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**Project IMPACT:  
Improving Motivation, Pedagogy, Assessment, and Collaboration for Teachers**

**Absolute Priority 1: Partnership Grants for the Preparation of Teachers**

The College of Education and Human Development (EDHD) at Bowling Green State University (BGSU) has one of the largest public undergraduate teacher education programs in the State of Ohio, graduating more than 400 licensed teachers, in 2017-18. BGSU is rated as number one for student engagement among public universities by the *Wall Street Journal/Times Higher Education*. Most recently, the American Association of Colleges of Teacher Education (AACTE) chose the Inclusive Early Childhood Program as their featured inclusive program for their Research to Practice illustration for the CEEDAR (Collaboration for Effective Educator Development, Accountability and Reform) Center project (Fall, 2018).

The success and strong reputation of BGSU's programs is the result of effective collaboration with university and PK-12 partners. Over the past seven years, Drs. Huziak-Clark (College of Education and Human Development, Principal Investigator for this project) and Laird (College of Arts and Sciences) have built strong partnerships with area LEA's to develop high school science teachers through the Improving Teacher Quality Grants. Findings from the professional development (PD) programs show an increase in teacher content knowledge, confidence, and self-efficacy. Observations in classrooms document reform-based teaching practices and increased student achievement (Huziak-Clark & Burgoon, 2018). Thus, our partner districts are eager to expand these opportunities to other high-need content areas.

Addressing Priority 1, the initial license preparation of teachers, Project IMPACT will continue to build on the strong traditions of highly-qualified graduates and expand our pool of graduates for difficult-to-staff positions. We will do this through revisions within existing teacher candidate education programs, additional PD for teacher candidates (TCs) and in-service

teachers in high need content areas, modifications to our current clinical model to include

- Obj. 1. Recruit, prepare, mentor, and develop highly qualified teachers, particularly from historically under-represented populations, to fill difficult-to-staff positions.
- Obj. 2. Establish, develop, and strengthen partnerships with area stakeholders including but not limited to, local area districts and urban, rural, and charter schools.
- Obj. 3. Develop and implement a three-year teacher induction program to support new teachers who graduate from BGSU and are employed within their first five years of teaching experience in a partner local education agency or charter school.
- Obj. 4. Establish processes for the development of reform-based course modules for infusion into teacher education curriculum.
- Obj. 5. Assemble an advisory board to gain key stakeholder input on recruitment, areas of need, PD, retention, and induction.

### **Project Overview**

Project IMPACT will provide a direct pathway from teacher education at BGSU to employment in one of our partner districts for highly qualified TCs in difficult-to-staff areas. This will be accomplished through interventions delivered at three levels; interventions delivered during **teacher candidate education** at BGSU, interventions delivered through **meaningful**

**clinical practice integrated within partner districts** , and interventions delivered through the **ongoing support and PD of induction programs** for new teachers. Over the period of five years, BGSU and partner districts will work together to assess needs for both in-service and TCs before, during, and after induction. Each year of the program will include cohort admission (with preference for underrepresented populations), year-long clinical experiences (professional year) within districts, mentoring facilitated by both the partner district and BGSU, a two-week summer PD institute focusing on reform-based practices, and academic year follow-up at the clinical site to support implementation of reform-based pedagogy. Furthermore, once hired by our partner districts, cohort members will participate in a three-year induction program focused on meeting the specific needs of the teachers and their students in our partner districts.

Over the duration of the project, a central goal is to identify specific needs in our area, to capitalize on existing strengths, and to build new capacities of both our partner districts and BGSU teacher education programs to effectively meet those needs, not only during the project period, but also beyond the cessation of external funding. The intent is to fully integrate the PD experiences for professional year students and induction professionals into the core curriculum at BGSU through an infusion approach (de Jong, Naranjo, Li, & Ouzia, 2018; Liu & Milman, 2013; Scott, Temple, & Marshall, 2015). Classroom instruction is a multifaceted and complex practice, requiring teachers to draw upon extensive professional and content knowledge, skills, and dispositions simultaneously, making countless instructional decisions in the moment to respond to unexpected questions, behaviors, and challenges presented by students with unique, individual learning needs (Shulman & Wilson, 2005). Thus, to develop teacher education content as new courses, or within a single existing course, may encourage TCs to learn new content in isolation. Instead, Project IMPACT seeks to **infuse important content into the teacher education**

**curriculum**, so that critical learning is **embedded within the core understanding** of teaching and learning developed throughout the program.

The project will provide regular PD to develop high-quality new content in partnership with local, high-needs districts; collect and analyze data on its success in both implementation and impact; and continuously improve and refine that content. Course modules created from this content can then be embedded in existing teacher education courses to infuse important content throughout teacher education programs at BGSU. This process allows critical content and successful interventions used in Project IMPACT to be sustained post-funding and delivered to all TCs at BGSU. The project will develop and implement interventions for **teacher candidates**, **clinical practice**, and **new teacher induction** along four primary themes: **(a) applied practice and coaching**, in which teachers directly apply new learning and receive formative feedback to improve professional mastery, either in clinical field placements or in simulations (such as Mursion, Inc); **(b) research, reflection, and self-study**, in which teachers critically consume and apply educational research; collect, analyze, and track relevant data to reflect on their own teaching practice; and engage in Lesson Study; **(c) instruction that meets the unique learning needs of every student**, in which teachers apply the principles of Universal Design for Learning (UDL), apply principles of literacy education in all disciplines, and make appropriate instructional accommodations for students; and **(d) attending to the needs of the whole learner**; in which teachers deepen their understanding of social and emotional needs, development, and regulation and implement positive behavior interventions and supports (PBIS).

### **Project Design**

BGSU has a strong tradition of PD grants (e.g., Improving Teacher Quality grants, Math/Science Partnership grants, and NSF Funding). These successful programs have led to

implementation changes to many of our programs. For instance, many of our undergraduate programs were developed with clinical practice at the core, Inclusive Early Childhood (IEC) dual licensure program (2010), Middle Childhood (MCE; grades 4-9), and Adolescent to Young Adult (AYA; grades 7-12) providing experiences each year of a student's program (See Appendix B). These programs have been analyzing data and have identified several areas for program improvement, including meeting the needs of English Language Learners (ELLs), and the use of assessment data to improve instruction, access, and differentiation. Other programs, such as Intervention Specialists (Special Education), have found that more content knowledge may be necessary to assist teachers during their induction years. In addition to internal program review, EDHD also shares data with Advisory Board members which include Arts and Science colleagues and PK-12 educators and administrators. A common recommendation from this group includes the need for even more knowledge about how to meet the individual needs of all students in PK-12 classroom.

Furthermore, partner districts in Project IMPACT have identified high needs in hiring and retaining qualified teachers in the areas of **1) special education** (particularly for students with emotional and behavioral disorders), **2) high school mathematics**, **3) high school science**, and **4) workforce education** (particularly in family consumer sciences; FCS). Appendix C describes in more detail the needs of our partner districts. We note that our partner districts did not identify early childhood education as one of their needs as our nationally recognized Inclusive Early Childhood program provides local districts with an adequate supply of qualified candidates to meet their needs. As such, the project does not include an early childhood component, but looks to the IEC program as a model of successful program design. Neither BGSU nor our partners are currently conducting projects funded through ESEA or IDEA but will



coordinate with such projects if funded in the future. Our institution is conducting multiple state-supported projects and will coordinate efforts directly with those PIs.

The project will work to recruit highly qualified TCs, particularly from traditionally underrepresented groups, to teacher education programs in these four licensure areas into partner district cohorts. These cohorts will receive the PD interventions along the four themes of **(a) applied practice and coaching, (b) research, reflection, and self-study, (c) instruction that meets the unique learning needs of every student, and (d) attending to the needs of the whole learner.** PD will be offered to teachers in Project IMPACT cohorts, as well as the partner classroom mentor and building mentors teachers and administrators, and as space is available, to other teachers in partner district schools who wish to participate. All participants in Project IMPACT PD will have the opportunity to complete application and reflection of professional learning to receive digital badges as evidence of development activities.

### **Levels of Intervention Delivery**

**Teacher candidate education [Objs. 1 and 4].** The project will build upon BGSU's strong experience as Ohio's leading preparer of teachers. While the focus of this grant will be on the selected cohorts of future teachers in high need content areas, all BGSU teacher education students will benefit from reform efforts throughout the grant period. It is our aim that all curriculum developed for PD be archived and adapted for curriculum infusion into appropriate programs and courses. For example, we believe that all teachers need to meet the needs of all learners. While an Intervention Specialist may need more specific and practical research-based tools, it is important for every general education teacher to have a solid foundation as well.

Beginning in the first two years, Project faculty will design, test, and revise PD based on partner district needs and feedback from our Advisory Board. Once the content has been refined

and revised, we will begin to imbed these experiences throughout appropriate courses that already exist through the use of BGSU's online learning management system. To build sustainability, we will phase out the additional PD and ensure that all BGSU teacher education students have access to these important learning experiences. We recognize that over the period of five years, the needed content for PD may change for our partner districts and key stakeholders, so flexibility to continue to add and refine will remain a goal throughout the five-year project.

**Meaningful clinical practice integrated within partner districts [Objs. 1 and 2].**

While BGSU already has a long tradition of early and frequent clinical experiences in area schools, Project IMPACT cohorts participate in a more location-centric clinical supervision model which will require increased collaboration between the partner districts and BGSU. Classroom mentor teachers (CMTs; see Table 1) are the key to the success of this program. CMTs who participate in this program will participate in project-specific CMT training, including training in a Danielson observation framework (Danielson, 2007) as well as the Summer Institute that their teacher candidate will be attend.

Each building where cohort teachers are participating in either an early field experience (defined as once a week or less), or the professional year (PY) will have at least one LEA Building Mentor teacher (BMT; see Table 1). The BMT mentor teacher will be responsible for the formal observations (4 per semester during PY) and will be a contributor to the mid-term and final evaluations. The BMT teachers will also be invited to participate in PD training and compensation of a stipend will be included. A BGSU site coordinator (University faculty), will also conduct a minimum of 2 formal observations, contribute to the mid-term and final

evaluations and be the communication center between LEA and BGSU. All mentors will participate in formal observation training using the Danielson framework (Danielson, 2007).

Table 1

*Qualifications and Minimum Service of CMT and LEAD teachers*

<b>Requirements for LEA Classroom Mentor Teacher (CMT)</b>	<b>Requirements for LEA Building Mentor Teacher (BMT)</b>
Minimum of 3 years teaching experience	Minimum of 5 years teaching experience
Successful completion of the Ohio Resident Educator Summative Assessment (RESA)	Experience supporting at least 1 Professional Year student within the past 5 years.
Ohio Teacher Evaluation System evaluation at an accomplished or skilled level	Letter of support from administrator

**Ongoing support and PD through induction programs [Objs. 1 and 3].** Induction is most commonly defined in the United States as the first three years of teaching experience. This transition period is where the most educators persist or leave the profession, “ 12% of new teachers (with one to three years of experience) left the profession within two years and 23% left the profession within five years (National Center for Educational Statistics, 2015). This period has been described as a time to “sink or swim, trial by fire, or boot camp” (Ingersoll & Smith, 2004). Some common challenges faced by novice teachers include high-stakes testing, accountability and performance-based assessments (Richards, Gaudreault, & Templin, 2014).

Additionally, Menon and Christou (2002) suggest that part of the reason for attrition is based on personal expectations and perceptions of what the work should be like as a novice teacher formed during formal teacher education. When these expectations are not met, novice teachers may feel like they are not successful and be unable to cope with their chosen profession. (Kelchtermans & Ballet, 2002). The discrepancies between expectations and reality have been referred to as “praxis shock” (Friedman, 2004). To overcome praxis shock, teacher education programs must create opportunities for realistic, genuine teaching experiences, in which teachable moments can be immediately followed with formative feedback, and to help TCs

practice thinking deeply about how their instructional actions impact student behavior and learning. Project IMPACT will use virtual reality simulations strategically for this purpose.

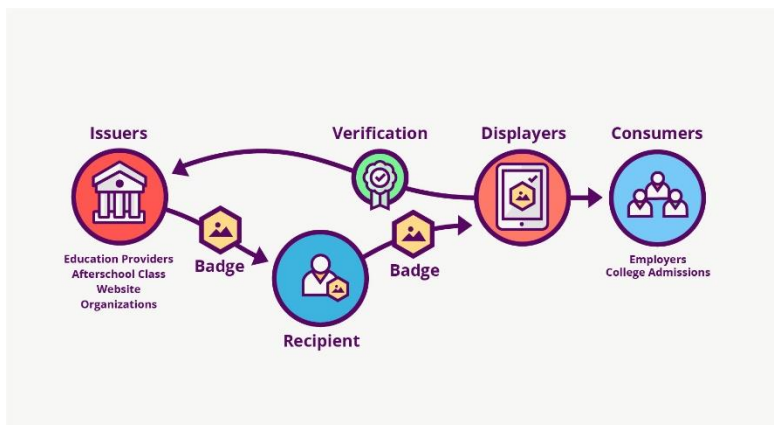
Our LEAs are very interested in hiring the TCs that complete the professional year PD and program. However, we fully recognize that this program might not be able to meet all of the difficult-to-staff teachers, therefore any new teacher hired by our partner district will be invited to participate in three-years of induction PD, giving space preference to the graduates of Project IMPACT. In Ohio, novice teachers are considered resident educators and are granted a resident educator licensure for the first four years. They must successfully complete a residency program as planned by their district. In addition to the district resident educator program, novice teachers will participate in a three-year induction program designed to support the unique challenges of our partner districts. All three induction years will include specific resident educator PD with a mentor and monthly mentoring support meetings.

### **Applied Practice and Coaching**

The project will include opportunities for applied practice, with constructive feedback and opportunities to improve, at all three levels of intervention delivery. During **teacher candidate education**, all course modules created from Project IMPACT PD content will have applied practice built in the infused content. Applied practice activities will also provide opportunities for meaningful feedback and coaching from peers and/or instructors. During **clinical practice** experiences, TCs will have regular, meaningful opportunities to practice the pedagogical knowledge and skills learned in their courses and to implement skills and techniques learned either through Project IMPACT or through district PD events, coached by their CMT and BMT. During **induction programs**, new teachers will have regular access to ongoing observation, on-site coaching, and consultation with BMTs and the BGSU site coordinator.

Induction teachers will also attend Summer Institutes that will include explicit opportunities for applied practice and meaningful coaching, including the opportunity to earn digital badges.

**Digital badges and micro-credentialing [Objs. 1, 3, and 4].** According to Hurst (2015) micro-credentialing recognizes the completion of either formal or informal learning and can be earned through demonstration of a specific skill or practice. Digital badges, which can be used to issue and certify micro-credentials, are designed to publicly recognize accomplishments such as a mastery of a skill, completion of a project, or quality of practical experiences (Casilli & Knight, 2012). The MacArthur Foundation considers digital badges an assessment and credentialing mechanism that documents and validates learning in various settings and can challenge traditional views of how PD is certified (Alliance for Excellent Education, 2013).



*Figure 1.* The Open Badges Ecosystem (by Erik Knutson, Concentric Sky, licensed CC-BY).

Digital badges use a standard data format (such as the OpenBadge Standard; see <https://openbadges.org/> and Figure 1) to encode information provided by an issuer (such as an IHE) into an image so that viewers can verify the integrity of credentials presented. BGSU is an OpenBadge issuing authority of micro-credentials to participants of PD. Since digital badges allow participants to document PD, and since digital badges have been shown to motivate learners to complete programs of study (Casilli & Knight, 2012; Dyjur & Lindstrom, 2017), the

project will award digital badges after 1) full attendance at a PD, 2) successful application of PD content either in a structured activity (such as a Mursion simulation, described next, or in a clinical setting), and 3) completion of a reflection, exploring lessons learned and next steps for growth. Digital badges will serve as micro-credentials, certifying acquisition and demonstrated mastery of specific professional knowledge and skills. Project IMPACT will also design digital badges to be stackable, such that teachers can earn a specific series or subset of badges to add up to a more significant qualification. For example, a teacher may complete four Universal Design for Learning (UDL) badges to earn recognition as a *UDL Lesson Designer*. Over the course of the project and even after funding has ceased, additional badges will be developed to certify more advanced levels of training and application, such as *Advanced UDL Designer*, and *UDL Design Coach*.

**Virtual reality teaching simulations [Objs. 1, 3, and 4].** As part of its focus on **applied practice and coaching**, Project IMPACT will develop and use virtual reality teaching simulations built on the simulation system offered by Mursion, Inc. (<https://mursion.com/>) to offer participating teachers targeted practice with immediate coaching and feedback. The simulations use a simulated classroom with five student avatars (see Figure 2 ) to give teachers an opportunity to deliver instruction and practice specific skills in fully interactive simulations based on extensive research that are designed to give teachers realistic experiences with a variety of student needs (Dawson, & Lignugaris/Kraft, 2017; Dieker, Hynes, Hughes, Hardin, & Becht, 2015; Dieker, Rodriguez, Lignugaris/Kraft, Hynes & Hughes, 2013). The project will capitalize on the flexibility of the simulation system to give participating teachers targeted practice.



*Figure 2.* A virtual reality classroom simulation with student avatars.

### **Research, Reflection, and Self-Study**

Teacher Education programs at BGSU are grounded in research-based practices and TCs are taught to read and analyze current educational research on pedagogy and student learning. Furthermore, students are engaged in assessment practices that focus on student learning in specific courses (EDFI 3020- Educational Psychology and EDFI 4020- Assessment). Students at BGSU demonstrate their mastery of these ideas through several unit wide assessments, including external review through the edTPA. Project IMPACT will include additional opportunities for research, reflection, and self-study at all three levels of intervention delivery. During the induction component of PD, teachers will be taught how to conduct Action Research and will be encouraged to share their findings at local and state conferences. Registration and travel costs will be reimbursed for participants who present their classroom research. BGSU has several opportunities for sharing research (Undergraduate Research Symposium) and as part of the infusion model additional research and lesson study curriculum modules will be developed to be integrated fully into the teacher education program.

**Lesson study [Objs. 1, 3, and 4].** As part of its focus on **systematic analysis, reflection, and self-study**, Project IMPACT will include Lesson Study as a cornerstone PD

experience for TCs in their professional year, new teachers in induction, and their CMTs and LEAD teachers. In 1999, Stigler and Hiebert’s famous book titled, *The Teaching Gap*, called for lesson study to be tried and tested in the United States (p. 131). Since that time, several researchers have shown that when it is implemented well and for sufficient duration, similar results to Japanese lesson studies are found (Lewis & Hurd, 2011; Lewis, Perry, & Hurd, 2009; Lo, Chik, & Pong, 2005). Lesson Study is a “comprehensive and well-articulated process for examining practice” (Fernandez, Cannon, & Chokshi, 2003, pp. 171). The Lesson Study approach is a method of PD that encourages teachers to reflect on their teaching practice through a cyclical process of collaborative lesson planning, lesson observation, and examination of student learning (Lenski, Caskey, & Anfara, 2009). Lesson study allows teachers to view teaching and learning as they occur in the classroom. Research has shown that with time and district support, lesson study has built strong teacher professional learning communities within schools and ultimately result in instructional improvement and increase in teachers’ knowledge with focus on the student and the content (Stewart & Brendefur, 2005).

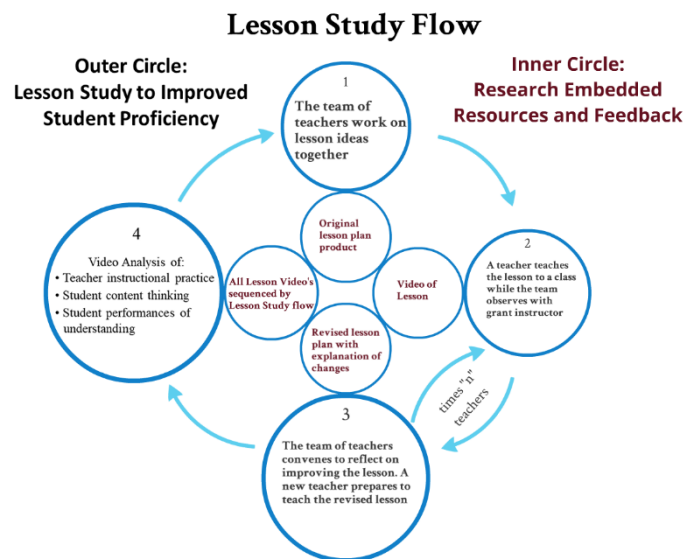


Figure 3. Lesson Study Flow.



In our teacher education partnerships, we recognize the benefits of lesson study for both practicing teacher professionals and teacher candidate novices. The collaborative nature and debriefing elements of lesson study supplement the learning of best practices that TCs undergo in their undergraduate coursework (Roberts et al., 2018; Carrier, 2011). Additionally, the emphasis of collaboration rooted in lesson study improves the pedagogical knowledge of teams of teachers rather than individuals (Rappleye & Komatsu, 2017). Participating teachers engage in planning periods prior to the lesson to develop and implement teaching strategies that would benefit student learning. For these reasons we seek to incorporate lesson study within our partnerships for the improvement of teaching across all partners, in both real and simulated instructional situations.

Project IMPACT will include traditional lesson study cycles, during Year 1 with our first cohort during their Professional Year Clinical Experience. TCs will have the opportunity to volunteer to conduct a lesson to be studied as part of the Academic Year PD held in the district. Thus, TCs, CMTs, BMTs and other interested parties will be able to observe and reflect on the lesson during the day. During the seminar after school, there will be a period of debrief and reflection to make suggestions for improvement to the lesson. The teacher candidate should then have an opportunity if needed to “re-teach” or make adjustments for the next day’s lesson based on feedback. As the culture for lesson study begins to develop in the partner districts, our aim is that veteran teachers would also be willing to participate in the lesson study feedback loop as well. Drs. Matney and Bostic (EDHD) have both successfully used this process during their Science and Mathematics Partnership grants (2014-2018).

Over the course of the first two years, the project will also develop and pilot PD and virtual reality simulation experiences that teach TCs the skills and practices necessary to

successfully participate in lesson study. TCs will have the opportunity to earn digital badges in this sequence of lesson study skills. A team of teachers will apply the lesson study process to discrete components of a lesson, such as questioning sequences or problem-solving exercises. We will fully implement PD workshops that include short cycle lesson study application in the Mursion environment during year three. Successful applications of both traditional cycle and short cycle lesson study will be developed as course modules for infusion within existing teacher education coursework by the end of the project.

**Visible Learning for Teachers (VLT) [Objs. 1, 3, and 4].** During the professional year of teacher candidate education, all Project IMPACT TCs will use the Hattie (2012) book, *Visible Learning for Teachers*, as a common text across courses, PD, and clinical experiences to explore the concepts of educational research, research-based instructional practices, and high effectsize instructional strategies. Once familiar with the concept of an effect size and its calculation based on pre/post assessments for group comparisons, teachers will have a clearer understanding of how to collect and analyze student learning data in their own classrooms to determine the relative effect sizes of the instructional interventions and strategies they employ. Project IMPACT teachers will use the VLT framework to select high-effect size strategies during lesson planning and delivery and will regularly engage in the collection and analysis of both quantitative and qualitative data to reflect upon and improve their own teaching practice.

**Meeting diverse learners needs in special education [Objs. 1, 3, and 4].** There will be a PD focus for all teachers (teacher candidate and in-service) on implementation of High-Leverage Practices in Special Education (HLPs) established by the Council for Exceptional Children (CEC; McLeskey et al., 2017). The HLPs are organized into four interconnected components of SET practice: (a) Collaboration, (b) Assessment, (c) Social/Emotional/Behavioral

Practices, and (d) Instruction. Across the four components, CEC has identified 22 HLPs that address the most critical practices that every SET should master (McLeskey et al., 2017). These HLPs form the basis of specific, cohesive practice-based learning opportunities. While specific content courses in candidates' undergraduate programs have a basic understanding of the HLPs. The focus of PD, however, will be on opportunities to enact these practices in their field placements.

**Researched based practices in Family and Consumer Sciences [Objs. 1, 3, and 4].**

According to the National Association of State Administrators of Family and Consumer Sciences, "today's students are the future leaders and members of tomorrow's families, workplaces, and communities. They need to develop the social, emotional and character maturity to be able to act responsibly and productively to synthesize knowledge from multiple sources, to work cooperatively, and to apply the highest standards in all aspects of their lives." (<http://www.nasafacs.org/national-standards-overview.html>)

Family Consumer Science (FCS) courses offered in the K-12 environment provide an opportunity for students to gain knowledge and explore hands-on real world experiences to improve skills, gain awareness and develop positive attitudes for their own family, workplace and community lives. The Family and Consumer Sciences National Standards 3.0 provides 16 possible areas of study with standards and competencies for each area of study. Future FCS teachers should develop and explore extensive practices of these areas of study. As future FCS teachers it will be important that they have the skills to be able to determine the best possible areas of study for their own student success. This includes a full understanding of their own student lives, environment and community to provide curriculum that will enhance their students' lives and futures.

It is extremely important that FCS TCs are exposed and experience Career and Technical Student Organizations (CTSO). Family, Career, Community and Leaders of America (FCCLA) is a dynamic student organization that provide an abundance of opportunity for middle and secondary students. A quality CTSO school program can provide opportunity for personal growth through competition and travel. As stated on the FCCLA website, the organization mission is: To promote personal growth and leadership development through Family and Consumer Sciences education. Focusing on the multiple roles of family member, wage earner and community leader, members develop skills for life through: character development, creative and critical thinking, interpersonal communication, practical knowledge, and career preparation (<http://www.fcclainc.org/>). Extensive PD on the creation, student preparation, on-going needs, CTSO curriculum development and crosswalk between curriculum and standards is needed to properly prepare FCS teachers to meet the needs of a highly qualified CTSO that will enrich the lives of their future students.

**Evidenced based practices in content literacy [Objs. 1, 3, and 4].** The overarching purpose of literacy is "...a means for people to use a common medium to understand and connect with one another" (Allyn, 2014, p. 1). Research suggests that if teachers have a working knowledge of vocabulary and comprehension instructional strategies within their content area and know how to effectively use the strategies throughout their discipline, student achievement will be impacted (Meltzer, 2006; Willingham, 2009). "Content area literacy skills actually save time: if students possess the necessary skills, they should be able to learn more of the content on their own and should also benefit more from teachers' guidance" (Gunning, 2003, p. 13). It is important that teachers be responsible for their role in literacy in their content area and help to reframe the conversation around literacy instruction and effective practice.

Content literacy (CL) is currently embedded as required by state statute within all teacher candidate curricula. CL Courses and content literacy PD (CLPD) focus on the essential components of reading instruction of vocabulary development and reading comprehension strategies as these apply to all grades and content areas. Research has established that a merely definitional knowledge of words is insufficient; yet, this remains a prevalent instructional practice and goal (Ford-Connors & Paratore, 2015). In contrast, “rich” vocabulary instruction requires students to use the words, explore facets of the word meaning, and consider relationships between words; to prepare this type of instruction, teachers must carefully select the words to teach (Beck, McKeown, & Kucan, 2002). Participants in CL Courses and CLPD will develop a foundation in evidence-based practices for teaching vocabulary to all learners. For primary students, vocabulary instruction should be discussion-based and include academic language skills such as inferential language skills, narrative language skills, and academic vocabulary and structures that are valuable in multiple contexts. For older students, explicit, domain-specific vocabulary instruction aids in understanding the content of their classes (Baumann, Edwards, Boland, Olejnik, & Kame’enui, 2003). Teaching a limited set of vocabulary words through multiple modalities and activities across several days is particularly valuable for ELLs (Lesaux, Kieffer, Faller, & Kelley, 2010). Specific instructional strategies (e.g., Cornell Notes, Interactive Word Walls) will be explored.

Though vocabulary development plays a large role in reading comprehension (Beck et al., 2002), explicit instruction in reading comprehension strategies is essential for both primary and secondary students. In primary grades the emphasis should be on evidence-based strategies (e.g. predicting, questioning, visualizing, etc.) and how to use them. Participants in CL Courses and CLPD will learn to take a Gradual Release of Responsibility (Pearson & Gallagher, 1983)

approach to strategy instruction to develop an understanding of how to include modeling, scaffolding, guided and independent practice in their teaching. Teachers of older students will benefit from a similar focus with an increased emphasis on more complex strategies (e.g., summarizing, paraphrasing, drawing inferences, using graphic organizers), careful text selection for teaching strategies, and modeling the metacognitive skills needed to apply strategies flexibly (Pressley & Afflerbach, 1995). CLPD content will include instructional approaches that integrate multiple strategies such as Collaborative Strategic Reading (Klingner & Vaughn, 1998) and Reciprocal Teaching (Palinscar & Brown, 1981) that have been established as effective for building reading comprehension for heterogeneous groups of students including ELLs and students with identified learning disabilities.

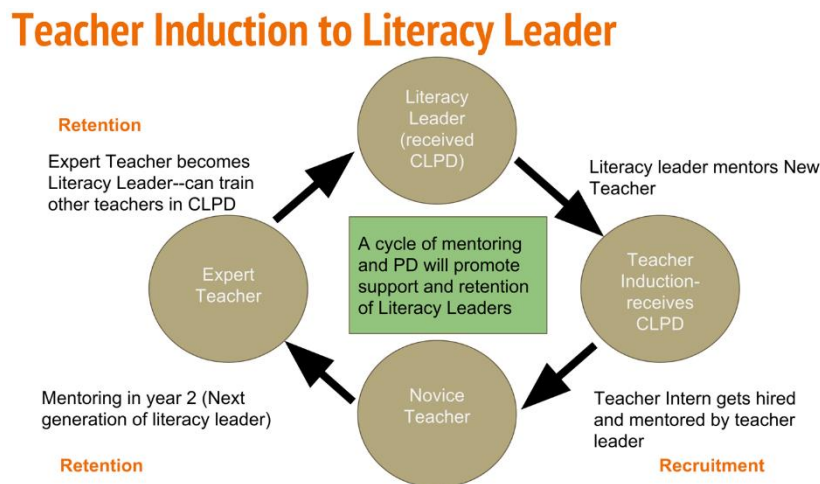


Figure 4. CLPD mentorship model.

The goal is for teachers to integrate literacy skills across subject areas with intentionality in meeting the needs of all learners. Through CLPD and follow-up, teachers acquire the literacy pedagogical skills and strengthen their efficacy to successfully implement literacy instruction. The Literacy PD framework for moving from graduate induction to becoming a Literacy Leader is laid out in Figure 4. It demonstrates how a Literacy Leader who has had the CLPD mentors a

graduate/novice teacher who continues to have support and PD from BGSU to strengthen their literacy instructional skills to, in turn, become a Literacy Leader.

The Literacy Leaders within the school or district can run CLPD sessions with the support of university faculty, reflecting a train the trainer model that empowers the teachers within the districts to become leaders. We envision that these Literacy Leaders will also serve as Building Mentor Teachers in both the elementary and middle schools across our partner LEAs. Project IMPACT will include CLPD in its Summer Institutes and incorporate CL coaching into new teacher induction, developing a self-sustaining mentorship cycle, providing digital badges for developing CL Leaders at each stage of the cycle pictured.

### **Instruction That Meets the Unique Learning Needs of Every Student**

**Literacy assessment and interventions [Objs. 1, 3, and 4].** Phonemic awareness, phonics, and reading fluency are also essential components of reading instruction, most often the focus of primary years. Inclusive Early Childhood TCs at BGSU take multiple courses focused on teaching and assessing these essential skills. We wish to build on this strength by extending this literacy content knowledge to TCs and teachers of older students as it is relevant for working with the diverse learners in their care. In addition to strengthening this content in undergraduate courses for middle and secondary TCs, PD will focus on these essential components through the lens of literacy assessment and intervention.

All TCs at BGSU take a course about using formative and summative assessments to inform their teaching and monitor student learning. Candidates in middle and secondary language arts programs take an additional literacy assessment course to bolster their content specific knowledge. For further development, assessment PD sessions will be tailored to the screening and diagnostic tools (e.g. STAR, DIBELS, etc.) used in our partner districts to foster

data literacy in relevant measures. PD sessions will also address how to administer informal reading inventories, interpret readability formulas to determine the appropriateness of texts, and use interest inventories in order to engage all readers in instruction using high interest reading materials (Taylor, 2006; Belzer, 2004; Purcell-Gates, 1995; Bergeron & Rudenga, 1996).

“Selecting appropriate texts for a population of readers require some understanding of both the reader and the text” (Benjamin, 2012, p. 64).

TCs will learn how to use the data they collect to guide instruction and provide small group intervention. For students with deficiencies in literacy skills, it is critical that assessment is not only used to carefully to identify students’ specific literacy needs, but also to monitor their progress and the efficacy of the intervention. For students who need to develop phonological awareness, phonemic awareness, or phonics skills, research has established interventions to be effective with young readers from a variety of backgrounds (Hagans & Good, 2013; Torgeson, Wagner, Rashotte, Herron, & Lindamood, 2010; Scanlon, Vellutino, Small, Fanuele, & Sweeney, 2005). TCs will draw from what they learn in their phonics/linguistics courses to develop their own knowledge of the metalanguage and practice techniques (e.g. Elkonin boxes, word building, chunking, etc.) to develop readers’ understandings of sounds, letters, and words. For readers who need to develop oral reading fluency, regular opportunities to practice with supportive feedback are needed. TCs will learn to model fluent, expressive reading, use questioning to help readers self-monitor, and facilitate opportunities (e.g. partner reading, choral reading, echo reading, readers’ theater) for students to practice. PD for in-service teachers will focus on connecting these evidence-based practices with the resources and intervention programs available in their districts to empower teachers to make the best decisions for their students.



**Universal Design for Learning (UDL) [Objs. 1, 3, and 4].** As part of its focus on **instruction that meets the unique learning needs of every student**, Project IMPACT will incorporate Universal Design for Learning (UDL) into PD for teachers. UDL is a framework for instructional design and delivery through which evidence-based practices are implemented in order to increase access and reduce barriers to learning for students with diverse learning needs, including, but not limited to, students with disabilities, ELLs, and those from diverse cultural and socioeconomic backgrounds (Israel, Ribuffo, & Smith, 2014). The fundamental assumption underlying UDL is that teachers can identify and ameliorate students' learning barriers through effective instructional planning (Israel et al., 2014). Researchers in UDL ground their recommendations in findings from neuroscience, developmental psychology, and learning differences (Rose & Gravel, 2010), and conceptualize the framework in three principles that direct teachers to provide multiple means of: (a) representation of the content to be learned, (b) action and expression for how learning is demonstrated, and (c) engagement for making that learning relevant. By considering the UDL principles during the lesson planning phase, teachers build in flexible pathways from the outset to ensure that lessons are comprehensible and engaging for all learners (Rai & Meo, 2016). Research has shown that TCs can improve their ability to lesson plan with principles of UDL (Courey, Tappe, Siker, & LePage, 2012; Spooner et al., 2007), but further research is needed to understand how candidates learn to implement and deliver lessons incorporating UDL.

Project IMPACT participants will receive PD on UDL during Summer Institutes throughout the duration of the project. UDL PD will be developed and delivered in a progression, such that the PD delivered in the earliest years of the project can be converted into course modules that are infused into early teacher education courses, while PD delivered at the

end of the project is more advanced and can be converted into modules that are embedded in senior year courses or used during induction. Thus, post-funding, a complete progression of UDL content, skills, and activities have been developed to support all TCs.

**Differentiation [Objs. 1, 3, and 4].** Differentiated instruction is a teaching theory based on the premise that instructional approaches should vary and be adapted in relation to individual and diverse students in classrooms (Tomlinson, 2001). It reflects a philosophy that academic diversity is both inevitable and positive (Tomlinson & Imbeau, 2010). Differentiated instruction requires teachers to be flexible in their approach to teaching and adjust curriculum and presentations to learners rather than expecting students to modify themselves for the curriculum (Hall, Strangman, & Meyer, 2014). As teachers differentiate, there are three main instructional elements that they can adjust to meet the needs of their learners: (a) *content*, the knowledge and skills students need to master, (b) *process*, the activities students use to master the content, and (c) *product*, the method students use to demonstrate learning (The IRIS Center, 2010). There is no single prescribed way to differentiate instruction; rather, teachers make changes to classroom elements based on students' needs. Moreover, research indicates that differentiated instruction leads to positive effects on achievement and higher-order thinking skills (Geisler, Hessler, Gardner, & Lovelace, 2009), and that the strategies grounded in differentiated instruction that are effective for special populations (e.g., English language learners, gifted students, students with disabilities) were also effective for other students in classrooms (McQuarrie, McRae, & Stack-Cutler, 2008).

Since differentiation, by its very nature, looks different for each student taught based on the unique background, prior knowledge, and learning needs of that student, and since differentiation often requires a thorough understanding of the student's needs, it is a skill that is

often taught in the abstract. That is, the theory of differentiation is taught, along with several possible applications of it, but students seldom get to practice differentiating instruction for specific students. Project IMPACT will begin development of detailed, fictional (though research-based) case studies for specific students with unique learning needs. TCs can then be assigned to differentiate for one or more of these specific case-study students, giving them practical experience applying this complex skill. Further, using the Mursion simulation system, teachers can implement their differentiated lessons live to the specific students for whom they differentiated them.

**Culturally and linguistically diverse (CLD) learners and English Learners (ELLs)**

**[Objs. 1, 3, and 4].** Learning experiences should be designed relying heavily on learners' funds of knowledge. Historically accumulated knowledge and skills, as well as ideas and behaviors learned from home interactions, funds of knowledge are essential for home and individual functioning (Gonzalez, Moll, & Amanti, 2005; Moll, Amanti, Neff, & Gonzalez, 1992). Students bring their funds of knowledge to the classroom and use them to navigate learning environments and processes. When educators create learning experiences that allow students to recognize their funds of knowledge as valuable representations, strong foundations are set and pave the way to positive outcomes.

Robles de Melendez and Beck (2013) recommend six principles that build on these principles to guide the design of learning experiences: (a) knowledge about the child, (b) appropriate environment, (c) engaging experiences, (d) appropriate assessment, (e) collaboration with families, and (f) teacher's knowledge base. Before planning on any instructional strategies or learning materials, TCs in this program will learn how to understand the learner. TCs will learn to gather meaningful information from families and co-educators regarding the experiences

of each child, the extent and type of language exposure in both English and their native language. TCs of this program will have fundamental understanding of second language acquisition process, as well as factors that might influence this process. More importantly, graduates of this program will learn the importance of the vital role language plays in the life and learning of their students. Program IMPACT will prepare TCs to create a welcoming literacy environment for ELLs. More specifically, graduates of this program will learn how to prepare their classroom for English acquisition and preservation of native languages and selection of literacy materials. All ELLs should benefit from an individualized language plan (Espinosa, 2015). TCs in this program will learn how to plan relevant and meaningful learning with content and modifications focusing on the individual learning needs of students. Project IMPACT will focus on the specific needs of CLD learners and ELLs by inviting Dr. Joyce Nutta, a nationally recognized leader in ELL education to provide PD, develop simulations, and help develop infused content. A letter of commitment and description of her work appears in Appendix H.

**PD on specific learners' needs [Objs. 1, 3, and 4].** To help teachers increase their capacities to meet the unique needs of every student, Project IMPACT will include regular PD on various learners with unique, specific educational needs. Project personnel will develop research-based case study profiles of students with specific needs, such as students with a variety of disabilities, students who are limited English proficient, students who are gifted and talented, students with low literacy levels, etc. As a mixed-reality simulation provider, BGSU will fully develop student interactive student avatars for use within simulated classroom experiences, allowing teachers to gain practical experience teaching students with specific learning needs without being assigned to classrooms in area schools serving students with those needs. Project personnel can develop instructional modules which include relevant information on a specific

learning need, instructional strategies and accommodations designed to meet these needs, applied exercises, simulation experiences, and digital badges for inclusion in existing teacher education courses. By employing the previously described approach, faculty will be able to continually adapt and update our teacher education curriculum beyond cessation of funding, allowing Project IMPACT to provide ongoing valuable returns to teachers and students from initial investment.

### **Attending to the Needs of the Whole Learner**

**Positive Behavior Interventions and Supports (PBIS) [Objs. 1, 3, and 4].** As part of its focus on **attending to the needs of the whole learner**, Project IMPACT will provide PBIS PD, along with targeted practice and coaching. PBIS is a framework that can be used across general and special education contexts that guides selection, integration, and implementation of evidence-based practices related to behavioral outcomes for students (ODE, 2018). The fundamental assumption underlying PBIS is that behavioral expectations can and should be taught to students in the same manner as all core curriculum (Horner, Sugai, & Anderson, 2010). The PBIS framework offers a conceptual framework through which all educators can learn effective, evidence-based classroom management and instructional practices (Cooper & Scott, 2017). In Project IMPACT, all TCs will be given explicit instruction in practices that form the basis of universal PBIS, including (a) classroom environment consistency (Cooper & Scott, 2017), (b) teaching and providing feedback for rules (Alter & Haydon, 2017), (c) increasing praise in relation to reprimands (Sutherland & Wehby, 2001), and increasing active student responding during instruction (Gunter, Hummel, & Conroy, 1998). The project will provide PD on PBIS to both teacher candidate and new teachers, providing an opportunity for teachers to implement PBIS in live classrooms and in the Mursion mixed-reality simulation environment. Project participants will also be able to earn badges to certify their use and mastery of PBIS.

**Social emotional learning and emotional regulation [Objs. 1, 3, and 4].** The last two decades have seen a proliferation of SEL programs and curricula designed to teach students to effectively communicate and regulate their emotions, and there is much evidence supporting the effectiveness of many of these efforts in terms of increased social and emotional competencies as well as decreased violence and dropout rates (Durlak, Weissberg, Dymnicki, Taylor, & Schelling, 2011; Greenberg, Domitrovich, Weissberg, & Durlak, 2017). Fidelity to implementation is critical for the success of these programs and curricula (CASEL, 2013; 2015); thus, teaching prospective teachers to understand and apply SEL theories and frameworks in their classrooms will be a key component of our efforts. In cooperation with the partner districts, we will target these efforts to align with SEL programs and curricula already in use, and in ways that address the needs of these specific districts.

In addition, the high rates of teacher stress, burnout, and attrition currently plaguing the U.S. education system (Gray, Taie, & O’Rear, 2015; Ingersoll, 2003; Podolsky, Kini, Bishop, & Darling-Hammond, 2017) have negative implications for students. A critical component of boosting teachers’ well-being must be actively supporting teachers’ emotion regulation, particularly in the context of the schools in which they work. Emotional labor (Hargreaves, 2000; Hochschild, 1983) is a useful way to conceptualize emotion regulation that occurs in a workplace where there are expectations about how employees should express emotions related to organizational goals. For teachers, examples might include hiding anger in service of building a stronger relationship with a troubled student or mustering excitement to motivate students to engage in a lesson.

Regulating their own emotions and addressing students’ emotional development is something that teachers do across diverse situations and for many reasons (Horner, Brown, Kerr,

& Scanlon, 2014). Therefore, rather than addressing the topics of SEL and EL in isolation by simply creating a new course or PD experience, we will work to infuse relevant content and learning opportunities throughout our programs, field experiences, and Summer Institute. By adding content to our existing courses, we can provide opportunities for students to learn about how SEL and EL theories are relevant in the context of classroom management and positive behavior supports, STEM instruction, and student diversity, for example. During field experiences, we will design opportunities for students to discuss SEL and EL in action with their CMTs. To achieve this holistic approach, our team of content experts will work to determine opportunities to infuse SEL and EL content within our current courses and in ways that make the most sense given what we discover about the characteristics and needs of our partner districts.

In the field of education, we value reflective practice, and decades of evidence suggests that engaging in effective methods of reflection is an important endeavor for prospective and practicing teachers (Moss, Hirschberg, Flook, & Graue, 2017). Teachers are asked to reflect on their instructional practice regularly, but we do not often invite them to reflect on their emotional practice or the ways they are contributing to the social and emotional development of their students. To reflect productively—in ways that lead to growth in thinking and changes in action—teachers need ways to articulate and frame their experiences (Loughran, 2002) and to have opportunities to reflect with others rather than in isolation (Hartford & MacRuairc, 2008). Introducing TCs to frameworks for understanding their own emotional practice and student's emotional development will provide valuable opportunities for both conversation and reflection.

### **Building on Existing Strengths in STEM (Competitive Preference Priority 1- STEM)**

The project design described here builds upon a rich history of demonstrated successes and strengths, both of BGSU teacher education programs, their partners in the College of Arts

and Sciences, and its LEA district partners. BGSU received state funding for several professional development grants over the past five years. Findings from each of these programs about best-practices, teacher content knowledge gains, and student learning will be utilized within this program. Core activities described below will be incorporated with appropriate content specific professional development. For example, Drs. Bostic and Matney and A&S colleagues were provided state funded PD structured around building participants' knowledge of Expressions and Equations (CCSSI, 2010), which is one domain found in the Standards for Mathematics Content (SMCs) and the Standards for Mathematical Practice (SMPs; CCSSI, 2010), as well as conceptions of best practices in the mathematics classroom (see NCTM, 2007 for Professional Teaching Standards). Participants explored how to connect graphs, tables, manipulatives, and symbol-driven representations of algebra in ways that deepen their own – and their students' content knowledge. Activities were chosen with the intent of deepening knowledge of the SMCs and SMPs and in turn, influencing participant students' mathematics performance. Another example demonstrates engineering PD, the BGSU Code4her













opportunity to participate several simulation IEP meetings. In addition, when appropriate, novice teachers will be included in all student IEP meetings with parent agreement. There will also be six opportunities for academic year follow-up after school to build on these best-practices.

**Clinical Experiences with Mentoring [Objs. 1 and 2].** As described earlier, all BGSU teacher educators participate in a Professional Year Internship. These internships were designed to provide significant, prolonged engagement in the field to further develop and hone pedagogy skills. Currently, BGSU students are mentored by University Mentors (UM) who observe the novice teacher throughout the Professional Year and provide feedback every few weeks. Project IMPACT would shift the supervision to a partnership between the local teachers and administrators in our partner districts and BGSU. A Building Mentor Teacher (BMT) will be identified to provide more frequent and regular mentoring. While a BGSU Site Coordinator will serve as the liaison to the district and will also mentor. All of the individuals involved in mentoring will participate in Danielson framework training (Danielson, 2007), as well as training in required documentation for accreditation and program evaluation. This will ensure consistency and the ability to provide high-quality mentoring for novice and induction level teachers, which is directly tied to the needs of all of the partner districts. Mentors will be compensated for their participation in this this training. In this model, the district will be able to more directly invest in the development of a future colleague or hire in the district. Furthermore, there will be an internship seminar that will be co-facilitated by the University Site Coordinator and the BMTs. During weekly seminars, novice teachers will have the opportunity for further mentoring, reflection on practice, and support for required external evaluations (e.g., edTPA). For this work the BMT for the school will be compensated \$1,500.00 a year and will receive release time from

the district for their extra experience. The faculty site coordinators will receive a course release each semester to provide adequate time to observe, mentor, and support the partner districts.

**Induction PD [Objs. 1 and 3].** From the AACTE whitepaper (2018), “In recent decades, consensus has grown among researchers and practitioners: Teaching is a complex practice, learned over time, through rigorous and deliberate study combined with thoughtfully orchestrated opportunities to practice (p. 14). Learning to teach is an extended process which is why cohort members will be supported through their first three years of teaching. The focus of the induction PD (Table 5) will change each year as the needs of the teachers change. For many districts the use of alternative licensure is one way to fill difficult-to-staff positions. Those teachers hired with an alternative licensure will also be invited to participate in the induction PD. Districts may include other novice teachers in the PD, but will provide internal compensation.

Table 5

*Overview of the Induction PD Support System*

<b>Induction Year</b>	<b>Primary Goals</b>	<b>Example Topics/Strategies Examined</b>
YR1 Summer	Realities of School life	Read and analyze case studies of first year teachers Discuss common issues (management, inclusion) Discuss coaching roles/mentoring for RESA
YR 1 AY	Transition from “student” to teacher Mentoring	Panel of previous graduates talk about first years District specific training (AVID, student supports) Reflecting on strengths and areas for growth Using student data to improve teaching practices
YR 2 Summer	Reflection on practice	TeachLive role play parent interactions Differentiating lessons for all learners Best practices PD in specific content areas
YR 2 AY	Preparing for RESA	With support, plan for the completion of all necessary RESA portfolio components.
YR 3 Summer	Becoming a teacher leader	Read and analyze case studies about curriculum and pedagogy Participate in Coaching/Mentoring training
YR 3 AY	Complete RESA	With support, complete all necessary components of RESA portfolio.

**Advisory Board [Obj. 5]**

An advisory board has been formed, and will be utilized throughout the program for advice, program evaluation and consultation. The board will be comprised of Jim Gault, Chief Executive Officer of Toledo Public Schools. He will represent the perspective of our partner districts. Next, Carine Strebel will serve as an expert in high leverage practices utilizing simulations and digital badges. She has extensive experience with developing avatars and simulations. Finally, Tim McDougal is the Director of the Lesson Study Alliance and he serve as the expert in this area. This board will be provided quarterly updates on progress and serve as consultants for implementation questions. The board will meet once a year at BGSU during Summer PD to observe, and to provide suggestions and feedback about strengths and needs.

**Project Personnel**

**Project Director and Principal Investigator.** **Dr. Tracy Huziak-Clark** is an Associate Professor and the Assistant Dean for Teacher Preparation and Partnerships at BGSU. Her recent research has focused on the PD of science teacher content knowledge and pedagogy using Scientific Modeling. Dr. Huziak-Clark has received more than \$3,000,000 in research and training grants through the National Science Foundation and State Improving Teacher Quality Grants. Dr. Huziak-Clark will oversee the planning and organization of the project, PD, clinical experiences, and induction program. She will also facilitate science best-practice PD sessions.

**Co-Directors, Co-Investigators and Evaluation.** Because of the extensive nature of the project and the need to manage and coordinate several teams of co-investigators, key personnel, and support personnel as they address distinct but related project elements and research areas, two co-investigators have also been identified as co-directors to facilitate this coordination. The co-director support will be provided through cost-share matching from the Institution.



**Dr. Mathew R. Lavery** will serve as a Co-Director, Co-Investigator, and Site Coordinator for Toledo School for the Arts. He is an Assistant Professor in the School of Educational Foundations, Leadership and Policy. Dr. Lavery brings deep expertise in classroom assessment, research, and applied statistics. He also brings to the project extensive experience with the use of virtual reality simulations in teacher education.

**Dr. Joanna Weaver** will serve as a Co-Director, Co-Investigator, and Site Coordinator for one of the Toledo Public Schools Feeder Patterns for this project. Dr. Weaver is an expert in Literacy and has facilitated numerous PD projects around NW Ohio focused on disciplinary literacy. She facilitates a yearly training session for all Freshmen and Sophomore education majors on using reading strategies for engaging and tutoring struggling readers.

**Dr. Kristina LaVenia** will serve as Co-Investigator, and Internal Program Evaluator, and will focus on Data Assessment on this project. She is an Assistant Professor in the School of Educational Foundations, Leadership and Policy. Dr. LaVenia's areas of expertise include research design, program evaluation, educational leadership, measurement and statistics, educator professional development, learner motivation, and guidance and counseling.

**Ms. Melissa Cardenas** is the Director of Assessment & Accreditation for the College of Education and Human Development at BGSU and will serve as a Co-Investigator and will support data collection and assessment on this project.

**Co-Investigators.** Because of the specificity of this proposal for certain high-need areas, several co-investigators have been identified to help coordinate and support teachers and PD throughout this project and beyond.

**Dr. Brooks Vostal** will serve as a Co-Investigator and Site Coordinator for Toledo Public, and the Special Education Specialist for PD on this project. He is an Associate Professor

of Special Education in the School of Intervention Services. His area of focus is on the application of behavioral coaching to prepare teachers and candidates to implement inclusive educational practices, including active student responding enhancements aligned with the Universal Design for Learning framework.

**Dr. Katherine Brodeur** will serve as a Co-Investigator, Site Coordinator for Toledo Public, and Literacy Specialist on this project. She is an Assistant Professor in the School of Teaching and Learning and her area of focus is developing teachers' literacy content knowledge and beliefs about teaching diverse students through professional development.

**Dr. Gabriel Matney** will serve as a Co-Investigator, Site Coordinator for Springfield and Mathematics Specialist on this project. He is a Professor in the School of Teaching and Learning and has conducted extensive PD in mathematics education and Lesson Study.

**Dr. Christy Galletta Horner** will serve as Co-Investigator, Site Coordinator at Toledo Public, and will focus on the Social/Emotional PD on this project. Her research focuses on the development of emotional culture in schools and out-of-school time settings (e.g., after school programs), with an emphasis on the emotional labor of adults in those settings.

**Ms. Cindy Ross** will serve as a Co-Investigator and Workforce Education and Family and Consumer Science Specialist on this project. She is the Program Coordinator for the Workforce Education Program. Cindy Ross is a Senior Lecturer and Program Coordinator for Workforce Education and Development in the School of Teaching and Learning. Cindy's area of focus includes the use of technology to improve teaching and learning in the classroom.

**Expert Consultant. Dr. Joyce Nutta** is professor of English for Speakers of Other Languages (ESOL) Education and the ESOL Endorsement and TESOL PhD Track Coordinator at the University of Central Florida. Her research interests include the integration of English

learner issues into teacher preparation and professional learning and the use of technology to teach second languages. Dr. Nutta has received over \$7,000,000 in research and training grants. Her research has been published in *Journal of Teacher Education*, *Hispania*, *Foreign Language Annals*, *TESOL Journal*, and *CALICO Journal*, among other publications. She is lead author of a three-book series that presents a comprehensive approach to improving English learner achievement from Harvard Education Press.

## **Project Evaluation**

### **Evaluation Plan**

The Project IMPACT team views research and evaluation as central to the purpose of this proposal and will engage in both formative and summative evaluation activities. The project's formative and summative evaluation activities serve two basic objectives: (a) documenting project outcomes and impacts for reporting to the funding agency and project partners; and (b) providing regular feedback for planning and decision-making to meet project goals and objectives. The project evaluation centers on an iterative process for formative evaluation and incorporates a mixed-methods approach to investigate the impact of supplemental training for TCs, as well as induction support for in-service teachers, on participants' commitment to being a teacher, persistence in the field, participation in lesson study activities, and readiness to serve diverse populations (e.g., students in special education, and ELL students). Moreover, we fully expect that our evaluation will be successful and yield findings that are not only scientifically valid, but also – and perhaps more importantly – educationally meaningful.

**Formative evaluation.** Phase one centers on formative evaluation to include development and preparation/start-up of the Project IMPACT program components, including two-week Summer Institutes for TCs, as well as summer induction supports for teachers

employed with our partner districts via Project IMPACT. Formative evaluation activities will include interviews with the project's participating faculty on their process in developing the training curricula, their implementation of the curriculum, and the utility of the curricular materials developed. In addition, we will interview supervising teachers, administrators, and Project IMPACT teachers in the field to find out which program features these stakeholders identify as most helpful for improved outcomes.

**Summative evaluation.** Phase two of the evaluation will involve investigation of BGSU TCs' knowledge, attitudes, and beliefs regarding the following primary training foci: readiness to serve in hard-to-staff areas; readiness to serve at-risk student populations, including students enrolled in special education and ELL students; use of lesson study in their formal practice; commitment to their careers as teachers; and self-efficacy for teaching in their particular content area (e.g., mathematics, science, English Language Arts, or special education). In addition, we will collect data from in-service teachers trained via Project IMPACT in order to understand how well our training and induction activities supported them in their work as classroom teachers. Finally, all metrics required by the funding agency will be measured and reported. (Reviewers: please see Table 7 for a summary of performance metrics.)

Formally, the program evaluation is designed to answer the following research questions for TCs:

- Did participation in Project IMPACT improve TCs' persistence in their major?
- Did participation in Project IMPACT improve TCs' retention in their formal employment with our district partner?
- Did participation in Project IMPACT improve TCs' knowledge related to use of lesson study in their work?

- Did participation in Project IMPACT improve TCs' knowledge related to serving students for whom English is a second language?
- Did participation in Project IMPACT improve TCs' knowledge related to serving students who are receiving special education services?
- Did participation in Project IMPACT improve TCs' self-efficacy related to teaching in their content area?

Formally, the program evaluation is designed to answer the following research questions for in-service teachers:

- Did participation in Project IMPACT improve in-service teachers' retention in their formal employment with our district partner?
- Did participation in Project IMPACT improve in-service teachers' knowledge related to use of lesson study in their work?
- Did participation in Project IMPACT improve in-service teachers' knowledge related to serving students for whom English is a second language?
- Did participation in Project IMPACT improve in-service teachers' knowledge related to serving students who are receiving special education services?
- Did participation in Project IMPACT improve in-service teachers' self-efficacy related to teaching in their content area?
- Did participation in Project IMPACT improve in-service teachers' employment evaluations?

**Setting.** This program evaluation work will be conducted at BGSU as well as in our partner districts where student participants are engaged in field placements and BGSU Project IMPACT graduates are employed as classroom teachers.

**Participants.** Participants in this ongoing evaluation are undergraduate teacher candidate candidates, their BGSU faculty, their Cooperating Mentor Teachers (CMTs), Project IMPACT graduates (after year one), LEAD Teachers, and administrators in our partner districts.

**Research Design.** This evaluation plan intentionally examines questions of interest via both qualitative/inductive and quantitative/deductive lenses (see Creamer, 2017). Specifically, we will use a qualitative approach to explore participants' perceptions and opinions of the Project IMPACT goals and objectives coupled with quantitative/deductive work designed to measure specific program objectives. The quantitative components will also allow us to compare groups on important program objectives (e.g., retention rates, graduation rates, job satisfaction).

Data collection will be completed using online measures (e.g., questionnaires), institutional records (e.g., attendance records as well as historical data), and face-to-face data collection tools (e.g., interviews, training observations, and paper-and-pencil questionnaires administered at trainings). We also plan to recruit in-service teachers who did not participate in our training but also work in our partner district schools so that we may compare some outcomes between our Project IMPACT trainees and other teachers working in the same settings.

#### **Proposed Measureable Tasks, Deliverables and Timeline:**

Please see the project's logic model for an overview of the projects' goals, activities, and objectives. Table 6 offers a summary of the project's major activities, with associated timeline and deliverables. Table 7 presents the Project IMPACT program measures. Both Table 6 and Table 7 have been included as the final pages of the Project Evaluation section.

**Evaluation team.** Kristina N. LaVenía, Ph.D., will lead the program evaluation. Dr. LaVenía is a faculty member in the School of Educational Foundations, Leadership & Policy at BGSU and teaches courses on organizational change and use of data and statistics in the current

educational leadership preparation program. Dr. LaVenia received her Ph.D. in educational leadership and policy from Florida State University (FSU) in May 2015 as an Institute of Education Sciences (IES) Predoctoral Interdisciplinary Research Fellow. Additionally, Dr. LaVenia earned a graduate certificate in measurement and statistics from FSU in 2009, and has been a certified reviewer for the IES What Works Clearinghouse since 2009. From July 2012 to July 2015 Dr. LaVenia worked at FSU's Learning Systems Institute (LSI) as research faculty; Dr. LaVenia's most recent work in this capacity was with LSI's STEM research center serving as the Internal Evaluation Team Lead for the Mathematics and Science Partnership grants. In August 2015 Dr. LaVenia accepted a position as Education Research Scientist at Development Services Group, Inc. (DSG, Bethesda, MD) working on DSG's evidence review and support for the What Works Clearinghouse contract funded by IES. Dr. LaVenia also provided support for the U.S. DOE Review, Reporting, Dissemination and Development project.

We are including in our project budget support for two graduate students to work part-time directly with the evaluation team throughout the project on data collection and program evaluation. Dr. LaVenia and Dr. Tracy Huziak-Clark (Project PI) will interview graduate students who apply for the evaluation work during the fall 2018 semester and select the two strongest candidates possible for assisting with these program evaluation activities. These graduate students will work to help with primary data collection, data entry, transcription, and coding. Additionally, the graduate students will help with basic data analyses (e.g., descriptive statistics) and report writing (e.g., generating annotated bibliographies, reference lists, and report outlines). We are excited to have the opportunity for our graduate students to work hands-on with this project and believe this will be beneficial not only for developing the students'

knowledge and skills, but also for being able to meet the reporting criteria to the U.S.

Department of Education.

**Resource availability.** The College of Education and Human Development at BGSU offers research support via graduate students, as well as the university-wide support staff. This project plan has already received support from the College, as well as the university, as reflected on the support letters attached. Furthermore, our partner districts (e.g., Toledo Public Schools) have expressed their support and willingness to collaborate closely in this work. BGSU has multiple active learning classrooms, which include features such as multiple large-screen monitors and circular white-board tables to support group learning.

With the departmental and university level resources, PI and Co-PIs can maintain a sustainable working environment. The development of the Summer Institutes and induction PD will take approximately two months of dedicated working time, and the work plan also require two GA's assistance with their own computers.

Program evaluation activities will be conducted by the project evaluator, and it is expected that evaluation activities will require approximately two months of effort on the part of the evaluator. All data will be stored on a secure server, in password-protected files that only the project evaluator, evaluation team members, and PI will have access to. Data will only be reported in aggregate, and all student data will be de-identified prior to any publication activities. The evaluation team currently has, and will continue to have, full access to all necessary computer and software required for the completion of data analyses and reporting (e.g., SPSS, Excel, NVivo, and Qualtrics) through BGSU.



Table 6

*Timeline and Major Deliverables*

	<b>Task Name</b>	<b>Duration</b>	<b>Start</b>	<b>Finish</b>	<b>Deliverables</b>	<b>Division of Responsibility</b>
<b>Task 1</b>	Assemble and work with Advisory Board of stakeholders from partner districts	Entire project	Fall 2018	Project end	Advisory Board will work to identify teacher candidates who are chosen to participate in <i>Project IMPACT</i>	Project PI and Co-PIs
<b>Task 2</b>	Two-week Summer Institutes for BGSU <i>Project IMPACT</i> teacher candidates to:	Ongoing, offered for each cohort.	Year 1: winter session; Following years: summer session	Two-weeks after start date	Improved understanding of and readiness to implement lesson study; improved relationships with CMTs; improved readiness to work with students receiving special education services; improved readiness to work with ELL students	Project PI, Co-PIs, and BGSU faculty providing training
<b>Task 3</b>	One-week summer induction PD for BGSU <i>Project IMPACT</i> graduates to:	Ongoing, offered for each cohort.	Summer session of each project year	One week after start date for each summer session	<ul style="list-style-type: none"> <li>• Improved teacher retention</li> <li>• Improved teacher job satisfaction</li> <li>• Support teachers' continued development of self-efficacy in their content area, use of lesson study, and ability to serve at-risk students (e.g., ELL and special education)</li> </ul>	Project PI and BGSU faculty providing training
<b>Task 4</b>	Formative evaluation activities	Ongoing	Fall 2018	Project end	Observations and interviews with all project stakeholders Feedback from BGSU <i>Project IMPACT</i> participants on perceptions of training	Evaluation team
<b>Task 5</b>	Summative evaluation activities	Ongoing	Fall 2018	Project end	Observations, interviews, and questionnaires with BGSU <i>Project IMPACT</i> participants on their knowledge, attitudes, and beliefs related to project outcomes	Evaluation team
<b>Task 6</b>	Final evaluation report	Project end	--	--	Final report of project outcomes and impacts, with a special focus on BGSU <i>Project IMPACT</i> participants. Additional information will be included for outcomes on partner districts	Evaluation team

Table 7

*Project IMPACT Performance Measures*

<b>Measure</b>	<b>Required by funding agency</b>	<b>Already being collected by BGSU</b>	<b>Data Source</b>	<b>Population</b>	<b>Time</b>
Certification/Licensure	Yes	Yes	% program graduates who have attained initial State certification/licensure by passing all necessary licensure/certification assessments within one year of program completion	BGSU <i>Project IMPACT</i> participants	After graduation
STEM Graduation	Yes	Yes	% of math/science program graduates that attain initial certification/licensure by passing all necessary licensure/certification assessments within one year of program completion	BGSU <i>Project IMPACT</i> participants majoring in mathematics or science education	After graduation for each cohort
One-year Persistence	Yes	Yes	% program participants who were enrolled in the postsecondary program in the previous granting period, did not graduate, and persisted in the postsecondary program in the current grant reporting period	BGSU <i>Project IMPACT</i> participants	Project end
One-year Employment Retention	Yes	Yes	% of program completers who were employed for the first time as teachers of record in the preceding year by the high-need LEA or ECE program and were retained for the current year	BGSU <i>Project IMPACT</i> completers who secure employment with our partner districts	End of year for each year beginning project year two
Three-year Employment Retention	Yes	Yes	% of program completers who were employed by the partner high-need LEA or ECE program for three consecutive years after initial employment	BGSU <i>Project IMPACT</i> completers who secure employment with our partner districts	End of year for each year beginning project year three
Student Learning	No	No	% of grantees that report improved aggregate learning outcomes of students taught by new teachers. These data can be drawn from teacher evaluations, student growth, or both.	K-12 students taught by BGSU <i>Project IMPACT</i> students	Ongoing after project year one Note: We will work with our advisory board to determine which data sources are available for reporting

Project IMPACT

Measure	Required by funding agency	Already being collected by BGSU	Data Source	Population	Time
Federal Cost Per Program Completer	Yes	No	Federal cost per program completer	All BGSU <i>Project IMPACT</i> completers	These data will be available during the final year of the project period
Teacher Achievement	Yes	No	This metric is to be defined by the grant partners (i.e., BGSU and partner districts)	All BGSU <i>Project IMPACT</i> completers	Ongoing for each project year
Teacher Retention	Yes	No	Teacher retention in the first three years of employment	All BGSU <i>Project IMPACT</i> completers	Ongoing after project year one – tracking teachers’ retention over the duration of the project
Pass Rate Improvement	Yes	Yes	Improvement in the pass rates and scaled scores for initial State certification or licensure	All BGSU <i>Project IMPACT</i> completers	Ongoing for each project year
State Certification	Yes	No	% teachers who meet the applicable State certification and licensure requirements, including for certification obtained through alternate routes...hired by the LEA	All BGSU <i>Project IMPACT</i> completers	Ongoing for each project year
State Certification	Yes	No	% teachers who meet the applicable State certification and licensure requirements, including for certification obtained through alternate routes...who are members of underrepresented groups	All BGSU <i>Project IMPACT</i> completers	Ongoing for each project year
State Certification	Yes	No	% teachers who meet the applicable State certification and licensure requirements, including for certification obtained through alternate routes...who teach in high-need academic areas	All BGSU <i>Project IMPACT</i> completers	Ongoing for each project year
State Certification	Yes	No	% teachers who meet the applicable State certification and licensure requirements, including for certification obtained through alternate routes...who teach in high-need academic areas...disaggregated by the elementary and secondary school levels	All BGSU <i>Project IMPACT</i> completers	Ongoing for each project year

Project IMPACT

Measure	Required by funding agency	Already being collected by BGSU	Data Source	Population	Time
Teachers' knowledge	No	No	We will develop measures of teacher candidates' and in-service teachers' knowledge of <b>lesson study</b> , pedagogical supports for <b>special education</b> students, and pedagogical supports for <b>ELL</b> students	All BGSU Project <i>IMPACT</i> completers  And  BGSU teacher candidate candidates who are not participating in <i>Project IMPACT</i>	Ongoing for each project year
Teachers' self-efficacy	No	No	We will use both the MTEBI and STEBI, as well as modified versions for other content areas (e.g., special education, English Language Arts) to assess both pre- and in-service teachers' <b>self-efficacy</b> for teaching in their content areas	All BGSU Project <i>IMPACT</i> participants  And  BGSU teacher candidate candidates who are not participating in <i>Project IMPACT</i>	Ongoing for each project year