle schools and high

schools, a literacy intervention teacher, several elementary school teachers, a 2nd grade teacher who teaches primarily mathematics, and a high school teacher who teaches an English Regents course. Completers represent graduates from our undergraduate programs as well as from our graduate MAT program in English Education. All of the participates had graduated from SUNY Cortland within the last 5 years and had been working in their school for no less than 1 year. All but 2 of the teachers were within their first 3 years of teaching. All held full time positions.

The population of students taught by these 10 program completers included kindergarteners through twelfth graders, many of whom receive free and reduced lunch. The students were diverse in racial, ethnic, and socio-economic status background, and some were English language learners. Three of the 10 teachers taught in urban schools, the rest were a mix of rural, small town, and suburban schools.

Description and explanation of the representativeness of the data (CAEP 4.1 rubric)

All of the researchers made a concerted effort to view documents provided by the teachers that indicated how the teachers impacted K-12 student growth. This was sometimes a shortcoming in our last iteration of the case study research: teachers did not always provide documents that explicitly demonstrated their impact on student learning. There was improvement in this more recent iteration: in two cases (4211 and 4212), the teachers provided APPR evaluations. In one case (4211), the teacher showed the researcher a DDI plan in which the teacher demonstrated how students improved and showed what she did to facilitate this improvement. In the second case (4212), the teacher demonstrated the evolution of an argumentative essay and how the teacher scaffolded the assignment in order to have students improve their essays during various revisions. In another case (4208), the teacher shared pre- and post-data on student learning related to various exercises in physical education. In another case (4209), the researcher was able to review a teacher evaluation conducted by the principal of the school and also review writing samples by students and how those writing samples evolved over the course of a year.

These are just a few of the examples of the documents that showed student growth. Yet, though the researchers made a concerted effort to steer teachers to show documents that showed "growth" and not just "good work," it was still difficult for either teachers to provide this information, or for researchers to make teachers understand that what they needed were documents that showed *impact*. But again, we were more successful this time around. And again, while all researchers did ask about standardized assessments connected to the state's APPR process, very few participants were able to show student growth in artifacts connected to the APPR process or to assessments that districts and states regularly collect from K-12 students.

Analysis of Data

The researchers found evidence that completers of our programs contributed to student learning. This was true of the English teacher (#4211) who gave students assessments of literary terms. The teacher did not give students a pre-test of these terms, however she reported that students could not consistently use these terms accurately before reading and analyzing a play. The end of semester assessments showed that nearly all students could use these terms accurately. The teacher achieved this by modeling attention to these literary tools and by engaging students in whole-group and small group analyses of four speeches in the text. Another English teacher (4203) used an app called Zip Grade to track student progress, and the teacher cited several examples of formative assessment data, to confirm that students were making good progress on the lesson's objectives. The teacher provided evidence that student growth took place over time, facilitated by a range of teacher-designed activities and classroom management strategies.

A PE teacher (#4208) used pre- and post-tests and an app called Socrative to collect data and to measure student growth. In addition, the teacher collected data on the psychomotor domain using a LARGE holistic checklist for FULL skills such as throwing, fielding, hitting, and safety. The teacher did not share the data for the psychomotor assessment but did share the cognitive assessments involving knowledge of rules, routines, and skills. The range for the cognitive assessment was 20-100 on a hundred-point scale. The mean was 85 and there were very few students who scored below 70. While there was no clear evidence to demonstrate a stark improvement in student learning cause by, or impact by, the teacher--which was also true of the other PE teacher (#4207)--the researcher noted that the teacher used assessment consistently to track student progress and saw this consistent use of assessment as the cause of the good cognitive assessment results.

A kindergarten teacher (#4209) described how her students improved by referring to writing samples collected over the course of the year. The writing demonstrated how students had: strengthened fine motor skills; learned over the school year to add descriptive words to pre-existing text in their writing; to use erasers to correct their writing; and they learned to write stories using a beginning, middle and end. This teacher explained how reading student work at the end of almost every school day helps her to focus on skills that she wants to improve in her students. The teacher displayed evidence of student learning through multiple measures, including: evidence of application of skills taught through direct instruction in student writing; strong levels of student engagement in direct instruction, as evidenced through students frequently raising hands with enthusiasm and providing answers that indicated their engagement and growth in learning; and evidence of student growth over time through school work completed at the beginning and end of the school year.

A 1st grade teacher (#4210) had a positive impact on student learning, which was demonstrated by story samples and in records on a word study. In the first case, the teacher showed the researcher two story samples from students across various skill-levels in the class. The samples at the start of the year lacked detail, punctuation, and there was limited use of pictures to match written stories. However, by the end of the year, students' application of punctuation and the drawing of pictures to match the words in their story significantly

increased in their levels of detail. In the second case, student knowledge over the school year was seen in records of a word study conducted at the beginning and end of the school year. In the beginning of the school year, students struggled to spell words and break down words into their sounds and "letter chunks," whereas by the end of the school year students showed enhanced ability to classify the sounds and "letter chunks" of words, and showed enhanced knowledge of word spelling.

Two elementary school teacher teaching math (#4201, 4202) used exit tickets to demonstrate student learning, and one (#4201) used as well the STAR assessment program. The researcher noted that according to the teachers, the exit tickets showed that students were able to independently use the skills learned during the lesson. However, in spite of the use of the STAR assessment program and the exit tickets, there was no hard evidence that the teacher was having an impact on student learning. In neither case, was there pre-test or previous work to compare to the new work. However, it was clear that the teachers assessed students, analyzed the data, and addressed shortcomings in subsequent lessons.

There were also two English teachers (#4212, #4204) who did not have pre-tests or previous work to compare to subsequent work, but in both cases, there were strong indications that the teacher had an impact on student learning. In the first case (#4212) the teacher had his students write an argumentative essay using an "argumentative essay outline," which was crucial, according to the teacher, to the students' success. As mentioned, there was no earlier writing to which one could compare the essays, but according to the teacher the essays were very well done, with 15 out of 21 students receiving a B grade or higher. In the second case (#4204), the teacher conducted a "writing workshop" during which the researcher noted the teacher's impact as students registered understanding through a variety of verbal acknowledgements in addition to more writing and revision, which the teacher checked, interrogated, affirmed, and gave further feedback about. Again, while there wasn't a writing sample to compare their newer writing to, the researcher, in observing this class, saw what he called the "ah-ah moments" when students registered understanding.

Overview of evidence that completers effectively apply the professional knowledge, skills, and dispositions that the preparation experiences were designed to achieve (CAEP 4.2)

This section focuses on themes from the evidence that are related to each of the four Domains on the Structured Observation Rubric, which is aligned to Danielson's (2011) framework used to observe in-service teachers in New York State.

Planning and Preparation (3.0/4 average across participants=Proficient)

Proficient application of planning skills was demonstrated and documented in almost all of the 10 cases. Many of the teachers were Exemplary in this area. In the case of two teachers (#4211 and #4212), several administrators who evaluated the teachers as part of the teachers' standard APPR evaluation rated the teachers "effective" or "highly effective" in their ability to "purposefully plan instruction that allows students to be cognitively engaged in the use and

comprehension of key disciplinary language." In the case of one of these teachers (#4212), she was voted by students to be the school's Teacher of the Year.

In general, teachers understood and implemented the EngageNY modules in their planning, as well as Common Core Standards and subject area standards, as well as the CAEP standards that have guided teacher education programs at SUNY Cortland (for example, #4201, #4202, #4203). A PE teacher (#4207) was credited with having very clear objectives and a very logical sequence of activities to meet those objectives. A math teacher (#4201) was credited with applying techniques such as math centers, and also the ability to adapt modules to diverse students, which is a hallmark of math pedagogy teaching at SUNY Cortland. Many teachers recognized the importance of differentiation, scaffolding lessons, and meeting the needs of all learners (for example, #4212, #4202, #4210, #4207, #4203).

However, not all teachers were proficient in their planning and preparation, as it was pointed out that one teacher (#4208) was rather basic and at time "unsatisfactory" in her planning and implementation of lessons.

Classroom Environment (3.3/4 average across participants=Proficient+)

In general, all of the researchers noted that the teachers applied skills that they learned in their college programs in developing a classroom environment that was respectful and professional. Teachers knew that they must model professional behavior and that a positive classroom environment is important to establish: this is something that is emphasized in all teacher education programs at SUNY Cortland. Researchers also noted that teachers proved their ability to use culturally relevant subject matter and to teach using culturally responsive pedagogies (#4201; #4202; 4203) and that teachers showed caring, kindness and respect toward students (#4209; #4210; #4212).

It was also noted that some teachers used humor (#4210) to create a caring classroom. Researchers noted that the classrooms were "safe" and that a "positive learning environment" had been created (#4211; #4212). Even those teachers who struggled with their pedagogy scored higher and demonstrated an ability to create a positive learning environment (#4207; 4208).

One researcher noted that, "We [SUNY Cortland] seek to produce teachers with a focus on inclusivity and a caring approach to working with students, and such professional skills and dispositions are at the core of our program[s]." This same researcher noted that the teacher she studied used humor, a caring response to individual student needs, and a focus on helping struggling learners in a way that demonstrated that she had retained and implemented the bedrocks of SUNY Cortland's programs. This was true of all the teachers who were studied, even as mentioned, those who struggled with their pedagogy.

Instruction (3.0/4 average across participants=Proficient)

Completers of our programs showed great facility to take what they learned in their teacher education programs and to apply those skills to teaching in schools. The teachers who were observed showed their knowledge of what they learned of content standards, Common Core Standards, and EngageNY modules (#4201; #4211), they showed knowledge of and ability to scaffold instruction (#4211; #4212), and to use various kinds of informal assessments (#4202; #4203; #4207; #4210; #4212).

It was noted that the teachers used a variety of teaching methods, including direct instruction, one-on-one tutoring, small groups, centers, and other methods they learned from their programs (#4203; #4209). Teachers also differentiated instruction (#4202; #4210; #4212).

One teacher (#4201) demonstrated excellent skills in communicating with her very diverse class (where 7 languages other than English were spoken). The teacher used hand gestures quite often, using her arm movements to show horizontal and vertical. She used sentence starters and sentence frames when the students were completing the questions about line plots. She also relied on positive reinforcement with many of her students to encourage their active participation.

One researcher's comment about a teacher was typical of how most researchers felt: "This completer used students' responses offered in whole-class, small-group, and student-teacher discussions; used a range of types of informal writing; and used performance on prior assessments...to monitor student progress. These competencies are bedrock items of our program."

Professional Responsibilities (3.2/4 average across participants=Proficient+)

Though it's difficult to evaluate a teacher's professional responsibilities, since many of those responsibilities take place outside of the classroom--attending conferences, reading, learning from peers--the researchers did note that most of the teachers were aware of their responsibility to know standards, to seek professional development, and to participate in other activities in order to improve their ability to teach and engage students. Teachers were aware of subject standards, the EngageNY modules, and Common Core Standards (#4201; #4207; #4211).

It was noted that one teacher (#4202) works closely with an instructional coach and adapted the module lessons to create math centers for each lesson. The researcher noted: "In our program, the participant learned how to adapt curriculum, like the EngageNY modules, to meet the diverse needs of her classroom and students," and she demonstrated this in her classroom.

Another researcher noted that her teacher (#4209) "shows ability to reflect critically upon her own teaching practice and to consider ways to strengthen her lessons for the future. This is an important skill for educators from the point of view of our program at SUNY Cortland."

In general, it was noted that all the teachers, in one way or another, understood their professional responsibility to further their own education, to learn from peers, to be reflective, to understand curriculum requirements, and to be knowledgeable about trends and newer policies in their fields. Some teachers showed researchers journals, magazines, or policy papers they were reading to remain knowledgeable about developments in education and/or their particular subject area.

Trends

New York State does not provide evaluation data related to teacher effectiveness and APPR scores are not readily available to researchers and others. Therefore, it is still very difficult to assess our teacher candidates, as there is no consistent form of data to provide evidence of student-learning growth.

While P-12 school systems are not yet providing reliable measures of teachers' impact and effectiveness, SUNY Cortland is able to demonstrate that outcomes shown in other unit assessments like the Exit, Alumni, and Employer surveys, as well as the Student Teaching Evaluation, are consistent and also connect to the outcomes found within this case study research.

During out last iteration of the case study research in 2017, we saw strengths in planning and instruction. However, weaknesses in assessment clearly emerged. However, this current iteration demonstrated strengths in assessment that were not seen previously. It will be interesting to see if our surveys and Student Teaching Evaluations also demonstrate a possible increase in the ability of our completers to provide ongoing assessment and to use assessment to steer their teaching.

Researchers also saw clear signs that completers were using what they learned in their programs in the classroom. The use of multiple methods of teaching, exit tickets, one-on-on tutoring, close readings of texts, centers, multiple means of informal assessment, all indicated that completers were using what they learned in their program--and doing it effectively.

Another positive trend noted in the research was how many of the researchers noted our completers working individually with students, and in many ways making concerted efforts to reach those students who seemed to be struggling. There were also several instances where our completers showed a dexterity and care to work with students who did not speak English or who, in other ways, were marginalized. It seems that our focus on care and culturally relevant teaching is being practices by completers.

One researcher noted that the two teachers he was studying were having trouble adjusting to the culture of their schools. While they both developed rapport with students, one in particular was "having a difficult time adjusting to the culture of her teaching colleagues." While this did not present itself as a trend in the research, programs may want to pay particular attention to data that may indicate that our completers are having difficulty adjusting to school cultures and

environments. This is especially important as schools become more culturally diverse, and yet, the teaching force is still overwhelming white, and female at the lower grades.

Program Changes

In order to increase the likelihood that our graduates will be able to teach a diverse range of students, many teacher education programs at SUNY Cortland have included in their curricula a heightened focus on diversity and inclusion. This is true, for example, in several programs that have altered their curricula to include a new ESL course, which is offered by our Modern Language Department. There have also been efforts across the School of Education to bring critical perspectives about race and racism to the forefront, through partnerships with the Civic Ensemble, the formation of the Black Lives Matter at School committee, and the development and implementation of numerous workshops and panel discussions on race/ism, disability and other critical topics concerning diversity.

We saw the use of many technologies by our graduates. They used computer programs, apps, and other technologies to teach and assess student learning. We have put a focus on hiring faculty with greater awareness and dexterity with educational technologies, and have continued to focus on making our graduates comfortable with learning the vast array of technologies that are being used in schools today. The English department, for example, has altered its program to include a Digital Rhetoric course.

Some programs have altered courses in light of some findings from the research. The English department, for example, has honed their teaching of argumentative writing skills and how it should be taught at the high school level. This was a result of seeing the importance of this skill for teachers of secondary English.

The focus on modules that researchers saw in their research also pressed programs to discuss how to introduce their candidates to the reality of teaching modules and other forms of "scripted" programs. Discussion about the benefits of modules, and some of the challenges, have occurred in some faculty meetings, but also in the college classroom, in order to introduce our candidates to the reality of teaching in schools where sometimes curricula is provided to teachers.