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The University of Southern Mississippi

# The EBP-COT Assignment: Increasing the Use and Understanding of EBPs in Preservice Teachers

by

Margaret Bowman

A Thesis
Submitted to the Honors College of
The University of Southern Mississippi
in Partial Fulfillment
of Honors Requirements

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Approved by:

K. Alisa Lowrey, Ph.D., Thesis Adviser
Professor of Special Education

Sandra Nichols, Ph.D., Director
School of Education

Ellen Weinauer, Ph.D., Dean
Honors College

# Abstract

This study investigated whether the use of the Evidence-Based Practice-Classroom Observation Tool (EBP-COT) assignment in an introductory teacher education practicum increased the understanding of Evidence-Based Practice-Classroom Observation Tools (EBPCOT). Participants in this study were consenting special education majors in their introductory block practicum course at a mid-south university in the fall semester of 2018. Students were asked to complete the EBP-COT assignment to include focused checklists components and reflections as well as a pretest and posttest. The assignment, pretest, and posttest were analyzed for similarities in increased understanding of evidence-based practices and comfort with the use of evidence-based practices. Overall, participants demonstrated that use of an EBP checklist in preservice teacher education increases understanding and awareness of EBPs.



Keywords: EBPs, preservice, teacher, education, training, disabilities

# Dedication

I would like to dedicate this thesis to my family who supported me throughout this process and made this all possible.

## Acknowledgments

I would first like to thank my thesis advisor Dr. Alisa Lowrey of the University of Southern Mississippi. Dr. Lowrey was always open to my questions and many emails whenever I ran into trouble while writing my thesis. She was always pushing me to do my best and helped to make this thesis the best it could be. However, she always led me in the right direction whenever I needed it.

I would also like to thank my friends and family. My friends and family pushed me to be the best I could possibly be but also supported me in times of weakness. Whenever I felt overwhelmed or stressed, my friends and family were there to listen and help me whenever they could. I could not have made it through this process without their love and support.

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## List of Abbreviations

| | |
|---|---|
| APA | American Psychological Association |
| IDEA | Individuals with Disabilities Education Act |
| EBP | Evidence-Based Practice |
| EBP-COT | Evidence-Based Practice Classroom Observation Tool |
| DSM-5 | Disagnostic and Statistical Manual of Mental Disorders |
| ASD | Autism Spectrum Disorders |
| CDC | Center for Disease Control |
| CRA | Concrete- Representational- Abstract |
| CEC | Council for Exceptional Children |
| CPT | Classroom Profiling Training |
| SLP | Speech Language Pathologist |
| CAST | Checklist for Assessment of Science Teachers |
| CAST: PP | Checklist for Assessment of Science Teachers: Pupil's Perceptions |
| CAST: SP | Checklist for Assessment of Science Teachers: Supervisor's Perceptions |
| EBTT | Evidence-Based Trauma Treatments |
| LGBT | Lesbian , Gay, Bisexual, Transgender |

# Chapter 1: Introduction

Since the creation of educational initiatives, students with disabilities have been excluded from the general education system (Winzer, 1993). Students with disabilities today are much more included compared to previous methods but still are treated unfairly in the school system (Simeonsson, Carlson, Huntington, Mcmillen, & Brent, 2001; Winzer, 1993). Students with disabilities are many times only 'included' in the general education curriculum by their presence, not their participation (Simeonsson, Carlson, Huntington, Mcmillen, & Brent, 2001). This is a problem in the field of education today because The Individuals with Disabilities Education Act (IDEA) states that students should participate in the Least Restrictive Environment, meaning the environment closest to the general education curriculum that students can participate (2004). IDEA also states that students with disabilities must be educated using the most effective practices (2004). This means, by law, students with disabilities must be educated using evidence-based practices (EBPs) in the general education classroom as often as possible. Students with disabilities could participate more effectively in the general education curriculum if teachers knew how to use evidence-based practices to make the classroom more accessible to their students (Cooke & Cook, 2011; Cook & Cook, 2013; Coster, et al., 2013). However, teachers have repeatedly stated that they do not feel as if they have adequate training in EBPs, nor the knowledge to effectively implement them (Jackson, Simoncini, & Davidson, 2013; Rakap, 2017). In order to assist in this problem, Margaret Bowman and Alisa Lowrey have created an assignment based on the Evidence-Based Practice-Classroom Observation Tool (EBP-COT) to determine if the use of said assignment will increase use, comfort, and understanding of evidence-based practices

which will, in turn, assist students with disabilities in participating in the general education classroom.

# Chapter 2: Literature Review

## Prevalence of Students with Disabilities in Schools

The number of students with disabilities is continuously on the rise in the United States. In 2005, 3.29% of students were determined to have a disability (U.S. Department of Education, 2016). In 2011, the percentage of students with any disability then increased to 7.02% of all students (U.S. Department of Education, 2016) These calculations reported by the Department of Education included children diagnosed with all disabilities under the DSM-5 as well as Autism Spectrum Disorders (ASD). The number of children with ASD specifically has been increasing across multiple measures as the number of people with disabilities increases. In 2007, 1 in 86 children ages 6-17 were diagnosed with ASD (Blumberg, et al., 2013). In 2018, the CDC stated that in 2014, 1 out of 59 children were diagnosed with ASD (Autism and Developmental Disabilities Monitoring Network, 2018). As these numbers rise, more children are being served under IDEA. IDEA suggests, by the requirement of Least Restrictive Environment as well the requirement of use of EBPs, that students with disabilities should be educated in the general education curriculum as much as possible (IDEA, 2004; Wong C., et al., 2015). Out of the children diagnosed with disabilities, 61.8% spend 80% of their school day in the general education classroom (U.S. Department of Education, 2015). Out of the students diagnosed with ASD specifically, 39.7% spend 80% of their school day in the

general education class (U.S. Department of Education, 2015). The percentage of students with disabilities, including ASD, who are completing time in the general education classroom is constantly shifting due to increased diagnosis and implementation of EBPs (Wong C., et al., 2014; Wong C., et al., 2015). As these numbers increase and shift, the need for teachers to be prepared to use evidence-based practices to assist in the inclusion and education of children with disabilities increases. This means students in the field of education need to complete college coursework like the EBP-COT Assignment that will prepare them to implement EBPs.

## Current Inclusive Trends

Currently, across the world, teachers and other professionals are trying to include students with disabilities in the general education classroom but are not doing so effectively enough (Coster, et al., 2013; Simeonsson, Carlson, Huntington, Mcmillen. & Brent, 2001; Winzer, 1993). Inclusive trends and policies today state that students with disabilities have the opportunity to participate in all areas of education that students without disabilities participate (Simeonsson, Carlson, Huntington, Mcmillen, & Brent, 2001). Although this may be true, many times students with disabilities are included in the classroom, but supports and adaptations are not provided for learning in that environment to occur (Coster, et al., 2013; Hemmingson & Borell, 2002). For these students to be successful in the general education environment, they require appropriate supports such as environmental accommodations and adapted teaching strategies (Coster, et al., 2013). Educators and professionals are working together to create models and programs that will increase the effective inclusion of students with disabilities including the implementation of supports and adaptations.

There are five theoretical explanations of behavior: the psychodynamic model, biophysical model, ecological model, social model, and cognitive-behavioral model. The most commonly used model for intervention is the biophysical model (Coster, et al., 2013). The biophysical model of disability states that the participation of a child with disabilities in the general education class depends on the child's interests and abilities as well as features of the physical environment (Coster, et al., 2013). For example, a student with a disability may not participate fully in the general education environment if they are not interested in the topic according to the biophysical model. Another example is s student with a disability may not be able to participate fully in a task that involves cutting out paper if they have trouble operating regular scissors and no accommodations or modifications are made.

When educating students with disabilities using the biophysical model, students with disabilities participate only 50% of the time in learning activities and 60+% of the time on field trips (Simeonsson, Carlson, Huntington, Mcmillen, & Brent, 2001). Students with disabilities, when given the right supports, should be able to be included in the general education classroom much more than this if appropriate supports are provided (Carnahan & Lowrey, 2018). However, currently, students with disabilities are reported to be included less than their general education peers in all activities (Coster, et al., 2013). All students deserve the opportunity to be not only included in the general education curriculum but to learn in this curriculum and classroom. To address the varying needs and abilities of students, teachers and other professionals must implement EBPs for their classroom to be accessible to students with disabilities.

## Understanding ASD

As the number of children with ASD is steadily climbing, it is important that teachers are prepared to implement practices that meet the needs of these students. This may begin by learning about ASD and the characteristics that are exhibited by individuals with ASD. ASD is a group of neurodevelopmental disorders beginning in early childhood that is characterized by social deficits, language impairments, repetitive behaviors, and a need for sameness (Lauristen, 2013; Tonge & Brereton, 2011, p. 672). Individuals with ASD vary in the number of characteristics exhibited and how strongly they are affected by these deficits. The term ASD covers a wide range of people who have these characteristics ranging across all levels of functioning (Lauristen, 2013; Tonge & Brereton, 2011). These variances of levels of functioning make ASD a complex condition that requires multiple intervention approaches to meet the varying needs of these students. For teachers, this wide range of abilities can be challenging to accommodate for and, for many teachers, is a source of great anxiety (Carnahan & Lowrey, 2018; Lauristen, 2013). For this reason, it is imperative that teachers are equipped with the knowledge they need to implement practices to serve students with ASD and other disabilities. This also means that teachers need to be prepared to teach students with varying abilities in the general education classroom.

## EBPs Assist in Effective Inclusion for Students with Disabilities

Often elements of the environment such as the design of schools and the lack of tailored services can cause decreased participation in the classroom for students with disabilities (Coster, et al., 2013; Hemmingson & Borell, 2002). Due to this, students with ASD and other disabilities require specific evidence-based practices to be successful in

school (Carnahan, Lowrey, & Snyder, 2014). But what is an evidence-based practice? An EBP is an “instructional technique with meaningful research support that represents critical tools in bridging the research-to-practice gap and improving student outcomes" (Cook & Cook, 2011, p. 2). In fact, students with disabilities are required by law to receive education in the Least Restrictive Environment (IDEA, 2004). Students with ASD are also required by IDEA to be taught using evidence-based practices (Wong C., et al., 2015). The National Professional Development Center has established 27 EBPs that have been identified as effective for teaching students with ASD (Wong C., et al., 2015) (Wong C., et al., 2014). This means that 27 educational practices have been proven to be successful in increasing the educational outcomes for students with ASD and other disabilities.

## Results of Using EBPs for Children with Disabilities

### Practices Found Effective to Help Students with Disabilities

The use of evidence-based practices for students with disabilities has been proven to be effective in increasing student achievement (Clarke, Haydon, Bauer, & Epperly, 2016; Schnorr, Freeman-Green, & Test, 2016). Many practices are effective to help students with disabilities. One specific practice that has been effective in assisting students with disabilities in learning in the general education classroom is the use of response cards to increase opportunities to respond (Schnorr, Freeman-Green, & Test, 2016). Response Cards are individual cards or boards given to all students that allow for all students to write answers to teacher-given questions. The use of response cards increased student on-task behavior from 70% without response cards to 100% with response cards (Clarke, Haydon, Bauer, & Epperly, 2016). Increasing the opportunities to

respond by using response cards with students with disabilities can increase positive teacher-student interactions, enhance student engagement, increase student learning, and decrease problematic behaviors (Schnorr, Freeman-Green, & Test, 2016). The use of response cards for children with disabilities has also proven to increase test and quiz achievement, participation, and decreased off-task behaviors for students with disabilities (Schnorr, Freeman-Green, & Test, 2016). In a study done by Clarke, Haydon, Bauer, and Epperly, five third grade students with a disability were studied during their science and social studies class in the general education classroom (2016). Another EBP proven to be effective for students with disabilities is the Concrete-Representational-Abstract Approach (CRA) (Bouch, Park, & Nickell, 2017). The CRA instructional framework is a framework which assists students with disabilities who struggle in math in areas such as addition subtraction and multiplication (Bouch, Satsangi, & Park, 2017). Any intervention that teaches mathematics in order from concrete/physical objects, then representational drawings, and then solving problems using symbolic notation form is considered part of the CRA framework. The use of a CRA framework has been proven to increase math accuracy in students (Bouch, Satsangi, & Park, 2017). One study conducted by Bouck, Park, and Nickell studied the effects of the CRA framework on middle school students with disabilities in learning to make change (Bouch, Park, & Nickell, 2017). The results of this study were an increased amount of accurately solved problems for the students who learned through the CRA framework. These are just some examples of EBPs for students with disabilities. Although EBPs have been proven effective for students with disabilities in general, certain EBPs have been proven to be effective specifically in students with ASD.

**Practices Found Effective to Help Students with Autism**

The implementation of EBPs for students with ASD is especially crucial to include students with ASD in the general education classroom (Carnahan & Lowrey, 2018). EBPs implemented in the areas of environmental design, visual supports, communication, and other areas provide students the opportunity to participate in the general education classroom by giving students the extra support needed to process and interact with their environment (Carnahan & Lowrey, 2018; Hemmingson & Borell, 2002). For example, EBPs such as developing structure, systematic instruction, use of topics of interest, balancing social and academic demands, teaching missing skills, and teaching self-regulation have been proven to increase general education classroom accessibility for students with ASD (Carnahan & Lowrey, 2018; Coster, et al., 2013; Schnorr, Freeman-Green, & Test, 2016). In fact, EBPs implemented in these areas can assist in more than one target area including: focus, engagement, and calmness of students and decrease challenging behaviors (Carnahan & Lowrey, 2018; Wong C., et al., 2015). Also, implementing environmental EBPs for structure and support can minimize organizational, memory, and attention barriers learners with ASD face (Carnahan & Lowrey, 2018; Hemmingson & Borell, 2002).

Not only can EBPs assist in environmental areas, many studies have proven that using EBPs assists students with ASD in effective learning that can assist in the inclusion of students with disabilities in the general education classroom (Bethune & Wood, 2013; Carnahan & Williamson, 2013; Clarke, Haydon, Bauer, & Epperly, 2016). Today, several EBPs exist to effect learner outcomes such as discrete trial training, pivotal response

training, prompting, and video modeling (Wong C., et al., 2015). These EBPs have been found effective to assist students specifically with ASD (Wong C., et al., 2015).

One such practice that has been proven effective to help students with ASD participate in the classroom is the use of compare and contrast text structure to increase reading comprehension (Carnahan & Williamson, 2013). Reading comprehension is an area of deficit for many students with ASD because, to learn how to read, children must develop advanced word recognition and be able to look beyond the text to make inferences on what the author means (Ricketts, Jones, Happe, & Charman, 2013). Students with ASD struggle in word recognition and non-literal inferences due to the symptoms of their disability. In a study done by Ricketts, Jones, Happe, and Charman, the cause of deficits in reading comprehension for students with ASD was determined (2013). In this study, 100 adolescents with ASD were required to read short passages and answer questions about these passages. Through this research, it was determined that students with ASD struggle to comprehend what they read due to deficits in word recognition, oral language comprehension, and social impairments. When students used the compare and contrast intervention, all students with ASD reading comprehension increased, proving that compare and contrast texts/interventions assists students with ASD in understanding complex texts (Carnahan & Williamson, 2013). These studies on EBPs, their use, and their effectiveness prove that the inclusion of students with disabilities, specifically ASD, can occur if teachers implement these practices in their own classrooms.

Although studies and practices exist such as these that assist students with ASD in navigating the general education classroom, many people in the field of education

often struggle with implementation of these practices (Cook & Cook, 2011; Cook & Cook, 2013). The struggle in the implementation of these practices could be due to many factors such as confusion on where to implement EBPs, what EBPs are, or why they are important. However, many people, including teachers, would state that this lack of use of EBPs is due to the lack of professional development regarding EBPs (Cook & Cook, 2011; Cook & Cook, 2013; Donaldson, 2015; Garet, Porter, Desimone, Birman, & Yoon, 2001). Teachers state that the only professional development on EBPs they receive is a brief overview in college or a lecture style professional development after college (Garet, Porter, Desimone, Birman, & Yoon, 2001). Currently, lecture style professional development is the most common form of professional development, but it has been proven ineffective in increasing the use of EBPs (Garet, Porter, Desimone, Birman, & Yoon, 2001). However, many more styles of professional development are emerging that have been proven to be more effective in education teachers on the use of EBPs (Garet, Porter, Desimone, Birman, & Yoon, 2001; Hemmingson & Borell, 2002). The current ways of training in EBPs have been proven ineffective to increase their implementation, and with the increase in students with disabilities, it is more important than ever to have a way of training in EBPs that increases the use and understanding of EBPs. It is increasingly important that we find ways to train teachers that will have a continued effect on their teaching methods and increased use of EBPs.

## Current Ways to Increase Use of EBPs and Current Inclusive Trends

### Professional Development for Inservice Teachers

Currently, to support teachers in the use of EBPs, most teachers receive a one-time lecture type training on EBPs (Garet, Porter, Desimone, Birman, & Yoon, 2001).

This one-time lecture professional development method has been proven to be ineffective in increasing the use and understanding of EBPs (Garet, Porter, Desimone, Birman, & Yoon, 2001). For teachers across the world, identifying EBPs, conducting research on EBPs, and using EBPs when non-evidence-based interventions are taught in professional development is a challenge (Sam, Kucharczyk, & Waters, 2017). Also, research has found that information and training on resources and EBPs do not have to be given in person to be effective (Purper, 2016). One type of professional development that has been proven more effective for teachers in the field of education than a one-time lecture is an online delivery of instruction and materials (Sam, Kucharczyk, & Waters, 2017). The online modules to further develop teacher knowledge of EBPs provide implementation strategies along with supplemental material such as the CEC standards, a step-by-step guide for implementation, videos, worksheets, data forms, and fidelity forms (Sam, Kucharczyk, & Waters, 2017). These online tools include an implementation checklist that contains three steps to effective implementation of EBPs. These steps include: plan, use, and monitor. During the planning stage, teachers self-assess their skills and knowledge and create goals based on the results of the self-assessment. Once teachers have planned the EBP and completed the online modules, they must then use the EBP. Finally, teachers will report on their use of the EBP and the online modules and will reflect on what they did and how they could do better. The online professional development along with the supplemental materials has been proven to be an effective training technique to increase teacher use and understanding of EBPs (Sam, Kucharczyk, & Waters, 2017). The study conducted by Sam, Kucharczyk, and Waters uses an implementation checklist much like what the EBP-COT assignment is based on. This

form of training has been proven effective in increasing use of EBPs, so it is important that we consider how to use practices like this in preservice teacher education.

Teachers have three other options to learn about EBPs (Sam, Kucharczyk, & Waters, 2017). Teachers can learn through practice by implementing EBPs in their own practice without training (Sam, Kucharczyk, & Waters, 2017). Teachers can learn through general training such as what is given in colleges and lecture style professional developments (Sam, Kucharczyk, & Waters, 2017). Teachers can also learn through individualized, application-focused coaching that is one-on-one and made specific to the teacher and classroom (Sam, Kucharczyk, & Waters, 2017). Although possibly the best practice, coaching may be an unrealistic option for all training due to lack of funding, time, and resources (Sam, Kucharczyk, & Waters, 2017).

Teachers who are required to use EBPs do not receive the preservice training on the EBPs nor do professional development trainings alone provide the resources for effective implementation of EBPs (Sam, Kucharczyk, & Waters, 2017). Research has found that online learning, instead of a solo training session, offers cost-effective training that supports teachers as they learn. A common problem for educators today is the research-to-practice gap in using evidence-based practices (Purper, 2016). Educators must be trained to look at the research, evaluate its fidelity, and use the research that is available to them to use EBPs (Purper, 2016). When educators are researching EBPs, they may find a great multitude of articles about EBPs, but not all of them meet the set criteria for use (Purper, 2016). The Internet is one source for educators to learn about EBPs and how to use them independently and informally, but educators need support to determine which sources are high quality and which ones are not (Purper, 2016).

Research supports the effectiveness of online learning modules to support the utilization of EBPs (Purper, 2016). To assist educators in implementing EBPs, the federal government has funded websites to disseminate research about EBPs and trainings to implement them (Purper, 2016). Several of these websites are featured in Table 1.

According to research by Carnine, Cook, and Odom, teachers using practices that are not defined as evidence-based practices present a challenge that many people in the field of education recognize and try to solve (2016). In fact, teachers appear to be using more practices that are not Evidence-Based than are suggested, recommended, or legally allowed (Cook & Cook, 2011; Cook & Cook, 2013). Teachers may know about EBPs, but they may not know how to generalize that knowledge, or they may need more support than they feel they are given to implement (Coogle, Rahn, Ottley, & Storie, 2016).

Professional development, or teacher training, is one way to solve this problem and increase the use of EBPs in classrooms. However, research has proven that professional development aligned with existing practices or curricula and when it is specific, intensive, and sustained over time is the most effective form (Coogle, Rahn, Ottley, & Storie, 2016).

Much like the online modules and websites, Ecoaching is another form of professional development used to increase teacher use of EBPs (Coogle, Rahn, Ottley, & Storie, 2016). During a study conducted by Coogle and colleagues (2016) on Ecoaching, teachers were asked to teach normally across three criteria for a baseline and then receive instruction on a specific EBP and perform it. As the teacher was implementing the EBP, they received coaching through a Bluetooth earpiece. Following this, the teachers were

then recorded teaching using the EBP but with no coaching. The teachers who participated in this method of training increased use of EBPs during the intervention and after the coaching was complete (Coogle, Rahn, Ottley, & Storie, 2016). This information suggests that teachers may need extra "supports to generalize newly learned skills to different routines."

After the study was completed, the participants completed a survey with demographic, Likert-scale, and open-ended questions to assess what their classes were like, their use of the EBPs, their confidence levels in using the EBPs, their perception of the child's growth, and their experience with the coaching. Both participants agreed that the training was helpful, and they will continue to use the techniques learned. They also stated that they believed it was so effective because they received information, prompts, and praises as they were teaching.

Coaching has been proven as one of the most effective methods of professional development. In fact, a study done by Bethune and Wood (2013) shows that coaching increases a teacher's accurate implementation of intervention as well as decreases students' challenging behaviors. However, as mentioned previously, coaching is expensive, but the benefits outweigh the costs. In a tool developed by Carnahan and Lowrey, teachers are provided with coaching on where to look for EBPs and are asked to observe these areas and record what professionals are doing and what research says they could implement in their own practice (2016). However, few specific efforts exist which focus on EBPs and preservice teachers.

**Professional Development for Preservice Teachers**

Today, many professional developments exist for the in-service teacher, but very few exist for the preservice teacher. Many teachers state that they feel as if they were not prepared enough by their undergraduate curriculum or other professional developments before they entered the field (Jackson, Simoncini, & Davidson, 2013). Currently, preservice teachers learn about EBPs while in college but may receive no other training on implementation (Rakap, 2017).

Several efforts have been made to increase the knowledge and practice of EBPs. One way to increase the knowledge of EBPs as students participate in their undergraduate curriculum is by the implementation of a Classroom Profiling Training (CPT) (Jackson, Simoncini, & Davidson, 2013). In CPT, preservice teachers participated in 25 hours of activities including detailed explanations of strategies, profiling records sheets, video clips of practice, and practice profiling sessions. After completion of CPT, preservice teachers stated that they felt more confident in managing their classrooms and performing the Evidence-Based Interventions. This study demonstrated that implementation of an undergraduate curriculum that provides training in EBPS is effective in increasing the confidence of preservice teachers in managing and performing EBPs.

Much like in-service teacher preparation, coaching has been proven to be one of the most effective modes of training for preservice teachers. When preservice teachers were provided professional development plus coaching, they showed increased use of interventions compared to preservice teachers who received training alone (Rakap, 2017). In a study done by Rakap, all participants who were given professional development and coaching showed an increased implementation fidelity (2017). The increased fidelity of

implementation supported professional development and coaching, in turn, increased correct responding in students.

For pre-service teachers/SLPs to work effectively with students with disabilities, specifically ASD, they need many opportunities to observe a classroom and then perform the tasks required of them under supervision by a professional (Donaldson, 2015). Donaldson and associates have developed a 10-week apprenticeship model that uses modeling, scaffolding, fading, and coaching much like other apprenticeship models. This apprenticeship model calls for the mentor to identify and make evident their underlying thoughts and processes while providing an authentic context. When the apprenticeship model was used, preservice teachers increased their practice fidelity and implemented techniques more appropriately than they did before the model.

## Research on Preservice Tools to Increase EBPs

These trainings and practices were specifically chosen to be included in this literature review because they reflect the ideals and goals that the researchers of the EBP-COT Assignment are aiming to accomplish. These practices speak of a way to help teachers already in the field learn through what they are already doing to implement EBPs. The EBP-COT Assignment aims to work alongside professional teachers as preservice teachers use the EBP-COT checklist to evaluate and observe EBPs in their practicum setting. This authentic learning environment will allow for preservice teachers to establish a thorough understanding of what EBPs are, why they are important, as well as how to implement them in their own classrooms one day.

The main component of the EBP-COT Assignment is a checklist. Checklists can reduce mistakes, improve outcomes, allow for recording of presence or absence of items,

highlight essential criteria, improve memory recall, standardize and regulate processes and methods, be used as a diagnostic tool, and assist in best practice adherence (Hales & Pronovost, 2006). One research study that uses a checklist, much like this current study, was conducted by William Brown on a "checklist for the assessment of science teachers and its use in a science pre-service teacher education project" (1973, p. 243-244). This study on a checklist for assessment is the only research study that evaluates the use of checklists in the field education found by this researcher. Much like the study on the EBP-COT assignment, the main goals of the study conducted by Brown were to create an instrument that could be used by many people in the field of education to assess student teachers and to see if the implementation of the project altered student-teacher relations, classroom activities, or personal adjustment.

At Ohio State University, The Teacher Education Project in Science and Mathematics Education was created to assist preservice teachers in not only learning the material but implementing it as well (Brown, 1973). In this study at OSU, preservice teachers complete a two-year teacher education coursework that focuses on experiences in the classroom, followed by implementation during practicum.

The instruments created to gauge student-teacher relations, classroom activities, and teacher personal adjustment were The Pupil's Perceptions (CAST: PP) and the Supervisor’s Perceptions (CAST: SP), forms of the Checklist for Assessment of Science Teachers (CAST). The CAST: SP consists of three scales: the student-teacher relation scale, the classroom activities used by teacher scale, and the teacher’s personal adjustment scale. The CAST: PP consists of both the student-teacher relation scale and the classroom activities used by teacher scale. The first scale deals with the disciplinary

ability of each preservice teacher. The second scale asks about the activities which students complete in the preservice teacher's class. The third scale deals with the preservice teacher's analytical thinking, social and emotional attitudes, self-confidence, and personal relations. For each scale, there are five questions which require both a circled answer and a descriptive response.

For this study, the CAST: SP was completed by the cooperating teachers and the university supervisors at the end of each quarter. The CAST: PP was answered by the pupils of the preservice teacher at the end of each semester. Both the CAST: SP and CAST: PP were completed for the project and the non-project students.

After evaluation of the CAST scales and answers, it was determined that preservice teachers who participated in the project did better than preservice teachers who did not participate in the project in student-teacher relations and types of classroom activities. Project preservice teachers were believed to do better than non-project students in these areas due to the amount of direct, guided experience in schools. In summary, preservice teachers who receive deliberate, guided practices in what they are taught in lecture show higher use of these practices in the classroom.

This study conducted by Brown is the only study the researcher was able to find on the use of evaluations sheets and checklists for preservice teachers. This study relates to the current study on the EBP-COT assignment by the use of scales and reflective questions that cause the preservice teachers to reflect on practices they have seen used in practicum. The EBP-COT assignment aims to increase the use and understanding of EBPs in the classroom by requiring preservice teachers to reflect on the EBPs they observe in practicum. The success of this study proves the effectiveness of assignments

such as the EBP-COT assignment in increasing the use and understanding of effective practices observed in practicum.

Currently, not many studies exist on preservice tools to increase EBPs in the field of education. However, much like in the field of education, the field of social work calls for the use of evidence-based practices when working with individuals (Strand, Popescu, Way, & Jones, 2017). In a study done by Strand, Popescu, Way, and Jones (2017), six schools of social work worked with field agencies to train pre-service social work students to implement evidence-based trauma treatments. For this study, researchers analyzed readiness to implement EBTTs in field agencies for six months by using a checklist/questionnaire. After completing baselines and follow-ups, results showed that the development of decision-support data systems, facilitative administration, and improved staff attitudes are important goals for training on implementing EBTTs. All agencies benefited from this study by becoming more effective in training preservice social work students.

Another similar study explores the learning experiences and changing attitudes of graduate social work students in an elective class designed to help students work with LGBT individuals and families (Vinjamuri, 2017). This study does not directly contain EBPs or a way to increase them but is similar to the EBP-COT Assignment study because it uses preservice education to effect feelings and knowledge on the treatment of individuals. This study is also the closest related study to the EBP-COT Assignment study. The primary goal of this study was to reduce or eliminate biases and increase acceptance of LGBT people. The course, Social Work with Lesbian, Gay, Bisexual, and Transgender Individuals and Their Families, met weekly for almost 2 hours for 14 weeks.

Students enrolled in this course were to do their coursework and keep journals on their feelings about the coursework; afterward, students were to answer reflective questions on their views and the course. This study determined that the use of a specific class to teach about LGBT people increased understanding and acceptance of LGBT people and patients. The reflective nature of the coursework also allowed the students to think in depth about their experiences and why they think the way they do.

# Chapter 3: Methodology

Building from a published evidence-based checklist for classroom observations (Carnahan & Lowrey, 2018), researchers created an assignment appropriate for implementation with preservice teachers enrolled in an introductory special education course. The EBP-COT Assignment split each component of Carnahan and Lowrey's (2018) EBP-COT into a focused observation and reflection topic each week, spanning a total of 8 weeks. A pretest was delivered before beginning the focused observations, and a posttest was delivered immediately following. Data was collected, blinded, and shared with researchers via the course instructor.

Data analysis included a mixed methods approach (Creswell & Creswell, 2018) examining quantitative and qualitative results. Basic statistical analysis was used to determine patterns in results from the pretest/posttest as well as in the responses on the EBP-COT sections. Qualitative data from the reflections were grouped by answers across participants (Silverman, 2015). Direct passages that illustrated results through narrative were selected to share in this report. The EBP-COT Preservice Assignment

research and all of its steps were approved by the Institutional Review Board at the university where the study was conducted.

## The EBP-COT Preservice Assignment

The EBP-COT Preservice Assignment was implemented through an introductory, clinical course designed for first-year special education majors. This course involves an onsite K-8 placement utilized by preservice teachers for observation and practice. This course is an introductory level practicum experience where students conduct their first observations of classrooms to observe evidence-based practices in academic instruction and classroom management. The aim of this class is to provide experiences that will develop skills and knowledge supporting the provision of educational services to students with and without disabilities. The course is designed to increase knowledge in the areas addressed by the CEC standards, professional ethics, and evidence-based practices. For this study, the EBP-COT Preservice Assignment was embedded into traditional observations typically made by these preservice teachers. These classrooms were intentionally selected by the university special education program as appropriate for preservice practicum students because they effectively provided services to individuals receiving special education services. EBPs were observable in these selected classrooms. The EBP-COT Assignment broke down the EBP-COT checklist into six individual checklists focused on one topical area (e.g., environment, communication, etc.) each week. Pre-service teachers completed one checklist per week. The checklist was completed in the assigned classroom and participants then wrote reflections that compared the practice they observed to research they learned about in their coursework. At the end of each practicum day, participants participated in a 30 to 50-minute

debriefing that included a discussion of assignments and review of upcoming course work. Throughout debriefings, participants shared their experiences during observations throughout the day, identified positive practices they observed, and identified practices that did not match those recommended by their teacher education coursework. The instructor responded by linking observations to evidence-based practices and instructional methods.

## Setting

The first practicum placement was at a school of three hundred and nine students in grades K-8$^{th}$ in a mid-southern urban area (U.S. Department of Education, 2018). The student population was 84.8% African American, 8.1% Hispanic, and 6.5% were of two or more races. Ninety-nine percent of these students received free or discounted lunch. The student to teacher ratio at this school was twelve K-8 students to one teacher. Nine of the twelve study participants were placed at this school for their practicum course. The second practicum placement was at an elementary school of 739 students in the Gulf Coast area (U.S. Department of Education, 2018). Student make-up at this school was 74.4% Caucasian, 15.4% African American, and 4.5% were of two or more races. Fifty-six- percent of the students at this school received free of discounted lunch. The student to teacher ratio at this school was eighteen K-6 students to one teacher. Three of the twelve study participants were enrolled in the course at this school. Participants one and six through thirteen were located in the mid-southern urban area of the United States. Participants two through five were located in the Mississippi Gulf Coast area. Although practicum placements were at different schools, the course instructor was the same for both sites.

## Participants

Participants were twelve preservice undergraduate students at a mid-south Mississippi university with campuses in two locations; a main campus in a mid-south urban area and a second campus in a Gulf Coast area. Participants were enrolled in their introductory coursework in special education at one of the two available university sites. Participants were both female and male. Nine participants were located at the main campus placement, and three participated at the gulf coast location. No other identifying information was collected on the participants, however, to be enrolled in the teacher education program students must have a minimum of a 2.5 grade point average, pass a background check, and pass the Praxis I or have an eighteen-composite score on their ACT. Each participant consented to providing the researchers their completed EBP-COT Preservice Assignment with no identifying markers or grades.

## Protocols for Implementation

Listed below is the protocol for delivering the pre- and post-assessment. Both pre- and post- assessment contained the same questions in the same order. A pre/post assessment was given to each participant. The pre-assessment was delivered in person whereas the post-assessment was delivered online seven weeks later. Participants were asked to rate their preparedness in implementing EBPs in response to children with disabilities, their comfort level in the implementation of EBPs in nonacademic and academic areas, and to predict the likelihood of taking a tool provided in their undergraduate curriculum and using it in their career. Participants were also asked about the resources provided and their opinion as to whether or not those resources were

beneficial in helping them identify and use EBPs. Finally, participants were asked about their comfort level utilizing the EBP-COT checklist.

### Pre-Post Assessment Protocol

The instructor protocol for Pre-Post Assessment is located in Table 3. Participants were asked to complete this assessment before the assignment and after completion of the assignment. Participants were asked to answer the pre-post assessment by either circling a number between one and five or circling "Yes" or "No." Participants answered a one if they were very uncomfortable, very unprepared, or very unlikely. Participants answered a two if they were uncomfortable, unprepared, or unlikely. Participants answered a three if they were unsure. Participants answered a four if they were comfortable, prepared, or likely. Participants answered a five if they were very comfortable, very prepared, or very likely. Each question stated whether the participants should rate their comfortability, preparedness, or likelihood. The pre-post assessment included questions about participant comfort levels in defining, using, and choosing EBPs, preparedness in implementing EBPs, and likelihood to use materials presented in their undergraduate curriculum in their career. Participants answered a "Yes" or "No" regarding the responsibility of the university to prepare students to use EBPs and resources provided to them. See Table 2 for complete pre-post assessment and Table 3 for pre-post assessment instructor protocol.

### Observation Protocol

The protocol for the implementation of the Observation Phase is located in Table 4. Participants were asked to observe their mentor teacher in their practicum placement and rate their mentor teacher's usage of EBPs as zero for unsure, a one for no or very little implementation, a two for partial implementation, or a three for full implementation.

In Section One of the checklist, participants were asked to look at the physical organization of the classroom and rate the teacher based on well-defined spaces, various instructional configurations, and visible, relevant classroom materials. For Section Two, participants were asked to look for visual schedules and rate their teacher based on overall schedule being posted, instruction that corresponds to schedule, use of staff schedule, assigned areas of adults, student individualized schedules, schedules across activities, and instruction on how to use schedule. Section Three of the checklist required participants to look at the behavioral supports of the classroom. Participants rated their teacher on the use of visual supports to convey rules, use of reinforcement, offer of choices, honor or choices, transitions, and individual transition supports. Next, for checklist Section Four, participants were asked to observe teacher instruction rating the teachers based on types of instruction, the presence of goals of instruction, use of schedules, independent work stations, and embedded environmental supports. For Section Five and Section Six of the checklists, participants observed communication in the classroom. For Section Five, participants rated their teacher based on instructional practices, activities that build independence, staff participation, staff collecting data, and conversation between staff. Section Six asked participants to rate teachers based on communication systems, teachers allowing students to talk for themselves, communication instruction, social interaction instruction, and student opportunity to communicate.

A sample of the Observation Checklist Protocol appears in Table 4. Due to copyright, the checklist items are not included here.

### Refection Protocol: Physical Organization Section

The protocol for the reflection stage of the assignment is located with the example of reflection sections in Table 5. After completion of the observation phase, participants were required to complete a reflection section. The reflection section contained questions regarding what the student observed in practicum according to the checklist sections and required the participants to find credible sources regarding EBPs for that section. Participants were then required to reflect on how they would implement EBPs in that area in their classroom. Participants were required to do this following each observation checklist. A specific length of discussion was not a requirement in the reflection portions of the assignment. An example of the reflection sections of the EBP-COT Preservice Assignment appears in Table 5.

## Data Collection

Twelve participants consented to participate in the study and completed all observation checklists and reflections via submissions to their course Canvas website**.** At the end of each week of the study, the course instructor collected all checklists and reflection responses of the consenting participants. The course instructor then blinded the reflections and checklists for identifying information, scanned them, and shared them as a PDF to the research team for analysis. Researchers had no impact on student grades. The assignments of the participants were graded by the course instructor independent of researchers.

## Data Analysis

### Pre-Post Test Data Analysis

Both the pretest and the posttest contained the same questions and content but were delivered at different. To analyze pretest and posttest data, all pretests and posttests were submitted to the course instructor, blinded, and then emailed to the researchers. Researchers sorted answers by question and entered them into an Excel document. The data of each participant was entered individually. Answers were also recorded summatively, by charting the total number of participants responses to each option per question. Individual participant pre- and posttest answers were entered adjacently so growth between pre- and posttest could be determined.

Following this, data was analyzed to determine the total percentage of responses by each answer. Percentages were created by dividing the total number of participants by the number of participants that answered each response choice. Percent of participants who answered each choice ranged from 0-100%. The pre- and posttest data was then compared to determine if there was any growth in degrees of comfort, likeliness, or preparedness between the two tests. Growth was determined by measuring positive change in each participant's individual comfort, likeliness, and preparedness as well as by measuring the change in the whole group by question. Regression was measured by measuring the negative change in each participant's individual comfort, likeliness, and preparedness as well as by measuring the change in the whole group by question. A bar graph was then created to show the total percent of participants that answered each response option for both pre- and posttest. An additional bar graph was created by finding the average response option of the group for each question for both pre- and posttest.

### Checklist Data Analysis

To analyze data from the checklist observations, the researchers recorded how many participants answered each response option (0-3) for each item of the checklists. This data was then converted into percentages to represent the percent of participants that answered each response option. The percentages of participants that answered each response item ranged from 0-67% of participants per item. The checklist observation data was then entered into an Excel worksheet that organized the data into separate sheets for each week that detail how many participants answered each response option as well as the percentage of participants answering each response option.

### Reflection Data Analysis

To analyze results from the reflection portion of the study, participant responses were grouped according to the question. Individual student answers were copied into a Word document according to the question with each question having its own document. Researchers then analyzed the participant answers for each question and highlighted the consistent themes mentioned (Silverman, 2015). Three consistent themes were identified and are presented in the results section of this manuscript. Researchers then identified recurring themes across the reflective data set.

# Chapter 4: Results

In the following section, the results of the pre- and post- assessment, the checklist responses, and the weekly reflections are shared. The pre- and post- assessment results showed growth between individuals as well as the overall growth of the group from pre- to post-assessment. The checklist results consisted of reported percentages of responses of the responding participants. Results from the reflections included three consistent themes among participants.

## Pre-post test results

Participant responses for the pre- and post- assessment were recorded to determine growth in comfort, preparedness, and the likelihood of use in later practice. The pre- and post- assessment data from this study show overall growth in all areas. Results of the percent of participants who chose each response option for the pre- and posttest is located in Table 5. The pretest data shows the majority of the participants answering a 1-3 on all questions (see Table 5 for complete scoring criteria). The posttest data shows the majority of the participants answered a 3-5 on asking questions. The following data is represented by percentages of all twelve participants. For the number of participants that these percentages represent see Table 6. In "Comfort in Defining EBPs," 67% of the participants grew in comfortability, 8% maintained an uncomfortable rating, 17% maintained a rating of unsure, and 8% decreased from comfortable to unsure when comparing pre- and posttest. In "Comfort in Using EBPs," 75% of the participants grew in comfortability, 8% maintained a rating of comfortable, 8% moved from comfortable to

unsure, and 8% moved from very comfortable to comfortable when comparing pre- and posttest. In response to “Comfort in Choosing EBPs” in the pretest and posttest, 75% of participants grew in comfort, 8% maintained a rating of unsure, 8% maintained a rating of uncomfortable, and 8% moved from very comfortable to comfortable. In response to "Believing it was the Responsibility of the University to Teach EBPs," 100% of participants believed it was the responsibility of the university in the pretest, and 92% of participants maintained that belief in the posttest. Fifty percent of the participants moved from a belief that they could not define EBPs in the pretest to the belief that they could after the assignment, 42% continued to believe that they could define EBPs, and 8% of participants maintained that they still could not define EBPs. In response to "Preparedness to Implement EBPs," 75% of participants grew in feelings of preparedness, 8% of participants went from prepared to unsure, another 8% did not complete the posttest question, and another 8% of participants maintained a response of unsure when comparing pre- and posttest data. In response to "Likelihood to Use Materials" presented in their undergraduate curriculum in their post-graduation career, 33% of participants grew in likelihood, 17% maintained that they were likely to do so, 33% of participants maintained that they were very likely to, and 17% of participants decreased in likelihood to do so from very likely to likely in comparison of pre- and post-assessment data. In "Comfort in Implementing EBPs" in nonacademic areas, 67% grew in comfort, 8% maintained a rating of very comfortable, and 8% decreased from uncomfortable to very uncomfortable, 8% decreased from comfortable to uncomfortable, and another 8% decreased from comfortable to unsure when comparing pre- and post-test data. Fifty percent of the participants went from feeling as if they do not have the

resources to identify and implement EBPs in the pre-assessment to now feeling that they do have the resources, 33% of the participants maintained that they have the resources, and 17% maintained that they still do not have the resources in the post-assessment. In response to "Comfort Using the Checklist", 42% of participants were more comfortable after the assignment, 8% were still unsure, another 8% were still very comfortable, 25% decreased from very comfortable to comfortable, 8% decreased from very comfortable to unsure, and another 8% decreased from comfortable to unsure when comparing pre- and post- assessment data.

### Checklist Results

The checklist responses of all participants were tallied, recorded, and placed into tables to represent what percent of participants answered which response. The results were divided into paragraphs and sections according to the EBP-COT assignment. The data reported is a simple tally of the answers of the responding participants. The data from the checklists used every week were assembled to determine the percentage of responding participants observed evidence-based practices in each area of the classroom. The complete checklist results of the percentages of participant responses based on observations are located below in Tables 7-12. To determine what number of participants the percentages represent, see Tables 7-12. Because participants could skip items, it is important to note that no greater than 67% of participants (X # out of 12) responded to each response choice. Results are reported by percentages out of those X responders.

The complete results for the “Physical Organization” section of the checklist may be viewed in Table 7. For the “Physical Organization” section of the checklist, 100% of participants were able to witness either partial of full implementation of EBPs in the area

of arrangement of classroom and organization of materials. In “Physical Organization” checklist-use of space, 92% of participants saw either partial or full implementation of EBPs and 8% saw no implementation of EBPs in this area.

The following results were collected from the "Environmental Physical Schedule" checklist; the complete data may be viewed in Table 8. In the area of "Class Schedule Posted" visibly, 42% of participants saw no implementation or were unsure if they saw implementation while 58% saw partial or full implementation of this EBP. In the area of "Instruction Corresponds with Schedule," 17% of participants saw no implementation of this practice and 83% of participants saw partial to full implementation. In the area of "Staff Schedules Posted," 67% of participants were unsure if they saw implementation or saw no implementation and 33% saw partial to full implementation of this EBP. In the area of "Adults in Assigned Areas," 50% of participants were unsure of implementation or saw no implementation and 50% saw partial or full implementation. In the area of "Student Individualized Schedules," 75% of participants were unsure if they saw implementation or recorded that they saw no implementation and 25% saw partial or full implementation of this EBP.

The following results were from the third week of the checklist study and are found in the "Environmental Behavioral Supports" section of the checklist (see Table 9 for complete data). In the area of "Visual Supports for Rules,” 17% saw no implementation and 73% saw partial to full implementation of the EBP. In the area of “Reinforcement for Behavioral Supports,” 17% saw no implementation, and 83% saw partial to full implementation of the EBP. In the area of “Choices Offered,” 25% of participants were unsure if they saw the EBP or saw no implementation and 75% of participants saw partial

to full implementation. In the area of “Staff Honors Choices,” 17% of participants were unsure if they observed implementation or no implementation was observed, and 83% of participants saw partial to full implementation of this EBP. In the area of "Easy and Quick Transitions,” 17% of participants saw no implementation and 83% observed partial to full implementation of an EBP in this area. In the area of “Individual Transition Supports,” 67% of participants said they were either unsure of implementation or saw no implementation and 33% of participants observed partial to full implementation of the EBP.

The following results were from the fourth week of the checklist study and were taken using the “Instructional Considerations” section of the checklist (full checklist data may be viewed in Table 10). In the area of “Types of Instruction," 8% of participants were unsure if they saw the implementation of an EBP and 92% of participants said they saw partial to full implementation of EBPs in this area. In the area of "Identifiable Goals of Instruction,” 25% of participants were unsure if they saw implementation or saw no implementation and 75% of participants saw partial to full implementation of EBPs. In the area of “Activity Schedules to Communicate Expectations,” 41% of participants were either unsure if they saw this EBP or saw no implementation and 59% saw partial to full implementation. In the area of “Individualized Work Systems to Communicate Answers,” 33% of participants were unsure if they saw this or saw no implementation and 67% saw partial to full implementation of EBPs in this area. In the area of “Environmental Supports in Instruction,” 17% of participants saw no implementation and 83% saw partial to full implementation.

The following results were from the fifth week of the checklist study and were taken using Part One of the "Communications Checklist" (full data can be found in Table 11). In the area of "Systematic Instruction," 8% of participants observed no implementation and 92% of participants saw partial to full implementation of this EBP. In the area of "Classroom Instruction in Independence," 100% of participants observed partial to full implementation of EBPs in this area. In the area of "Staff Participation with Students," 8% saw no implementation and 92% observed partial to full implementation of EBPs in this area. In the area of "Staff Collects Data," 25% of participants were unsure if they observed any EBP and 75% states they saw partial to full implementation of the EBP. In the area of "Staff Conversation is Limited" (to only academic talk), 41% of participants saw no implementation and 59% saw partial to full implementation.

The following results were from the sixth week of the checklist study and were taken using Part 2 of the Communication portion of the checklist (the full data can be found in Table 12). In the area of "Communication Systems" used. 83% of participants were either unsure if they saw implementation or saw no implementation and 17% saw partial implementation. In the area of "Staff Do Not Speak for Students," 33% of participants observed no implementation and 67% observed partial to full implementation of an EBP in this area. In the area of "Communication Instruction in Class Activities," 27% of participants were unsure if they saw an EBP in this area and 72% of participants observed partial to full implementation. In the area of "Social Interaction Instruction in Class Activities," 17% of participants said they were unsure if they saw this or observed no implementation of EBP and 83% stated they observed partial to full implementation of

EBPs in this area. In the area of “Opportunity for Peer and Adult Interaction,” 100% of participants stated they saw partial to full implementation of EBPs in this area.

**Reflection**

The following reflection results were determined by grouping participant responses according to each question. The reflections were then individually analyzed to determine consistent themes. Reflection results showed three consistent themes: a lack of comprehensive understanding in some areas, a range of conflicting views about observations, and an increase in participants correctly naming EBPs observed the further the study progressed. Themes and quotes are shared below.

*A lack of comprehensive understanding.*

The first theme present in the reflection data is *a lack of comprehensive understanding* in some areas. This theme included a statement made by participants demonstrating they did not understand what was being asked in the reflection or checklist, they did not understand or know of EBPs in the areas outlined on the checklist, or that they believed they should have answered differently on the checklist upon reflection. One participant stated that at the time of doing the checklist, she did not check off the ‘one on one' grouping as it was not until later that she realized that the teacher could have those meetings at her desk. Another participant answered saying, "This was hard to answer, at the time, I thought perhaps the teachers did follow a schedule due to the fact the students switch between three classrooms. However, after reading this question, I do not feel like the teachers were in their assigned areas." Another participant stated, "I did not understand what this question was looking for while I was doing my observation." One other participant stated, "I wasn't sure how to effectively observe or

measure this characteristic." One participant stated, "I am not completely familiar with IWS and couldn't really find much on it." Participants were at the introductory preservice level, so some lack of comprehensive understanding is not surprising. However, this lack of understanding was often corrected during reflection demonstrating growth or change.

*A range of conflicting views on EBPs observed.*

The second consistent theme found was that *a range of conflicting views* about EBPs was observed and were given as responses to the reflections. Participants who were in the same classrooms sometimes reported observing different EBPs and/or sometimes did not mention the same EBPs. Other participants in the same classrooms had conflicting views about whether any EBP was observed. One student stated, "Mrs. Moody's preparation for transition usually sounds like, ‘Ok, class. In about three minutes, I need you to put your worksheet in your folders when they are complete. When you put your worksheet in your folder, please wait for instruction with your head down on your desk. When your head is down, I will know you're ready to move on.'" Another student in the same class observing for the same EBP stated, "I really like how Mrs. Moody handles her transitions. She will call the students by certain traits or information to get in line to leave." In another area, one student stated, "Mrs. Moody assures quick transitions with minimal disruptions by preparing the classroom three to five minutes before a transition occurs." A student in the same class stated for the same area of observation with the same teacher, "If the students were getting loud in the line, she would make them all sit down. Mrs. Moody would restart when the students were quiet." In another area of observation, one participant stated, " Mrs. Adams did not participate much in practicum this week.”

Another participant in the same class stated, “Mrs. Adams does a wonderful job in participating with students during activities.”

*An increase in correctly named EBPs.*

The last recurring theme was *an increase of correctly named EBPs* observed as the study progressed. This theme developed from growth in the technical language and application demonstrated in reflections. As the participants progressed through the checklists across the study, the language in their reflections changed. Participants began by using descriptive statements in the early weeks instead of the name of the actual practice. As time went on, participants began to use more direct statements of the actual evidence-based practice. In the first reflection, all of the EBPs mentioned were mentioned through descriptive statements instead of direct naming. One participant stated, “She placed pencils and paper at the front and at the back of the classroom so that the supplies were easily visible.” The same student on Reflection 4 described an EBP observed by saying, “I observed independent work, small group work, and individualized instruction.” On Reflection 2, a different student stated, “She writes the schedule for each day on the white board, so that the students can access it at any time.” The same student on Reflection 5 stated, “My mentor teacher provides direct instruction with multiple examples to build independent students in her classroom.” Lastly, on Reflection 1, a different student stated, “The desks were arranged in groups of four. There were two tables with five chairs each one in front of the room and one in the back.” The same student on Reflection 4 stated, “The school system uses a token economy to reward positive behavior.”

# Chapter 5: Discussion

Researchers identified that there are little to no studies on the use of observation checklists in preservice teacher training. Sam, Kucharczyk, and Waters (2017) identified that teachers have three options to learn about EBPs: implementation without training, general training in college, or individualized application-focused coaching. This study was proposed to address the identified gap in literature and practice in the use of checklists to engage preservice teachers in the identification of evidence-based practices as general training offered to teacher education students. The EBP-COT Assignment research study found training in college combined with individualized application-focused coaching effective in educating pre-service teachers in EBPs.

One of the most important results of this study was an increase in feelings of comfort, preparedness, and the likelihood of use of EBPs in future practice. Research done by Sam, Kucharcyzk, and Waters (2017) identified that, with current trainings, teachers are uncomfortable implementing EBPs in their own classroom, so they do not do it. The EBP-COT Assignment was able to increase comfort levels in student participants in identifying and using EBPs which may, in turn, impact the implementation EBPs in future classrooms. The pre-post-assessment data demonstrated growth in all participants in some areas, and 92% of participants experienced overall growth. This demonstrated growth is important because past research indicates that current teachers struggle to implement EBPs due to reported feelings of discomfort and lack of preparation (Garet,

Porter, Desimone, Birman, & Yoon, 2001; Purper, 2016; Sam, Kucharczyk, & Waters, 2017).

Another result of this study is that the pretest and posttest data demonstrated that a checklist is an effective way to support preservice teacher in understanding and awareness of EBPs. Hales and Pronovost (2017) stated in their research that checklists can reduce mistakes, improve outcomes, allow for recording of presence or absence of items, highlight essential criteria, improve memory recall, standardize and regulate processes and methods, be used as a diagnostic tool, and assist in best practice adherence. After using the checklist, the resulting increase in feelings of comfort, preparedness, and the likelihood of use in future classrooms identified in the pre- and post- assessment support the findings by Hales and Pronovost. These findings make it clear that a checklist is effective in supporting preservice teachers to learn more about EBPs. These findings also align with the findings of Brown and Strand, Popescu, Way, and Jones (1973; 2017 demonstrating positive effects when a checklist is used for training and education.

In studies conducted by Brown and Vinjamuri, the use of reflections integrated into training showed changes in the attitudes, thoughts, and feelings of the participants responding to the reflections (1973; 2017). In the EBP-COT study, results from reflections supported Brown and Vinjamuri. Reflection results combined with the pre-post- assessment results demonstrated that preservice teachers were able to identify more EBPs, were more comfortable with EBPs, and were more prepared to identify them in practice. These findings support research that identified that use of intensive, practice-focused trainings such as the EBP-COT, Classroom Profiling Training, apprenticeship

models, and coaching has positive effects resulting in growth on the skills being trained (Donaldson, 2015; Jackson, Simoncini, & Davidson, 2013; Rakap, 2017).

According to research studies done by Jackson, Simoncini, and Davidson (2013), pre-service teachers do not receive enough in-depth education about EBPs and this lack of education has caused pre-service teachers to not be able to correctly define or use EBPs in practice. In the current study, reflection data showed a consistent theme of conflicting identifications of EBPs in preservice teachers in the same classrooms. This finding supported the findings of Jackson, Simoncini, and Davidson and identified that without explicit teaching, preservice teachers might not understand what EBPs to identify. Direct instruction in EBPs early into preservice teacher training is essential to preservice teacher understanding and identification of EBPs (Jackson, Simoncini, & Davidson, 2013). Without this education, some participants may view some practices as EBPs while others may not identify them as EBPs. Carnine, Cook, and Odom (2016) identified that teachers without education on EBPs might identify practices as EBPs that are not evidence-based. Findings from this study demonstrate that, without direct instruction in the training setting, participants may not be able to identify EBPs. However, this study also demonstrated that through the instruction of the EBP-COT checklist and accompanying debriefing sessions, participants showed growth in their ability to identify EBPs.

## Limitations

Although this study provides results to better understand how checklists can be used to support the acquisition of knowledge and understanding around EBPs for preservice teachers, limitations within the study have been identified. First, the absence

of a control group as a potential limitation. This study analyzed the effects of the assignment on one group of college students. If the participants in this study were compared to another group of students in the same class that did not participate in the assignments, researchers would be able to determine if the increase in knowledge of EBPs was due to strictly the assignment or their other coursework. However, EBP-COT assignment was included as part of the required work for the course, an ability to "opt out" was not possible. Also, only one section of the course was offered. Perhaps in a larger university, two sections could be offered with one having an alternate assignment or perhaps pre-post tests could be given to a preservice class one semester without the assignment and the next semester, the assignment could be included for a new group. A second identified limitation was a lack of data sorting during the analysis phase allowing comparison between the pre-service teachers at the two different schools. Because the course instructor blinded data before submitting it to researchers, an analysis was not done by setting to ensure similar growth was identified across placements. A potential confound exists in that students were also enrolled in course work at the same time they were taking the practicum course that included the EBP-COT assignment. Some growth in EBPs may be attributed to that coursework. Finally, no reliability measures were taken in observations. No educational professional recorded EBPs in the classes observed by the preservice teachers. The absence of a professional recording EBPs means that there is no way of knowing what EBPs students may not have identified or identified incorrectly.

### Recommendations for future research and practice.

The EBP-COT Assignment demonstrated participant growth in comfort, preparedness, and likelihood in using and identifying EBPs. This supports the idea that

the implementation of more checklists and similar assignments could be effective in teaching preservice teachers EBPs. The use of checklists and similar assignments in the education of preservice teachers has the potential to accommodate for research-to-practice gaps in many areas. Checklists and other similar assignments may be beneficial in teaching preservice teachers many ideas and practices, not just EBPs. Use of checklists to teach EBPs and other skills would be useful for future investigation.

Implementing the EBP-COT Assignment may affect positive change in pre-service teacher curriculum. The study demonstrated positive effects on student understanding, comfort, preparedness, and identification of EBPs and these results might affect the long-term implementation of EBPs. The current EBP-COT Assignment has been implemented in introductory block special education courses. Additional research could investigate whether or not the inclusion of the EBP-COT Assignment would be more beneficial later phases of teacher education. Investigations could implement the EBP-COT Assignment at different times of preservice teacher education to measure which phase it would be most beneficial for preservice teacher growth. In practice, the EBP-COT Assignment may be more beneficial if it was modified to include direct instruction on EBPs as the assignment progressed focusing on the EBPs used in the checklist each week.

For future research, studies could be conducted that compare students given the EBP-COT assignment with those who are given an alternately focused assignment. Such research could measure whether or not the application of the assignment increases understanding of EBPs greater than any increase shown in preservice teachers not exposed to the assignment. Components such as the checklist and reflective measures

could be individually investigated to see if they are effectively independently or if more growth is demonstrated when both are used together. Additional study could investigate the use of the EBP-COT Assignment with the addition of targeted instruction in EBPs. Researchers may examine if students find more EBPs and understand the reflections, checklists, and practices better if they have more targeted instruction in EBPs. Replication studies could be done following the same protocols with a broader range of students from different universities and in different years of their teacher preparation program. Lastly, research could be conducted on the long-term effects of the EBP-COT Assignment on the use of EBPs in post-graduation classrooms.

# Chapter 6: Conclusion

The EBP-COT Assignment was effective in increasing the understanding, comfort, preparedness, and likelihood of implementation of EBPs for 92% of research participants. Past research has shown that a deficit exists in EBPs for preservice teachers and that those deficits can be addressed through field-based experiences (Cook & Cook, 2011; Cook & Cook, 2013; Donaldson, 2015; Garet, Porter, Desimone, Birman, & Yoon, 2001). The EBP-COT Assignment provides an effective field-based experience for preservice teachers to increase the use and understanding of EBPs.

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# Appendix

Table 1: Websites for training in EBPs

| Website | Features of Websites |
|---|---|
| The Center on the Social and Emotional Foundations for Early Learning | • Translation of research findings into ways to implement the findings in practice.<br>• Resources such as articles, brochures, booklets, handouts, and issue briefs about the treatment of challenging behaviors |
| The Early Childhood Technical Assistance Center | • Extensive list of resources on EBPs, trainings and other resources |
| The What Works Clearinghouse | • Resources about EBPs<br>• Detailed reviews of research<br>• Guides to help educators implements EBPs |
| The IRIS Center | • Modules and research on EBPs to prepare educators to teach students with varying abilities<br>• Video vignettes, case studies, activities, information briefs, and |

research summaries to assist and train educators

Table 2: Pre-Post Assessment

Instructions: Before we begin our research, we want to gauge your understanding of evidence-based practices. Please answer honestly as this will not affect your grades or the university in any way.

Key for Rating Scales:

1= Very Uncomfortable/ Very Unprepared/ Very Unlikely

2=Uncomfortable/Unprepared/Unlikely

3= Unsure

4= Comfortable/Prepared/Likely

5= Very Comfortable/ Very Prepared/ Very Likely

1. On a scale from 1-5 with 1 being the least comfortable and 5 being the most, how comfortable are you in defining evidence-based practices?

1 2 3 4 5

2. On a scale from 1-5 with 1 being the least comfortable and 5 being the most, how comfortable are you using Evidenced Based Practices in your lesson plans and classrooms?

1 2 3 4 5

3. On a scale from 1-5 with 1 being the least comfortable and 5 being the most, how comfortable are you in choosing where evidence-based practices are needed in your classroom?

1 2 3 4 5

4. Is it the responsibility of the university to teach you when, where, and how to implement evidence-based practices in your future classrooms and lessons?

Yes No

5. Can you identify evidence-based practices in a classroom?

Yes No

6. On a scale from 1-5 with 1 being the least prepared and 5 being the most, how would you rate yourself on your preparedness to implement evidence-based practices in response to children with disabilities?

1 2 3 4 5

7. On a scale from 1-5 with 1 being not likely at all and 5 being very likely, how likely are you to take a tool provided in your undergraduate curriculum and use it in your future classroom to assist in determining where evidence-based practices are needed?

1 2 3 4 5

8. On a scale from 1-5 with 1 being least comfortable and 5 being most comfortable, how comfortable are you in implementing evidence-based practices in non-academic areas such as communication or social instruction?

1 2 3 4 5

9. Have you been provided enough resources to effectively identify and implement evidence-based practices?

Yes No

10. See attached document for checklist tool. Skim through the checklist tool. On a scale from 1-5 with 1 being least comfortable and 5 being the most comfortable, how comfortable are you in using the attached tool in your current practicum to identify and determine evidence-based practices for use in your lessons and classroom?

Table 3: Pre-Post Assessment Instructor Protocol

Pre-Post Assessment Instructor Protocol

1. Pass out printed pre-post assessments (1 per class member)
2. Provide the following directions. "Please complete the pre-assessment/post-assessment, following the printed directions within. There is not a right or wrong answer. You are being measured on completion of this task. I will allow 15 minutes for completion."
3. Wait 15 minutes (answering only general direction questions).
4. Take up pre-posttests. If you choose to give completion points, you may want to look them over. If not, pull the people who have signed to participate and give to the research team.

Table 4: Sample Observation Checklist Protocol: Physical Organization Section

Observation Phase: Physical Organization Instructor Protocol

1. Provide each student with a paper copy of the physical organization section of the checklist.

2. Provide the following directions. " Today you are completing an observation focusing on the physical organization of the classroom. You have two parts of this assignment. One is completed today in practicum, and one is completed at home. During practicum, complete the checklist following the directions printed on the handout provided. Do your best. There is no right or wrong response. Second, in Canvas you will find reflection questions (Note: please supply how you have saved this in canvas). Please answer the questions to the best of your ability at this time. You may upload your completed checklist to your Canvas reflection. Please submit both by the due date of XXX (whatever you decide).

3. If students have questions about procedures, you may answer general questions. Otherwise, ask them to do their best.

4. At the end of the study, you will download and blind participants' responses for Day 2 to share with researchers.

**Once students have completed the checklists in practicum that day, you may discuss if you choose to for debriefing purposes.

**INSTRUCTOR NOTE: THIS REFLECTION SECTION SHOULD BE UPLOADED TO CANVAS**

Table 5: Sample Reflection Section

**Example Reflection Section: Physical Organization**

**Part 2:** Answer the following questions in 12 pt. Times New Roman Double-Spaced Font and turn them into your practicum instructor through Canvas. Answer using the Word Document attached.

1. How did your mentor teacher define classroom spaces by visual and physical arrangement? How could you do so in your own classroom? Using peer-reviewed journals, textbooks, or accredited websites (.org/.edu), justify what your mentor teacher did or your ideas for what you will do in your own classroom.

2. How did your mentor teacher make the classroom area include identifiable spaces for independent work, large group, small group, and one on one instruction? How could you do so in your own classroom? Include pictures of spaces for instruction if applicable. Using peer-reviewed journals, textbooks, or accredited websites (.org/.edu), justify what your mentor teacher did or your ideas for what you will do in your own classroom.

3. How did your mentor teacher make instructionally relevant classroom materials visible and well organized? How could you do so in your own classroom? Use peer-reviewed journals, textbooks, or accredited websites (.org/.edu) to justify what your mentor teacher did or what you would do in your own classroom. Include creative ways to organize materials in your classroom.

Table 6: Pre/Post-Test Data

For this table/study:

1= Very Unlikely/Very Unprepared/ Very Uncomfortable

2=Unlikely, Unprepared, Uncomfortable

3=Unsure

4=Likely, Prepared, Comfortable

| Question #/ Pre- or Posttest | 1 | 2 | 3 | 4 | 5 | Yes | No |
|---|---|---|---|---|---|---|---|
| 1- Pretest | | 7 | 4 | 1 | | | |
| 1- Posttest | | 1 | 6 | 5 | | | |
| 2- Pretest | 1 | 6 | 2 | 2 | 1 | | |
| 2- Posttest | | 1 | 5 | 6 | | | |
| 3- Pretest | 2 | 5 | 4 | | 1 | | |
| 3- Posttest | | 2 | 4 | 6 | | | |
| 4- Pretest | | | | | | 12 | |
| 4- Posttest | | | | | | 11 | 11 |
| 5- Pretest | | | | | | 5 | 7 |
| 5- Posttest | | | | | | 11 | 1 |
| 6-Pretest | 2 | 6 | 3 | 1 | | | |
| 6-Posttest | | | 8 | 3 | | | |
| 7- Pretest | | 3 | 1 | 2 | 6 | | |
| 7-Posttest | | | 1 | 5 | 6 | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 8-Pretest | 1 | 6 | 1 | 3 | 1 | | |
| 8-Posttest | 1 | 1 | 2 | 4 | 4 | | |
| 9-Pretest | | | | | | 4 | 8 |
| 9-Posttest | | | | | | 10 | 2 |
| 10-Pretest | | 1 | 3 | 3 | 5 | | |
| 10-Posttest | | | 3 | 5 | 4 | | |

Table 7: Physical Organization Checklist Data

| Checklist 1- Physical Organization | | | | |
|---|---|---|---|---|
| | 0- Unsure | 1- No Implementation | 2- Partial Implementation | 3- Full Implementation |
| Arrangement of Classroom | 8% | 0% | 34% | 58% |
| Use of Spaces | 0% | 8% | 34% | 58% |
| Organization of Materials | 0% | 0% | 50% | 50% |

Table 8: Physical Schedules Checklist Data

| Checklist 2- Environmental- Physical Schedules | | | | |
|---|---|---|---|---|
| | 0- Unsure | 1- No Implementation | 2- Partial Implementation | 3- Full Implementation |
| Class Schedule Posted | 25% | 17% | 17% | 41% |

| | | | | |
|---|---|---|---|---|
| Instruction Corresponds with Schedule | 0% | 17% | 25% | 58% |
| Staff Schedules Posted | 50% | 17% | 16% | 17% |
| Adults in Assigned Areas | 33% | 17% | 25% | 25% |
| Student Individualized Schedules | 33% | 42% | 17% | 8% |
| Prompting to Use Schedules | 42% | 25% | 17% | 16% |

Table 9: Behavioral Supports Checklist Data

| Checklist 3- Environmental- Behavioral Supports | | | | |
|---|---|---|---|---|
| | 0- Unsure | 1- No Implementation | 2- Partial Implementation | 3- Full Implementation |
| Visual Supports for Rules | 0% | 17% | 16% | 67% |
| Reinforcement | 0% | 17% | 33% | 50% |
| Choices are Offered | 17% | 8% | 42% | 33% |

| | | | | |
|---|---|---|---|---|
| Staff Honors Choices | 8% | 9% | 50% | 33% |
| Easy and Quick Transitions | 0% | 17% | 50% | 33% |
| Individual Transition Supports | 17% | 50% | 16% | 17% |

Table 10: Instructional Considerations Checklist Data

| Checklist 4- Instructional Considerations | | | | |
|---|---|---|---|---|
| | 0- Unsure | 1- No Implementation | 2- Partial Implementation | 3- Full Implementation |
| Types of Instruction | 8% | 0% | 25% | 67% |
| Identifiable Goals of Instruction | 8% | 17% | 42% | 33% |
| Activity Schedules to Communicate Expectations | 8% | 33% | 17% | 42% |
| Individualized Work Systems | 25% | 8% | 42% | 25% |

| | | | | |
|---|---|---|---|---|
| to Communicate Answers Environmental Supports in Instruction | 0% | 17% | 50% | 33% |

Table 11: Communication Part 1 Checklist Data

| Checklist 5- Communication- Part 1 | | | | |
|---|---|---|---|---|
| | 0-Unsure | 1- No Implementation | 2- Partial Implementation | 3- Full Implementation |
| Systematic Instruction | 0% | 8% | 34% | 58% |
| Classroom Instruction in Independence | 0% | 0% | 67% | 33% |
| Staff Participation with Students | 0% | 8% | 25% | 67% |
| Staff Collect Data | 25% | 0% | 33% | 42% |

| | | | | |
|---|---|---|---|---|
| Staff Conversation is Limited | 0% | 41% | 17% | 42% |

Table 12: Communication Part 2 Checklist Data

| Checklist 6- Communication- Part 2 | | | | |
|---|---|---|---|---|
| | 0-Unsure | 1- No Implementation | 2- Partial Implementation | 3- Full Implementation |
| Communication Systems Used | 25% | 58% | 17% | 0% |
| Staff Do Not Speak for Students | 0% | 33% | 50% | 17% |
| Communication Instruction in Class Activities | 27% | 0% | 36% | 36% |
| Social Interaction Instruction in Class Activities | 8% | 9% | 50% | 33% |
| Opportunity for Peer and Adult Interaction | 0% | 0% | 8% | 92% |

IRB Approval Letter:

THE UNIVERSITY OF
SOUTHERN MISSISSIPPI

**INSTITUTIONAL REVIEW BOARD**
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Phone: 601.266.5997 | Fax: 601.266.4377 | www.usm.edu/research/institutional.review.board

**NOTICE OF COMMITTEE ACTION**

The project has been reviewed by The University of Southern Mississippi Institutional Review Board in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services (45 CFR Part 46), and university guidelines to ensure adherence to the following criteria:

- The risks to subjects are minimized.
- The risks to subjects are reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered regarding risks to subjects must be reported immediately, but not later than 10 days following the event. This should be reported to the IRB Office via the "Adverse Effect Report Form".
- If approved, the maximum period of approval is limited to twelve months.
  Projects that exceed this period must submit an application for renewal or continuation.

PROTOCOL NUMBER: 18053104
PROJECT TITLE: The EBP-COT Assignment: Increasing the Use and Understanding of EBPs in Preservice Teachers
PROJECT TYPE: Honor's Thesis Project
RESEARCHER(S): Margaret Bowman
COLLEGE/DIVISION: College of Education and Psychology
DEPARTMENT: Curriculum, Instruction and Special Education
FUNDING AGENCY/SPONSOR: N/A
IRB COMMITTEE ACTION: Expedited Review Approval
PERIOD OF APPROVAL: 06/27/2018 to 06/26/2019

**Edward L. Goshorn, Ph.D.**
**Institutional Review Board**