


2013

# Changes in Perceived Teacher Self-Efficacy and Burnout as a Result of Facilitated Discussion and Self-Reflection in an Online Course Designed to Prepare Teachers to Work with Students with Autism

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The University of San Francisco

CHANGES IN PERCEIVED TEACHER SELF-EFFICACY AND BURNOUT AS A  
RESULT OF FACILITATED DISCUSSION AND SELF-REFLECTON IN AN  
ONLINE COURSE TO PREPARE TEACHERS TO WORK  
WITH STUDENTS WITH AUTISM

A Dissertation Presented  
to  
The Faculty of the School of Education  
Department of Learning and Instruction

In Partial Fulfillment  
of the Requirements for the Degree  
Doctor of Education

by  
Monica C. Boomgard  
San Francisco  
December 2013

THE UNIVERSITY OF SAN FRANCISCO  
Dissertation Abstract

Changes in Perceived Teacher Self-Efficacy and Burnout as a Result of Facilitated  
Discussion and Self-Reflection in an Online Course  
Designed to Prepare Teachers to Work  
with Students with Autism

A growing number of students with Autism Spectrum Disorder (ASD) who display complex learning needs present challenges to educators who struggle to meet their educational needs. Teaching is stressful and additional instructional challenges may increase teacher vulnerability to burnout, leading to a greater likelihood of attrition. Increasing teachers' knowledge of strategies specific to students with ASD within online professional development may create needed support networks increasing self-efficacy and decreasing perceived stress. The purpose of this study was to examine the changes special and general education teachers' perceived self-efficacy and burnout as a result of facilitated discussion and self-reflection embedded in an online learning environment.

This mixed-methods research design explored teachers' perceptions of self-efficacy and burnout as a result of participation in online course designed to address the competencies of the California Added Autism Authorization Certificate. To address the quantitative portions of the study, the teachers' perceived self-efficacy was assessed at the beginning and end of the course using the Teacher Self-Efficacy Survey, and burnout was measured using the Maslach Burnout Inventory –

Educator Survey. Data from transcripts of 25 participants' responses in facilitated online discussion and self-reflection assignments served as the basis to investigate qualitative results. A follow-up focus group of seven teacher volunteers provided additional support for perceived differences in self-efficacy, as well as burnout results.

Study results revealed statistically significant differences in teachers' perceived self-efficacy from beginning to end of a 16-week course. Differences in teachers' perception of burnout were not found to be statistically significant based on analysis of results from survey data from Maslach Burnout Inventory – Educator Survey.

Qualitative analysis revealed four themes from this study, preparedness, confidence to implement strategies, community of support, and stress, in addition to core ideas from the focus-group discussion. Analysis of focus-group data gave the researcher a rich understanding of how special education and general education teachers expressed perceptions of the process of online facilitated discussion and self-reflection influenced changes in self-efficacy and burnout.

Study implications include the importance of professional discourse opportunities embedded in online professional development for teachers' to improve implementation of evidence-based intervention practices with students with ASD and learning challenges.

## **DEDICATION**

I dedicate this dissertation to my family and friends with whom I would not be who I am today. Especially to the two very significant people in my life: my father, Phil and the love of my life, Ward...love and support go along way! Also, to my friends and colleagues from USF, Jude and Lisa, as well as my “almost sister”, Kate, I know that each of you has made a difference in my success. And finally, to the educators I currently work with and to the students from my K-12 special education teaching career, you each continue to amaze and inspire me to be a better teacher as well as a better person!

## ACKNOWLEDGEMENTS

I would like to take this opportunity to acknowledge those singular people who have been supportive in my dissertation efforts. I wish to thank the members of my dissertation committee, especially Dr. Patricia Busk, my chair for her support, guidance, and wicked APA editing. To Dr. Yvonne Bui who had the faith in my competency from the very beginning of the process and Dr. Caryl Hodges for your support, insights and words of encouragement throughout the process.

My special thanks to Dr. Ivor Weiner, the faculty and staff of California State University Northridge, as without them this study would not have been possible. I am forever grateful. And to those educators who participated, each of you contributed to this completion of this research. A special thank you to Lauren Del Angel who acted as my research assistant. Your meticulous attention to detail made analyzing data a dream!

To all my friends in southern California for supporting me in my commute, helping me stay on course when frustration set in and reminding me that I could do it! And all my friends in northern California, “it took a village” and I feel that I am so much richer for my USF experience!

## TABLE OF CONTENTS

	Page
ABSTRACT.....	ii
DEDICATION.....	iv
ACKNOWLEDGEMENTS.....	v
TABLE OF CONTENTS.....	vi
LIST OF TABLES.....	ix
LIST OF FIGURES.....	x
CHAPTER	
I. STATEMENT OF THE PROBLEM.....	1
Purpose of the Study.....	5
Theoretical Rationale.....	7
Background and Need.....	15
Learning Needs of Students with Autism Spectrum Disorder.....	15
Teachers' Perceptions of Students' with Challenging Behaviors Including Autism Spectrum Disorders.....	17
Special Education Teachers' Competencies.....	19
Professional Development Training.....	23
Reflection and Discussion in Online Learning.....	27
Educational Significance of the Study.....	32
Research Questions.....	34
Definition of Terms.....	35
Summary.....	41
II. REVIEW OF THE LITERATURE.....	44
Discussion and Reflection in Online Learning Formats.....	45
Teachers' Perceptions of Students' with Challenging Behaviors Including Autism Spectrum Disorders.....	57
Teacher Burnout and Its Relationship to Teacher Self-Efficacy.....	66
Summary.....	73
III. METHODOLOGY.....	77
Research Design.....	77
Description of Course and Course Instructor.....	79
Participants.....	80
Human Subjects Considerations.....	82
Qualifications of the Researcher.....	83
Qualifications of the Teaching Assistant.....	83

TABLE OF CONTENTS Continued

CHAPTER	Page
Instrumentation .....	84
Teacher Self-Efficacy (TSES).....	84
Instrument Development.....	86
TSES Validity and Reliability Evidence.....	87
Maslach Burnout Inventory Educator Scale (MBI).....	89
Instrument Development.....	91
MBI Reliability and Validity Evidence .....	92
Student Demographic Form .....	93
Facilitated Discussions and Self-Reflection Assignments Process .....	94
Facilitated Discussions .....	95
Role of Researcher as Facilitator.....	96
Self-Reflection Assignments .....	97
Focus Group.....	97
Fidelity .....	99
Data Collection .....	99
Restatement of Research Questions.....	101
Data Analysis .....	102
Quantitative Analysis .....	103
Qualitative Analysis .....	104
Qualifications of the Second Coder.....	107
Summary .....	108
IV. RESULTS .....	109
Quantitative Results .....	110
Research Question 1 .....	110
Research Question 2 .....	111
Qualitative Results .....	113
Themes .....	115
Theme 1: Preparedness .....	115
Subtheme a: Prepared or unprepared.....	115
Subtheme b: Increase in confidence over time.....	116
Theme 2: Confidence to Implement Strategies.....	117
Theme 3: Community of Support .....	120
Subtheme a: Examples in the discussion groups.....	121
Subtheme b: Group feedback for improvement .....	122
Subtheme c: Community increased confidence .....	122
Theme 4: Stress.....	123
Focus Group .....	124
Theme 1: Perception of Experiencing Learning Online .....	126
Subtheme a: Role of peer interaction .....	127
Subtheme b: Role of facilitator feedback .....	128
Subtheme c: Discussion and reflection as motivator.....	129



## TABLE OF CONTENTS Continued

CHAPTER	Page
Theme 2: Areas of Influences to Teachers’ Confidence.....	129
Subtheme a: Sense of community and support .....	130
Subtheme b: Specific examples and content to teach students with ASD .....	132
Summary of Chapter .....	134
 V. SUMMARY, LIMITATIONS, DISCUSSION, AND IMPLICATIONS ..	 136
Summary of the Study .....	136
Summary of Findings .....	139
Quantitative Findings .....	139
Qualitative Findings .....	139
Limitations.....	141
Discussion of Results .....	143
Changes in Teachers’ Perceived Self-Efficacy .....	144
Social Persuasion.....	146
Vicarious Experiences.....	147
Mastery of Implementation .....	148
Changes in Teachers’ Perceived Affective State.....	150
Focus Group Discussion.....	153
Perceptions of the Process of the Online Course .....	153
Experiencing Online Facilitated Discussion and Self-Reflection Assignments.....	154
Use of Online Learning Technology .....	155
Course Contents and Perceived Affective Change.....	157
Perceived Ability to Work with Students with ASD.....	158
Conclusions .....	159
Implications for Future Research .....	161
Implications for Educational Practice .....	164
Summary .....	165
 REFERENCES .....	 169
 APPENDICES .....	 182
A: Email Letter for Participants for the First and 15 <sup>th</sup> Week of the Course .....	183
B: Student Demographics Information Form .....	188
C: Schedule of Facilitated Discussions and Self-Reflection Assignments.....	191
D: Alignment of Course Topics and Facilitated Discussion and Self-Reflection Assignments.....	194
E: Focus Group Questions .....	199

## LIST OF TABLES

TABLE	Page
1. Demographics of Participants by Total and by Study Component.....	81
2. Means, Standard Deviations, and Cronbach Coefficient Alpha of the TSES (Short-Form) Total and Subscales Scores.....	87
3. MBI-ES Interpretation for Range of Experienced Burnout for Subscale Scores.....	91
4. Schedule of Data Collection .....	101
5. Means, Standard Deviations, and Wilcoxon Signed-Rank Test Results for the TSES Total and Subscales Scores.....	112
6. Means, Standard Deviations, and Wilcoxon Signed-Rank Test Results for the MBI-ES Total and Subscale Scores.....	113

## LIST OF FIGURES

FIGURE	Page
1. Teachers' Perceived Self-Efficacy and Burnout through Facilitated Discussion and Self-Reflection Assignments.....	14

## CHAPTER I

### STATEMENT OF THE PROBLEM

Special education teacher shortages have been a major concern of policy makers, professional organizations, and teacher educators since the 1980s (Billingsley, 2004; Futernick, 2007; McLeskey, Tyler, & Flippin, 2003; U.S. Department of Education [USDOE], 2010). The national shortage of highly qualified special education teachers is 11.2% (USDOE, 2008). While the number of qualified special education teachers has declined, the national student population has risen, and the number of students with disabilities has grown at an even more rapid rate (USDOE, 2010). The rate of increasing special education student population and the accompanying declining special education teacher population has been projected to continue, adding to the need to address the rising demand for, and the subsequent shortage of, qualified and experienced special education teachers. Without qualified special education teachers in the field, children with disabilities will be unable to achieve academic success (Billingsley, 2004; Brownell, Sindelar, Kiely, & Danielson, 2010).

Teacher retention is also a critical factor in most large urban school districts, especially among special education teachers. The Bureau of Labor Statistics (2010) projected that the demand for special education teachers will increase by 17% through 2018. In urban settings, one-quarter of all beginning teachers leave within 4 years (Reed, Rueben, & Barbour, 2006). The annual attrition rate for special education teachers is estimated to be between 9% and 10% as compared with 6% for other educators (USDOE, 2010). As teachers leave, the knowledge and expertise they gathered over the years leaves with them. Conservative estimates of the cost to replace teachers who leave the

profession fall between \$2.2 and \$2.6 billion each year (McKinney, Berry, Dickerson, & Campbell-Whately, 2007). Research related to teacher attrition has shown that teachers who report high levels of stress are also more likely to express intent to leave the profession (Billingsley, 2004).

Teaching is considered a high-stress occupation. Compared with other professionals, teachers have been found to display many more dimensions of burnout (Hakanen, Bakker, & Schaufeli, 2006). Dealing with chronic stress caused by meeting the needs of learners, selecting appropriate strategies, and being trained to apply new strategies may also result in burnout (Fried, Shirom, Gilboa, & Cooper, 2008). Although it is noted that all teachers are subjected to work-related stress, special education teachers experience higher levels of stress as a result of additional work such as creating and executing Individual Educational Plans (IEP), accommodating students with learning challenges, dealing with demanding parents, and juggling collaborative partnerships with general education teachers and administrators (Brownell et al., 2007; Leko & Smith, 2010). Attempting to meet the challenges of students with special education needs leads to lower levels of self-efficacy and higher levels of burnout (Hastings & Bham, 2003; Hastings & Brown, 2002).

Special education teachers of students with autism spectrum disorder (ASD) may experience even higher levels of stress due to the complex learning challenges their students present (Jennett, Harris, & Mesibov, 2003). Students with ASD manifest learning difficulties in ways that differ from most students with disabilities. Often these students function at relatively high levels cognitively and linguistically, yet struggle with social interactions and communication; present stereotypic, repetitive, and persistent

behaviors; and may display unusual patterns of attention, unusual responses to sensory stimuli, and anxiety (Eman & Farrell, 2011; Odom, Collet-Klingenberg, Rogers, & Hatton, 2010). These idiosyncratic difficulties exacerbate the challenges of teaching and learning. Although students with ASD share many of the same characteristics, no two students manifest the disability in the same manner (Autism Society of America, 2010).

Instructional implications are as varied as the students. Teachers are faced with the need to develop effective, educationally sound, and adaptive programs for these students as well as to implement instructional strategies for social and emotional coping skills and behavioral interventions. In addition to development and implementation, in order to execute an integrated case management plan, teachers must communicate with a variety of support providers. All these aspects of planning, executing, and assessing for one of the most challenging populations of students increase teachers' susceptibility to burnout. Creating opportunities for teachers to learn about research-based strategies and interventions for students with ASD helps retain teachers (Simpson, Mundschenk, & Heflin, 2011).

Professional development learning opportunities with communication networks reinforce teachers' learning, increase motivation, and create support (Hirsch, 2008). Research findings support the need to increase teachers' knowledge of teaching strategies within traditional professional development models for preservice and experienced special education teachers (Webster-Wright, 2009). Constructive feedback, peer discourse, and self-reflection in traditional face-to-face professional development for teachers in elementary school were found to foster teacher self-efficacy in the use of a specific reading strategy (Tschannen-Moran & McMaster, 2009). The challenge is to

provide instruction in evidence-based practices in an environment that supports reflective learning and discussion and to provide special education teachers with the knowledge they need to work with students with ASD while enhancing their self-efficacy in the process. The teaching profession will not be able to sustain an acceptable pool of qualified, enthusiastic, and effective teachers who positively influence student outcomes unless factors such as professional development opportunities are afforded teachers to learn new strategies and techniques (Billingsley, 2004).

The use of online learning platforms has become commonplace in creating in professional development courses and workshops in teacher education (Hew, Cheung, & Ng, 2010). Research inquiry has begun to include teachers' reactions to opportunities to reflect positively on their training within these nontraditional venues. Parsons (2007) focused on changes in self-efficacy through online learning platforms in nursing education. The study discussed the participants' perceptions of the effectiveness of online discussion as a way to interact with each other. Additionally, the research inquiry included teachers' reactions to opportunities to reflect positively on their training. Parsons (2007) implied that changes in self-efficacy based on pretest and posttest survey data from a sample of nurse preceptors, who played a role in preparing nursing candidates, may be due in part to the vicarious sharing of the experiences of others in the program. In this study, participants were asked to share successes and challenges to implementation of strategies designed specifically for students with ASD taught in an online course.

Teacher self-efficacy is not only a predictor of teachers' competence and commitment to their jobs but also linked to resilience and motivation (Goddard, Hoy, &

Woolfolk Hoy, 2000; Labone, 2004; Wheatley, 2005). Minimal research has been conducted regarding changes in special education teacher self-efficacy concerning online professional development training when discussion and self-reflection have been embedded in the course curriculum. Renninger, Cai, Lewis, Adams, and Ernst (2011) suggested that by providing multiple ways of thinking and working using online discussion forums with mathematics teachers, participants' overall self-efficacy to teach new content was enhanced. Similarly, Erickson, Noonan, and McCall (2012) proposed that rural special education teachers gained increased personal capacity to use research-based transition practices after completing online professional development that included structured discussions about sharing resources and facilitating collaboration. Erickson et al. (2012) concluded that additional investigation should be directed to learning how professional development online may enhance retention. No measure of teacher self-efficacy was included in this study.

The use of best teacher practices, such as self-assessment and reflection, needs to be modeled in the context of trainings and professional development (Avalos, 2011; Borko, 2004). Therefore, the purpose of this study was to investigate how special education teachers' sense of burnout and self-efficacy could be mitigated within an online environment that provided opportunities to discuss and self-reflect on current and future teaching involving students with ASD.

### **Purpose of the Study**

The purpose of this study was to examine how perceived self-efficacy and perceived burnout of special education and general education teachers changed as a result of discussion and self-reflection assignments when these were embedded in an online



course. The course provided content on learning and behavioral characteristics within the context of the social-communication challenges faced by students with autism spectrum disorder. Participants were solicited from a pool of enrollees of the course including special education, general education teachers, paraeducators completing a preliminary special education specialist credential, and others enrolled at a large, urban, Southern California university. The online course was offered in two sections that introduced a series of three courses that fulfill the competencies for the California Teaching Commission Added Autism Authorization.

The methodology used in this study was a mixed methods pretest-posttest design. Quantitative data were collected from the participants in the form of responses to three survey instruments: the Teacher Self-Efficacy Scale (Tschannen-Moran & Woolfolk Hoy, 2001), Maslach Burnout Inventory-Educator Survey (Maslach, Jackson, & Leiter, 1986), and a Student Demographic form. Qualitative data included transcripts of five facilitated discussion and self-reflection assignments as well responses from a postcourse focus group.

The research questions focus on the effects of online instruction and specifically the effects of discussion and self-reflection on teacher self-efficacy and burnout. Teacher self-efficacy has the following components: efficacy for student engagement, efficacy for instructional strategies, and efficacy for classroom management. Depersonalization, disappointment in personal accomplishment, and emotional exhaustion were identified as components of educator burnout.

### **Theoretical Rationale**

The theoretical framework for this study provides insight into the connections between the professional development course required for additional authorization to teach students with ASD and the pedagogical practice of self-reflection that can influence teachers' self-efficacy. The theoretical foundation for this study is based on the construct of self-efficacy as described in Bandura's (1977) research.

With its roots in social cognitive theory (Bandura, 1977), teacher self-efficacy emphasizes that teachers' actions and their self-belief are often a stronger predictor of self-confidence than their immediate capabilities. Self-efficacy beliefs, or the ability to believe in one's ability to succeed in a situation, are described as influences on an individual's thinking, feeling, and behavior. One's motivation, cognition, affect, and selection processes are influenced by perceived self-efficacy. Confidence, belief in self, and self-assurance are terms used to describe such perceptions. Self-efficacy influences accomplishment, commitment, interest, and goal setting and in addition leads to an increased sense of effort and focus on tasks (Bandura, 1993).

Bandura (1997) elaborated on the construct and described four sources of influence on one's self-efficacy: (a) mastery experiences that require sustained, persistent effort, (b) vicarious experiences, (c) social persuasion, and (d) affective and physiological states. Within the context of teaching, self-efficacy and its influences are viewed as important factors on teacher performance and student learning. These four processes form the theoretical support for subsequent research and development on teachers' self-efficacy scales (Guskey & Passaro, 1994; Ruble et al., 2011; Tschannen-Moran,

Woolfolk Hoy, & Hoy, 1998). The four processes are presented briefly in the following paragraphs within the context of the current study with special education teachers.

Mastery experiences are experiences in which an individual perceives achievement of success as a result of perseverance through difficulties and require sustained, persistent effort. For teachers, experiences that are successful with students foster an enhanced sense of self-efficacy (Tschannen-Moran & Woolfolk Hoy, 2001). Even when teachers experience challenges with students' behavior or students who struggle in the classroom, teachers do report an increase in self-efficacy. Implementation of strategies and interventions as a result of knowledge presented to teachers in workshop settings has been found to change teacher self-efficacy (Ross & Bruce, 2007). Also, perceived success by peers notwithstanding challenging circumstances in the classroom appears to foster assurance in teachers' capability (Usher & Pajares, 2008). Conversely, downturns in self-efficacy are found when teachers experience setbacks. Special education teachers are often faced with challenging students with disabilities that influence student academic outcomes or social-emotional development. For teachers to attain mastery of instructional strategies or research-based practices for specific student populations, additional training or professional development may be required. As teachers seek additional training and course work, mastery of evidence-based practice can be measured not only in the number of years in the field but also in years working specifically with students with ASD. Because these students possess idiosyncratic characteristics, they create challenges to the implementation of instruction (Simpson, 2005). Teachers who experience students with ASD in the classroom have familiarity with their unique characteristics.

A second source of self-efficacy, vicarious experience, refers to one's experience of observing others who have been successful. As novice teachers watch one another demonstrate instructional or behavioral strategies in the classroom, successfully or unsuccessfully, their comparisons to their own performance influences self-efficacy (Schunk & Pajares, 2005; Usher & Pajares, 2008). Beginning teachers who have strong mentor support during induction, including vicarious experiences of observing or reading about instructional models, have been found to have a more positive view of their classrooms (Billingsley et al., 2004; Billingsley, Israel, & Smith, 2011). When teachers' articulate successes using interventions with students with ASD, invaluable insights for colleagues into these types of challenges and successful outcomes within professional development discussions and reflection assignments can be provided. Teachers who model competency provide knowledge as well as the inspiration for new teachers to acquire useful resources to teach students. In this study, the course format included discussion and provided a forum for master teachers in which to share their knowledge with those novice teachers and those less versed in working with students with special learning needs who are constructing knowledge from course content, readings, and assignments.

Social persuasion, a third self-efficacy source, is characterized as messages within a social context that may generate positive feelings in the form of verbal reinforcement. Receiving praise and constructive feedback provides teachers with opportunities to view their capabilities in positive ways. The power of social persuasion is strengthened according to the credibility, trustworthiness, and expertise of the source (Bandura, 1986). Receiving support and encouragement from peers and others who possess credibility and

competency may provide support for those with little direct expertise (Bandura, 1986). Teachers in a quasi-experimental study by Tschannen-Moran and McMaster (2009) expressed increased self-efficacy after participating in professional development using a model for implementing a reading strategy that included interactions with peers and teacher-coach. In this study, the context of facilitated online discussion and self-reflection provided opportunities for teachers to receive specific praise and feedback over time. Providing a forum for discussion with elements of reflection may serve well to change teachers' self-perceptions of efficacy within the online environment.

Bandura's fourth source for self-efficacy is affective and psychological states. Teachers' affective states are seen in the literature as self-reported levels of stress and anxiety (Friedman, 1995; Jennett et al., 2003; Pas, Bradshaw, Hershfeldt, & Leaf, 2010). Teachers often interpret their self-efficacy within the context of their anxiety or stress levels. Increased physical or psychological stress is associated with changes in perceptions of teaching capabilities or desires to remain in the profession (Billingsley, 2004; Billingsley et al., 2004). In this study, anxiety or stress was measured using the Maslach Burnout Inventory-Educator Scale (MBI-ES; Maslach et al., 1986) that contains 22 self-report items using a 7-point scale. The MBI-ES provided data before and after the course to measure changes in participants' perceptions with regard to anxiety levels when teaching students with ASD.

Students with ASD are unique learners with challenges requiring teachers to apply specific skills to meet their needs (Simpson, 2005). ASD affects cognition and often manifests unique patterns of challenges, such as failure to recognize body language, facial cues, and behavioral nuances of their neuro-typical peers, and they also display

unique areas of relative strengths (Odom et al., 2010). Special education and general education teachers not only need to understand that these students are unique learners but so need to have the competency and confidence to implement distinctly appropriate learning strategies. Teachers learning new and complex skills need supportive learning environments in order to become effective educators for students with ASD. Professional development has been proposed as a means to infuse those “new sources of efficacy information” into teachers’ practices (Posnanski, 2002, p. 192). Professional development opportunities in teacher education within the context of practice bolster self-efficacy for teachers working with this specific population of students and have resulted in positive changes in self-efficacy for special education teachers (Ruble et al., 2011). Bandura (1997) described ways to support self-efficacy as “tools for managing any situation that might arise” (p. 5). Special education teachers often are called upon to address complex and challenging teaching situations in their classrooms. Providing support as they learn new strategies in an online course may serve to increase their self-efficacy while mitigating stress.

Tschannen-Moran and Woolfolk Hoy (2007) provided a framework for understanding sources of self-efficacy for general education teachers. The framework incorporates several sources of teacher self-efficacy: mastery and social persuasion with contextual supports such as teaching resources and materials. Novice and experienced teachers were found to have a marked difference in making and reporting judgments in instruction. With experience, teachers can make judgments their own classroom practice that contributes to their perception of self-efficacy and provided a foundation to provide others with feedback in the form of social persuasion. Both actions contribute to an

increased sense of performance satisfaction in their teaching practice. The present study provided information about teachers' perceptions of support through collegial and facilitated discussions when learning online. Also, the course accommodated time and space for discussion, which allowed teachers to create connections with content and review ideas and responses. The resulting qualitative analysis provided insight about ways to support more effectively teachers' self-efficacy.

The framework of teacher self-efficacy establishes ways to connect and support teachers in various contexts of their work as well as in professional learning environments. High self-efficacy leads to individuals viewing themselves as successful in challenging or new situations (Bandura, 1981). Yost (2006) found novice teachers who were afforded opportunities to make connections with coursework and field experiences in addition to participating in critical self-reflection reported higher levels of self-efficacy and confidence in their practice during their first years of teaching. For this study, using discussion and reflection online was a compelling justification for this study as a means of supporting teachers' confidence and affording opportunities to receive feedback on their own learning, in turn increasing their perceived self-efficacy in teaching students with ASD. Specific self-reflection assignments within an online environment may have lead to positive changes in teachers' perceptions as they teach students with ASD.

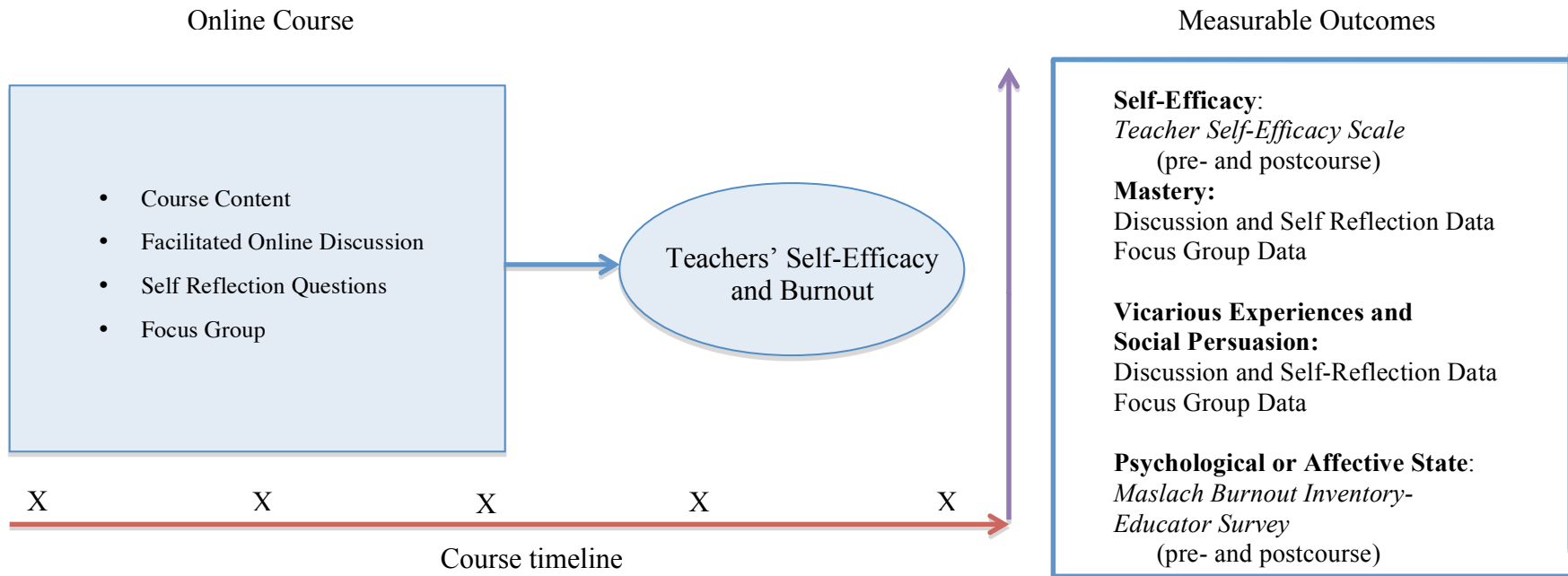
Bandura (1986) considered self-reflection an important quality that influences one's cognition and conduct. In this study, self-reflection and discussion in the form of facilitated assignments online will provide access to rich qualitative information about one's sense of self as a teacher (Conway & Clark, 2003). Creating opportunities for teachers to discuss specific content, instructional strategies, and skills for students with

ASD may not only have increased their perceptions of self-efficacy but also may have mitigated perceptions of anxiety and stress often associated with teaching this population of students. A conceptual model, shown in Figure 1, depicts the relationship among the variables in this study.

An important feature of the present study was to measure changes in teachers' self-efficacy and burnout over the 16-week course. The participants responded to five structured online facilitated discussions with five corresponding self-reflection assignment. Both qualitative and quantitative data were assessed: (a) at the beginning of the course with the pretest self-efficacy scale, the demographic information form, and stress scale, (b) at the end of the course with the posttest self-efficacy scale and stress scale, (c) within the five online facilitated discussion and reflection assignments throughout the 16-week course, and (d) during the focus group.

Based on the assumption of the connections among the four sources of teacher self-efficacy (mastery, vicarious experiences, verbal persuasion, and psychological state), Bandura's (1977, 1986) theoretical framework was applied to 21<sup>st</sup>-century instruction platforms (online courses) using established pedagogies such as discussion and reflection. The purpose of the five online facilitated discussion self-reflection assignments was to share the teachers' writings with peers and the facilitator. The discussions and self-reflection assignments were focused on knowledge and instructional strategies specific to students with ASD, and as a result, the participants should display changes in teacher self-efficacy over time. Rich discussion about field experiences with those who have been successful with challenges and opportunities to reflect on knowledge gained provided participants with sources of support and enhanced self-efficacy. Several studies





Note: X = Online Facilitated Discussion and Self-Reflection

Figure 1. Teachers' Perceived Self-Efficacy and Burnout through Facilitated Discussion and Self-Reflection Practice

in the broader realm of professional development in education have been conducted in an online context and are included in the of the literature review (chapter II). Similarities may be found between special education and general education teachers, yet the differences in their job responsibilities and student populations, as well as the increased demands to be the gatekeepers of expertise for a unique group of learners, place additional demands and subsequent stress on special education teachers. Integrating facilitated discussion and reflection into teacher training, along with a well-researched method for teachers who work with students with ASD, provides an effective strategy to mitigate teachers' self-efficacy in an online learning environment.

### **Background and Need**

To understand the background and need for this study, several pertinent topics in the field of education are addressed: (a) learning needs of students with autism spectrum disorder (ASD), (b) special education teacher competencies, (c) professional development training, and (d) online discussion and self-reflection as part of teacher professional development. This section elaborates on the areas introduced at the beginning of this chapter and includes discussion of subsections that will be included in the literature review in chapter II.

#### *Learning Needs of Students with Autism Spectrum Disorder*

Autism spectrum disorder (ASD) is a complex neurological disorder of unknown cause (National Institute of Neurological Disorders and Stroke, 2008). Because ASD manifests in an array of affective, social, and communicative characteristics, students with ASD present an assortment of needs that teachers struggle to meet (Blair, Umbreit, Dunlap, & Jung, 2007). Leo Kanner (1943) first defined autism as a group of common

traits, such as lack of eye contact and social interaction, impaired language, and repetitive behaviors that appear at about 30 months of age (Kanner, 1943). Autism is considered to be a spectrum of disorders ranging from mild to severe manifestations, from early infancy into adulthood as stated in the Diagnostic and Statistical Manual of Mental Disorders, 5<sup>th</sup> Edition (American Psychiatric Association, 2013). The medical community diagnoses infants or children prior to age 3 with autism when abnormal functions or delays are observed in social interaction or imaginative play or both, as well as delays in language as social communication or symbolic use, or both. Other criteria include qualitative impairment in social interaction and communication, restrictive or repetitive patterns of behaviors such as repetitive motor mannerisms, persistent preoccupation with objects, restricted patterns of interest, or seemingly inflexible adherence to specific routines or rituals.

Eligibility for services in educational settings relies on a definition from the Individuals with Disabilities Education Act (IDEA) that recognizes autism as one of the 13 educational categories of disabilities. Autism Spectrum Disorder (ASD) is defined by the Individuals with Disabilities Education Act [IDEA 300.7 (c)(1)(i)] as

a developmental disability significantly affecting verbal and non-verbal communication and social interaction, generally evident before age three that adversely affects a child's educational performance. Other characteristics often associated with autism are engagement in repetitive activities and stereotyped movement, resistance to environmental change or change in daily routine, and unusual responses to sensory experiences.

Described as the classic disability enigma (Simpson, 2005), some students with ASD may test at or above average in cognitive development, whereas others manifest substantial cognitive language, development, or social interactive challenges as well as comorbid conditions of compulsive, hyperactivity, or self-injurious behaviors (Simpson

Mundschenk, & Heflin, 2011). Manifestations in the classroom can include problems in social interaction and communication, restricted interests with resulting behavioral implications, and sensory processing issues. These students do possess potential areas of strength in their abilities to focus, be precise and detailed oriented, exhibit strong visual thinking and learning ability, adhere to rules and sequences, and become skilled text decoders.

These idiosyncratic difficulties exacerbate the challenges of teaching and learning. Although students with ASD share many similar characteristics, no two students manifest the disability in the same manner. Instructional implications are as varied as the students. Effective, educationally sound programs need to encompass environmental adaptations, instructional strategies for social and emotional coping skills, and behavioral interventions. Communication with a variety of support providers is necessary to achieve integrated case management. The challenge for special education and general education teachers is to meet the social, and behavior learning needs as well as academic instructional needs. Special education teachers report experiencing a high sense of stress accompanied by lack of confidence in their ability to work with students with ASD (Ruble et al., 2011). High stress levels have been shown to exacerbate teacher attrition.

*Teachers' Perceptions of Students' with Challenging Behavior  
Including Autism Spectrum Disorder*

The learning needs of students with ASD have been discussed as a challenge general education and special education teachers confront that may influence their sense of competence (Ruble et al., 2011). Teacher efficacy has been defined as “an assessment of one’s capacities to attain a desired level of performance in a given endeavor” (Tschannen-Moran & Woolflok Hoy, 2007, p. 945). Aspects such as working

environment, teacher goal setting, effort, motivation, and interest have all been found to influence self-efficacy (Ashton & Webb, 1986) as well as types of students and instructional settings (Wheatley, 2005).

Hastings and Bham (2003) explored the relationship between student misbehavior and teacher burnout. The researchers attempted to validate the Pupil Behavior Patterns Scale (PBPS) instrument as well as the relationship between student behavior, the domains of teacher burnout, and demographic and work variables. The study sample included 100 primary-school general education teachers recruited from 33 schools, average age of 35.9 years old and with an average of 110 months of work experience.

The researchers suggested that teachers often use emotion-forced strategies to cope with students rather than evidence-based strategies. The researchers argued for enhancing teacher efficacy during training rather than in the workplace. They also stated that improving social support may help mitigate stress and burnout for teachers dealing with extreme behaviors.

Hastings and Bham (2003) suggested that variables such as teacher self-efficacy affect teacher well-being, and further exploration of avenues to create support interventions for teachers is warranted. It could be argued that regardless of the student population, teachers' self-efficacy is a function of the teachers' nature and not the students. Findings of a study by Leblanc, Richardson, and Burns (2009) indicated that stress decreased for preservice teachers and students with ASD by increasing teachers' knowledge of evidence-based practices. Support structures for preservice and experienced teachers can create differences in self-efficacy over time (Woolfolk Hoy & Spero, 2005). The current study offers additional research to address the need to support

special education teachers who work with this unique populations of learners and investigates teacher self-efficacy and burnout in one setting in one existing course. Meeting the needs of these students' challenges teachers' sense of personal accomplishment and creates needs to alleviate teachers' stress and reduce the potential for teacher burnout.

### *Special Education Teachers' Competencies*

As a result of legislative mandates such as IDEA and No Child Left Behind (NCLB), state and local school authorities are charged with specific accountability guidelines including Adequate Yearly Progress criteria and academic standards tied to assessments of all students, including students with disabilities. In addition, teachers must meet requirements to be considered "highly qualified." Those requirements include a bachelor's degree, a full state licensure or certification in the subject they teach, and demonstration of subject matter competence. Special education teachers must demonstrate competencies in all core subjects they teach, and, often, as in the case in California, many middle-school and high-school special education teachers provide instruction in multiple settings and multiple core subjects, such as English, mathematics, and social studies.

Professional standards in teaching, as in medicine and law, specify the responsibility for individuals to establish "professional goals and engage in continuous and purposeful professional growth and development for individuals in the field" (Commission on Teacher Credentialing, 2007, p. 19). Special education teachers are charged similarly with specific standards for development within the context of their professional lifespan.

The California Commission on Teacher Credentialing (CTC), the National Board for Professional Teaching Standards, the National Council for Accreditation for Teacher Education, and the Council for Exceptional Children are national organizations that create teaching standards from preservice to experienced teachers in the field and recognize reflection as an important characteristic for teachers. The CTC defined teacher competencies and has created teaching standards for teacher licensure. Element 1 of Standard 6: Developing as a Professional on the Continuum of Teaching Practice states that “Reflecting on teaching practice at the level of a professional teacher in support of student learning” is when a teacher

Maintains ongoing practice and action research in supporting student learning and raising the level of academic achievement. [An innovative educator] at the highest levels reflects individually and with colleagues on the refinement in teaching practice and fosters reflection among colleagues for school wide effect on student learning. (CTC, 2010, p. 20)

Educational reforms since 2000 have been enacted to foster high standards for teaching and learning for the children of the United States. Within the climate of increasing budget cuts, changing technologies, and increasing pressure on the teaching profession to be accountable, both new and experienced teachers must find the time and space to continue to learn with fewer resources available. To meet the needs of busy teachers while faced with ensuring compliance with federal, state, and local mandates, a number of professional development options online and on campus have been created for teachers to become highly qualified. Training special education and general education teachers in evidence-based practices has become an increasingly urgent matter as the number of students diagnosed with ASD has increased (Simpson, 2005). Special education and general education teachers need to understand the unique learning

challenges these students experience and adapt instruction accordingly for academic and social successes to occur. Least restrictive environment mandates have required that students with ASD have opportunities to access social and learning opportunities with nondisabled peers. Also, as a growing number of students with ASD are placed in general education settings, special education teachers face additional work to design specialized instruction and to collaborate with each other and other highly specialized service providers.

Evidence-based practices are part of educational policy (USDOE, 2008), and teachers are required to implement these practices in their classrooms. Professional organizations such as the Council on Children with Disabilities, the Committee on Educational Interventions for Children with Autism, and the Office of Special Education Programs in the U.S. Department of Education have establish guidelines for educational practices with students with ASD (Odom et al., 2010). Adoption of such methods requires special education teachers to create and develop new schema, learn new content, and invest time in planning for implementation in their daily routines. In addition to the complexity of delivering instructional services to students with ASD, those teachers who have a lesser sense of self-efficacy in teaching this unique population may experience more burnout (Jennett et al., 2003).

A major consideration for special education teachers in California who received their credentials before 2009 has been that they are to enroll and complete course work that complies with these mandated competencies or find that they may be asked to make changes in their work assignments because of compliance issues. Universities and local educational agencies subsequently have needed to quickly create courses for a large



population of credentialed teachers. In the Los Angeles Unified School District, one of the largest in the United States, a conservatively estimated 3,000 special education teachers who hold a mild-moderate education specialist credential to teach students with ASD have not yet completed the 12-units required to receive the Added Autism Authorization Certificate (LAUSD, 2012). In order to accommodate the large number of special education teachers who need to be authorized, many universities and private-sector professional development vendors have created programs using online technology. Online courses have begun to be an alternative method to offer a variety of preservice and inservice teachers with access to continuing education and professional development courses (Collins, Baird, & Hager, 2009; Spooner & Lo, 2009).

In California, school districts, county offices of education, and university-level teacher training programs have begun to offer a variety of programs for special education teachers to complete the requirements of the California Added Authorization Certificate. It is estimated that the investment in these teachers can cost up to \$13,000 for completion of a 12-unit on-campus series of courses (Monrovia Unified School District, 2011) with other estimates as low as \$900 for an online professional development workshop (Project Optimal, 2011).

Examining both quantitative and qualitative data, this study investigated the effect of teachers' discussion and self-reflection on shifting their self-efficacy and moderating their stress when instructing students with ASD. The online course content provides a learning environment in which teachers can interact, provide feedback, and discuss teaching strategies specifically designed for students with ASD.

### *Professional Development Training*

Professional development courses and workshops for teachers need to be modeled effectively on evidence-based practices through mastery experiences during pre-service and alternative certification programs. These teacher-needs include hands-on experience, positive feedback and support that increase self-confidence and efficacy (Green & Azevedo, 2007; Schunk & Pajares, 2005; Slavin, 2008; Usher & Pajares, 2008). When teachers complete the mandate of professional development, follow-up is needed to learn if competencies in instructional strategies are being used in the classrooms.

To build and maintain their capacity, teachers need to continue to construct knowledge of teaching as job demands change. It is important that teachers stay current with new evidence-based practices found to be successful when implemented with students with ASD. For special education and general education teachers, learning and implementing evidence-based teaching practices must be a priority because students with disabilities are being held accountable to the same standards and high-stakes testing as students in the general education classrooms. The increased demands on teachers who are working with students with ASD may increase special education teachers' propensity to stress and burnout, which in turn may contribute to attrition (Billingsley et al., 2004; Boyer & Gillespie, 2000).

Training and support for teachers working with students with ASD have increased since 2004 (Muller, 2006), including federal legislation that has been developed to improve programs to train special education teachers to work with students with ASD (IDEA, 2004). Grants continue to be awarded to create professional development at institutions of higher learning. Minimal knowledge has been reported about the outcomes

of these efforts (Sindelar, Brownell, & Billingsley, 2010). Research does suggest that when teachers commit to using “appropriate tools” while working with students with autism, they articulate stronger self-efficacy (Siu & Ho, 2010).

Teacher self-efficacy has been linked to use of innovative teaching strategies for teachers in general education classrooms (Tschannen-Moran & Woolfolk Hoy, 2001; Wolters & Daugherty, 2007). Professional development courses provide known sources of self-efficacy, such as vicarious experience and social persuasion, and have been shown to create changes in teacher self-efficacy among preservice special education teachers (Leblanc et al., 2009). Teachers who participated in individualized modeling and coaching, one of four professional development models, experienced increased self-efficacy (Tschannen-Moran & McMaster, 2009). These researchers implied the increased interaction of participants and involvement in the discussion of practice decreased anxiety and encouraged teachers to attempt new instructional strategies.

In a quasi-experimental study of four professional development models for reading strategy implementation and the effect of the four sources of self-efficacy (verbal persuasion, mastery experiences, vicarious experiences, and affective states Bandura, 1997), Tschannen-Moran and McMaster (2009) found that few straightforward patterns emerge with primary- and secondary-grade teachers. Teachers experienced “dips” in self-efficacy when exposed to a new reading strategy, but no further evidence was provided as to how teachers processed this type of decrease. The current study used qualitative data from discussions and reflection transcripts that afforded additional insight into the ways in which expert and peer support facilitates teachers’ attempts as they learn, apply, and reflect on professional development content through an online course. Self-efficacy is a

complex construct linked to teacher retention; however, qualitative data sources from transcripts of online discourse provided information related to specific teacher needs through the process. The current study addressed the impact of new knowledge provided to special education and general education teachers in the context of online learning, a venue that has become part of teacher training in the 21<sup>st</sup> century.

Posnanski (2002) reviewed professional development models for science teachers and indicated the importance of identifying and evaluating self-efficacy beliefs, which should be followed by “challenging for adequacy” to assess effectiveness. The multiyear study of matched pairs, pretest-posttest, and one-group research design measured science teachers’ self-efficacy and sought to “find meaning in participants’ actions” (p. 201). Pre- and postscores from an instrument designed for science teachers’ self-efficacy indicated statistically significant changes in self-efficacy for Personal Science Teaching Efficacy (PSTE). Participants’ scores, on average, on the PSTE scale increased from the pretest to the posttest. Results from the Science Teaching Outcome Expectancy scale also increased from the pretest to the posttest. The participants were required to use guided discussion and reflective activities to review both theoretical and practical aspects of Biological Sciences Curriculum Study for science teachers. Open-ended survey questions, journal responses, and informal discussions were part of the activities in the professional development, and participants were asked to comment on the particular components of the professional development model that enhanced their knowledge and “confidence to teach science” (Posnanski, 2002, p. 204). Teachers named one of the benefits of the professional development as the opportunity to discuss with others the curricula issues and theoretical underpinnings relevant in science education and current instructional

strategies. The context of their students' characteristics and learning needs, however, was not part of the elaboration. Because context often provides important information for teachers that guide creating effective instruction, additional research is necessary. Based on the results of a professional development model that included reflection and discussion, Posnanski (2002) concluded that this model provides a forum for supporting teachers. The current study further investigated reflection and discussion in an online context tailored for teaching students with ASD. Unique learner needs warrant further investigation, as this is a key component in special education and general education teachers' teaching practices with students with ASD. This study also provided the groundwork for the use of discussion and reflection within the context of face-to-face learning. In general, almost no information has been published on how to nurture or support teacher self-efficacy within professional development online contexts.

Explored across demographic (e.g., rural, urban) settings and within a myriad of subject-specific contexts (e.g., mathematics, science), self-efficacy continues to be important in educational research. Self-efficacy also has been viewed as an important motivational construct within the special education context. Policy makers and researchers need to investigate ways to effect positive changes for special education teachers (Billingsley, 2004; Tournaki & Podell, 2005). Billingsley (2004) suggested that one way to promote change in teacher efficacy was to create the opportunities for teachers to have access to meaningful professional development. Research, however, is not available on ways to support special education and general education teachers who work with the ever-increasing population of unique learners, such as students with ASD. Components of professional development have been found that create supportive

environments for novice teachers to discuss and reflect upon their overall practice (Westling, 2010). The current study was created to investigate the possibility of creating instructional environments for experienced teachers to improve their competency in working with the growing population of students with ASD.

Many teachers have found themselves in the position of enrolling in professional development courses to maintain their positions in the classroom or add to their professional knowledge base. Thus the potential is created for teachers to learn essential instructional strategies and to benefit from discussion and reflective opportunities with their peers. By building supportive learning environments within a professional development course, experienced teachers can receive content knowledge to improve their current and future classroom practice while interacting with colleagues to validate their “certainty of practice” (Colodarci & Breton, 1997, p. 232).

### *Reflection and Discussion in Online Learning*

Dewey is considered the originator of the modern concept of reflection in education, drawing many ideas from the classic thought of Plato, Aristotle, and Confucius (Hatton & Smith, 1995). Long considered a type of problem solving strategy, reflection and its role in learning have been expanded since the 1900s by education researchers and theorists such as Kolb (1984), Mezirow (1990), Rodgers (2002), and Schon (1983, 1987). Dewey (1933) defined reflection as “an active, persistent, and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it, and the further conclusions to which it tends” (p. 2). Models of reflection continue to be described in institutions of higher education as a valued and

“necessary tool” for preservice teachers as they create and sustain their instructional practices (Etscheidt, Curran, & Sawyer, 2012, p. 7).

The influence of reflection as a learning strategy goes beyond education.

Addressing the need to support adult learners, postgraduate students Black and Plowright (2010) named reflection as a critical component in professional development programs and defined it in the following way:

Reflection is the process of engaging with learning and/or professional practice that provides an opportunity to critically analyze and evaluate that learning or practice. The purpose is to develop professional knowledge, understanding and practice that incorporate a deeper form of learning, which is transformational in nature and is empowering, enlightening and ultimately emancipatory. (p. 246)

Reflection is a relevant component of professional competency, and as such is viewed as both an invaluable trait of educators and a learning tool. Reflective practice is emphasized as a key component of teacher preparation programs as well as ongoing professional development for teachers in the field, and much has been written about reflection as a practice and element of multiple theoretical constructs (Dewey, 1933; Hatton & Smith, 1995; Kolb, 1984; Mezirow, 1990; Moon, 1999, 2004; Schon, 1983, 1987). Reflection also has been viewed as an invaluable mechanism to help teachers cope with problems in and out of the classroom. Teachers emphasize that the process of reflection enables teacher candidates to begin the process of blending the art and science of good teaching practice because it requires the learner to be thoughtful while analyzing a lesson, a philosophy, or an experience (Larrivee, 2008).

Competencies and standards for teachers delineate reflection as a major component in the development of becoming a professional (Commission on Teacher Credentialing, 2009; Council for Exceptional Children, 2012; National Board for

Professional Teaching Standards, 2012). The use of reflection in instructional formats has been included as both a practice and aspect of many theoretical constructs of learning and motivation.

Discussion that actively engages participants is an integral part of successful professional development (Garet, Porter, Desimone, Birmer, & Yoon, 2001). By providing teachers with opportunities to share content and discuss pedagogical strategies, as well as successes and challenges, participants may view themselves as being more capable to implement instruction. As online courses are developed for teacher training and professional development, previously successful pedagogy and instruction may require rethinking for application in an online context (Lai & Land, 2009). Collaborative peer discussions online afford participants social interaction and cognitive conflict in their discourse that allows for deeper learning (Lai & Land, 2009). Such discussion can be limited in length and breadth as well as restricted to an individual's understanding of content (Hew, Cheung, & Ng, 2010). In a study evaluating online asynchronous interactions between and with facilitators, Nandi, Hamilton, Chang, and Balbo (2012) found that the use of facilitation enhanced the quality of participation and was often necessary to insure relevant and continued discussion. Moderation by the facilitator was important in providing encouragement and feedback, including direct instruction about how to post responses in order to maintain the quality of the discussion. Using facilitation in the current study was intended to provide ways to prompt individuals to respond as well as to provide clarity about new ideas and strategies that extend the discussion. The facilitator's role was to provide social persuasion, a critical component for the creation of self-efficacy (Bandura, 1997).



Teachers who anticipate working with new student populations may be more likely to have preconceived notions about the types of strategies to use with students who have special needs (Scruggs & Mastropieri, 1996). In a study with preservice general education teachers, Kopcha and Alger (2011) found that creating asynchronous discussions aided participants in discovering assumptions while problem solving hypothetical teaching case studies. Thus, reflection afforded time and space to think deeper about the content presented. Research findings also support the use of asynchronous online discussion in contrast to synchronous forums online to promote richer, more complex interaction, as the act of reflection often requires time to think in a critical manner (Etscheidt et al., 2012). Compared with their face-to-face counterparts, online participants were more willing to express their views as they had time to preview and review the content of their writing. This time to reflect and respond to new strategies has been one method employed to prompt students to consider alternative problem-solving skills in teacher education (Lai & Land, 2009).

As more school systems and higher education institutions are relying on 21<sup>st</sup>-century technology to train special education and general education teachers in new skills, pedagogy, and evidence-based strategies, research discussions need not only include the content of the training but also create supportive environments online to enhance teachers' confidence and competence (Hew et al., 2010). Online learning provides experienced teachers with convenient forums to access a myriad of content. Alternative content delivery models of online teaching and learning have not been found to negatively affect learners' knowledge of the classroom management and behavior strategies applicable to students with special needs. No statistically significant difference

has been found in the effectiveness of teachers' learning between online courses and on-campus courses (Caywood & Duckett, 2003; McDonnell et al., 2011). In a study of teachers in an introductory special education course, Thompson et al. (2012) found no differences between participants' assessed content knowledge of course standards and content for an introductory course in special education. Promoting discussion and reflection opportunities in online instruction may result in teachers' reporting higher self-efficacy and demonstrating effective teaching strategies in classroom management, planning, goal setting, and student engagement. Current research has been conducted with general education teachers in professional development contexts of either specific subject matter such as mathematics and social sciences (Posnanski, 2002) and use of specific types of reflective pedagogy, such as weblogs or online journals. As research expands to include special education teachers, results may be more conclusive (Ruble et al., 2011; Wolters & Daugherty, 2007).

Teacher self-efficacy has been found to have linkages to teachers' levels of stress. Stress is an inherent part of a teacher's day-to-day professional life and is known to be a predictor of the longevity of a special education teacher's career. The complexity of their job responsibilities, the need to fulfill mandated training requirements, and meeting the needs of their students serve as additional stressors reported as reasons to either change jobs or leave the profession. Research is needed that addresses ways to reverse teacher burnout among experienced special education teachers. Knowledgeable special education teachers who encourage professional discourse, mastery, and problem solving need to be retained for learning environments with unique and challenging behavior and academic needs. Further inquiry is warranted at a time when special education teachers

need to complete training that is not only mandated but also seen as critical to understanding the unique learning needs of students with ASD.

### **Educational Significance of the Study**

This study is important for three reasons. First, this study contributes to the literature supporting the use of discussion and reflection as a path to developing special education and general education teachers' self-efficacy. Teacher self-efficacy is an indicator of teacher motivation and behavior, as well as stress and burnout (Tschannen-Moran et al., 1998). Improving teacher efficacy has been found to be challenging, as efficacious teachers have been shown to be slow to change their practice with new strategies or instructional practices. They tend to perceive change as having a negative influence on their students (Tschannen-Moran et al., 1998). Finding creative ways to build their efficacy within professional development may result in retaining experienced special education teachers. Retention of teachers could result in providing students with the high quality instruction guaranteed by law. Second, the study adds to the literature on how to create quality online professional development learning opportunities that provide support for special education and general education teachers who work with students with ASD. Third, using reflective discourse has been found to be "one avenue to mitigate teachers' sense of isolation and subsequent burnout" (Gersten, Keating, Yovanoff, & Harkiss, 2001, p. 550).

This study investigated the use of discussion and reflection in an online teacher education course as measured by change in special education and general education teachers' scores on the TSES and Maslach Burnout Inventory Educator survey. This study provided increased understanding concerning the role of discussion and self-

reflection learning opportunities in changing special education and general education teachers' self-efficacy scores as well as how teachers articulate their perceived ability to provide students with ASD with evidence-based instruction for social communications, learning, and academic success in the classroom. Teachers' attitudes and perceptions related to providing ASD students with evidence-based instruction in their practice and the practice of others also was examined based on the transcripts of the discussions and self-reflections.

Retaining qualified special education teachers has been the subject of research and discussion since the mid-1980s. Garet et al. (2011) discussed the need for more strategic professional development in light of the current national education policy that calls for reform and enhancement of teacher learning. Data on the numbers of students with ASD continue to project a steady rise for this disability group. The National Association of Residential Providers of Adults with Autism (NARPAA, 2011) reported a "conservative" rise of 3% per year entering school. Even using zero percent projection rates, this population of students entering and continuing in public schools will not be decreasing anytime soon. Changing dynamics in the population of students with ASD as well as increased student academic accountability have led to added stresses for special education and general education teachers. These changes have led to the need for innovations in professional development that may support teachers, alleviate anxiety and potential emotional exhaustion, and increase personal thought through the use of weblogs, wikis, and website chat rooms. Research is needed to address this gap with special education and general education teachers.

The changes in the school-age population of students with ASD in connection with new federal legislation, state credentialing requirements, and school district decisions that mandate additional content knowledge of appropriate pedagogy and instructional strategies have placed additional demands on experienced special education and general education teachers. Increased stress can lead to burnout in teachers. Many of these “burned-out” teachers leave the field of special education or the profession of teaching altogether (Reed et al., 2006; Ruble et al., 2011). The literature suggests that one path to increase teacher commitment is to provide opportunities to access meaningful professional development (Billingsley, 2004; Richards, 2012). If professional development models embed the use of discussion and reflection in online learning, teacher educators and researchers may find that these experiences enhance teachers’ feelings of competency. Teacher burnout and self-efficacy appear to be intertwined. Investigating how specific pedagogical tools such as reflection might be effective in creating supportive and effective learning opportunities for teachers has important implications as professional development opportunities move into online environments.

### **Research Questions**

The study investigated four research questions using data from qualitative and quantitative sources. The questions are as follows:

1. To what extent will there be a change in special education and general education teachers’ perceived self-efficacy from pretest to posttest as measured by the Teacher Self-Efficacy Scale total and subscale means as a result of participation in online facilitated discussion and self-reflection assignments in a course

designed to address the standards and competencies for the California Added Autism Authorization?

2. To what extent will there be a change in special education and general education teachers' perceived affective state from pretest to posttest administration as measured by the Maslach Burnout Inventory-Educator Scale total and subscale means as a result of participation in online facilitated discussion and self-reflection assignments in a course designed to address the competencies and standards for the California Added Autism Authorization?
3. What changes do special education and general education teachers articulate in their perceived self-efficacy and affective state as they engage in an asynchronous facilitated discussion and self-reflection throughout an online course designed to demonstrate the standards and competencies for the California Added Autism Authorization?
4. In a synchronous postcourse focus group, how do special education and general education teachers articulate their perceived self-efficacy and affective state within facilitated discussion and self-reflection assignments embedded in an online course designed to demonstrate the standards and competencies for the California Added Autism Authorization?

### **Definition of Terms**

The following key terms are utilized in this study, and the definitions are specified below. Authors may differ in their definitions of terms; however, for purposes of this study, the following definitions applied:

*Affective and psychological state* is defined by Bandura (1997) as one of the four influences on self-efficacy. This state is defined by physiological and emotional cues that signal self-assurance and anticipation of future successes. Affective and psychological state was measured using Maslach Burnout Inventory-Educator Scale (MBI-ES).

*Autism Spectrum Disorder (ASD)* is defined by the Individuals with Disabilities Education Act [IDEA 300.7 (c) (1)(i)] as a developmental disability significantly affecting verbal and nonverbal communication and social interaction, generally evident before age 3 that adversely affects a child's educational performance. Other characteristics often associated with autism are engagement in repetitive activities and stereotyped movement, resistance to environmental change or change in daily routine, and unusual responses to sensory experiences.

*Asynchronous online discussion* is a self-paced interactive discussion delivered via computer that allows participants to engage in dialogue in a digital environment at any time or place (Mayer, 2005).

*Burnout* is described as emotional exhaustion, depersonalization, and reduced feelings of personal accomplishment by Maslach and Jackson (1986). Often found in persons in occupations that provide service, treatment, or both in health and service professions, these strong emotions carry the potential to create emotional stress. Burnout was measured using the Maslach Burnout Inventory Educator Scale.

*Course management system* is defined as a web application, such as Moodle, used to facilitate online learning, and is also known as learning management system or virtual learning Environment (Mayer, 2005).

*Depersonalization* as defined by Maslach et al. (1986) is one's maladaptive feelings about one's recipients and is measured in the same named subscale of the Maslach Burnout Inventory Educator Scale used for this study.

*Efficacy for classroom management* is the title of the second of the three subscales of the Teacher Self-Efficacy Scale (TSES: Tschannen-Moran & Woolfolk Hoy, 2001). Efficacy for classroom management is defined as preferences teachers have for using positive strategies aimed at increasing desirable student behavior through praise, reward systems, and positive attention.

*Efficacy for instructional strategies* is the title of the first of the three subscales of the TSES (Tschannen-Moran & Woolfolk Hoy, 2001). Efficacy for instructional strategies relates to teachers' perceived use of a variety of instructional strategies to promote student thinking and academic success.

*Efficacy for student engagement* is the title of the third of the three subscales of the TSES (Tschannen-Moran & Woolfolk Hoy, 2001). Efficacy for student engagement is defined as the way in which teachers perceive their knowledge and ability to keep students learning and on-task throughout the course of instruction.

*Emotional exhaustion* as defined by Maslach et al. (1986) as one's feeling of being overextended emotionally and physically. It is measured in the same named subscale of the Maslach Burnout Inventory Educator Scale used for this study.

*Facilitated discussions and self-reflection assignments* are those created for the course that focus students on discussion of the course content. Discussion topics may include theories on the roles of social interaction, cognition, learning, characteristics of learners with social communication disabilities, evaluation of intervention models for



learners with ASD, implementation of interventions and instructional strategies, and creation of collaborative relationships in the context of educational settings with students with ASD. Emphasis in these assignments was placed on using evidence-based instruction to enhance social communication skills, improve access and success in academic endeavors, and change attitudes and perceptions toward working with students with ASD.

*Facilitation within the asynchronous discussions* is defined as a role in which the researcher serves as a facilitator to refocus teachers on their prompts in a nonjudgmental way, as well as provides positive reinforcement through comments. The researcher guided the discussion without providing content while enhancing a supportive learning environment. Feedback is not providing an answer to a question, but giving participants guidance to stay on task during the discussion. Therefore the facilitator's role was to provide encouragement for positive social interactions and positive feedback on discussed successes. The researcher assisted in extending the discussion if participants get stalled in responding (Nandi et al., 2012).

*Focus group* as defined for this study was a semistructured, one-hour online synchronous interaction of participants and researcher. Open-ended questions will be posed by the researcher and responded to by participants in order to collect additional qualitative data (Hatch, 2005).

*Maslach Burnout Inventory-Educator Scale* (MBI-ES) was developed by the work of Maslach et al. (1986) and is based on three components of burnout: emotional exhaustion, depersonalization, and personal accomplishment. The educator version of this instrument is an adaptation of the original version and will be used in this study. The

scale is formatted as a questionnaire consisting of 22 statements with responses to be chosen from a 7-point Likert scale with the following responses: (0) *Never*, (1) *A few times a year*, (2) *Once a month or less*, (3) *A few times a month*, (4) *Once a week*, (5) *A few times a week*, and (6) *Every day*.

*Mastery experience*, another of the four influences on self-efficacy, is defined by Bandura (1997) as one's personal experience with successes or failures in overcoming obstacles and may be influenced by anxiety or stress. In the case of teachers, mastery experiences occur during teaching in actual situations with students. Operationalized in this study, mastery experiences are expressions of success or perceived failure during discussions and the focus group for teachers who use content knowledge as well as feedback in their own classrooms with students with ASD.

*Online course* is described as a course in which instruction of the content is delivered via a computer management system designed to achieve specific learning goals and outcomes, most often with no face-to-face or on-campus requirements. Opportunities are provided for virtual collaboration (Mayer, 2005).

*Personal accomplishment* is defined by Maslach et al. (1986) and measured in the Lack of Personal Accomplishment subscale of the Maslach Burnout Inventory-Educator Scale used for this study as one's self-evaluation of personal performance. For educators, this means their perception of their lack of personal performance in the classroom.

*Professional development training* in this study is defined as the series of courses mandated by the State of California for special education teachers who received their credentials prior to 2009 (CTC, 2008). The course used as the setting for this study was one component of a three-course sequence of professional development training created

to meet the CTC requirements to receive the California Added Autism Authorization required for teachers who work with students with autism in classroom settings.

*Reflection* is defined in this study as a thinking process that involves thoughtful consideration of one's own experiences in applying knowledge to practice. It encourages individuals to be introspective not only about how they teach but also why they teach in a particular way (Black & Plowright, 2010).

*Social (verbal) persuasion*, the third of the four influences on self-efficacy, is defined as social interaction with general or specific information about one's teaching (Bandura, 1997). It can include giving encouragement and providing strategies to overcome situational obstacles within the context of professional development or coursework. The influence of persuasion relies on the perceived credibility of the persuader. Operationalized in this study, social persuasion takes place during the online discussion and self-reflection assignments.

*Special education teachers* in this study are defined as teachers who are credentialed to teach in the disability areas of specialization such as Mild/Moderate Disabilities, Moderate/Severe Disabilities, Deaf and Hard of Hearing, Visual Impairments, Physical and Health Impairments, and Early Childhood Special Education in one or more of the following settings: special day classes, resource rooms, special schools, nonpublic schools, and agencies (CTC, 2010).

*Student Demographic Information form* was developed by the researcher for this study to capture demographic information about the teachers who have enrolled in the online course and have agreed to be participants in the study (see Appendix B).

*Teacher Self-Efficacy* is based on Bandura's (1977) theory of self-efficacy and defined later by Tschannen-Moran et al. (1998) within the context of a cyclical model. Teacher self-efficacy relates to teachers' beliefs in how to organize and execute actions to accomplish specific tasks of teaching. Teacher self-efficacy is both situation and task driven and is cyclical in nature over the course of time and experience. In this study, teacher self-efficacy is operationalized by the use of the Teacher Self-Efficacy Scale (TSES).

*Teacher Self-Efficacy Scale (TSES)* was developed by Tschannen-Moran and Woolfolk Hoy (2001) as an instrument to measure teacher efficacy based on three core factors: efficacy for instructional strategies, efficacy for classroom management, and efficacy for student engagement. In its current form, the questionnaire consists of 12 items using a 9-point Likert scale.

*Vicarious experiences*, as the final of four influences on self-efficacy, are defined by Bandura (1997) as social modeling and observing others' successes or failures. Tschannen-Moran et al. (1998) refined these experiences as images from professional literature, teacher education, and even discussion with other teachers. Operationalized in this study, vicarious experiences along with social persuasion will take place during the online discussion and self-reflection assignments.

### **Summary**

Various studies have demonstrated changes in teacher self-efficacy as related to knowledge of general instructional pedagogy and quality of instruction (Tschannen-Moran & Woolfolk Hoy, 2001; Wolters & Daugherty, 2007). Some studies also have demonstrated changes in teacher self-efficacy with students who have presented

challenging behaviors (Pas et al., 2010; Ruble et al., 2011; Yeo, Ang, Chong, Huan, & Quek, 2008). Other studies have demonstrated the effectiveness of promoting reflection to sustain responsive instructional practices in teachers in traditional professional development models (Etscheidt et al., 2012; Webster-Wright, 2009). The current study investigated how a 16-week online professional development course designed to prepare teachers to meet the academic and social needs of students with ASD, and included conversation and reflection, changed teachers' perceived self-efficacy and burnout.

In this chapter, the researcher has presented the purpose of the study, the problem and its educational significance, background and need, and theoretical rationale. This mixed-methods study was designed to examine how facilitated discussion and reflection in online professional development courses prompted changes in self-efficacy and mitigate burnout for special education teachers who work with students with ASD. The theoretical rationale that serves as the foundation for the present study is based on the motivational construct of self-efficacy as described by Bandura (1977, 1986, 1993, 1997) and subsequent refinements (Guskey & Passaro, 1994; Ruble et al., 2011; Tschannen-Moran et al., 1998). Several key facets of special education teachers' competencies, professional development training, discussion and reflection in an online learning format, and a brief overview of the learning needs of students with ASD, have been presented to lay the background and provide further evidence of the current study's necessity.

The study's research questions have been presented along with definitions of terms. To provide further context for this study, the research literature that is presented in chapter II includes a review of teacher self-efficacy empirical research as it pertains to the study purpose and research questions. The literature review is presented in three parts. The first part presents empirical studies using reflection as a learning pedagogy

conducted within the context of online learning relevant to this study. The second part provides a review of studies relevant to the contextual nature of teacher self-efficacy. The last section offers empirical research on the connection between teacher burnout and teacher self-efficacy. This study focused on the linkage between teacher burnout and teacher self-efficacy, as well as attempted to investigate the extent to which participation in discussion and self-reflection in the online professional development format mitigates changes in special education and general education teachers' perceived self-efficacy and burnout as they learn about the characteristics and learning needs of students with ASD and the evidence-based and strategic instructional strategies to be used in the classroom. Chapter III reviews the study's methodology and contains a detailed description of the study design and implementation, the instruments that were used, and a description of the participants. Data collection and analysis are specified, as are other essential details.

The results of this study are reported in chapter IV. A summary of the study along with its limitations, implications for further research and educational practice, and conclusions are presented in chapter V.

## **CHAPTER II**

### **REVIEW OF THE LITERATURE**

The purpose of this study was to examine how perceived teacher self-efficacy and perceived burnout of special education and general education teachers changed as a result of discussion and self-reflection assignments embedded in an online course that provides content on learning and behavioral characteristics. The educational context focused on the social-communication challenges faced by students with autism spectrum disorder (ASD). The study was grounded in several areas that serve as the theoretical framework for the literature review: teacher-self-efficacy and its sources of influence, social persuasion, and vicarious experiences. The review of the literature provides a foundation to justify the use of self-reflection and discussion as learning formats to support special education and general education teachers' self-efficacy. The focus includes the potential to reduce feelings of stress through completing a course about students with ASD.

To provide a further context for the study and the research questions posed, this chapter is divided into three sections. The first section presents empirical studies that examine the use of discussion and self-reflection as a viable pedagogy within the context of online learning environments relevant to teacher education and professional development. Several of these studies provide evidence of directions needed in the research to develop supportive learning environments that are rigorous and provide substance for participants. The second section contains studies that examine how teachers perceive the challenging behaviors presented by students with ASD. Last, recent empirical research is reviewed to examine the linkage between teacher burnout and

teacher self-efficacy. This chapter concludes with a brief summary of the literature reviewed.

### **Discussion and Reflection in Online Learning Formats**

This section of the literature review begins with a selection of empirical studies regarding using discussion and reflection activities in online learning environments. Four studies focused on the use of online learning in courses for the purpose of developing supportive learning environments. Three collected data from preservice teachers (Hew, Cheung, & Ng, 2010; Nicholson & Bond, 2004; Wopereis, Sloep, & Poortman, 2010) and the fourth from postgraduate students (Glowacki-Dudka & Barnett, 2007). An additional study (Parsons, 2007) from the nursing education literature examined changes in self-efficacy through online learning platforms. Next, Douglas-Faraci (2010) focused on reflection as one of the six professional development domains in online learning environments. Finally, Nandi, Hamilton, Chang, and Balbo (2012) studied discussion facilitators and student interactions in online asynchronous learning environments. For discussion and reflective activities in online learning formats, such as a university course, the approaches described in *Teaching Diverse Learners with Social Communication Disabilities Including Autism* proved to be effective in creating social support and offering vicarious experiences with group structures. Several topics raised in the literature are examined, such as use of formal prompts (Nicholson & Bond, 2004), student response length and type (Wopereis et al., 2010), and creation of a “safe” sharing environment (Glowacki-Dudka & Barnett, 2007).

With the advent of online learning in teacher education, researchers have begun to investigate empirically how collaborative discussion and reflection provide support to



preservice teachers (Nicholson & Bond, 2004). Support in professional learning communities has been identified as a key factor in relieving new teachers' sense of isolation and mitigating early attrition rates. Nicholson and Bond's (2004) qualitative study introduced 17 preservice-teacher participants to an electronic discussion board and invited them to share experiences ranging from shadowing experienced teachers in a literacy lab to writing about their experiences of working with a student. Although no formal prompts were initiated by the researchers, three discussion forum titles were proposed: (a) Reading Buddies Discussion, (b) How to Help Reading Buddies Develop Their Literacy, and (c) New Forum on Prompting Literacy. Reviewing discussion board entries over a 10-week period, researchers found that of the 17 participants only 10 posted comments, totaling to 54 messages on the discussion board.

Qualitative data analysis resulted in the researchers identifying three major themes: (a) computer-mediated communication extended discussions beyond the classroom, (b) the discussion board became a place for professional support and community, and (c) reflective thinking developed over time. A postcourse interview conducted 7 months after the end of the semester revealed that 11 preservice teachers valued discussions away from their experiences in the field. Interview respondents preferred to respond online after having time to reflect and think about their practice rather than responding on the spot with a mentor. Preservice teachers also expressed empathy for colleagues. Those teachers who expressed initial reticence to use the online discussion board found that over time the process provided a "safe" place to share. Discussions about larger issues of school policy also were included over time. Of particular relevance to the current study, is that, overall, the discussion board became a

vehicle of professional support in which participants responded to each other with little prompting, and over the course of the study their responses became increasingly reflective. Participants also empathized in postcourse interviews about the importance of collegial emotional support during their fieldwork. These findings have important implications for the current study, suggesting that online discussions may increase self-efficacy by providing vicarious experiences for teachers.

Nicholson and Bond (2004) acknowledged the limitations not only of the size of the sample for the study but also the small number of responses over the course of the semester. Preservice teachers received substantial support in their fieldwork with twice-weekly debriefings in the field with supervisors, interaction with their professors, and opportunities to connect with others on campus. Support in the field for experienced teachers is often not available, and providing interactions with knowledgeable others such as those in the Nicholson and Bond (2004) study may be supportive when teachers return to professional development courses such as in the current study's setting. The current study provided insights into ways teachers perceive support during dialoguing and reflecting during a 16-week online course.

In another qualitative study, Glowacki-Dudka and Barnett (2007) connected reflecting online to group development for adults. The researchers emphasized the importance of reflection as an avenue to "ground ourselves (teachers) emotionally" (p. 44). The researchers' qualitative multicase study utilized two 16-week online, asynchronous graduate courses on adult teaching strategies that spanned 2 years with 40 postgraduate university students. The purpose of the study was to investigate how groups develop through the use of reflection in adult online learning contexts. The course

professors devised weekly small group discussions, and members of each group were assigned discussion roles: facilitator, process observer, and summarizer. In order to assess group development, Glowacki-Dudka and Barnett (2007) asked participants to respond each week using a reflective tool, Critical Incident Questionnaire (CIQ) designed by Brookfield (2005), in addition to the course discussions. The online classroom management system used in the study was created with a feature that allowed students to post messages anonymously. Printouts of participants' discussions were analyzed and color coded to correspond to themes based on the group development sequence (Tuckman & Jensen, 1977).

Data analyzed from the participants' responses to the CIQ instrument at each step of Tuckman and Jensen's (1977) group development sequence—Forming, Storming, Norming, Performing, and Adjourning—provided evidence of group development over time within the sequence of the course. The researchers found that participants' responses within a framework of critical reflection facilitated learning. When participants provided reflections, they expressed ownership in the class. The researchers pointed to the importance of providing examples of a structure using the CIQ as the framework in the online course to guide students in reflecting and discussing course content. Reflection played an important role in the group development sequence presented.

Findings in the Glowacki-Dudka and Barnett (2007) study are consistent with Wopereis et al.'s (2010) mixed-methods exploratory study using weblogs in a teacher education setting. Both studies revealed that teachers using reflection within online learning environments valued the support they received as well as the structured learning experiences in gaining confidence, which increased their confidence in implementing

course content. The current study will use an online course in an attempt to add to each of these studies and further examine how reflection changes perceptions.

Wopereis et al. (2010) created reflective writing opportunities with 20 student teachers: 9 were first-year undergraduate degree students, 8 were third-year undergraduate-degree students, and 3 were students in training at the university level. Prior to the use of the weblog in the 8-week study, students received instructions on using the weblog and then recorded their responses to the first instrument, Questionnaire Experience Orientation (QEO). In this study, a weblog also known as “a ‘blog’” is a frequently updated personal website with dated entries displayed in reverse chronological order” (p. 247). Students were asked to write “structured posts” with feedback from a university faculty member. Students’ responses via the weblog focused on three learning tasks: case study analysis, a completion problem after watching a teaching video, and a reflective writing report on their own teaching. Data from three instruments created for the study, (a) the QEO, a Likert-like scale with open-ended questions and statements, (b) Questionnaire Evaluation Weblogs (QEW) consisting of 63 statements in which students awarded points (1-10) for effectiveness, and (c) Instrument to Specify the Reflective Posts (ISRP) and Feedback in which content of posts, were analyzed to reveal feedback topics, nature, type, and “who gave feedback to whom” (calculated using degree of centrality measures; Freeman, 1979). Students’ posts also were categorized using a competence classification of “plain descriptive” or “deeply reflective.” Feedback from faculty was reviewed and categorized as positive, negative, or neutral. Another set of categories typified feedback as corrective, neutral, recognition-affirmative, recognition-sympathy, recognition sympathy-value, or encouragement. Last, the feedback content

was scored as solution, suggestion, or request. Students entered 162 responses and 127 responses to another's post during an 8-week period, whereas 4 faculty members logged 4 posts and 66 comments to students.

The researchers counted each reflective post in which students exchanged information through social online communication and cataloged the types of communications based on the social and educational nature of the post. Students responded on average 1.01 reflective posts per week; this measure was in contrast to the two writings they recorded as the perceived number of posts. Time spent writing was not recorded for comparison, but researchers asked the students to estimate the number of minutes spent posting responses (average 4.50 minutes per week). In light of the overestimation by students of the number of posts created, researchers considered the amount of time spent writing also to be an overestimation. The difference in the amount of time and content students thought they had completed versus what they actual completed may be explained by students' feelings of being invested in the group.

The contents of posts focused on interpersonal competence, organizational competence, subject matter, and methods. Classroom management was often mentioned as a component of teaching on which the students expressed their need for further attention. Students rated the idea of the use of weblogs for reflection on their teaching actions as favorable 6.6 (SD = 1.8) on a scale from 1 to 10 but were slightly less positive about the way the actual implementation was conducted 6.0 (SD = 1.7). The usefulness of the weblog for reflection also was perceived as favorable via the second questionnaire (QEW).

Social interaction was measured by analyzing the number of responses, the estimated time on task, and the categorization of feedback. Student feedback was categorized from the transcripts of the weblogs and analyzed in terms of the “strength” of the web community using a calculation of degrees of centrality: indegree or popularity and outdegree or gregariousness (Freeman, 1979). Teacher feedback was categorized as positive ( $n = 75$ ) and of these, 33 were specifically categorized as recognition-sympathy.

Opportunities for students to read each other’s work and receive feedback were viewed as helpful. The degree of verbosity on the weblogs was less than expected by the researchers, yet no specific instructions were stated as to the assignment length requirements. Wopereis et al.’s (2010) purpose was to investigate whether student interfacing online would promote reflection for groups of student teachers. Also included were the frequency of postings in which often students raised questions to problem-solve their own and each other’s issues, as well as students’ perceptions of the usefulness of the weblog tool. Results revealed that online interactions between and within groups of students were “strong.” The weblog was perceived as useful on responses via questionnaires and interviews. Students’ responses were concentrated in the area of “survival” skills as student teachers viewed their first time experiences in the field. Students in all groups interacted with each other face-to-face outside of this training, possibly accounting for the lack of indepth online discussion. As social interaction is an important part of learning, studies such as this indicate that the use of discussion and reflection online provides teachers with opportunities to share information in ways that produce discourse and multiple points of view in solving problems and providing

feedback. Student teachers gave high ratings to interchanges with others who provided recognition and sympathetic responses.

Participants in this study found discussion and reflection to be useful tools, and it was apparent these basic learning formats were transferable to an online context. Further inquiry is needed to understand fully the roles of discussion and reflection in facilitating teachers' need for support as they implement newly acquired pedagogy. Because online learning groups are viewed as "supportive," additional research is needed in contexts beyond the novice teachers' experiences. Findings of this study are relevant to the current study as they add insight into how teachers invest themselves in online discussion, as well as and to better understand how feedback from facilitators and peers creates support.

Information gleaned from the literature on educational media indicates that regardless of strategies used to promote discussion and reflection in online learning environments for professional development, it is problematic whether students' responses are limited. Hew et al. (2010) reviewed 50 empirical studies to identify factors that led to limited student contribution in asynchronous discussions. The authors attempted to identify guidelines presented to counter these factors, and offered three dilemmas encountered within the guidelines. The researchers presented results of two exploratory case studies on student- versus instructor-facilitated discussions as vehicles to mitigate the dilemmas faced regarding student participation in online environments. Hew et al. (2010) found the 50 empirical studies that met their search criteria and identified seven factors that led to limited student contribution. Not listed in order of importance, these factors were (a) not seeing the need for online discussion, (b) behavior of others, (c) personality, (d) keeping up with the discussion, (e) not knowing what to contribute, (f)

lack of critical thinking, and (g) technical aspects. After listing these seven factors, the researchers described the empirically based guidelines addressed in the studies.

Hew et al. (2010) encountered three potential guideline dilemmas that accounted for mixed results in empirical research. These were use of grades, numeric posted guidelines, and instructor-led facilitation. In utilizing the case study methodology, the researchers sought to investigate ways to overcome perceived barriers in online discussions. In the first of two studies presented, 16 preservice teachers who were enrolled in a course were asked to use an online asynchronous discussion for a 2-week period to problem-solve with their peers in the task of designing a web-based activity for elementary children. The results showed that 50% of students preferred facilitated discussions over instructor-led discourse using four data sources: (a) end-of-course survey containing closed- and open-ended questions, (b) reflection logs, (c) online postings, and (d) face-to-face interviews. Within the parameters of the study, students were assigned the role of facilitator on a rotating basis over the 2-week period. Taking on this role prompted higher levels of participation, and 49% of the students indicated that their role assignment led them to be more reflective of others' discussions. In addition, participants indicated that knowing the student-facilitator, receiving positive acknowledgement for contributions, being given common ground rules, and feeling a mutual obligation to contribute as factors that motivated them to be active in the discussions. The current study sought to expand on Hew et al.'s (2010) study, with the discussions taking place over a substantially longer time frame and being facilitated by a special education teacher educator with experience in the field of autism.



Another study by Hew et al. (2010) was created to further explore student motivation. Using a sample of 15 graduate students in a multimedia design course, researchers used an online asynchronous discussion within a problem-solving project, similar to the first study. In this study, students were responsible for their own web-based forum. In addition, this group only met online for a month with no offline interface and was not given any credit for the discussion in the course. Data collection for this study consisted of three sources: (a) the end-of-course interview, (b) online postings, and (c) student interviews. The results of this study revealed patterns similar to the first Hew et al. (2010) study, with participants' perceptions of student-led discussion indicating that the use of encouragement, ground rules, and familiarity with student facilitators contributed to students' involvement in the discourse. The researchers concluded, however, that student-led online asynchronous discussions created conditions that lead to more substantial student contributions was not supported. Tasks used for problem solving were narrow, and it was unclear whether students generalized their outcomes to real-world experiences, either current or anticipated. It is unclear if under similar conditions with an expert facilitator students would contribute less. In the postcourse interviews with students in both studies, a substantial factor affecting student contribution was positive, elaborated feedback that was perceived to be sincere and not contrived. Reciprocity in discussion combined with feedback surfaced as an important principle in online discussion within these two studies. Hew et al. (2010) further expanded the analysis of the data to include investigation into the level of critical thinking in discussions that took place within the seven discussion forums across the two studies. The authors used the following indicators: (a) surface-level, including making judgments without offering

justification or suggesting which is most appropriate, sticking to prejudices or assumptions, and off-topic or faulty reasoning and (b) in-depth level involving setting out the advantages or disadvantages of an idea or solution, making judgments supported by justification, and providing proof or examples. The researchers found that 99% of the posted messages were focused on the topic. These factors became important in the current study as the facilitator made comments to participants to keep on task and focused on the discussion topics. In order for participants to contribute to online discussions, environments need to be engineered that increase the likelihood of well-thought-out, substantial postings. Participants need to be supplied with prompts to guide discussion and complete their self-reflection assignments.

Common themes that emerged from these studies included the necessity within online learning to design discussion and reflection that support participants' sense of community and encourage participation using responsive, constructive feedback. Nicholson and Bond (2004) provided important groundwork related to promoting reflection in online environments that contributes to preservice teachers' sense of support. Similarly, Glowacki-Dudka and Barnett (2007) reported the role of reflection in group development and that this serves to contribute to learning via online learning environments. As online professional development for teachers becomes the norm rather than the exception, course designers need to ensure that online learning is designed to encourage well-thought-out participants' contributions that facilitate learning within a supported context. Hew et al.'s (2010) study results pointed to critical factors obtained from previous research that promote student participation online. In one study, participants knew and interacted with each other in settings outside the online learning

environments. Expansion of the research using participants who came together online with few common ties may provide additional knowledge about the creation of support systems in online learning environments.

Online learning environments provide learning contexts for teacher professional development. The research presented in this section has provided a basis for the use of pedagogies such as discussion and reflection as viable pedagogies to develop supportive learning environments. Changes in self-efficacy reported through online learning platforms (Parsons, 2007) continue to offer promising potential in supporting teacher motivation and behaviors. To enhance collegial interaction and deeper learning, discussions and self-reflection assignments need to incorporate experiences in which teachers share their concerns, receive feedback, and learn from examples. The current study focused on discussion and self-reflection to enhance teachers' self-efficacy when working with challenging students in their current and future classrooms.

Teacher self-efficacy is a complex construct as evidenced in the literature. External forces, such as the way individuals learn and where teachers are on the continuum of experience, are present in professional development (Tschannen-Moran & McMaster, 2009). These external forces influence teachers' perceptions of efficacy in the classroom. Moreover, special education students' unique learning needs and challenging behaviors introduce complexity that increases the special education and general education teachers' need for specific skills that will help maintain self-efficacy. The next section contains a sampling of empirical research about how special education, general education, and preservice teachers' perceptions of challenging behaviors of students with ASD influence self-efficacy.

### **Teachers' Perceptions of Students' with Challenging Behaviors Including Autism Spectrum Disorders**

The dramatic increase in the numbers of children diagnosed with autism spectrum disorder (ASD) has led to changes in competencies required of teachers as well as mandates for added training for special education teachers in evidence-based instructional strategies and methodologies. Autism spectrum disorder affects cognition and often manifests unique patterns of challenges; students also display unique areas of relative strengths (Odom, Collett-Klingenberg, Rogers, & Hatton, 2010). Students with ASD are challenged in social cognition and often have difficulties in understanding body language and facial cues as well as understanding behavioral nuances of developmentally typical children. These challenges often result in low academic outcomes as well as social and communication dysfunction (Kabot, Masi, & Segal, 2003).

This section of the literature review focuses on recent empirical studies regarding professionals' perceptions of the learning needs of students with ASD as well as the potential for training to change perceived beliefs and efficacy. The first two studies focus on research conducted to examine teachers' perceptions of students with challenging behaviors including students with ASD. Hastings and Bham (2003) discussed the role of psychological variables, such as teacher self-efficacy and coping strategies, in influencing student behavior in the classroom; Leblanc, Richardson, and Burns (2009) examined preservice teachers' views of students with ASD who were mainstreamed. These are followed by a correlational study examining the relationships between the behaviors manifested by children with ASD and the stress experienced by parents and teachers (Lecavalier, Leone, & Wiltz, 2006).

Teachers who found misbehavior more stressful also were also more likely to report increased levels of burnout (Friedman, 1995). In a replication of Friedman's (1995) study, Hastings and Bham (2003) explored the relationship between student misbehavior and teacher burnout. The researchers attempted to validate the Pupil Behavior Patterns Scale (PBPS) instrument as well as the relationships among student behavior, the domains of teacher burnout, and demographic and work variables. The study sample included 100 primary-school general education teachers recruited from 33 schools, with average age of 35.9 years old, and an average of 110 months of work experience. Additional demographic information indicated that teachers also performed other responsibilities in their schools such as school management, sports coaching, and coordination of special education needs. No discussion of other details was included such as class size or demographic composition of the student body (e.g., socioeconomic status).

Data were collected from three instruments: the PBPS, Maslach Burnout Inventory (MBI), and a demographic questionnaire. Three components of burnout were measured using the MBI: emotional exhaustion, depersonalization, and personal accomplishment. Hastings and Baum (2003) compared the level of burnout of their sample with the MBI norming population and a sample of special education teachers from an earlier study (Hastings & Brown, 2002) to learn whether the study sample had relatively high or low levels of burnout. Four demographic and work variables were measured: teacher gender, age, experience, and additional responsibilities.

In this multistep process, Hastings and Baum (2003) pointed to evidence that supported the previous work on validating the PBSP (Friedman, 1995). The researchers

also suggested four methodological issues with this study. First, no validity data existed for the PBSP, although there was encouraging reliability data. Second, the sample was very small, with a very poor response rate (33%) to the questionnaire originally sent to 305 teachers. Third, an independent measure of student behavior was needed as the study participants had completed the self-report measure. Thus triangulation was not possible to support the teachers' reported claims of challenging behavior. The very small variance reported in the burnout inventory may have been attributable to perceptions of students' behaviors in participants' classrooms. The researchers suggested that teachers often use emotion-forced strategies to cope with students rather than evidence-based strategies. The researchers argued to enhance teacher efficacy during training rather than in the workplace. As they also stated that improving social support may help mitigate stress and burnout for teachers' dealing with extreme behavior. The current study investigated both avenues: support within an online course and providing teachers with evidence-based strategies proven to work successfully with students with challenging behaviors.

In a repeated-measure design, Leblanc et al. (2009) examined changes after a two-session training by consulting experts involving three groups of 35 preservice general education teachers. The training sessions focused on perceptions and knowledge of students with ASD in inclusive classrooms. The researchers attempted to investigate whether the participants' anxiety in working with students with ASD decreased after the training. An ASD Inventory was developed to evaluate the acquisition of teachers' knowledge about students with ASD and the specific behavioral strategies taught in the workshop. The Inventory used consisted of three 4-point Likert-type scale questions, and 10 multiple-choice questions combined with three short-answer questions focused on

practical strategies and knowledge. The inventory was administered twice to all three groups, initially as a baseline prior to the workshops and a second time 2 months after completion of the training.

The study included analysis based on 73 pre- and postinventories. Leblanc et al. (2009) reported results of the three questions pertaining to ASD perceptions. The first question concerned participants' comfort with ASD, the second related to participants' thoughts on integrating students with ASD into inclusive teaching settings, and the third centered on participants' perceptions including applying current knowledge of students with ASD and creating support for students in inclusive settings. Results showed that training targeted to preservice teachers resulted in changes in their perceptions and knowledge of students with ASD. The participants' responses also indicated knowledge of how to use strategies to support student learning. The researchers erroneously concluded that participants' perceptions of access to support indirectly diminished stress. Training was deemed effective, but there is no indication in reviewing the survey contents that participants were asked directly to respond to questions concerning diminished anxiety in working with these students. The current study addressed this gap through collecting data specifically directed to the potential of support in mitigating burnout and stress.

Findings of these studies reinforce the importance of creating teacher professional development opportunities for teachers to increase their knowledge about working with challenging students (Leblanc et al., 2009). Students with ASD present challenges to special education teachers not only in teaching strategies for academic success but also in positive social and behavioral outcomes. To improve teacher self-efficacy for special

education and general education teachers working with students with ASD, teacher educators need to focus on improving the use of evidence-based methods that promote positive social and behavioral outcomes. The current study addressed this gap in the literature as it investigated the process of discussion and reflection in a course designed to impart knowledge of students with ASD, to instill evidence-based practice strategies, and to change special education and general education teachers' perceptions of their self-efficacy, as well reduce their stress and burnout.

Using a longitudinal research design with four survey measures, Lecavalier et al. (2006) examined the relationships between caregiver stress of teachers and parents and behavior problems of children with ASD. The study sample included parents and teachers of 293 children with ASD. Of the 253 children, all were rated by parents, 198 by teachers, and 158 by both parents and teachers using multiple scales. The sample was solicited from a larger 2-year state project to evaluate model educational programs for students with ASD. Children were between the ages of 3 and 18 and were receiving educational services for autism. Demographic data included children's race, age, grade level, and disability identified by the Individual Educational Plan (IEP). Data collected from parents included gender, age, and education. Teacher data collected included gender, age, years of teaching, education level, status as supporting or primary instructor of the children being rated, and the number of months the teachers knew the student. Data were collected from parents and teachers using six measures for two time intervals spaced one year apart. Parent and teacher ratings on stress were measured using two instruments: the 36-item, three-subscale Parental Stress Index-Short Form (PSI) and the 43-item Index of Teaching Stress-Part B (ITS). Data on children's behaviors were



collected from two instruments: the teacher and parent version of the 70-item Nisonger Child Behavior Rating Form (NCBRF) with construct validity reported to be good in the population of students with ASD, and the 72-item teacher and 70-item parent versions of the Scales of Independent Behavior-Revised (SIB-R). Teachers also responded to a 6-item measure of familiarity with applied behavior analysis and a 6-item measure for familiarity with ASD.

Descriptive analysis was presented for parent and teacher agreement on the six subscales (the seventh was not used as it was not similar in content between the parent and the teacher versions) and total score of NCBRF: *compliant or calm, adaptive or social, conduct problem, insecure or anxious, hyperactive, self-injurious or stereotypic behavior, and self-isolation or ritualistic behaviors*. No statistically significant differences were found on any of the subscales between the teachers and parents. *Compliant or calm* and *self-isolating or ritualistic* subscores were not statistically significant. Researchers found that the children's behaviors were not viewed differently between parents and teachers and each group indicated that the children's behaviors contributed to stress.

Parent ratings were analyzed on parent characteristics, first to learn if age, education level, and familiarity with Applied Behavior Analysis (ABA) and ASD were associated with stress. None of the characteristics were found to be correlated with stress or were the children characteristics of age and gender. All NCBRF subscales were statistically significantly when correlated with stress. Multiple hierarchical regressions were conducted to predict parental stress. The SIB-R score accounted for 4% of the variance, whereas *the compliant or calm, conduct problem, and self-isolating or*

*ritualistic* subscales accounted for an additional 26%. For parents and teachers, challenging behaviors were perceived as substantial stressors. For teachers, stress and burnout have been linked with attrition, a major concern in the field of education.

Next, reviewing the stability of behavior and parental stress descriptive statistics, the only statistically significant difference in rating from year 1 to year 2 was on the NCBRF Adaptive or Social subscale. To review the mutual effect behavior and stress had on one another, two sets of hierarchical multiple regressions were analyzed. In the first regression, total stress was the dependent variable; in the second, total problem behavior was the dependent variable. For the first model, changes in children's initial behavior and changes to that behavior accounted for the variance. Over time, behavior issues worsened the stress for parents. For the second model, stress worsened behavior.

Analysis of the teachers' data also was presented in the descriptive results and in a correlation model. None of the teachers' characteristics was associated with stress levels except that familiarity with ASD was associated negatively with total stress and children's ages, but not gender, and was associated with teachers' stress. Results of the Spearman ranked correlation coefficients between the ITS total score and NCBRF and SIB-R subscale and total scores revealed *insecure or anxiety* subscale scores were not found to be statistically significant. Parents' results showed that *compliant or calm* and *conduct problems* subscales had the strongest coefficients. Analysis of multiple hierarchical regressions showed 9% of the variance accounted for age of the teacher and familiarity with ASD as the first step. *Conduct problems, irritable, and self-isolating or ritualistic behavior* subscales accounted for an additional 34% of the variance. Looking at stability across time by comparing means, standard deviation values, *t*-test values, and

the subscale and total scores for the ITS and the NCBRF, all except *t*-test values indicated statistically significant levels. The final analysis of the data for this study examined how behavior problems and teacher stress affect each other using multiple hierarchical regressions. Twenty-one percent of the variance was accounted for when stress scores from the end of the study were the dependent variable and 54% of the variance was accounted by the second model in which the dependent variable was problem behavior scores, whereas teachers indicated prior stress problem behavior did not worsen or did stress worsen behavior problems when controlling for level of behavior.

Lecavalier et al. (2006) concluded that stress was associated most closely with parent and teachers' perceptions of reported behavior problems than with any other characteristic measured in the study. Conduct problems and lack of prosocial behavior were associated with caregiver stress for parents or teachers. The majority of the explained variance in the multiple regressions conducted on parent and teacher responses was linked with behaviors such as being disruptive or breaking rules. Few studies have specified these behaviors. The researchers also noted that teachers and parents' responses displayed similar correlations even through there were slightly different factor structures with the measures used. The differences between some of the patterns in stability of the instruments were conjectured to be due to a lesser amount of time teachers spent with children as compared with parents. Also, because teachers reported having specific training to insure familiarity with students with ASD, researchers speculated that this familiarity might have mitigated reports of stress. Lecavalier et al. (2006) concluded that children's externalized behaviors were associated strongly with parent and teacher stress, and these behaviors can be addressed through behavioral interventions.

Because the nature and prevalence of behaviors exhibited by students with ASD increased teachers' stress, Lecavelier et al. (2006) also suggested additional research on teacher stress. The behaviors of these students are one of aspect that influenced teachers' stress. The current study's purpose, which was to investigate online professional development using discussion and self-reflection, identified ways to lessen special education and general education teachers' stress with relation to these students, particularly within the context of increasing teachers' knowledge of ASD.

This section provided a number of studies showing that teachers' perceptions of students with challenging behaviors affect either behavioral or academic stress levels. Hastings and Bham (2003) suggested that variables such as teacher self-efficacy explained teacher well-being and that further exploration of avenues to create support interventions for the teachers is warranted. It could be argued that regardless of the student population, teachers' self-efficacy is a function of the teachers' nature and not the students. The current study investigated teacher self-efficacy and burnout in one setting, an existing course. Increasing access to evidence-based practices to increase teacher knowledge has been found to reduce overall stress for preservice teachers and students with ASD (Leblanc et al., 2009). Support structures for preservice and experienced teachers create differences in self-efficacy over time (Woolfolk Hoy & Spero, 2005). The current study addressed the need for further research focused on ways to support experienced special education teachers who work with unique populations of learners who present challenges not only to teachers' sense of personal accomplishment but also to teachers' stress and possible burnout.

### **Teacher Burnout and Its Relationship to Teacher Self-Efficacy**

Teacher burnout has important meaning when teachers work with a particularly challenging student population as detailed in the previous section. One of the important sources of teacher self-efficacy has been linked to one's psychological or affective state (Bandura, 1997). In the 1970s, research on burnout consisted of behavioral observations in health and human services. Interviews by Maslach (1976) helped contextualize observed symptoms among staff, thus defining burnout as a combination of lack of commitment, motivation, and emotional depletion. Noting the specificity of teaching as a unique context in health and human services, Maslach (1976) modified the Maslach Burnout Inventory to "address an increased level in interest in individuals who work in schools" (p. 27). Lazarus and Folkman (1984) defined the role of stress within the context of one's ability to cope with demands. Early research with educators tended to compartmentalize factors and focus on the external stressors of the organizational profile such as class size, teacher preparation, work demands, and individual teacher characteristics, such as teacher age, gender, and marital status, as entities independent of one another.

This section reviews a representative sampling of studies relevant to teacher burnout and its implications for teacher self-efficacy. First, Wisniewski and Gargiulo (1997) provided an overview of special education teachers and job-related stress, and this meta-analysis served as a foundation for the current study. Jennett, Harris, and Mesibov (2003) examined linkages between teacher self-efficacy and burnout among teachers who worked with children with autism. The final study in this section examined the

relationships between teacher self-efficacy and burnout with teachers who specifically worked with students with ASD (Ruble, Usher, & McGrew, 2011).

Wisniewski and Gargiulo's (1997) meta-analysis of the literature on occupational stress and burnout for special education teachers provided a foundation for education research to build on. Special education teachers work in a unique context. These educators reported higher levels of stress than their counterparts in general education (Billingsley, 2004), and special education teachers who worked with students with emotional or behavioral challenges reported the highest level of occupational stress. Teachers reported concern that their needs as educators were not met, the relationships and learning needs of their students were not met, and their influence on academic success was lacking long term. Special education teachers with instructional assignments involving students with challenging behavior appeared to be the most vulnerable.

In addition to research on special educator occupational stress and burnout, researchers were interested in finding linkages between teacher self-efficacy and burnout. Jennett et al. (2003) focused on teacher burnout and efficacy in teachers of students with autism. The study used two groups of special education teachers: one group preferred the Applied Behavior Analysis (ABA) as preferred treatment choice and the other group preferred the Treatment and Education of Autistic and Related Communication-Related Handicapped Children (TEACCH) method. The purpose was to explore both teacher self-efficacy and burnout in teachers of students with ASD and the commitment these teachers brought to their choice of methodology. Participants were solicited to volunteer from a two-state pool of special education teachers who had received training in one or the other methods. Thirty-four teachers formed the ABA group, and 30 teachers made up

the TEACCH group. Four instruments were used to gather data: (a) Autism Treatment Philosophy Questionnaire, (b) Teacher Efficacy Scale modified from Coladarci and Breton (1997), (c) the Maslach Burnout Inventory-Educators Survey, and (d) a Demographic Information form that included teacher experience, age, gender, type of program taught, and teaching orientation (ABA or TEACCH).

Results of three independent-sample *t* tests of the ABA, TEACCH, and Shared Orientation of the Treatment to Philosophy indicated teachers with a self-identified ABA orientation had statistically significantly higher scores, on average, on the ABA subscale than those who self-identified as using TEACCH. Teachers who self-identified with the TEACCH orientation scored significantly higher, on average, on the TEACCH subscale than those who self-identified as using ABA. Comparing the scores on the Teacher Efficacy measurement, neither group differed on personal or general efficacy. Finally, three independent-sample *t* tests on the subscales of the Maslach Burnout Inventory revealed no statistically significant difference between the groups.

Relationships between commitment and burnout only were correlated statistically significantly to emotional exhaustion and personal accomplishment for the TEACCH group ( $r = -.40$ ,  $r = .45$ , respectively). Multiple regression analyses were performed with predictor variables of age, major, and teaching orientation for the three dimensions of burnout. Combined as a total, the variables had a medium effect, explaining 11.4% of the variance in emotional exhaustion, although this was not statistically significant, with no individual variable contributing. Predictor variables did not make a statistically significant contribution either as a total or individually to depersonalization, accounting for only 12.5% of the variance. The predictor variables did have a large effect on

personal accomplishment. These accounted for 23.1% of the variance and were correlated statistically significantly. Commitment to a philosophy did make a statistically significant contribution to personal accomplishment, individually explaining 17% of the variance.

Jennett et al. (2003) suggested that, although it would appear to be obvious that teachers who identified themselves with one of two teaching method, ABA or TEACCH, would be more committed to the respective underlying teaching philosophy, demonstrating the value of such a scale was important. No differences were demonstrated between the groups on either personal or general efficacy. Each group exhibited an average amount of emotional exhaustion, depersonalization, or personal accomplishment. Neither group's scores for depersonalization were high, indicating that these teachers of students with autism were not indifferent to their students.

Commitment to a teaching orientation and philosophy appeared to be correlated with relatively high efficacy. The more committed a teacher was to a philosophy, the greater the sense of effect on students in the classroom. The researchers indicated that as teachers indicated they were more satisfied with their work, they scored lower on burnout. Further for this study, burnout was statistically significantly correlated with commitment to a teaching philosophy such as TEACCH or ABA. One dimension of burnout that had mixed results was emotional exhaustion; the TEACCH group had a statistically significant negative correlation, whereas the ABA group did not. In the regression analysis, commitment was not a statistically significant predictor of emotional exhaustion, and the means did not differ between the groups.

Researchers (Jennett et al., 2003) concluded that teacher training that emphasized supportive evidence-based strategies may result in moderation of teacher self-efficacy in



that a deeper understanding of an effective intervention may aid a teacher in conceptualizing a solution to difficult process. In this way, teachers may increase their sense of mastery and competence when they successfully problem solve. As the participants of this study already had been trained on one of the two methods, the researchers suggested that studies with those teachers of students with autism who had little or no commitment to a particular teaching orientation would test the hypothesis that self-efficacy and burnout are related to a commitment to a teaching orientation. Additionally, the researchers suggested that increasing the commitment of teachers to proven teaching methodologies should be given priority as a component of teacher training. The course in the current study is based on evidence-based practices for students with ASD. The results of the current study added to the literature as it relates to the interaction of burnout and self-efficacy. By providing special education and general education teachers with foundational content and methods online, their self-efficacy changed.

Using a research design that employed survey methods, Ruble et al. (2011) examined teacher self-efficacy and its sources: experience, social persuasion in the form of leadership support, and affective state. The researchers attempted to assess the correlation between self-efficacy factors of mastery, social persuasion, and affective state as measured by burnout and self-efficacy for teachers who work with children with ASD. The study sample of 35 teachers was recruited from two states as part of a larger randomized study. Selection criteria included having at least one child with autism in their caseload. Ninety-four percent of the participants reported having had formal training

in autism. Descriptions or definitions of the type of training the teachers received were not specified.

Data from three self-report measures were collected: a 24-item, 6-point modified Teacher Interpersonal Self-Efficacy Scale (TISES), a background information survey to investigate years of teaching experience and other demographic information, a 45-item 5-point response scale of the Multifactor Leadership Questionnaire (MLQ), and the 22-item 7-point anchored scale of the Maslach Burnout Inventory (MBI). Teacher self-efficacy was measured by the TISES. Reliabilities for each of the subscales, Self-Efficacy for Classroom Management, Self-Efficacy for Obtaining Colleagues' Support, and Obtaining Principal's Support, were good and ranged from .83 to .96.

Three sources of self-efficacy—years of experience, social persuasion as perceptions of leadership support, and psychological and affective state as burnout—were measured by a background information form completed by the teachers, the MLQ, and the MBI, respectively. Cronbach's alpha coefficients were reported good for two of the measures, the MLQ and the MBI, at .88 and ranged from .73 to .89, respectively.

Ruble et al. (2011) presented results for eight variables of the study (self-efficacy for classroom management, self-efficacy for obtaining colleagues support, self-efficacy for obtaining principals' support, years of teaching, support from selected administrators, emotional exhaustion, depersonalization, and personal accomplishments) in an inter-correlation matrix. Results showed weak correlations for self-efficacy for classroom management, self-efficacy for collegial support, support for administrator, ranging from .14 to .26. These correlations suggested that none of the subscales representing self-efficacy were associated with number of years of teaching. Statistically significant

correlations between self-efficacy for classroom management and all three subscales of the MBI were shown, ranging from  $-.40$  to  $-.47$ . Affective states are associated negatively with self-efficacy. One of the most important findings of this study was that the number of years of teaching experience was not associated with self-efficacy, which is contrary to previous research (Tschannen-Moran & McMaster, 2009; Tschannen-Moran & Woolfolk Hoy, 2007). The heterogeneity of the students was suggested to be a unique situation for special education teachers in which generalization of knowledge or relying on previous experience supported self-efficacy, as 94% of teachers reported having had training in autism. Details of the type of training in which teachers had participated were not specified. This missing information is addressed in the current study.

The researchers postulated that the measures used were not sufficient for several reasons. The years of experience form did not supply sufficient data such as experience with the specific group of students, students with ASD, and it did not capture variations in training received. Also, assessment of social persuasion as measured with the MLQ was problematic. Issues with missing data for the measurement of teachers' perceptions of leaderships led to a decrease by 11 in the number of responses analyzed. An association between social persuasion and self-efficacy cannot be made in this study.

The support for teachers has been found to have an influence on teacher self-efficacy. As the population of students with ASD grows within educational settings, the need to support teachers working with these students needs to grow. Ruble et al. (2011) suggested that even though the data were flawed, challenges do exist for special education teachers as knowledge and training to support students with ASD has been found to be lacking for all education personnel. They pointed to a need for "more

sensitive measure(s)” (Ruble et al., 2011, p. 72) to look at social persuasion as a factor in self-efficacy. Burnout as measured by the MBI was found to correlate statistically significantly with only one of the subscales of the TISES, classroom management. Researchers proposed that the key stressors for special education teachers who work with students with ASD were a result of what happens in the classroom. Additionally, statistically significant and negative correlations were found between personal accomplishment, emotional exhaustion, and depersonalization, and between administrator support and emotional exhaustion. Personal accomplishment was suggested to be a potentially protective factor and a possible area to address. The current study investigated support outside of teachers’ school settings. Special education teachers often cite issues with lack of support by administrators, and creating alternative opportunities online may serve to mitigate burnout expressed.

### **Summary**

The literature reviewed in this section supports the relevance of providing discussion and reflection assignments in an online course for special education teachers. These assignments created supportive and informative learning environments to enhance self-efficacy and to mitigate stress when working with students with ASD. Teacher self-efficacy has been found to be a complex, multidimensional construct with identified contextual factors such as interactions with others (Tschannen-Moran & Woolfolk Hoy, 2007). The evidence presented in this review suggests that further examination of the relationships between teacher self-efficacy and burnout within an online format that encourages discussion and self-reflection is warranted. Further investigation will

contribute to deeper understanding of the roles of discussion and reflection with technology-based professional development for special education teachers.

Some of the empirical investigations of teachers' perceptions of their ability to work with challenging students and provide positive learning outcomes have shown the importance of knowledge and professional development training in improving teachers' confidence (Hastings & Bham, 2003; Lecavalier et al., 2006). Research has just begun to provide insight into experiences of burnout of special education teachers' with children who present profound teaching challenges (Jennett et al., 2003; Ruble et al., 2011).

The literature shows that teachers' work acts as a source of stress (Wisniewski & Gargiulo, 1997). Correlations between self-efficacy and stress have been presented for teachers who work with students with challenging behaviors such as those presented in children with ASD (Lecavalier et al., 2006). Researchers have suggested follow-up studies to investigate further the influences that can create change in teachers' self-efficacy through professional development targeted to increasing teachers' knowledge (Leblanc et al., 2009). Several studies have found that providing knowledge about students and the specific learning needs of challenging students influences teachers' perceptions of their ability to teach (Jennett et al., 2003; Leblanc et al., 2009).

The literature has shown that discussion and reflection within teacher education programs foster teachers' problem-solving abilities and their perceptions of resilience along their career trajectory (Hew et al., 2010; Nicholas & Bond, 2004; Wopereis et al., 2010). Teachers who have been working in the field express teacher self-efficacy differently from novice teachers (Tschannen-Moran & Woolfolk Hoy, 2007). Further investigation with experienced teachers may contribute to knowledge about the

differences between teachers just beginning their practice and those with experience in the field.

The role of professional development is to provide teachers with the highest level of training for their growth and development (Gersten, Keating, Yovanoff, & Harkiss, 2001). In order to deliver content and keep teachers current with the latest evidence-based practices, teacher education and professional development providers rely on online courses to deliver content. As standards are revised and updated for teacher competencies (California Commission on Teacher Credentialing, CTC, 2009) and to improve students' access to special education services and learning needs, additional work and job responsibilities are being added to the burden on special education teachers already stretched to their maximum, which leads to burnout (Brownell et al., 2007; Leko & Smith, 2010; Wisniewski & Gargiulo, 1997). The literature reviewed supports the need to promote discussion and reflection as an avenue to improve teachers' self-efficacy (Glowacki-Dudka & Barnett, 2007; Nicholas & Bond, 2004; Woperies et al., 2010).

Selected studies reviewed in this chapter indicate how discussion and reflection embedded in online professional learning platforms influence changes in self-efficacy (Parsons, 2007). The positive results in nursing support the appropriateness of conducting this study within special education teacher professional development. Further, quantitative studies show that training and knowledge influence teachers' perception of self-efficacy with students with challenging behaviors (Leblanc et al., 2009). This study may provide a richer, more articulated view of teachers' perceptions of changes in their self-efficacy and burnout within the span of a 15-week course. This review also has suggested that facilitated discussion and self-reflection in the context of teacher

education, including novel practices online such as blogging or discussion, have been found to create supportive learning environments for preservice and novice teachers. Gaps in the literature are evident with respect to experienced teachers who are returning to enhance their knowledge. Studies with experienced special education teachers and self-efficacy focus on their current classroom practices (Ruble et al., 2011), but do not investigate the influence of professional development on their efficacy.

The current study was designed to contribute to the special education as well as general education teacher self-efficacy research by analyzing changes in perceived teacher self-efficacy and perceived burnout for those returning for professional development with a specific group of learners, those students with ASD. Emphasis is placed on in specific evidence-based strategies pertinent to the specific learning needs of students with ASD using an online course with facilitated discussion and reflection assignments. The relationship between teacher self-efficacy and reflection is warranted and will contribute to understanding special education teachers' professional development needs for the unique population of students with ASD. Chapter III outlines the research design, methodology, and the qualitative and quantitative data analysis techniques used.

## **CHAPTER III**

### **METHODOLOGY**

The purpose of this study was to examine changes in perceived self-efficacy and perceived burnout of special education and general education teachers as a result of discussion and self-reflection assignments embedded in an online course covering learning and behavioral characteristics and challenges faced by students with autism spectrum disorder (ASD). The following sections address the study's design: description of the course; participants; human subjects considerations; the researcher, coder, and teaching assistant's qualifications; instruments used to measure teacher self-efficacy, burnout, and demographic features of the sample; restatement of the research questions; and the manner in which data were collected and analyzed.

#### **Research Design**

A triangulation, mixed-methods pretest-posttest design was used (Creswell, 2008). In the quantitative portion of the study, data were collected using the Teacher Self-Efficacy Scale (TSES; Tschannen-Moran & Woolfolk Hoy, 2001), the Maslach Burnout Inventory-Educator Survey (MBI-ES; Maslach, Jackson, & Leiter, 1986), and a Student Demographic form. The quantitative data were collected precourse and at the 15<sup>th</sup> week of the 16-week course. This timing accommodated the finals-week schedule of the university.

Qualitative data were obtained using transcripts from the online discussion and self-reflection assignments at 3- to 4-week intervals. Additional qualitative data were gathered during the hour-long postcourse focus group. The function of the study's design was "to obtain different but complementary data on the same topic" (Creswell, 2008, p.



62). The intent for this design was to bring together the preciseness of quantitative data with the depth of qualitative data. The triangulation design often is used when the researcher desires to expand quantitative data with qualitative data. In this study, the changes in self-efficacy over the course of the 16-week semester were quantified; the qualitative data provided nuanced responses as to the types of influences on teachers' self-efficacy and affective state. Data from the focus group afforded additional information from participants not captured during the discussions or reflection assignments, such as information related to how the process of discussion and reflection changed in their perception of confidence, alleviated or supported concerns about execution of instructional approaches and intervention strategies, or added to their overall knowledge about students with ASD.

Learning opportunities in this study were defined as the series of five facilitated online discussion assignments created to evoke reflective discourse about the course readings and content, along with self-reflection. These tasks were in the form of online asynchronous discussions with self-reflection opportunities that occurred five times during the semester. These were designed to elicit responses from the participants about the content, its application in their classrooms, and the teachers' perceived self-efficacy. In order to facilitate the process of discussion and self-reflection, opportunities were afforded for participants to share insights through the asynchronous assignments posted on the course learning management system, Moodle. Additional feedback to participants by the discussion facilitator was provided as the assignments were posted during the semester. Participants in the course were asked to read and reflect about the course learning material, post thoughtful comments and questions based on the assignment

directions, and take the time to read and respond to others' ideas and shared classroom-based experiences. The course instructor gave the researcher permission to facilitate the five asynchronous discussions during the course at 3- to 4-week intervals, providing praise and additional prompting to solicit responses. Qualitative data from the transcripts of the five discussion and self-reflection assignments were reviewed, coded, and analyzed to add rich and indepth information that cannot be obtained from quantitative data alone.

The eight dependent variables are the scores from Teacher Self-Efficacy Scale (TSES) total scale and subscales—efficacy for student engagement, efficacy for instructional strategies, and efficacy for classroom management—and the scores from Maslach Burnout Inventory-Educator Scale (MBI-ES) total scale and its three subscales: personal accomplishment, emotional exhaustion, and depersonalization. The results from the analysis of data from the two scales were used to assess changes in the participants' responses from the beginning to the end of the course.

### **Description of Course and Course Instructor**

The online course, *Teaching Diverse Learners with Social Communication Disabilities Including Autism*, is a three-unit course taught as part of a three-course requirement to meet the California Commission on Teacher Credentialing (CTC) competency requirements for teaching students with ASD. The professional development course is the initial course in the series and was offered in two sections in the Spring 2013 and taught by one instructor. The course was 16 weeks in length. The instructor of record is a full-time tenured faculty member who developed the three-course series to meet the CTC competency requirements for the Added Autism Authorization and is the lead instructor. He holds a Ph.D. with an emphasis in Emotional Disturbance and Autism

and is the Principal Investigator of a grant that supports the operation of the University's Family Focus Resource and Educational Center, specializing in assisting families with special needs in the Southern California area. His primary research focus is metacognition and social-skills instruction for learners with autism.

### **Participants**

Using a convenience sample, the study was conducted in two sections of an online course offered through a Southern California public university. The course, *Teaching Diverse Learners with Social Communication Disabilities Including Autism*, was designed to meet required competencies for several levels of educators: Preservice, Preliminary, and Professional Clear. Although this online course was designed as one in a series of three courses to meet the requirements and competencies for the Added Autism Authorization, enrollment was not limit to special education teachers. A mixture of individuals enrolled in the course including general education teachers, speech and language professionals, paraeducators, and others. Thus, a diverse group of individuals agreed to participant in the study.

Two course sections were enrolled with 20 and 22 participants, respectively. Each section of the course had identical online course content, used the same course syllabus, and was taught by the same instructor. All course participants were solicited to volunteer online data for use in the study and complete survey instruments. Twenty-five of the 42 participants enrolled in the two sections of the course returned completed permission protocol (see Table 1). Fifteen participants of those who agreed to have their responses be used in the study completed pre- and postcourse surveys that were useable for analysis. Seven of the participants agreed to be part of the hour-long focus group that took place

Table 1  
Demographics of Participants by Study Component

<b>Demographics</b>	<b>Discussion Participants (n=25)</b>		<b>Completed Survey (n=15)</b>		<b>Focus Group (n=7)</b>	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
<i>Gender</i>						
Male	3	12.0	3	20.0	1	14.3
Female	22	88.0	12	80.0	6	85.7
<i>Current Assignment</i>						
<i>Special Education</i>						
Resource rm/learning ctr	9	36.0	3	20.0	2	28.6
Special day class	6	24.0	3	20.0	2	28.6
<i>General Education</i>						
Paraprofessional	4	16.0	4	26.7	1	14.3
Other	4	16.0	4	26.7	1	14.3
<i>Years of Experience</i>						
<i># of yrs in current position</i>						
1 – 3	13	52.0	10	66.7	5	71.4
4 – 6	7	28.0	3	20.0	2	28.6
7 +	5	20.0	2	13.3	0	0.0
<i># of yrs in special education</i>						
1 – 3	14	56.0	8	53.4	5	71.4
4 – 6	5	20.0	3	20.0	2	28.6
7 - 10	5	20.0	1	6.6	0	0.0
11 - 20	1	4.0	1	6.6	0	0.0
<i># of yrs of experience with students with ASD</i>						
0	1	4.0	0	0.0	0	0.0
1 – 3	11	44.0	8	53.4	5	71.4
4 – 6	5	20.0	4	26.7	1	14.3
7 – 10	5	20.0	2	13.3	1	14.3
11 +	3	12.0	1	6.6	0	0.0
<i>Grade Span Taught</i>						
Pre-kindergarten	5	20.0	3	20.0	2	28.6
Kindergarten	1	4.0	0	0.0	0	0.0
Elementary (K-5)	9	36.0	4	26.7	2	28.6
Middle School (6-8)	4	16.0	4	26.7	1	14.3
High School (9-12)	6	24.0	4	26.7	2	28.6
<i>Age</i>						
21- 30	15	60.0	11	73.3	6	85.7
31- 40	5	20.0	2	13.3	1	14.3
41- 50	4	16.0	2	13.3	0	0.0
51-60	1	4.0	0	0.0	0	0.0
<i>Highest Degree Held</i>						
B.A.	17	68.0	13	86.7	6	85.7
M.A.	8	32.0	2	13.3	1	14.3

online after the 16<sup>th</sup> week when the course concluded. A majority of the participants were female. Participants in the study held a variety of work assignments in K-12 schools. Of

the 15 special education teachers in the study, 9 indicated they taught in traditional pull-out resource rooms or learning center models. Other special education teachers indicated they taught in self-contained special day programs. Paraeducators worked with students with special needs in a variety of K-12 settings. Two participants indicated *Other*: one who was a speech and language specialist and one who was the parent of a child with autism.

### **Human Subject Considerations**

The rights of the participants in this study were protected and the study complied with the standards set by American Psychological Association (2010) and the standards set by the University of San Francisco Institutional Review Board for the Protection of Human Subjects. Permissions from the instructor and from the Chair of the Department of Special Education at the university where the course was taught were obtained in writing. The review board of the University of San Francisco was contacted and approval was obtained for the research.

The students enrolled in the course completed the online questionnaires to provide their written consent to participate in the study. The students were informed of the study's purposes, background, and procedures in a cover letter in the email message; no deception or concealment was used during the data collection. Their permission for the use of the data gathered in the form of the three surveys, the transcripts of the five facilitated discussions, of the self-reflection assignments, and the postcourse focus group was voluntary. Students were advised that all information would be kept confidential and that participation would not affect their grade or academic standing at the university

(Appendix A). All correspondence with students was facilitated through the course's teaching assistant (TA) to insure anonymity from both course instructor and researcher.

### **Qualifications of the Researcher**

The researcher holds a current Multiple Subject Cross-Cultural Language and Academic Development Professional Clear Credential, as well as a valid Learning Handicapped Professional Clear Credential from the state of California. She has 10 years of classroom experience in the public-school setting teaching students with special needs including autism. She also holds a Master of Arts degree in Special Education, a Bachelor of Arts degree in Speech Pathology and Audiology, and is a National Board Certified teacher in the area of Exceptional Needs Specialist Early Childhood through Young Adulthood in the Mild-Moderate Specialization. She works as a part-time faculty member in the Special Education departments of three Southern California universities including the location for the research study. She teaches Bachelor's and Masters' degree-level special education methodology and content courses with an emphasis on using evidence-based practices and instructional strategies for students with ASD. The researcher works in the field mentoring and supporting preservice, intern, and credentialed special education teachers in public-, private-, and charter-school kindergarten through 12<sup>th</sup>-grade classrooms.

### **Qualifications of Teaching Assistant**

The teaching assistant was a graduate student recruited from the School of Education. She had 2 years experience serving as a teaching assistant within the online course management system as well having working with data systems for a federal grant program in higher education. She received excellent recommendations from colleagues

and professors she had worked with during her workstudy program. She was instructed by the researcher to send out surveys to course participants on a prearranged schedule, follow-up with reminders, download transcripts from online facilitated discussion and self-reflection assignments, create electronic and print copies of data, as well as eliminate personal information, and organize and send data to the researcher and second coder for analysis.

### **Instrumentation**

Three instruments—the Teacher Self-Efficacy Scale (TSES) by Tschannen-Moran and Woolfolk Hoy (2001), the Maslach Burnout Inventory Educator (MBI-ES) scale by Maslach et al. (1986), and a Student Demographic Form—along with five qualitative discussions with reflection assignments and a postcourse focus group were used to collect data for this study during the Spring semester of 2013. The overall characteristics, development, validity, reliability, and other relevant information regarding of the TSES and MBI-ES, along with details the five facilitated discussions with reflection assignments, and the focus group are presented in this section.

#### *Teacher Self-Efficacy Scale (TSES)*

Teacher self-efficacy is one's belief in his or her capabilities to engage in a wide range of teaching-related behaviors to influence positively students' engagement in learning. Teacher efficacy has been found to have a direct relationship to a range of teacher variables, such as instructional practices, motivational styles, pedagogical beliefs, and effort exerted in the classroom that indirectly may affect student outcomes (Fives & Alexander, 2004; Lin, Gorrell, & Taylor, 2002; Tschannen-Moran & Woolfolk Hoy, 2001; Woolfolk & Hoy, 1990; Woolfolk, Rosoff, & Hoy, 1990). Teacher self-efficacy

has been linked to teacher burnout that may lead experienced teachers to leave the profession (Billingsley, 2004). Efficacy beliefs are context-specific judgments of capacity to perform specific tasks (Bandura, 1981). Consequently, perceived self-efficacy beliefs always must be assessed in the context of the task within which such judgments are made.

Several instruments are available to assess teacher self-efficacy including the Teacher Efficacy Scale (Gibson & Dembo, 1984), Working with Diverse Students: The General Educator's Perspective survey (Brownell & Pajares, 1996), Teacher Interpersonal Self-Efficacy Scale (Brouwers & Tomic, 2000), and the Teacher Self-Efficacy Scale (Tschannen-Moran & Woolfolk Hoy, 2001). Ruble, Usher, and McGrew (2011) created the Autism Self-Efficacy Scale for Teachers (ASSET) that has been piloted with a small sample of special education teachers who work with young students under the age of 8. Ruble et al. (2011) found more research was needed upon completion of the pilot research with their instrument. The decision was made to use the TSES for teacher self-efficacy because the instrument provides the self-efficacy relevance for the study based on the items and three subscales. The TSES developed by Tschannen-Moran, Woolfolk Hoy, and Hoy (1998) is based on three core factors: efficacy for instructional strategies, efficacy for classroom management, and efficacy for student engagement. High total and subscale scores are interpreted as high self-efficacy. This section contains a description of the TSES instrument development, its validity and reliability evidence, and relevant results of the TSES scale instrument.



### *Instrument Development*

Tschannen-Moran et al. (1998) proposed a teacher self-efficacy model integrating Bandura's (1986, 1997) work that postulated four sources of influences on self-efficacy—verbal persuasion, vicarious experience, physiological arousal, and mastery experiences—and the influences of teaching context and the teaching task (Raudenbush, Rowen, & Cheung, 1992; Ross, Cousins, & Gadalla, 1996), all interacting in a cyclical nature over time.

Designed originally as a 52-item instrument, TSES was tested and redesigned over three studies in two forms: a long form with 24 items and a short form with 12 items. Both instruments use a 9-point scale for each item, with anchors at 1-*nothing*, 3-*very little*, 5-*some influence*, 7-*quite a bit*, and 9-*a great deal*. The instrument was piloted in Ohio with a convenience sample of 78 preservice teachers at Ohio State University and 146 inservice teachers. Participants also were asked to rate the importance of each item for effective teaching. All items were rated to be important or critical. Reduction to 32 items from the 52 took place after principal-axis factoring with varimax rotation, as 31 items with loading from .62 to .78 and one item with a loading of .595 were selected for further study. The researchers stated the number of participants was too small for valid evidence from a factor analysis.

A second study with 217 participants from three states was conducted. The 32-item scale was administered, and upon completion of principal-axis factoring with varimax rotation, 8 factors with eigenvalues greater than 1 accounted for 63% of the variance in the participants' scores. Three factors, extracted after a scree test, accounted for 51% of the variance, and a scale of 18 items was created. Efficacy for Student

Engagement, Efficacy for Instructional Strategies, and Efficacy for Classroom Management became the labels for the factors and subsequent subscales. Because the sample size in both studies was small, the factor analyses may not be valid; a sample size of 217 individuals is too small for a valid factor analysis.

Finally, a third study with a combined sample of 183 inservice teachers was conducted to address some concerns about the items in the classroom management factor that were found to be weak. The revised measure included 36 items and was administered to 410 participants from three universities and four schools in two states. The data analysis replicated the results of the second study; and the final instrument forms, a long form with 24 items and a short form with 12 items, were used in the final analyses. This sample size was sufficient for a valid factor analysis.

#### *TSES Validity and Reliability Evidence*

Tschannen-Moran and Woolfolk Hoy (2001) reported reliabilities for the teacher self-efficacy total score and subscales shown in Table 2. All values are over .70, a threshold considered to be an acceptable level of internal consistency. Unweighted means were computed on the items that load on each of the three factors. These reliabilities indicated high levels of internal consistency.

Table 2

*Means, Standard Deviations, and Cronbach Coefficient Alpha of the TSES (Short-Form) Total and Subscales Scores*

Scale	Mean	SD	Cronbach Coefficient Alpha
Total Score	7.1	0.98	.90
Engagement	7.3	1.20	.86
Instruction	6.7	1.20	.86
Management	7.2	1.20	.81

Responses of preservice teachers ( $n = 111$ ) and inservice teachers ( $n = 255$ ) using the two versions of the TSES were analyzed using principal-axis factoring with varimax rotation. Similar to previous analyses, a three-factor structure (efficacy for student engagement, efficacy for instructional strategies, and efficacy for classroom management) was found for both subgroups of participants' data. A second-order factor analysis from the 24-item, long form disclosed one factor accounting for 75% of the variance, and on the 12-item short form, 68% of the variance. After examining the moderate correlations of the three subscales, these researchers suggested that both forms were appropriate to measure the self-efficacy construct.

In addition to internal consistency reliabilities, these researchers demonstrated concurrent validity with the subscales of the Teacher Efficacy Scale (TES; Gibson & Dembo, 1984). The TSES long form correlated with the Personal Teaching Efficacy ( $r = .64$ ) and General Teaching Efficacy ( $r = .16$ ) TES subscales (Tschannen-Moran & Woolfolk Hoy, 2001). TSES total scores also were related positively to the RAND two-item measure (RAND Item 1  $r = .18$  and Rand Item 2  $r = .53$ ) that originated the teacher self-efficacy measures (Armor et al., 1976; Berman, McLaughlin, Bass, Pauly, & Zellman, 1977).

The selection of the TSES to measure teacher self-efficacy in this study is justified based on the reliability and validity evidence. The instrument has continued to be used widely in teacher education research to assess topics teachers consider important in their teaching practices. Klassen, Usher, and Bong (2010) explored the validity of the 12-item TSES across five countries and confirmed the results of the Tschannen-Moran and Woolfolk Hoy (2001) study. Administering the scale to a sample of 1,212 teachers

across elementary, middle-school, and secondary-school levels and using multigroup confirmation factor analysis with one and three factor models, Klassen et al. (2010) reported results of three measures of goodness-to-fit across levels of teaching settings and cultures, showing evidence of invariance of factor forms, loadings, and variances.

The Teacher Self-Efficacy Scale served as one of the instruments to be used to gather quantitative data from the participants. The 12 items load on each of the subscales as follows: efficacy for instructional strategies (items 5, 9, 10, 12), efficacy for classroom management (1, 6, 7, 8), and efficacy for student engagement (2, 3, 4, 11). The participants responded to an online version of the scale to indicate their beliefs and perceptions when working with students with ASD in their current and future classroom settings.

Each question from the 12-item instrument presents one of three stems to the responding teacher, "To what extent can you . . ." or "How much can you ..." or "How well can you ..." A 9-point Likert scale is presented for rating using the following descriptors: 1= *None at all*, 3= *Very little*, 5= *Some degree*, 7= *Quite a bit*, and 9= *A great deal!*. As the TSES is of a 9-point Likert type, the point of each item corresponds to a self-reported perceived self-efficacy from 1 indicating a low perceived self-efficacy to 9 indicating a high self-perception of efficacy.

#### *Maslach Burnout Inventory-Educator Scale*

Special education and general education teachers must demonstrate they are “highly qualified” within the mandates of No Child Left Behind Act of 2001, the requirements of the Individual with Disabilities Improvement Act of 2004, and the competencies to deliver services to learners with ASD (CTC, 2010). Legislative

mandates for use of evidence-based pedagogical knowledge, instructional strategies, and standards-driven content curriculum add to increasing demands on special education teachers (McLeskey & Billingsley, 2008; Whittaker, 2000). Researchers have reported findings that have suggested links between burnout and teacher attrition (Billingsley, Carlson, & Klein, 2004; Boyer & Gillespie, 2000), and special education and general education teachers increasingly are vulnerable to the cumulative effect of job pressures and performance.

The second instrument used in the study, Maslach Burnout Inventory-Educator Scale (MBI-ES) provides the stress and physiological affect measurement based on the nature of the instrument's items and subscales. In addition, the MBI-ES's reliability and validity evidence confirm that the instrument a good fit to be used in combination with the TSES scale. The decision was made to use the MBI-ES for teacher stress and burnout because the instrument provides one source of influence, physiological arousal, on teacher self-efficacy relevance for the study based on its items and three subscales.

The Maslach Burnout Inventory, developed by Maslach et al. (1986), is based on three components of burnout: emotional exhaustion (emotionally and physically being overextended), depersonalization (maladaptive feelings about one's recipients), and personal accomplishment (self-evaluation of personal performance). Results from the Maslach Burnout Inventory-Educator Scale (MBI-ES) provided a portion of the quantitative data for this study. It consists of 22 statements with responses to be chosen from a 7-point scale with zero denoting *Never*, (1) *A few times a year*, (2) *Once a month or less*, (3) *A few times a month*, (4) *Once a week*, (5) *A few times a week*, and (6) *Every day*. The Educator Scale version of this instrument is an adaptation of the original

version. The subscale of *emotional exhaustion* is composed of 9 items: 1, 2, 3, 6, 8, 13, 14, 16, and 20; *depersonalization* by 5 items: 5, 10, 11, 15, and 22; and *personal accomplishment* by 8 items: 4, 7, 9, 12, 17, 18, 19, and 21. In this section, the MBI-ES development, design, validity and reliability, and relevant results are presented (Table 3). Interpretation of subscale scores is based on the three categories, high medium, and low.

Table 3

*MBI-ES Interpretation for Range of Experienced Burnout for Subscale Scores*

Subscale	Category		
	Low	Medium	High
Emotional Exhaustion	$\leq 16$	17-26	$\geq 27$
Depersonalization	$\leq 6$	7-12	$\geq 13$
Personal Accomplishment	$\geq 39$	38-32	$\leq 31$

*Instrument Development*

Maslach et al. (1986) developed the 22-item survey over a 10-year period to measure hypothetical aspects of burnout. Data from interviews and questions form the basis of the survey, which aims to investigate feelings and attitudes of persons in the occupations that provide service, treatment, or both in health and service professions. People who work in such fields experience and are exposed to strong emotional stress thought to be linked to burnout. A 47-item form was created and administered to 605 participants (Maslach, 1976, 1978, 1982), a large sample that accommodates a valid factor analysis. Results were analyzed using principal factoring with iteration and varimax rotation. Twenty-five items were retained based on a factor loading greater than .40, the range of subject responses, the relatively low percentage of individuals checking the *never* response, and high item-total correlation. Confirmatory data were then obtained

with a 420-person sample, which is an acceptable size for a valid analysis. Combining the results of the two samples and again analyzing the data using principal factoring with iteration plus an orthogonal rotation, a four-factor solution was obtained. Three subscales (emotional exhaustion, depersonalization, and personal accomplishment) were established. Two response dimensions, frequency and intensity, were used in the original MBI. The data analyses showed relatively high correlations between these two dimensions when the subscale scores were compared, and subsequent editions used only the frequency response dimension. Changing the word *recipient* to *student* created the Educator's Survey version of the MBI. Two studies corroborated validity and reliability with this change (Gold, 1984; Iwanicki & Schwab, 1981).

#### *MBI Reliability and Validity Evidence*

Confirmatory factor analysis (Lee & Ashforth, 1993) established the three-factor model and internal consistency was estimated with Cronbach's alpha coefficients of .90 for Exhaustion, .79 for Depersonalization, and .71 for Personal Accomplishment. The standard error of measurement for each subscale was 3.80 for Emotional Exhaustion, 3.16 for Depersonalization, and 3.73 for Personal Accomplishment for the original version of the survey. Subsequent test-retest reliability was reported on five samples and was generally found consistent from 3 months to 1 year (Maslach et al., 1986). Lee and Ashford (1983) found test-retest correlations of .74, .72, and .65, respectively for the subscales after an 8-month interval, whereas, Jackson, Schwab, and Schuler (1986) reported .60, .54, and .57 with a year interval using the MBI.

Validity evidence was demonstrated through independent corroboration with behavior scales, with specific job characteristics, and with measures of outcomes that

suggest a relationship to burnout, such as the JDS measure of General Job Satisfaction and the Crowne-Marlowe Social Desirability (SD) Scale.

Reliability coefficients of the Maslach Burnout Inventory-Educator Scale version paralleled those of the original version with .88, .74, and .72 reported for the three subscales (Gold, 1984). MBI-ES means and standard deviations for teachers tended to be slightly higher on Emotional Exhaustion (teachers mean = 21.25, overall sample mean = 20.99) and Depersonalization (teachers mean = 11.00, overall sample mean = 8.73), and lower on Personal Accomplishment (teachers' mean = 33.54, overall sample mean = 34.58) than other occupational subgroups sampled (e.g., social services, medicine, and mental health). Researchers (Maslach et al., 1986) cautioned users of both versions to note the distinctions between depression and burnout. The former is a clinical diagnosis and pervasive in one's whole life, whereas the latter serves to describe "crisis in one's relationship with work" (p. 16). Written permission was obtained from Mind Garden Inc. to use the MBI-ES prior to the beginning of the study.

#### *Student Demographic Form*

The Student Demographic Form (see Appendix E) gathered participants' data concerning years of teaching in special education, years in current assignment in the classroom, grade span currently teaching, levels of education, age, gender, experience with students with ASD, and type of certification. The Student Demographic Form provided data for overall teaching and educational experiences, work placement, and other general information about the participants in the study.



### *Facilitated Discussions and Self-Reflection Assignments Process*

Five facilitated discussion and self-reflection assignments were based on course material including two required course texts: *Building Social Relationships: A Systematic Approach to Teaching Social Interaction Skills to Children and Adolescents with Autism Spectrum Disorders and Other Social Difficulties* (Bellini, 2009) and *Learners on the Autism Spectrum: Preparing Highly Qualified Teachers*. (Buron & Wolfberg, 2008). Other learning materials for the course were provided to the students via the university's education course management system. All enrolled students completed all course assignments and assessments outlined in the course syllabus including in facilitated discussion and self-reflection assignments. The emphasis of the course was on the tenets of social-skill training, use of structured teaching, and the use of positive behavior support, as well as intervention implementation strategies that foster peer relationships and social thinking. A forum feature of the course afforded special education and general education teachers the opportunity to discuss what they learned along with their perceptions of their ability to implement specific strategies. Given the burden of teaching ASD students with unique learning challenges, the discussion and self-reflection may mitigate anxiety and stress for these teachers. The course instructor and the researcher reviewed the facilitated discussion prompts and the self-reflection questions (see Appendix C) to insure fidelity of content and continuity.

Using a qualitative component with the two scale instruments enhanced the quality of the participants' responses and enriched the information available during analysis of the results (Jennett, Harris, & Mesibov, 2003; Swanson & Huff, 2010).

### *Facilitated Discussions*

The facilitated discussions were developed as part of the course's interactive content and provided opportunities to learn from others, receive feedback on thoughts and ideas about classroom practices for students with ASD, and pose questions throughout the duration of the online course. As special education and general education teachers return for professional development, the skills and teaching strategies addressed in the course were developed to enhance their knowledge of the ways students with ASD learn (see Appendix D). Course participants discussed successful instructional and behavioral interventions as well as sharing personal experiences involving students with ASD. Participants provided insight to others about what has worked or not worked in their classroom and workplace practices. Opportunities to share less-than-successful outcomes provided the teachers and others of the course with ways to problem solve in current and future classroom experiences. The schedule of the five facilitated discussions used during the semester course are provided in Appendix C.

Participants were provided with instructions and a timeline for completing each part of the assignment in the course syllabus and in the context of the learning management system, Moodle. The facilitated discussion assignments focused on new content knowledge about students with ASD, such as current theories on the roles of social interaction, cognition, and learning; characteristics of learners with social communication disabilities; evaluation of intervention models; implementation of interventions and instructional strategies; and creation of collaborative relationships in the context of educational settings. The researcher's underlying interest was on learning

how these topics aid teachers' sense of self-efficacy and reduce burnout while meeting the learning needs of students with ASD.

Discussions with peers emphasized the use of evidence-based instruction for enhanced social communication skills, access and success in academic endeavors, and attitudes and perceptions toward working with students with ASD. The researcher anticipated that participants created connections to their classroom practices and experiences: either actual or projected. Positive feedback and comments from the facilitator and interaction with peers were created to serve as vicarious experiences combined with social persuasion. These positive experiences were anticipated to enhance self-efficacy and mitigate perceived stress.

#### *Role of the Researcher as Facilitator*

The facilitator's role during the five facilitated discussions was to refocus teachers on their prompts in a nonjudgmental manner, provide positive reinforcement through comments, and guide the discussion without providing content while enhancing a supportive learning environment. Feedback was intended to give participants guidance to stay on task during the discussion and not to provide the answer to a question. The facilitator read and responded to participants' self-reflection assignments in a similar manner. The facilitator's role was not to provide content but rather to provide encouragement for positive social interactions, to offer positive feedback on discussed successes, and to assist in extending discussion if participants become stalled in responding. Because the facilitator for the discussions and self-reflections assignments was also the researcher, it should be noted that the researcher was an active participant in the discussion.

### *Self-Reflection Assignments*

Five self-reflection assignments were created to provide participants in the course with opportunities reflect on their current and future classroom practices that involve students with ASD. As with the five facilitated discussions, questions were based on the content of the course readings, assignments, and discussions. The objective of the self-reflections was two-fold: (a) to create opportunities to reflect support participants learning and (b) to address professional competencies and standards delineated as part of Professional Teacher Expectations (CTC, 2010). As with the five facilitated discussions, questions, instructions, and a timeline for completing each part of the assignment were provided in the course syllabus and in the context of the learning management system, Moodle (see Appendix C).

The responses were anticipated to provide insights into participants' experiences, interpretation of learning, self-evaluations, and responses to peer and facilitator feedback throughout the course. These self-reflections would provide detailed information about perceptions and beliefs concerning the use of evidenced-based instructional strategies designed for students with ASD. Further, participants provided information about their perceptions and attitudes toward working with students with ASD. Participants were encouraged to read others reflections, however, only the facilitator commented and provided feedback on self-reflection assignments.

### *Focus Group*

In anticipation of the need for additional qualitative data, course participants were invited to take part in an online focus group upon completion of the course. This forum provided an additional opportunity for the researcher to ask special education teachers

about context factors (e.g., supportive comments, constructive feedback, and concrete examples of instructional strategies use from peers) that appeared in the online facilitated discussions and reflection assignments.

Focus-group protocol was formulated to investigate perceptions of the process of participating in online discussion and self-reflection assignments, as well as perceptions of changes in self-efficacy and stress to work with students with ASD. The researcher based the focus-group questions on relevant literature review of online discussion and reflection, self-efficacy beliefs of teachers for children with autism, and online professional development. Previous research on focus group interview methods (Swagler & Ellis, 2003) and published guidelines (Merriam, 2009) also were considered. Based on these resources, the focus-group questions addressed the following main areas: (a) the process of discussion and interaction online, (b) aspects of the learning experience online that lessened or increased concerns to work with students with ASD, (c) areas of challenges and reassurances to your confidence to teach students with ASD, and (d) perception of changes in preparedness to implement new learning.

The responses from a series of open-ended questions (see Appendix E) posed during the hour-long synchronous discussion forum that took place on the university course management system, Moodle, using the feature “Chat” provided additional insight into the perceptions of the participants’ self-efficacy and reduction in anxiety as a result of written correspondence with peers and the facilitator. Participants shared experiences, discussed theoretical underpinnings and strategic management skills, as well as their perceptions of self-efficacy in working with students with ASD. Using the online

discussion and self-reflection assignments as a focal point in the focus group, participants articulated changes in their perceptions about self-efficacy and stress levels.

All course participants were requested to give permission to use the qualitative data from the five facilitated discussions and self-reflection assignments and were invited partake in the focus group by an email sent during the 16<sup>th</sup> week of the course. A total of seven course enrollees volunteered to be interviewed in the hour-long focus group. In order to accommodate the participants' schedules, the focus group was scheduled online for the Wednesday night after finals' week during the 17<sup>th</sup> week of university's semester.

### *Fidelity*

The researcher's colleague double coded the data from the five facilitated discussions and self-reflection assignments from the focus group using the Consensual Qualitative Research (CQR) technique (Hill, Thompson, & Williams, 1997). She was directed to review the feedback and comments given by the facilitator to insure adherence to the role delineated for the study after each online discussion session. In this way, the facilitators' typed comments and feedback provided directions to refocus the participants or reinforced comments with social praise, and not provide content. Following this procedure, fidelity of implementation was preserved as it was found that the facilitator followed the role defined.

### **Data Collection**

The TSES and MBI-ES, as well as the Student Demographic Form, were administered as a three-part instrument released on a web-based survey site, SurveyMonkey.com. The first two instruments were administered during the 1<sup>st</sup> and 15<sup>th</sup> weeks of the course, whereas the Student Demographic Form was completed only once at

the first week. An email was sent to the all enrolled in the two sections of the course via SurveyMonkey.com by the TA. The researcher trained the TA prior to the beginning of the course and provided written guidelines, instructions, and a schedule in order to monitor the release of the surveys, collect data, and insure the anonymity of the participants. The email outlined the nature of the study and provided directions for completing the instruments. Also, participants were asked to create a unique, 7-digit ID code using three letters and four numbers to further insure anonymity. Participants were assured that their course grades would not be affected should they decide not to participate in the study. Participants were reminded to make a notation of the code in their own records to use it again for the administration of the instruments at the 15<sup>th</sup> week of the course. The TA also created a spreadsheet document using Excel with participants' names, section numbers, and self-created codes to be retrieved in case the participants lose or forget their codes. The Excel spreadsheet document remained in the TA's possession to insure anonymity.

Five facilitated asynchronous discussions with reflection questions took place during the course at the 3<sup>rd</sup>, 6<sup>th</sup>, 9<sup>th</sup>, 12<sup>th</sup>, and 15<sup>th</sup> week. At the 16<sup>th</sup> week of the course, the TA sent an email inviting participants to be part of the hour-long online focus-group discussion. This request was part of the email sent out by the TA to collect the postcourse survey data. The schedule for the administration of the instruments over the course of the Spring 2013 semester is presented in Table 4.

The focus group was scheduled after receipt of permission from those participants who volunteered to partake in an hour-long synchronous online discussion. Upon completion of the 16-week semester, a date and time was agreed on and was calendared

Table 4

*Schedule of Data Collection*

Week 1	Week 3	Week 6	Week 9	Week 12	Week 15	Postcourse
Student Demographics Form	Facilitated Discussion with Self-Reflection	Facilitated Discussion with Self-Reflection	Facilitated Discussion with Self-Reflection	Facilitated Discussion with Self-Reflection	Facilitated Discussion with Self-Reflection	Focus Group
TSES					TSES	
MBI-Educator Scale					MBI-Educator Scale	

after Finals Week (16<sup>th</sup> week of the semester) for the convenience of the seven teachers who agreed to participate. The focus group was conducted online on a Wednesday evening, 17 weeks after the beginning of the semester.

### **Restatement of Research Questions**

The study investigated four research questions. The questions are as follows:

1. To what extent will there be a change in special education and general education teachers' perceived self-efficacy from pretest to posttest as measured by the Teacher Self-Efficacy Scale total and subscale means as a result of participation in online facilitated discussion and self-reflection assignments in a course designed to address the standards and competencies for the California Added Autism Authorization?
2. To what extent will there be a change in special education and general education teachers' perceived affective state from pretest to posttest administration as measured by the Maslach Burnout Inventory-Educator Scale total and subscale means as a result of participation in online facilitated discussion and self-



reflection assignments in a course designed to address the competencies and standards for the California Added Autism Authorization?

3. What changes do special education and general education teachers articulate in their perceived self-efficacy and affective state as they engage in an asynchronous facilitated discussion and self-reflection throughout an online course designed to demonstrate the standards and competencies for the California Added Autism Authorization?
4. In a synchronous postcourse focus group, how do special education and general education teachers articulate their perceived self-efficacy and affective state within facilitated discussion and self-reflection assignments embedded in an online course designed to demonstrate the standards and competencies for the California Added Autism Authorization?

### **Data Analysis**

The purpose of a mixed-methods approach for data collection and subsequent analysis was to examine multiple levels of data. Collection of scale instrument data allowed quantitative analysis of the sample, whereas collection and coding of discussion and reflection assignments, as well as the focus group, allowed the researcher to explore changes in self-efficacy and burnout with specific individuals, as well as the group as a whole. Teachers' quantitative and qualitative data were organized so that each research question could be answered separately. A summary of data analysis of qualitative and qualitative methods follows.

### *Quantitative Analysis*

A three-step process was used to address the first two research questions using the precourse total means of the TSES and the MBI-ES. First, precourse data from the first two sections of the course were compared. As the sample sizes are small and the assumption of normal distribution could not be made, a pairwise Mann-Whitney U test was used to compare results of the two sections' survey instruments. As no difference in precourse mean ranks was evident, the data sets from the two class sections were combined for subsequent analysis.

Second, to investigate if there was a difference between the precourse survey scores for special education teachers (40% of participants who completed surveys) and the others enrolled in the course, a second Mann-Whitney U test was performed. No statistically significant difference was found as a result of the data analysis for either the TSES or the MBI-ES. Finally, pre- and postcourse survey data were analyzed using the Wilcoxon Ranked-Sign Test to address the first two research questions.

The first research question concerns teachers' self-efficacy. The total scores and each subscale scores of the teachers' self-efficacy scale, TSES, were analyzed separately. Research question 2 is about teachers' affective state along three dimensions: depersonalization, emotional exhaustion, and lack of personal accomplishment. Each of the dimensions of teachers' affective state as well as the total scores from the MBI-ES for each participant was analyzed. The results from both instruments' total and the following of six subscales form the study's set of dependent variables: (a) efficacy for student engagement, (b) efficacy for instructional strategies, (c) efficacy for classroom

management, (d) personal accomplishment, (e) emotional exhaustion, and (f) depersonalization.

### *Qualitative Analysis*

Research questions 3 and 4 are concerned with how teachers articulated changes in their perceived self-efficacy and affective state throughout the course as well as in the online focus group. These two questions were addressed using qualitative text analysis. To add depth to study's analysis, the responses to the five discussion and self-reflection assignments and the focus group were transcribed and analyzed as part of the qualitative component of the study. Information to address research questions 3 and 4, which examined special education and general education teachers' perceived self-efficacy and affective state, was gathered from the five discussion and self-reflection assignments, as well as the focus-group discussion. Participants' online responses were transferred to 227 word processing documents, uploaded to a web-based software program, and analyzed for patterns and themes. Each of the five discussion and self-reflection assignments were linked to course topics and learning needs of students with ASD (Appendix D). These transcripts reviewed, coded, and analyzed by the researcher and colleague using CQR techniques (Hill et al., 1997). Interrater reliability was found to be of 90%. Themes and patterns of response were identified and agreed. Four themes emerged: (a) preparedness to work with students with ASD, (b) confidence to implement strategies and interventions with success, (c) community of support, and (d) influences on affective state. The transcripts were then reviewed to determine if participants' patterns of responses included mention of their perceived self-efficacy, their knowledge and attitudes about students with ASD, and influences on their perceived stress levels within

the structure of the five facilitated discussions and self-reflection assignments. A tertiary review of the discussion and self-reflection assignment transcripts revealed the most frequently mentioned phrases, examples, and specific recommendations that were grouped and categorized by examining their frequency and intensity along with the major thrust of discussions.

The semistructured focus-group discussion was based on an interview guide (see Appendix E) that concentrated on four areas pertaining to the fourth research question: (a) perception of the process of discussion and reflection by course participants; (b) perceived changes in teachers' self-efficacy, if any; (c) role of facilitator and peer feedback; and (d) effect of discussion and self-reflection on teachers' perceived stress levels. Using the same qualitative process as with the discussion and self-reflection assignment transcripts, the researcher and coder reviewed, analyzed and came to consensus on two core ideas with six subcategories: (a) Perceptions of the Process and (b) Areas of Influences to Teachers' Confidence. Subcategories related the second core idea include the sense of community and support and participants' articulation of specific examples and content to teach students with ASD that influenced their confidence.

The following three steps were used to analyze the qualitative data gathered from the transcripts of the five facilitated discussions and reflection assignments and the focus group: organizing, describing, and summarizing the data (Creswell, 2008). All of these steps were completed using a web-based software interface platform, Dedoose.com.

The first step was to organize the data and create applicable coding. Participants' responses were transferred from the online educational learning management system, Moodle to Word documents by the course TA. All identifying names were obliterated

before submitting it to the researcher. Data from the responses entered online and collected by the TA were provided to the researcher and second coder in printed form, as a back up. The electronic data from the qualitative questions were organized by using a marginal coding technique (Miles & Huberman, 1994) that was modified for electronic qualitative analysis online platform. All documents were uploaded into Dedoose.com. Multicolor highlighted portions of the responses were notated with researcher-created codes developed on the basis of the research questions (e.g., perceived increase in knowledge of ASD students, perceived change in teaching, perceived increase in ability to implement evidence-based strategies, and change in attitude toward students with ASD).

The second step of the process was cross-case analysis, used to understand and explain the data by identifying recurring themes and issues, and then reorganized them into larger themes. The next step was to analyze those clusters in connection with the research questions (Miles & Huberman, 1994). Using CQR methods (Hill et al., 1997), 227 excerpts from 25 discussion participants and 7 focus-group members were reviewed. Hill et al. (1997) evaluated CQR methodology in a 27-study review as a consistent iterative process that includes essential components of good qualitative research: open-ended questions in semistructured data-collection contexts, other coders involved in the process to insure reliability, as well as processes that include identification of domains, patterns, and cross-analysis. Using the guidelines provided by Hill et al. (1997) and Yeh and Inman (2007), procedures in this study included identification of themes, patterns, and core ideas with cross analysis using a knowledgeable colleague. Recurring themes and issues were named and categorized further.

To establish the preliminary analytic framework reliability, the researcher was assisted by a doctoral school colleague who was an experienced special education teacher and was trained in qualitative research and coding. This colleague served as the second coder throughout the analysis of the study. The researcher and the second coder reviewed data and independently established an initial list of primary ideas and themes. Data were coded, shared, and reviewed using an online qualitative program, Dedoose.com. Cross-analysis was conducted and the researcher and coder came to a consensus on the themes in three meetings in the month of June of 2013. Interrater reliability was established at 90%. Any disagreements were discussed and resolved by mutual agreement. Meetings were conducted by phone for several hours each. The consensus process involved equitable discussions during multiple meetings with the researcher and colleague to review discrepancies in agreement. Agreement was established based on an initial independent review using the first facilitated discussion and self-reflection assignment. The remainder of the qualitative data from the other four facilitated discussions and reflection assignments was then double coded, once by the researcher and once by the colleague. The same process of double coding was used for the focus-group transcripts.

### **Qualifications of Second Coder**

The researcher's doctoral colleague agreed to assist in the review, coding, and analysis of the study's qualitative data. She currently serves as the Director of Special Education for an urban Northern California charter middle school. She holds a current Multiple Subject Cross-Cultural Language and Academic Development Professional Clear Credential, as well as a valid Learning Handicapped Professional Clear Credential from the State of California. She has extensive in teacher training, working with school

sites and universities to improve teacher professional development in the area of research-based instructional and behavior strategies and interventions. She has participated in research using qualitative research methodology with faculty of a Northern California university and was familiar with Consequential Qualitative Research (CQR) methodology within the cross-platform web-based application, Dedoose.com.

### **Summary**

Utilizing facilitated discussions and self-reflection assignments embedded in online professional development for special education and general education teachers, the researcher investigated perceived changes in self-efficacy and teacher burnout. Differences were assessed by analyzing the means of the three dimensions of self-efficacy as well as three dimensions of burnout at the beginning and end of a 16-week university course. Transcripts from teachers' five facilitated online discussions and self-reflection assignments and a postcourse focus group were reviewed, coded, and analyzed to detail shifts in teachers' perceptions over time in the semester-long course.

## CHAPTER IV

### RESULTS

This mixed-methods study examined how special and general education teachers' perceived self-efficacy and burnout changed as a result of discussion and self-reflection assignments embedded in an online course. The participants of this study were enrolled in one of two online sections of a public-university course, *Teaching Diverse Learners with Social Communication Disabilities*, designed to meet required competencies for the California Commission on Teacher Credentialing Added Autism Authorization.

Three survey instruments -- Teacher Self-Efficacy Survey (TSES), Maslach Burnout Inventory-Educators Survey (MBI-ES), and the Student Demographic Form -- were distributed online to the 42 individuals enrolled in the course. Twenty-five participants, representing 59.5% of the course enrollment, gave permission to use their online discussion and self-reflective assignments for analysis in this study. Fifteen pre- and postcourse surveys instruments were useable for analysis out of those returned. Seven of the participants accepted an invitation to be interviewed in a one-hour synchronous online focus group one week after completion of the course.

The present study investigated the changes in special and general education teachers' reported perceptions of self-efficacy for instructional strategies, student engagement, and classroom management measured by the TSES and burnout as measured by the MBI-ES subscales of personal accomplishment, emotional exhaustion, and depersonalization over time as a result of participating in facilitated online discussions and self-reflective assignments. In addition, the text of the online facilitated



discussions and self-reflective assignments, as well as the synchronized online focus group was reviewed, coded, and analyzed to provide a qualitative point for triangulation.

The results are presented in two sections. The first section addresses the first two research questions that related to the data collected from the survey instruments: TSES and MBI-ES. The second section presents findings related to the last two research questions that investigated teachers' perceptions and articulations of their self-efficacy and affective state within five facilitated discussion and self-reflection assignments embedded in the online course and within the focus group.

### **Quantitative Results**

The following section presents the results of the quantitative data analysis of the study that includes the first two research questions. A dependent-sample *t* test was not used to analyze the data because it was not possible to justify that the data from such a small sample were normally distributed. As a result, nonparametric tests were performed on the quantitative data.

#### *Research Question 1*

The first research question asked whether participation in online facilitated discussion and self-reflection assignments in a course designed to address the standards and competencies for the California Added Autism Authorization led to changes in perceived self-efficacy. Individual participants responded to the items of the Teacher Self-Efficacy Scale (TSES) on a 9-point scale ranging from 1 – *nothing* to 9 – *A great deal!* As the TSES is a 9-point Likert type, the point of each item corresponded to a self-reported perceived self-efficacy from 1 indicating a *sense of inadequacy* to 9 indicating being *totally adequate*. Each of the subscales, Efficacy for Classroom Management,

Efficacy for Instructional Strategies, and Efficacy for Student Engagement, had four items.

Precourse survey results from the TSES total and subscale scores from the two course sections were analyzed separately and compared using the nonparametric Mann-Whitney  $U$  test to investigate whether there were differences in the two sections. There was no statistically significant difference between the two course sections for either the total or any of subscales of the TSES so the data were then combined across sections for subsequent analysis. A second Mann-Whitney  $U$  test was used to investigate whether there were differences between special education teachers (40% of those completing surveys) and others. The resulting analysis revealed no statistically significant differences for the two groups' scores.

Analysis using the Wilcoxon Signed-Rank Test indicated a statistically significant difference between the pre- and postcourse survey TSES total scores and each of the pre- and postcourse survey subscales scores in the 16-week course time span. Differences in how participants rated themselves from the beginning to the end of the course in their perceived self-efficacy are shown in Table 5. Participants indicated that their efficacy for use of instructional strategies, implementation of classroom management, and student engagement improved.

### *Research Question 2*

To address the second research question that examined to what extent will there be a change in special and general education teachers' perceived affective state would change from pre- to postsurvey as measured by the Maslach Burnout Inventory-Educator Scale (MBI-ES), data analysis was performed using the Wilcoxon Signed-Rank Test.

Table 5

*Means, Standard Deviations, and Wilcoxon Signed-Rank Test Results for the TSES Total and Subscale Scores*

TSES	Mean		Standard Deviation		Wilcoxon Signed-Rank
	Pre	Post	Pre	Post	<i>z</i>
Total Score	82.20	92.73	15.07	8.96	-2.27*
Instructional Strategies	28.20	31.60	5.03	2.97	-2.10*
Classroom Management	27.40	30.73	5.39	3.30	-2.32*
Student Engagement	26.60	30.40	6.23	4.43	-2.03*

\*Statistically significance at the .05 level

Individual participants responded to the items of the MBI-ES on a 7-point scale ranging from 0 – *Never* to 6 – *Every day*. The number of items in the Emotional Exhaustion, Depersonalization, and Lack of Personal Accomplishment subscales was 9, 5, and 8, respectively.

Using the means from the Maslach, Jackson, and Leiter (1986) and comparing them with the precourse survey means (Table 6), it can be seen that the mean for Emotional Exhaustion is higher than for teachers ( $M = 21.39$ ) and the Maslach et al.'s (1986) overall sample ( $M = 20.99$ ), whereas Depersonalization is lower than for teachers ( $M = 11.00$ ) and the overall sample ( $M = 8.73$ ). The mean for Lack of Personal Accomplishment is higher for teachers ( $M = 33.54$ ) and the overall sample ( $M = 34.58$ ). Comparing the results to those in Table 3, the participants' changes were moderate in Emotional Exhaustion, medium in Depersonalization, and medium in Lack of Personal Accomplishment.

Neither the MBI-ES total nor any of the three subscales resulted in statistically significant differences in pre- and postcourse survey results. The results indicated that there was no statistically significant difference in how participants ranked themselves from the beginning to the end of the course in their perceived affective state or burnout, which fell into the low to medium range (Table 3). Means, standard deviations, and Wilcoxon Signed-Rank Test results for MBI-ES total scale and subscales scores are presented in Table 6.

Table 6

*Means, Standard Deviations, and Wilcoxon Signed-Rank Test Results for the MBI-ES Total Scale and Subscale Scores*

MBI-ES	Mean		Standard Deviation		Wilcoxon Signed-Rank
	Pre	Post	Pre	Post	<i>z</i>
Total Score	84.66	85.80	9.08	7.36	-0.35
Emotional Exhaustion	23.60	21.80	11.28	10.59	-0.23
Depersonalization	7.53	7.73	5.71	6.26	-0.17
Personal Accomplishment	38.60	41.73	6.78	5.24	-1.14

### Qualitative Results

In order to assess changes in special education and general education teachers' perceived self-efficacy and burnout from the beginning to the end of the 16-week course, participants' written responses to five facilitated discussions and self-reflective assignments were reviewed, coded, and analyzed using Consequential Qualitative Research (CQR; Hill, Thompson, & Williams, 1997) methodology within the context of a cross-platform web-based application, Dedoose.com. In order, the five facilitated

discussion topics based on course content were (a) overview of ASD and Sensory Processing, (b) Social Skills Training, (c) Structured Teaching and Positive Behavior Support Strategies, (d) Fostering Peer Play and Social Thinking, and (e) Overall Academic and Social Success across the Lifespan. Data from the online hour-long focus-group discussion also was reviewed, coded, and analyzed to provide further indepth information as to how special and general education teachers articulate their perceived self-efficacy and affective states.

The following results of the CQR analysis are presented within the context of the third and fourth research questions. Responses from 25 course discussion participants were analyzed; 60% were credentialed special education teachers, 16% were general education teachers, 16% were paraeducators working in special education classrooms, and 8% identified themselves as *Other* (one who was a Speech and Language Specialist and one who was an ASL interpreter). All discussion participants had between one and 20 years of experience in special education and 96% had one to 11 plus years of experience with students with ASD. Exact wording of participants' written discussions and self-reflection was used to reach consensus between raters to ensure accurate, clear, and context-based themes (Hill et al., 1997).

Data were reviewed, coded, and analyzed by the research and second coder through an iterative process to obtain patterns and themes. Four themes emerged as the participants discussed and reflected on course content, listened to others' personal examples, and shared insights about working with students with ASD.

### *Themes*

Meaning is constructed through the themes present in the data (Hill et al., 1997) in qualitative research. Using CRQ techniques, supporting evidence for four themes emerged as a result of the data analysis of the five facilitated discussions and self-reflection assignments. In order of importance defined by the greatest number of responses, the themes are (a) preparedness to work with students with ASD, (b) confidence to implement strategies and interventions with success, (c) community of support, (d) influences on affective state.

Reviewing the discussions, self-reflection assignments, and the participants' comments and feedback, the researcher came to understand how the participants perceived their self-efficacy and burnout, how they articulated their sense of preparedness to implement the pedagogies and instructional strategies presented in the course, and how they articulated the influence that partaking in facilitated online discussion and assignments had on their perceived self-efficacy and burnout.

#### *Theme 1: Preparedness*

Preparedness to work with students with ASD was the most prevalent theme in the analysis. Responses indicating a sense of preparedness were found across both discussion and self-reflection assignments. Two subthemes emerged in the analysis: (a) unprepared or underprepared and (b) increase in confidence over time.

*Subtheme a: Unprepared or underprepared.* Participants expressed a state of feeling unprepared to work with students with ASD, needing more information or strategies to reduce behavioral or learning challenges. Most participants regardless of their experience with students with ASD or years in the profession mentioned uncertainty and a sense of

unpreparedness to work effectively in their current positions in or out of the classroom with this specific group of students. Even though indicators within the online discussions were about their confidence to implement strategies or self-expressed mastery of interventions, not all participants indicated a belief in preparedness to return to their current or future classroom and successfully execute instruction with fidelity.

*Subtheme b: Increase in confidence overtime.* Overtime, participants indicated how the contents of the course enhanced their sense of preparedness to work with students with ASD. Some participants articulated improvement in their confidence in preparedness to work with students with ASD. Special education teachers as well as general education teachers and paraeducators participants reiterated their perception that the content of the course enhanced their sense of preparedness to work with students with ASD. Participants mentioned in the discussions how their sense of preparedness, teaching practice, or experiences with students with ASD had changed over time. General education teachers more often indicated this difference in perception. One general education teacher with limited experience (fewer than 3 years) with students with ASD wrote, “At first I was afraid of what it would be like to have a classroom of students with ASD, but through the assignments and readings that I have done in this course I feel that I am better prepared for that day.”

Three examples of the general sense of preparedness articulated by special education teachers were “I do not feel comfortable with my skills at the moment,” “I think I am prepared as I have worked with many students over the years with autism and have my own children on the spectrum. However, every child is different and I do see

this is a challenge,” and “My preparedness as a special education teacher with working with students with autism definitely has room for improvement.”

One special education teacher posted in the first discussion of the semester, “Currently, the only perception I have of my preparedness as a special education teacher to work with students with autism is that I need more preparedness.” By the third discussion, this special education teacher wrote, “Although still learning about the link between brain behavior and social skills, I think my preparedness as a special education teacher in effectively implementing social skills training is increasing.” By the fourth discussion, this educator’s comment was, “My preparedness to implement strategies and interventions that foster peer play and social thinking is increasing,” and during the final discussion wrote, “I feel the only barriers and challenges I perceive in implementing these strategies are my own limitations as a teacher.”

One particularly insightful special education teacher wrote

This morning I was sitting next to a student with Autism and I was remembering everything we have discussed so far and I was trying so hard to not make him fit into this box where he is sitting perfectly and listening attentively. We were sitting with the whole school and he was having a hard time and I decided at that point to let the things that did not bother others go. Before this class I would have been spending the whole time correcting him and making him follow what all the other students were doing.

### *Theme 2: Confidence to Implement Strategies*

A second theme highlighted how participants articulated their own successes or perceived successes in the implementation of instructional and behavioral strategies presented in the course. Some participants articulated results of successes whereas others expressed lack of confidence to execute some interventions after course curriculum was presented and read. Participants’ expressed confidence through direct expression of



confidence or through examples of implementing strategies and interventions in their classroom settings. Some participants not currently working in classrooms discussed possible ways to implement interventions in future workplaces. Although some participants repeatedly mentioned that they were prepared to implement some strategies, others expressed doubt or hesitation to execute successfully specific strategic interventions. More general education teachers expressed a lack of confidence in the ability to execute successfully strategies and interventions.

Participants provided examples of successes as well as failures of strategy implementation in general as well as specific terms in both areas. One special education teacher wrote in a self-reflection, “When it comes to implementing behavioral intervention strategies to students with ASD in the classroom, I now feel only moderately prepared. Before learning about ways to create a more structured environment with positive behavior support, I had a different perception; I didn’t think it (positive behavior support) mattered.” Providing an example in a response, another special education teacher posted the following:

Here’s an example, I have used a small ball that the student transfers their frustration into instead of the frustration being taken out on another student, or a desk. I have also implemented a monetary token system. The students have a point sheets, and they can earn points throughout the day, also they can earn bonus points. At the end of the week the points are added up, and are used to purchase fun things. However, the barriers and challenges are that each student is different and a point system is not beneficial for every student. As a teacher, I need to get to know my students, and figure out what they like, not what I like.

The special education teacher participant who originally posted in turn wrote, “Great! That helps!” All participants in the discussions expressed the concerns about successfully implementing social-skills strategies for students with ASD during the second of five discussions that occurred during the sixth week of the semester.

Participants perceived their own confidence in the implementation of specific strategies presented in the course text. During the discussion about Positive Behavior Support, one special education teacher posted, “I feel prepared to implement behavioral intervention strategies in my classroom.” This post was followed by a comment by another special educator, “By providing and implementing simple strategies in the classroom I am able to help my students succeed in the classroom. These strategies are important because they help the students learn about their surroundings and guide themselves without much, if any, adult assistance.”

Within the context of the fourth discussion, one special education teacher wrote

We discussed how there is a lack of imaginative play in the children’s lives. I came into my classroom the next day, put them into groups, and had them make up their own games and then play it. When time was up we discussed the process, what they enjoyed, the problems they encountered, and how they worked out these problems. We have done this a few times since, and the kids love it.

Taking content knowledge in their daily practice, special education teachers working in their classrooms shared how specific strategies affect their students in the classrooms as well as how they successfully implemented new interventions.

After reading and reacting to other participants’ posts during the discussion on Social Skills Training, one special education teacher wrote, “I have tried the graphic organizer mentioned by (teacher name) with the students I work with and it worked out great. One student was able to recognize different emotions with the help of the sad, angry, happy faces.”

Some participants expressed that implementation of course material was not necessarily an easy skill. Discussions about specific social-skills strategies such as Gray’s Social Stories or Peer Play implementation suggested that execution of such skills

might be stressful or overwhelming. One special education teacher participant posted, “My perception of my preparedness as a special education teacher to implement social skills training to students with autism in my classroom is that it will be incredibly challenging.” Another special education teacher commented in the same self-reflection assignment, “I feel that I am more prepared to teach social skills in my classroom knowing about the link between brain behavior and social skills.” In the fourth self-reflection assignment about peer play, a high-school special education teacher reflected, “If I was to currently try and implement peer play and social thinking for student with autism in my class I would be very overwhelmed.”

Many participants reported specific items from the content of the course, such as a chapter in the textbook or classroom observation assignment, as important to their sense of preparedness. For example, a preservice teacher posted

After being introduced to this concept, it is evident that social skills training is a very important component that needs to be included in the classroom. Therefore, I feel that I am becoming more and more prepared to teach children with autism in my own special education classroom. I believe that I am gaining the background knowledge to support the reasons for establishing play as a routine in the classroom.

### *Theme 3: Community of Support*

This theme was presented as the concept of having others in the course positively comment and compliment a participant’s post during the facilitated discussion assignment. In this third theme, three subthemes emerged from the analysis: (a) examples in the discussion groups, (b) group feedback for improvement, and (c) community increased confidence. Some participants noted how the praise, positive feedback, and comments from others during discussions and in the self-reflective assignments created a “community of teachers to find support in.” Some participants remarked that feedback

from others improved their confidence in trying either new strategies or interventions presented in the course. Some responded positively to praise and comments other made within the context of the discussions. Finally, participants remarked how reading about others successes and receiving feedback created a sense of “support.”

*Subtheme a: Examples in the discussion groups.* Although using an online discussion forum cannot provide a visual model for the participants as video image or an observation or a video image might, details of others’ successes in written form allowed participants to learn from others’ experiences. One general education teacher responded to another’s explanation of using peer play with students by writing

Thank you for sharing your insight with the group. Your experience with the student in your preschool class shows that consistent use of strategies (by a team) had a positive outcome for the student, and in turn encourage positive relationships with peers. It encourages me to try it.

Many participants commented on how reading others successful implementation of behavioral or instructional strategies by others influenced their own perception of success. All of the 25 participants provided others with general supportive comments throughout the 16-week semester using such brief phrases such as “Great idea!” and “I agree with your use of ...”. Participants also reacted to the feedback they received from their peers. For example, on receiving feedback from the three members of the group in response to his post about the use of a specific behavioral strategy, one special education teacher participant replied:

I like how you guys responded to this post. This is the highest level of responses I have ever gotten on here. I believe it is because we relate to the human in our job. This is why we came here. We came to relate to other human beings and help them exist and raise their quality of life.

*Subtheme b: Group feedback for improvement.* Participants were generous with their positive comments and expressed not only agreement with others' statements about specific pedagogies in this example but also alternative ways of social support. "I couldn't agree with you more! Both explicit instructions and social stories are an absolute necessity for any classroom (either special education or general ed)." Connecting with colleagues from similar teaching environments inspired participants to provide examples from their own backgrounds for the benefit of others in the course. A veteran special education teacher suggested, "Might I suggest a network of colleagues to help you develop your classroom style/techniques. I have found colleagues to be great resources for feedback when implementing new classroom techniques. They can also give insight of their experiences."

Participants provided positive feedback for others' ideas while restating the content of the previous participant's post. One special education teacher participant offered that

I like your two strategies and usage of "play in the classroom" and "teaching social skills." Both are great interacting activities that engage the learner. They create opportunities to communicate and interact with peers in a safe, risk-free environment. And, I agree that this activity is great at any grade level for students of all kinds of abilities.

*Subtheme c: Community increased confidence.* Special education teacher participants throughout the discussions wrote how the act of sharing experiences within the facilitated discussions affected their practice in the classroom, as often they did not have others familiar with students with ASD at their school sites. Many participants wrote about how opportunities to compare one's accomplishments and skills with others created a positive experience and gave them a "sense of support."

*Theme 4: Stress*

Stress was expressed by many as a feeling of being overwhelmed with demands of teaching. Some participants used the term interchangeably with anxiety. Many participants wrote about difficulties with students who act out and display self-stimulating or disruptive behaviors in class and how managing these students made teaching stressful. Some stated the discussion groups helped them “manage their stress” when working in their classrooms or workplaces as it provided an outlet to share and vent. Throughout the semester, participants expressed stress and anxiety in anticipation of the implementation of specific instructional strategies for students with ASD in current or future classrooms, as well as general stress relating to teaching children with ASD in K-12 settings. Participants acknowledged stress within the framework of their day-to-day experiences as a special education professional, whereas others expressed a belief that the emotional challenge was to continue to manage an affective state that was the “norm” for teachers. One insightful special education teacher wrote that

I don't know if anyone can be fully prepared to work with a student with autism. The amount of new information acquired in the recent research present a vast amount of material to be interpreted. You will never come across two students with autism who are alike. Sure, they may have some similar characteristics, but methods you use to approach those similar characteristics won't have the same outcome for two different students. One student may immediately respond to redirection, while the other acts out for the purpose of attention. The challenges and barriers to my success as an educator with students with autism is mainly based on lack of experience within the differing realms of autism. As I gain wisdom, my success as an educator with students with autism will improve.

Expressions of recognized stress to implement specific strategies or as a general affective state were more prevalent within the context of the self-reflective assignments than in the facilitated discussions. One special education teacher who also stated that she was a parent reflected, “ I have often felt “challenged and stressed” working in the field

and (and as a parent), specific strategies have been invaluable for my current work and provide concrete examples.” Later in the same reflection she wrote, “to be exposed to technical terms, characteristics, data, and evidenced based [sic] strategies is an important step to feel I can be effective.”

Several participants also articulated perceived stress during the online discussions.

One general education teacher wrote in response to a post

Thanks for sharing that!! I myself have no experience with Special Ed but want to go into teaching Special Ed and you brought up a great point that it's not only about teaching students to manage through stressful situations but also learning how to manage your own stress because teaching no matter if it is regular or special education will be stressful.

Participants communicated to each other as well as the facilitator that the act of being able to share in dialogue with peers throughout the semester-long series of discussions helped them “manage their stress” when working with their students with ASD in the special education and general education settings.

#### *Focus Group*

Qualitative data analysis from the postcourse focus-group was conducted to address the fourth research question: In a synchronous postcourse focus group, how do special and general education teachers articulate their perceived self-efficacy and affective state within facilitated discussion and self-reflection assignments embedded in an online course designed to demonstrate the standards and competencies for the California Added Autism? Seven participants and the researcher met online using the course learning management system, Moodle. All focus-group participants had one to 6 years of experience with students with ASD. Four participants (58.2%) were credentialed special education teachers, one was a paraeducator working in a special education

classroom, one was a general education teacher, and one was a preservice special education teacher.

After initial introductions, the researcher reviewed procedures for the hour-long session (see Appendix E) and each participant agreed in writing to the protocol. Typed responses were recorded digitally online, downloaded to two word-processing documents, then uploaded to a web-based platform, Dedoose.com. Written data were analyzed for core ideas relating to perceptions of the process of five facilitated discussions and self-reflection assignments, perceived changes in self-efficacy, the role of facilitator and peer feedback played, if any, and effect of discussion and self-reflection on the teachers' perceived stress levels around working with students with ASD. As with research question 3, the process of CQR was implemented. Through the written responses of the seven focus group participants in this stage of the study, the researcher came to understand how teachers perceived the experience of participating in online discussions and self-reflection assignments and its effect on their perception of self-efficacy. Their answers to open-ended questions provided the researcher insights not found in the transcripts of the discussions or self-reflection assignments reviewed for research question 3.

Overall, the focus-group participants told a varied story that was reflected in the teaching assignments (57.2% - special education teachers) and years of experiences with students with ASD (71.4% had 1 to 3 years, 14.3% had 4 to 6 years experience, and 14.3% had 7 to 10 years experience). As a result of the analysis of the data from the focus-group questions protocol, two themes, Perceptions of the Experiencing Learning Online and Areas of Influences to Teachers' Confidence, each with subcategories are



presented. The two themes discussed are related to how participants perceived self-efficacy and burnout. Focus-group participants' shared how the writing comments, reviewing others' comments, and considering instructional strategies designed for working with students with ASD in the five facilitated discussions and reflective assignments influenced their views and classroom practice.

*Theme 1: Perception of Experiencing Learning Online*

This theme emerged from the analysis of the focus-group data and was based on how participants collectively and individually articulated their views about the process of partaking in discussions and self-reflection assignments online. Four subthemes were revealed in the analysis: (a) role of peer interaction, (b) role of facilitator feedback, and (c) discussion and reflection as motivators.

The use of an online learning environment was discussed broadly within the context of the focus group. Six of the seven participants made comments pertaining to how the mechanics of using technology affected them. Six of the seven participants remarked on how the use of online technology afforded positive and negative circumstances to share responses. A special education teacher wrote that: "The self-reflection was another step in reinforcing what we had learned in class. It (the online reflection assignment) felt like a 'safe' forum to reflect."

Sharing online with other participants who had more background knowledge or experience was potential threatening to some of the teachers. One participant who was completing her coursework to become a teacher wrote, "I personally felt a little intimidated at times answering to the forum because my spelling is horrible and I'm not personally in a classroom right now." Another teacher wrote about how the process

online was intimidating and was an issue for her, “Sometimes I spend too much time worrying about my grammer [sic] and typing when participating in an online discussion versus the content of the conversation.”

Commenting on the structure of the online discussions, another general education teacher expressed that, “The interactions and content of the courses helped me a great deal, but the discussion questions and feedback on the [discussion] forum simplified more difficult concepts for me.”

*Subtheme a: Role of peer interaction.* Focus-group participants articulated how interaction with their peers online influenced them: some in positive terms and others in less than positive terms. Participants noted that the interactive nature of the process was an important component of the discussion group. One special educator wrote about the process, “It was a forum that allowed for more ‘thoughtful’ processing of ideas and information. Also, I think it gives people who may be more hesitate [sic] to speak up in class a forum to share ideas and information. However, I prefer the face-to-face interactions in a classroom.” A second special education teacher offered that

The process of discussing and interacting with my peers and the expert online taught me that there is still so much to learn when it comes to teaching, especially when it comes to children with autism. It definitely enhanced my learning, in that other people bring their experience to the table.

A third special education teacher reflected, “I was able to discuss different strategies with my peers. We were able to compare and contrast what stratagies [sic] worked for us and what we needed to re-evaluate and modify for our students.” Another added to this discussion, “I read first hand teachers who are implementing ideas we discussed in class. I like the exchange, the immediate feed back [sic] if I had questions about their practices.”

Participants made statements as to how viewing vicariously others' experiences provided an impetus to attempting specific strategies in their classroom. One special education teacher responded, "I liked reading about other people successes and thinking that I might try that in my classroom." Another special education teacher wrote, "I felt that the discussion allowed me to know that I was not alone in this education specialist journey as I would read other's materials and also when they would comment back and say that they agree or encounter similar situations." Later in the focus group, the same educator added, "I also appreciated to see the actual techniques others would use and how they would use it. I could go to my class the next day and try it with confidence."

Special education teachers with similar classrooms or student populations afford a common language and understanding of circumstances considered unique to special educators. One special education teacher responded, "The online discussions allowed me to freely go as I would with other teachers in the lunch room. However, it was more special because we were focused on the same topic."

*Subtheme b: Role of facilitator feedback.* Participants in the focus group expressed how the facilitator acted as an integral component of the discussion assignments. The presence of an individual who provided supportive comments or asked for additional detail within the body of the online discussion created a sense of assurance and produced opportunities to self-assess in the context of their teaching practice. One special education teacher wrote, "Why is it nice to have someone cheer us on? It's nice because we are hard on ourselves, and having someone else tell you your ideas are valid is just nice to hear. It's always nice to have someone cheering us on!"

Focus-group participants expressed how the presence of the facilitator prompted them to reflect on their teaching practice, a disposition they indicated was often neglected. A special education teacher participant commented

The questions you posed did make me think a little ‘deeper’ and answer why I do some of the things I do in the classroom. So often we are busy going through our day knowing we are doing what we believe and know is best, without having the time to really think about it.

A participant who worked as a paraeducator replied, “I found your [the facilitator’s] questions facilitated deeper thinking.”

*Subtheme c: Discussion and reflection as motivator.* Participants articulated that the reflective process had an influence on their own sense of professional improvement. One long-time special education teacher wrote, “The reflections [sic] for me made me think about what I can do to be a better instructor.” Another teacher noted, “The process (of discussion) has changed my perception of my ability as a special educator because I am now more confident when working with students with special needs, now that I am more aware and have learned so many new teaching strategies and concepts.”

The term motivation was not raised directly in the focus group; however, the discussion assignments provided examples of individuals with a sense of competence to compare one’s ability or circumstances. One special education teacher participant wrote, “I viewed the discussion questions as motivation. Before taking this course I felt as though I was the only one struggling in my classroom. I saw the discussion questions a place to relate to others and share ideas.”

*Theme 2: Areas of Influences to Teachers’ Confidence*

Within the context of the focus group, participants’ responses reflected areas of challenges as well as influences to their confidence in working with students with ASD.

Generalized responses about how a shared sense of community influenced participants' sense of self-efficacy as well as specific examples from the discussions and self-reflection assignments were recounted. Participants noted many specific examples from either course content or assignments that provided encouragement and thus, influenced their perceived confidence. Subcategories of the theme of Areas of Influence include (a) a sense of community and (b) support and specific examples and content to teachers' to teach students with ASD are presented in this section.

*Subtheme a: Sense of community and support.* All participants expressed the online discussions lent a "sense of support" and added to their perceptions of confidence and ability to work with students with ASD. Many focus-group participants expressed how the online discussion experience provided a forum to reflect on experiences, to review their own competencies, and to have meaningful interactions with others. One participant who had shared that she was returning to classroom practice after several years of absence stated, "Loved the discussions....because I know I will be in a classroom in the future and I got to reflect on all my past teaching and TAing [sic] in SPED." Another preservice participant in the focus group summed up the importance of the discussion process embedded in the course this way, "I've always been a little insecure, so the process allowed my [sic] to feel that I wasn't alone, and that other people had the same ideas as me."

Other responses included "The supportive environment is definitely helpful! So often we feel like an island....others don't understand the challenges we are undertaking every day," "Knowing that others were not perfect (making mistakes) made my classroom okay," and "I feel less stressed in sharing." In response to the last participant's

comment, another special education teacher wrote, “Writing and sharing ideas is a great way to reduce stress.”

Several participants reflected that the online discussions fostered a sense of collaboration. A high-school special education teacher wrote, “It (online discussion) was great for me seeing how others were working and thinking about the process (with students with ASD).” Reiterating a similar theme, one special education teacher participant wrote, “Having others say that [instructional strategy] is a good thing you are doing in your class gave the next day a boost. That boost is important for the students because it effects (sic) their learning.” Later in the discussion, the same participant added, “The discussions let me know we are in this together, facing similar situations. Sharing in this journey is what gave me confidence. It was another community.”

Participants shared how the act of contributing online brought stress reduction. One teacher wrote, “I like the typing. Sometimes it becomes a stream of consciousness and just pouring my thoughts into the browser helps me relieve the daily stress.” The same teacher articulated how the asynchronous feature of the discussion was perceived as advantageous, “Sharing without being interrupted is good. The forum allows us to go back and respond to others after digesting the information.” One special education teacher participant wrote, “I had more confidence using the techniques when I saw and read that it worked for others.” Another educator offered, “The process has changed my perception of ability as a special educator because I am now more confident when working with students with special needs now that I am more aware and have learned so many new teaching strategies and concepts.”

Participants responded about the benefits of support as they provided new examples for the members of the focus group. One general education teacher wrote, “I think support can come from types of things done in a class for teachers, because we would be talking and working together.” A special education teacher shared this insight

FYes [sic], having others say that is a good thing you are doing in your class gave the next day a boost. That boost is important for the students because it effects [sic] their learning. The discussions let me know we are in this together, facing similar situations. Sharing in this journey is what gave me confidence. It was another community.

Participants in the focus group emphasized that the supportive structure was different from traditional learning environments. One insightful group member wrote

The (discussion) network helped the most. In school you have to memorize and repeat information. It is so rigid. It is difficult enough. The network of people working together and helping each other helps lessen the stress of teaching...any students. I’m all about teamwork. The support is great when you’re frustrated. The feedback is critical when trying new things or finding areas of improvement and the positive comments lesson [sic] the blow and help confidence.

*Subtheme b: Specific examples and content to teach students with ASD.*

Throughout the focus-group discussion, participants made reference to specific examples of assignments and content of the course that influenced their sense of confidence to teach students with ASD. Teaching challenges faced, such as student engagement and teacher exhaustion were also noted. One special education teacher commented, “These discussions really helped me understand my students with autism and I walked into the classroom knowing that I could assist them in improving their quality of life.” Although another focus group participant shared, “The interaction and the content of the course helped me a great deal, but the discussion questions and the feedback on the forum simplified more difficult concepts for me.”

Viewing content written by others allowed participants to make connections to previously learned pedagogy or to reclaim information of past learning and apply it to current circumstances. The act of reading others' online posts was mentioned as a benefit of the online discussion forum, as reflected by a participant's posting:

I liked reading the day-to-day strategies that others are using in their classroom (or ideas from class) were great! There were strategies that I hadn't thought about using in a while [sic] or didn't think of applying to my Early Childhood Spec Ed classroom that I would after seeing a post.

Although another focus-group participant wrote, "I had more confidence using the techniques when I saw and read that it worked for others."

Participants identified the ability to engage students in learning, emotional exhaustion, classroom management, and instructional strategies as key challenges to their ability to work with students with ASD. One special education teacher participant responded, "The biggest challenge in my opinion is engaging students in learning, and emotional exhaustion." Agreeing another special educator wrote, "Emotional exhaustion and classroom management are always tough." A third general education teacher participant commented, "For me it has always been about classroom management. That is what made me ultimately leave teaching because I had a melt down because I didn't seek help in that area." One special education teacher elaborated by writing, "I think emotional exhaustion is challenge that stands at the forefront. I feel like if you have emotional support/strength you can tackle the other areas."

Participants in the focus group remarked on how the self-reflection assignments provided an opportunity for change. One special education teacher expressed, "The reflections were great because they weren't interactive. It was a chance to let out raw



feelings throughout the process of learning. It was a way to self-evaluate, which is important. It helps you reflect on your personal transformation [sic].”

### **Summary of Chapter**

Special education and general education teachers’ perception changes to their self-efficacy and burnout were investigated. The results presented in this chapter addressed the four research questions that were the basis of the current study. Results of quantitative analysis indicated a statistically significant difference was found between the pre- and postsurvey total means for the TSES and its three subscales: Efficacy for Classroom Management, Efficacy for Instructional Strategies, and Efficacy for Student Engagement. Statistical significance was not found for the differences from pre- to postsurveys in total scores or the three subscales of the MBI-ES survey.

Results of qualitative analysis of data from five online facilitated discussions, self-reflection assignments, as well as the focus group were included in this chapter. Using Consensual Qualitative Research (CQR) methods, four themes emerged in teachers’ perceptions of self-efficacy and burnout as a result of participation in facilitated online discussion and self-reflective assignments: (a) Preparedness, (b) Confidence to Implement Strategies, (c) Community of Support, and (c) Stress.

Analysis of the data of an hour-long online postcourse focus group provided insight as to how special education and other teachers expressed perceptions of the process of online facilitated discussion and self-reflection influenced changes in self-efficacy and burnout. Two core ideas from this data resulted: (a) Perceptions of the Process and (b) Areas of Influences to Teachers’ Confidence. For the second core idea, there were the following subcategories: the sense of community and support and

participants' articulation of specific examples and content to teach students with ASD that influenced their confidence. Participants disclosed how the act of contributing to and reading others' responses in the five online discussion assignments enhanced their confidence to implement instructional strategies. Some participants, including experienced special education teachers, also indicated their concerns to work successfully with students with ASD were reduced. All participants believed that having others validate their ideas and thinking made transparent in the discussions reassured them of future accomplishments in their work with this population of special education students. Overall, participants believed that the support structure created through the online facilitated discussion forums not only validated their sense of personal accomplishment meeting the needs of their students with ASD but also provided examples of how others created successes in their classrooms.

## CHAPTER V

### SUMMARY, LIMITATIONS, DISCUSSION, AND IMPLICATIONS

The focus of this chapter is the discussion of the results of the study on the effects of online facilitated discussion and self-reflection on teacher self-efficacy and burnout in four parts. The study is summarized with an overview of the purpose, research questions, and methods. The limitations of the study are presented. The discussion of the results of the quantitative and qualitative data analysis is followed by the implications for future research and education practice and the researcher's conclusions.

#### Summary of the Study

The purpose was to examine how special education and general education teachers' perceived self-efficacy and perceived burnout changed as a result of facilitated discussion and self-reflection assignments embedded in an online course, which provided content on the learning and behavioral characteristics within the context of the social-communication challenges faced by students with ASD. The 16-week online university course was designed to meet required competencies for the California Commission on Teacher Credentialing Added Autism Authorization. Self-efficacy and burnout were based on Bandura (1977) theory of self-efficacy and Maslach and Jackson's (1981) definition of burnout, respectively.

Forty-two teachers were enrolled in two online sections of the course, *Teaching Diverse Learners with Social Communication Disabilities*, at a public university and participated in the five facilitated discussions and self-reflective assignments. Twenty-five of the 42 enrollees gave permission for the researcher to use the data from the five asynchronous facilitated discussions and self-reflection assignments gathered on the

university's online course learning management system, Moodle. Subsequently, the qualitative data gathered were used to analyze the online discourse and self-reflection assignments for teachers' perceived self-efficacy and burnout. Written responses to five assignments given at 3-week intervals for online asynchronous researcher-facilitated discussion forums as well as 200-word minimum self-reflection assignments provided the qualitative data to complement the results from Teacher Self-Efficacy Survey (TSES) and Maslach Burnout Inventory-Educator Survey (MBI-ES). Fifteen teachers completed all three pre- and postcourse survey instruments: TSES, MBI-ES, and Student Demographic Form. Seven of the enrollees volunteered to participate in an hour-long, synchronous-online postcourse focus group.

For analysis of the study's quantitative data, a Wilcoxon Signed-Rank test was used to investigate if there were changes in special education teachers' self-efficacy and affective state as measured by the two surveys completed by 15 course enrollees. The first two research questions addressed in this research study focused on changes in teachers' perceptions as measured by the TSES and MBI-ES administered at pre- and postsurvey intervals.

The second two research questions addressed the qualitative aspects of the study. Participants' responses were obtained during the five online discussions and self-reflection assignments, coded, and analyzed for themes and patterns that emerged. The researcher and colleague implemented Consequential Qualitative Research (CQR) techniques to review data and use an iterative process that resulted in themes and patterns across data.

The following research questions were addressed:

1. To what extent will there be a change in special education and general education teachers' perceived self-efficacy from pretest to posttest as measured by the Teacher Self-Efficacy Scale total and subscale means as a result of participation in online facilitated discussion and self-reflection assignments in a course designed to address the standards and competencies for the California Added Autism Authorization?
2. To what extent will there be a change in special education and general education teachers' perceived affective state from pretest to posttest administration as measured by the Maslach Burnout Inventory-Educator Scale total and subscale means as a result of participation in online facilitated discussion and self-reflection assignments in a course designed to address the competencies and standards for the California Added Autism Authorization?
3. What changes do special education and general education teachers articulate in their perceived self-efficacy and affective state as they engage in an asynchronous facilitated discussion and self-reflection throughout an online course designed to demonstrate the standards and competencies for the California Added Autism Authorization?
4. In a synchronous postcourse focus group, how do special education and general education teachers articulate their perceived self-efficacy and affective state within facilitated discussion and self-reflection assignments embedded in an online course designed to demonstrate the standards and competencies for the California Added Autism?

## Summary of Findings

The findings of this study are presented in two sections. The first section addresses the first two research questions that related to teacher self-efficacy and burnout. The second section presents findings related to the last two research questions that investigated how special education and general education teachers perceived their changes in self-efficacy and burnout over time and articulated those changes in terms of the process of discussion and self-reflection assignments, the online exchanges with peers and facilitator during discussions, and the content of the interactions.

### *Quantitative Findings*

A Wilcoxon Signed-Rank test was used to compare the total as well as subscale scores of the Teacher Self-Efficacy Survey for efficacy for classroom management, efficacy for instructional strategies, and efficacy for student engagement. The results were statistically significant for self-efficacy for classroom management, self-efficacy for instructional strategies, and self-efficacy for student engagement participants' perceived self-efficacy changed during the 16-week online course.

To compare the total and subscale scores of the Maslach Burnout Inventory-Educator Survey, a Wilcoxon Signed-Rank test was again used. Results indicated that were not statistically significance for burnout or its three defined components: emotional exhaustion, depersonalization and personal accomplishment.

### *Qualitative Results*

Transcripts were reviewed, coded, and analyzed by the researcher and another expert using Consensual Qualitative Research (CQR) procedures. Twenty-five participants' written responses and perceptions were reviewed, named, and categorized

further into recurring themes and patterns. Through an iterative process, four themes describing changes in teacher perceived self-efficacy and affective states were agreed upon by the researcher and colleague: (a) preparedness to work with students with ASD, (b) confidence to implement strategies and interventions with success, (c) community of support, and (d) influences on affective state.

The content of the facilitated discussions and self-reflections indicated the participants recognized several areas of self-assurance as they experienced research-based content that specifically addressed the social interaction difficulties and unique learning styles of students with ASD. Participants' expressed their perceptions of preparedness to work with students with ASD in their current and future classrooms. These responses were divided into two categories: either a general sense of preparedness or an expression of confidence to use specific interventions and instructional strategies. Participants also conveyed how sharing ideas within discussions, receiving positive feedback from peers, and reading about others' successes moderated their stress for successfully implementing classroom-based interventions that addressed the complex needs of students with ASD.

Participants' articulation of perceived changes in their self-efficacy and stress throughout the five facilitated discussion and self-reflection assignments was investigated to answer the final research question. Focus-group volunteers were asked about the use of technology, the role of the facilitator, as well as the interactions online with the course participants. Transcripts from the researcher-led focus group provided the data for analysis. Perceptions of the Process and Areas of Influences to Teachers' Confidence emerged as two themes of the focus group. Subcategories of the theme of Perceptions of

the Perceptions included Role of Peer Interaction, Role of Facilitator Feedback, Discussion and Reflection as a Motivator, and Experiencing Learning Online. A Sense of Community and Support and Specific Examples and Content to Teach Students with ASD arose as subcategories of Areas of Influences to Teachers' Confidence.

Using CQR methodology to review the qualitative data from the online focus-group transcripts, themes were selected based on supporting evidence from participants' responses and perceptions about changes to self-efficacy and stress. The researcher and second reader came to consensus on two core ideas with six subcategories: (a) Perceptions of the Process and (b) Areas of Influences to Teachers' Confidence. Subcategories related the second core idea include the sense of community and support and participants' articulation of specific examples and content to teach students with ASD that influenced their confidence.

Participants in the focus group expressed the importance of the role of peers and the facilitator when discussing topics and specific course online for the duration of the semester. Perceived pitfalls of discourse in addition to motivational aspects of online learning also were revealed. All seven of the focus-group participants in this study articulated changes in perceived self-efficacy and stress levels as a result of a created interactive community. Participants also articulated how the context of the online discussion acted as a vehicle to relate to others' successes and struggles as they implemented the course content into daily classroom practice.

### **Limitations**

This study has several limitations in the areas of sample size, reliability, and research bias. First, the findings were limited as a result of size and nature of the sample.



A convenience sample of students from one university from two sections of the online course was used. The resulting small number of participants for the discussion and self-reflection, data survey, and focus-group portions of the study ( $n = 25$ ,  $n = 12$ ,  $n = 7$ , respectively) limits the generalizability to a greater population. The participants are from one university and may not be representative of the general population of special education and general education teachers enrolled in similar professional development programs. The timing of the request to complete the second set of surveys in May 2013 (15<sup>th</sup> week of the semester) may have limited the number of completed returns from course participants. Special and general education teachers in the classroom and preservice teachers enrolled in the university have many end-of-school-year responsibilities, such as school report cards, Individual Education Plan meetings, and mandated state and local district testing in addition to their own coursework demands, such as final projects or final examinations. One explanation for the low return of usable completed surveys may be because of enrollees' issues with time and responsibility constraints. The end-of-the-school year may not be conducive for teachers to complete surveys.

In addition, general education teachers, paraeducators, special education preservice teachers, and other education professionals participated in the course accounting for 40% of respondents. Teacher self-efficacy in preservice teachers has been found to rise and fall in patterns different than experienced teachers (Woolfolk Hoy, 2000). This combination of experienced special and general education teachers, preservice teachers, paraeducators, and extremely small responses may limit this study's generalizability.

Validity is a second limitation. All quantitative data were self-reported scale scores, and these types of data often are found to be skewed positively due to their self-reporting nature (Ross & Bruce, 2007). The TSES and MBI-ES are self-report scales neither provided an objective measure of teachers' performance in the classroom. Each scale focused on the participant's perceptions, and these perceptions may not portray accurately the actual implementation of classroom management, instructional strategies, or student engagement skills as well as emotional exhaustion, depersonalization, and lack of personal accomplishment. Based on self-efficacy theory, however, participants' perceptions, if accurate, could be a strong predictor of their teaching performance in their classrooms.

Also, the researcher served as facilitator as well as a participant in the series of asynchronous discussions in the current study. Qualitative research methods may increase the possibility of researcher bias and are a limitation of qualitative research (Creswell, 2008). To reduce the possibility of research bias occurring, the researcher engaged in rigorous and systematic data collection and analysis. The data were reviewed and then interrater reliability assessed with a 90% agreement rate.

### **Discussion of Results**

Facilitated discussions and self-reflection are two components of professional development that have been found to support teachers to develop a community of support as well as an avenue to mitigate stress (Gersten, Dimino, Jayanthi, Kim, & Santoro, 2010). As the number of children diagnosed with autism increase, teachers need to be prepared to work with a unique set of learning needs adding to what is often seen as an increasing stressful workload. Using such tools within professional development such as

discussion and reflection may aid teachers to create forums to share and support each other when working with students with autism. Teachers' perceived self-efficacy and burnout were examined within the context of an online course designed to prepare teachers to work with students with autism spectrum disorder (ASD). As contradictory evidence was revealed in the quantitative and qualitative results, this section examines differences and similarities of the data analyses from the facilitated discussions, self-reflection assignments, and hour-long postcourse focus group. This section contains a discussion of the study's results in relation to three broad categories: (a) changes in teachers' perceived self-efficacy, (b) changes in teachers' perceived affective state, and (c) focus group discussion.

#### *Changes in Teachers' Perceived Self-Efficacy*

Teachers' beliefs of their ability to meet the needs of students with disabilities are essential to their daily classroom practice (Brownell & Pajares, 1996; Tournaki & Podell, 2005). Based on Bandura's framework of self-efficacy, Tschannen-Moran, Woolfolk Hoy, and Hoy (1998) refined the definition of teacher self-efficacy within the context of a cyclical model. Teacher self-efficacy relates to teachers' beliefs in how to organize and execute actions to accomplish specific tasks of teaching. Teacher self-efficacy is both situational and task driven and is cyclical in nature over the course of time and experience. In this study, teacher self-efficacy was operationalized by the use of the TSES in this study. Analysis of the total and subscale means of the TSES indicated statistically significant changes for overall self-efficacy as well as for classroom management, instructional strategies, and student engagement. This result could be attributed to several factors. First, a majority of the participants had some experience with

students with ASD. All participants who completed the TSES survey except one general education teacher indicated experience with students with ASD. Teachers with prior knowledge of or experience with students with ASD could skew findings and results measured differently from one who has no past knowledge or interactions with students with ASD (Leblanc, Richardson, & Burns, 2009). Forty percent of the participants who completed the TSES in this study were experienced special education teachers. Having already had exposure to students with ASD may have predisposed participants to an increased sense of self-efficacy.

In addition, the change in TSES scores may have reflected the opportunities for the participants to interact during facilitated online discussions, as well as the quality and relevancy of the coursework presented during the 16-week course. Tschannen-Moran and McMaster (2009) and Gersten et al. (2010) have suggested that when professional development models include support and coaching while teachers are learning to implement new skills and strategies their sense of self-efficacy increases. The current study supports these findings in an online learning environment. The changes in self-efficacy also may have been influenced by factors not measured, such as the richness of the content of the course, assigned reading not discussed, or teachers' assignments to observe in others' classrooms outlined in course syllabus.

Detailed findings revealed through the use of CQR analysis procedures from participants' discussion and self-reflection assignment data also suggested that teachers' perceived self-efficacy changed. Special education teachers and other participants expressed perceived changes as a direct consequence of participation in discussions and self-reflections, reading others' comments, and references made to instructional situations

in their current or present classrooms within an interactive, online setting. Most participants noted that the interactive nature of the facilitated discussion assignments affect their perceived abilities and confidence to work with students with ASD. Findings in qualitative data afforded more details as to how special education and general education teachers articulated changes in self-efficacy indicated in the TSES survey results. Findings also supported the theoretical framework discussed in chapter I based on Bandura's (1977) concept of self-efficacy.

Bandura's (1997) construct of self-efficacy described four sources of influence on one's self-efficacy: (a) social persuasion, (b) vicarious experiences, (c) mastery experiences that require sustained and persistent effort, and (d) affective and physiological states. Each of these influences will be discussed in the following sections. The final source, affective and psychological states, is presented in a section entitled *Changes in Teachers Perceived Affective States*. As participants in the study contributed to the facilitated discussions and self-reflection assignments, each of the sources of self-efficacy were evidenced in the online context.

#### *Social persuasion*

Special education teachers as well as general education teachers, preservice special education teachers, paraeducators, and two other education professionals articulated changes in their sense of confidence to work with students with ASD as a result of receiving positive feedback and partaking in the online discussions. The current study results support previous research (Black & Plowright, 2010; Etscheidt, Curran, & Sawyer, 2012; Ross, Johnson, & Ertmer, 2002) in that the participating teachers recognized the pedagogy of interaction with peers and informed others within an online

forum led to changes in their confidence to implement instructional strategies and interventions specifically designed to address the learning needs of students with ASD.

Bandura's (1986) theory supports the participants' responses of the current study. His postulation suggested that others influence emotions, cognition, and behavior responses that promote well-being as a result of interactions not intended necessarily to help or support. Social persuasion from others within the group as well as the facilitator was evidenced. The facilitator gave some supportive remarks as well as comments to keep participants on task. Contributions made by some participants often were examples of their own experience or reflections, not intended to be any more than that. These comments, however, served as exemplars that participants found helpful and informative. Focus-group participants indicated that the facilitator played a minor role in the influence on self-efficacy and burnout.

#### *Vicarious experiences*

Reading about others successes as well as challenges when implementing the interventions and strategies specifically targeted to the unique learning needs of student with ASD provided participants' with experiences that appeared to enhance a perception of self-efficacy. Researchers have suggested that targeted training facilitates pedagogical self-efficacy for teachers who work with students with ASD (Jennett, Harris, & Mesibov, 2003; Ruble et al., 2011). The current study investigated training teachers with targeted strategies for a specific population of students. Within the course, teachers were directed to learn how to implement strategies to work with students with ASD and at the same time offered support and participant-generated examples of success. Results showed positive changes in self-efficacy while many of the participants specifically cited

interaction with peers as an important component of the online course. During discussions, participants presented and responded to examples from the course and in everyday practice the strategies and interventions generated by their peers. In the online discussion threads, participants remarked frequently how the online dialogue provided helpful feedback and information. In addition, many noted how others' online postings, examples, or anecdotes were beneficial in their own teaching practice either with students in their current classrooms or with those in future time periods. Participants in the focus group also echoed these beliefs.

Parsons (2007) suggested that changes in self-efficacy in a study of nurse preceptors was due in part to the vicarious sharing of the experiences of others in the online program. Siwatu (2011) proposed that sharing opportunities that were not tied directly to hands-on classroom practice, such as vicarious experiences, increased preservice teachers' self-efficacy. The findings of the current study corroborate past research results as participants articulated changes in their self-efficacy not only within online discourse and self-reflections specified changes in self-efficacy but also in the quantitative pre- and postcourse survey data of the TSES.

#### *Mastery of implementation*

Changes in self-efficacy may result from participants' application and subsequent mastery of specific skills implemented in classroom settings with student with ASD. Special and general education teachers described that they had implemented specific interventions, such as Social Stories or Peer Role Playing, in their current classrooms. Some participants reported a modicum of success, whereas others described a broader sense of confidence. Some teachers articulated growth over time and expressed a desire

to continue honing these skills to become “more effective” with students with ASD. Special education teachers have been shown to score higher on teaching self-efficacy than other teacher groups (Leyser, 2002) and have been shown to be more likely to implement instructional strategies than other teachers (Woolfson & Brady, 2009). These factors may have contributed to participants’ perceived motivation and perceived self-confidence. Special education teachers in the current study were shown more often to express self-efficacy for implementation of strategies presented for students with ASD.

Research suggests that successful implementation increases self-efficacy. Tschannen-Moran and McMaster (2009) reported an increase in teacher self-efficacy over time when a professional development program included a “practice” component in which teachers were provided mastery experiences through coaching sessions with an expert. Total treatment was less than 6 hours. The current study took place over a substantially longer time period and measures were delivered 15 weeks apart. Most participants in this section of the study (66.7%) had fewer than 3 years experience teaching. Self-efficacy does change over the span of a teacher’s career but other teacher factors such as years of experience and job stress have an effect (Klassen & Chiu, 2010). Teachers’ self-efficacy did change, and this change in perception may be due in part to teachers’ confidence in successful implementation of interventions during the course as expressed by participants in the five discussions.

Responses from experienced special teachers about their sense of preparedness to work with students with ASD typify those in self-efficacy research. Tschannen-Moran and Woolfolk Hoy (2007) revealed that among experienced teachers mastery experiences have less influential on self-efficacy. Experienced teachers’ wealth of knowledge and



understanding of the practice of teaching as a result of years in the classroom fostered teachers' sense of efficacy. Changes to self-efficacy were shown in this study; however, participants did articulate a desire to be part of a dialogue with others who work with students with ASD. This study's teachers and other professionals wrote of gratitude to be able to interact with others who work with students who display challenges behaviors or are in need of specialized academic support. Decreasing a sense of isolation has been found to be one way to increase teachers' expression of remaining in the field overtime.

#### *Changes in Teachers' Perceived Affective State*

Teachers' perceived affective state has been defined for this study as burnout. Burnout is described as emotional exhaustion, depersonalization, and reduced feelings of personal accomplishment by Maslach and Jackson (1981). Often found in persons who work in occupations that provide service, treatment, or both in health and service professions, the strong emotions such as reduced feelings of personal accomplishment, depersonalization, and emotional exhaustion bring the potential to create emotional stress.

Changes in teachers' perceived affective state as a result of participation in online facilitated discussion and self-reflection assignments were measured using the Maslach Burnout Inventory-Educator Scale (MBI-ES). Wilcoxon Signed-Rank Test indicated no statistically significant difference from pretest to posttest for any of the subscale or total scores. Survey information did not yield change over time as anticipated. Quantitative results may be due to the small number of individuals who had matched surveys or the instrument did not provide targeted measures for teachers preparing to work with students with ASD.

Although not all participants who completed surveys had experience teaching, all participants including paraeducators, preservice special education teachers, general education teachers, and other education professionals had some experience with students with ASD. Participants' perceptions reflected an outcome different than expected from the review of the literature. Participants' results on precourse MBI-ES indicated a medium range of burnout. Although the Maslach Burnout Inventory was not designed as a clinical-diagnostic tool, results can be considered a self-assessment indicator for educators' plan to manage or alleviate stress (Maslach, Jackson, & Leiter, 1986).

This study's group of participants may illustrate what Steffy and Wolf (2001) labeled the *apprentice* phase of teaching. Processes of growth are in place during this phase in which teachers integrate and synthesize knowledge and pedagogy and confidence emerges. One critical factor that propels teachers through their career is reflection, and if missing, teachers are more likely to withdraw and ultimately detach themselves from the profession (Kunter, Kleickmann, Klusmann, & Richter, 2013; Steffy & Wolf, 2001).

Fifty-three percent of the participants who completed the survey indicated fewer than 3 years of teaching experience. These participants may have either have the appropriate tools to remain compassionate toward their students, feel rewarded, and avoid burnout (Jennett et al., 2003) or have received tools, such as adequate training or training in innovative techniques, that increased one's feelings of competence and represent effective coping mechanisms (Cherniss, 1995; Westling, 2010). The majority of the participants who completed the survey may have not been in the profession long enough to experienced burnout. Teachers at the beginning of their profession have a

higher sense of efficacy (Woolfolk Hoy, 2000). The quantitative result also could be attributed to a variety of instructional factors not measured by the MBI-ES.

Contrary to the results of the MBI-ES survey data, collectively the teachers expressed changes in stress and anxiety indirectly during the discussion and reflection assignments as well as when asked specific questions pertaining to burnout during the postcourse focus group. Participants shared teachers' expressions of stress and anxiety in anticipation of the implementation of specific instructional strategies in current or future classrooms with students with ASD. General remarks about stress as related to teaching children with ASD in K-12 settings also were found throughout the five online discussions. Wisniewski and Gargiulo (1997) identified indirect indices of teacher burnout as being the expression of occupational stress. Similar evidence was found in that expressions of anxiety and stress, noted as an affective state, written about by teachers changed over time and appeared to lessen as a result of reading about others' successes, challenges, feedback, and dialogue. Teacher efficacy, as defined by Tschannen-Moran and Woolfolk Hoy (2001), is a construct related to teachers' persistence, enthusiasm, commitment, and instructional behaviors, as well as student outcomes. Teachers' affective state is part of this construct, and teachers and others articulated a sense of anxiety within the context of online discussions and self-reflection assignments. Participants expressed concerns about implementing interventions and strategies with students with ASD but not concerns about working with the students themselves. Participants expressed perceived stress more often within the context of self-reflection assignments than in the facilitated discussions. Some participants acknowledged stress within the framework of their day-to-day experiences as a special education professional,

whereas others expressed stress as a function of “being a teacher.” Others expressed a belief that the emotional challenge was to continue to manage an affective state that was the “norm” for teachers. This contradictory evidence presented in the qualitative portion of this study also was found during the postcourse focus group.

CQR analysis presented rich detail as to how special education and other teachers articulated perceived affective state. The participants’ perception of the process of reading and writing others’ comments, ideas, suggestions online while receiving feedback from peers and a facilitator was the antithesis of the quantitative data indications. The conflict between the qualitative and quantitative results suggests a need for a larger data sample or may indicate the MBI-ES instrument is not an appropriate measure for this group of teachers.

#### *Focus-Group Discussion*

Seven focus-group discussion participants’ responses were analyzed by the researcher and second reader for major themes to answer research question 4. The following section discusses two overarching themes intuited from the CQR analysis of qualitative data from the postcourse focus group: (a) teachers’ perceptions of experiencing learning online and (b) influences to teachers’ confidence to work with students with ASD.

#### *Perceptions of Experiencing Learning Online*

Teachers’ perceptions of the overall process of online facilitated discourse and reflection during the 16-week course were obtained during the hour-long postcourse focus group. The focus group provided additional detail to the qualitative data of the discussion and self-reflection assignments. Participants answered specific questions as to

perceptions of the process offered when learning online to discuss and share successful implementation, concerns, and challenges with colleagues, peers, and facilitator. The asynchronous nature of the discussions provided a forum in which teachers could create connections with content and review in a manner that accommodated their work schedules while the focus group met online at a specific time providing opportunities to address questions with follow-up probes in real time. The focus-group synchronous context allowed the researcher to ask for immediate clarification and to keep the discussion on-track. The resulting qualitative analysis provided insight about ways to support more effectively teachers' self-efficacy.

The questions and subsequent discussion was designed to solicit participants' responses about the process of writing, reading others' responses, receiving feedback, and interacting in an online environment. Several themes emerged and are discussed in this subsection: (a) the overall process of the facilitated discussion and self-reflection assignments, (b) the use of online technology, (c) the influence of the components and contents of the online course, and (d) participants' perceived ability to work with students with ASD.

*Experiencing online facilitated discussions and self-reflection assignments.* The focus-group participants evidenced the interactive nature of the process of facilitated discussions as an important component to the course. Research has identified participant interaction and collaboration as one of six domains of professional standards for online professional development. Douglas-Faraci (2010) identified professional standard indicators for teacher professional learning to promote deep understanding of new topics and to promote active learning and collaboration among professionals. Collaboration and

active engagement with other professionals is a component of teachers' professional dispositions (California Commission on Teacher Credentialing 2010; Council for Exceptional Children 2012; National Council for Accreditation for Teacher Education 2012). Participants reiterated the necessity to engage in discourse with others in order to grow in their professional knowledge base as well as create a community of practice that may aid in continued increase self-efficacy. Within a web-based technology, participants learned specific pedagogies and strategies through the use of collaborative discourse and shared knowledge while providing support and opportunities to reflect upon their practice in the classroom.

*Using of online learning technology.* Teacher self-efficacy framework was applied to 21<sup>st</sup>-century online instruction using established pedagogies, such as discussion and reflection. To establish a basis to investigate self-efficacy and burnout, Bandura's (1977, 1986) theoretical framework for self-efficacy was used within the context of an online professional development for teachers. The model presumes a connection among the four sources of teacher self-efficacy (mastery, vicarious experiences, verbal persuasion, and psychological state). Participants' responses indicated that using online technology afforded time and a context to process the substance of the course, receive feedback, and engage in meaningful peer interaction. To be prepared to tackle the demands across service-delivery models and student diversity, to use evidence-based strategies and interventions, and to interact collaboratively with others, special education teachers and all teachers need to be equipped with tools in reflective inquiry and critical thinking (Etscheidt et al., 2012). Extending previous research in online formats (Glowacki-Dudka & Barnett, 2007; Nicholson & Bond, 2004), the present study afforded

not only reflective activities for teachers but also support and feedback in an online setting thus providing more perceived support from others. Participants indicated that the facilitator did offer provocative feedback in some instances, but overall peer interaction was an important contributor to participants' sense of community and during online discussions. Participants did not emphasize the importance of facilitator engagement and feedback within the discussion groups.

Research suggests that promotion of student participation is a critical factor in online learning (Mayer, 2005). Hew et al. (2010) reported that within online learning environments instructor-facilitated discussion might demotivate or intimidate students to post messages. In this study, the facilitator was not the instructor of record in the course and responses were given as positive feedback and encouragement. Participants did not indicate demotivation, but intimidation as a result of concerns for grammar and spelling were expressed. Facilitators might provide additional support by reminding students that they can spell-check and grammar-check when posting given that these were features of the learning management system. This study's findings are consistent with previous research (Lai & Land, 2009; Winter & McGhie-Richmond, 2005) as participants expressed the importance of taking away the issue of inferiority or not appearing academic in order to encourage and promote a learning environment where participants can express freely ideas and share concerns.

Research findings by Douglas-Farci (2010) support criteria for online participation for students to use discussion forums effectively that includes quality of participation, use of social cues, outside knowledge or expertise sharing, new ideas proposed, and continued discussion based on others' posts, along with "regular feedback

and inspiring students” (p. 594). The results of the current study support these criteria as well as the key benefits of collaboration and peer and expert support to teachers returning as students.

Teachers’ application of knowledge in classroom settings outside the course led to the triumphs in teaching and learning for their students with ASD. From these positive experiences, participants wrote about successes in online discussions and self-reflection assignments for others to read and respond to. Participants did not have to see others model or implement strategies and interventions to be successful in replicating their own successes. In turn, participants generously shared their perceptions of successes. As professional development courses continue to migrate to online platforms, this study’s finding confirms previous research in the supports effectiveness of teachers’ learning between online courses and on-campus courses (Caywood & Duckett, 2003; McDonnell et al., 2011).

*Course contents and perceived affective change.* Previous research has indicated that providing teachers with professional development that includes evidence-based practices and content that increases the participants’ knowledge of ASD diminishes anxiety in perspective teacher candidates training to teach in inclusive classrooms (Leblanc et al., 2009). Participants in the focus group expressed that a shared understanding of specific strategies and interventions provided within the context of the course, as well as the interactive component of the discussion and reflection, added to a change in their self-perception to teach students with ASD. This finding supports recent research suggesting that online interaction among colleagues helped teachers create a community of practice within asynchronous communication times (Glowacki-Dudka &



Barnett, 2007; Hew et al., 2010; Nicholson & Bond, 2004). Teachers' interactions created opportunities to problem solve and engage in collaborative learning suitable when time demands during a busy work and personal schedule often create restraints to communication possibly resulting in a sense of isolation (Kilham, 2009).

Within traditional professional development models for preservice teachers as well as experienced special education and general education teachers, research supports the success of mitigating teachers' knowledge as well as teachers' sense of self-efficacy (Tschannen-Moran & McMaster, 2009; Webster-Wright, 2009). Teacher professional development has been seen as one potential path to create supportive novice teachers (Westling, 2010). This research was created to investigate online environments for teachers working with an increasing population of students with complex and challenging learning needs. Examining quantitative and qualitative data, this study investigated changes to teachers' perceived self-efficacy and stress as a result of participating in facilitated discussion and self-assignments. The online course provided a learning environment in which teachers can interact, provide feedback, and discuss teaching strategies specifically designed for students with ASD.

*Perceived ability to work with students with ASD.* All participants in the focus group indicated that their perceived ability to work with students with ASD was a result of participating in the reflection assignments throughout the online course. Each has some experience with student with ASD and wrote about both the successes and challenges while working with this challenging population. Reflection has been promoted as a necessary tool for teachers to sustain responsive instructional practice (Etscheidt et al., 2012). Participant responses mirrored responses similar to those in a

study by Ross and Bruce (2007) who investigated teacher self-efficacy within professional development using discussion and reflection assignments. Analysis of postcourse focus-group data revealed themes such as peer collaboration, support, and feelings of acknowledgement were important. Teachers reported an increase in confidence including knowledge, willingness to implement new learning, and, with some participants, a change in their beliefs to implement new practices.

Teaching is a stressful job, and both special and general education teachers are faced with increasing challenges to educate students with ASD. Students with ASD present unique challenges for teachers not only from an academic instruction perspective but also from the social and communication implications of their students' disability. The complex task for teaching an exceptional population of learners may increase teachers' susceptibility to burnout, a factor associated with teacher attrition. Traditional professional development affords teachers opportunities to learn new strategies and techniques and to come together in groups to offer constructive feedback and to share successes and challenges (Billingsley, 2004).

### **Conclusions**

The purpose of the present study was to examine how online facilitated discussion and self-reflection assignments changed participants' perception of their self-efficacy and burnout to work with students with ASD. The results indicate that online facilitated discussion and reflection was successful at changing teachers' perceived self-efficacy and burnout over a 16-week course designed to prepare teachers to work with students with ASD as part of the requirements designed by the Commission of Teacher Credentialing. Several conclusions can be drawn from this study.

First, changes in teachers perceived self-efficacy to work with students with ASD can be attributed to the online interactions of the teachers in the course and their discussions with regard to the course content, the successes and challenges each articulated, their statements of collegial support. Additionally, teachers presented examples from their current or future practice that provided social persuasion and vicarious experiences for others to learn from during online discourse. Increases in teachers' perceived self-efficacy suggest that reading about others' experiences online can be used to effect change in teachers' confidence to work with students with ASD and contributes to the literature base in this field by providing insight of how online discussion and reflection can add to increased self-efficacy.

Second, by providing teachers with opportunities to share their successes as well as their perceived challenging in implementation of new knowledge, strategies, and interventions presented in the course that were designed specifically for students with ASD, teachers expressed a relief to often perceived stress and anxiety with the day-to-day challenges of meeting the learning needs of these unique and sometime perplexing students. A perceived sense of community was expressed, often said to contribute to teachers' reasons for persisting in difficult tasks or classroom situations.

Third, the unexpected nonstatistically significant result from the analysis of the Maslach's Burnout Inventory-Educators Scale responses warrants further investigation into teachers' perceptions of burnout and stress. Understanding how teachers' background and previous knowledge of students with ASD mitigate teachers' stress and potential burnout may lead teacher educators to create targeted professional development

to support teachers' complex job demands as increasing numbers students with ASD enter classrooms

Finally, the results of this study indicate that influencing teachers' self-efficacy and burnout is complex. Motivational constructs such as teacher self-efficacy is associated not only with self-perceptions of ability but also is influenced by others as well as background knowledge. The researchers' expectation of a unified result between qualitative and quantitative analysis was not met. Online discourse does offer interactions for participants to positively react to others' in ways that positively reinforce their self-efficacy and promote the development of a community of learners, thereby mitigating a sense of depersonalization, emotional exhaustion and possibly, stronger sense of personal accomplishment.

### **Implications for Future Research**

Implications for further investigations of the effects of online training for teachers' perceptions of self-efficacy and burnout for teachers' who work with or who will work with challenging behaviors and unique learning needs as with children with ASD are threefold: (a) longitudinal research to understand the effects of support on perceptions of self-efficacy and burnout, (b) research to examine factors such as the role of facilitator within the online context of professional development, and (c) longitudinal research using classroom observation to investigate empirically teacher change within specific intervention or teaching skill using validated classroom observation instruments.

There is need for longitudinal research to examine changes in how teachers' perceive self-efficacy and stress over time. Studies that utilize online discussion and self-reflection over time may reveal additional nuanced perspectives and detailed information

from teachers about self-efficacy and burnout. In a study examining teacher self-efficacy and job satisfaction with teachers' years of experience, Klassen and Chiu (2010) found that over time general education teachers' perceptions of self-efficacy, job stress, and job satisfaction changed in nonlinear relationships over a 30-year timespan, increasing from early to midcareer and declining in late-career teachers. As special education teachers have a shorter-than-average career span than other teachers (Billingsley, 2004; Billingsley, Israel, & Smith, 2011; Boyer & Gillespie, 2000), more research to examine this specific group might provide detailed information and ways to create more support.

Teachers' views of the effectiveness of professional learning opportunities and the resulting perception of support could be examined at the classroom level in tandem with online coursework. Such studies should be longitudinal in nature as teachers' self-efficacy is not only linked to resilience and motivation but also serves as a predictor of teachers' competence and commitment to their jobs (Goddard, Hoy, & Woolfolk Hoy, 2000; Labone, 2004; Wheatley, 2005). Increasing and sustaining self-efficacy within supportive groups might be broadened to teachers' fidelity of application of strategies in the classroom setting.

More research is needed to examine factors such as how the role of facilitator effects changes in teachers' perceptions of their self-efficacy and burnout within online professional development for special education teachers and others. A more detailed understanding of teachers' responses to social persuasion in online learning contexts may increase teachers' self-efficacy and willingness to implement evidence-based practices. Supporting teachers in online contexts through discussion and self-reflection with strategies may decrease their perceived stress levels in light of the creation of an online of

support. One possible study might be to embed more frequent feedback and social persuasion within the discussion group with the option of the discussants to participate in one-on-one private conversations with the facilitator. In this way, discussants in the forums may find personalized feedback available without intimidation of asking for assistance or needing additional input in the context of a public forum. Another possibility might be for participants to make use of online journaling or a wiki to create a blog, as suggested by Kilham (2009), within professional development to create a community of practice. In this way, participants have another avenue to create opportunities to share successes, to receive feedback, and to read others' implementations in classrooms with student with ASD.

There is a need for longitudinal research using classroom observation to research how teachers empirically change within specific interventions or how teachers empirically implement teaching skills, using validated classroom observation instruments. Classroom observation is rare in professional development research. More research is needed to understand the level of implementation in the classroom of practices and interventions presented in professional development. Much of the previous research presents teachers' perceptions of successes and challenges of strategy implementation over brief periods of time (Tschannen-Moran & McMaster, 2009). Students with ASD are a unique and growing population in schools, more research may be warranted to investigate teachers' mastery in conjunction with their sense of self-efficacy. As overall self-efficacy has been found to change over years, as well as over the course of a career, long-term research in this area might provide additional information to decrease teacher attrition.

### **Implications for Educational Practice**

The implications of this study for educational practice are threefold. These include (a) the need to promote supportive learning environments within professional development, both online and face-to-face, to improve special education and general education teachers' self-efficacy to implement interventions and strategies with students with ASD, (b) the need for continued support beyond the context of professional development in order for teachers to maintain self-efficacy beliefs, and (c) the creation of online and face-to-face contexts for teachers to interact and support each other.

The participants who contributed to this study believed that their confidence to teach students with ASD was enhanced as a result of the experience provided through asynchronous online discussion and self-reflection. The asynchronous online discussion created a forum for participants to share success as well as challenges in the implementation of instructional strategies and inventions experiences. Creating online opportunities for teachers to discuss specific content, instructional strategies, and skills for students with ASD may have increased their perceptions of self-efficacy and may have mitigated perceptions of anxiety and stress often associated with teaching this population of students. Using existing pedagogies within online technology may afford teachers to interact with colleagues and experts in ways no possible previously in onground professional development. Isolation has been referenced as one of the reasons special education teachers leave the profession. Although many teachers are not able to access traditional professional development because of distance or time, online courses and e-learning can afford teachers opportunities to be part of professional discourse (Douglas-Faraci, 2010).

Research evidence has indicated that lack of support within special education teachers' lives as one of the reasons teachers leave the field (Billingsley, et al., 2004). Teachers need guidance and support and often do not find it on their school site. All participants in this study connected the benefits of vicariously experiencing the successes and challenges that special education teachers as well as others articulated during online discourse with their perceptions of preparedness to work with students with ASD. Increasing teachers' opportunities to interact lessens teachers' sense of isolation and subsequent burnout (Gersten, Keating, Yovanoff, & Harkiss, 2001).

The inclusion of facilitated discussion and reflection assignments is not unique to online learners; however, participants did express concerns that there were certain limitations that reading and writing text presents in online learning. Online technology affords an opportunity to provide an interactive experience for teachers returning for professional development as well as for preservice teachers learning their profession. Creating support through facilitated discussions, along with self-reflection opportunities within professional coursework or trainings may keep teachers in the profession longer, thus decreasing the attrition rate in schools and possibly providing students with learning challenges such as ASD with efficacious and effective teachers.

### **Summary**

Teacher self-efficacy as a global construct has been criticized as too ambiguous and that the use of global scores "do not reveal what teachers' responses mean, or where they need support from teacher educators" (Wheatley, 2005, p. 751). As the investigation in teacher self-efficacy matures, research has focused more on the influence of specific pedagogy and instructional methodologies (Tschannen-Moran & McMaster, 2009).



Discussion and self-reflection have been found to support teacher self-efficacy in traditional face-to-face learning. Researchers have shown changes in self-efficacy and implied that changes may be due in part to the role of sharing experiences with others in online professional development for adults returning to school and nurses (Glowacki-Dudka, & Barnett, 2007; Parsons, 2007). Professional development opportunities provide teachers not only venues to enhance their professional practice through learning up-to-date researched-based techniques but also venues to self-review and reflect. Professional development is also an important component of teachers' professional standards according to the California Commission on Teacher Credentialing, the National Board for Professional Teaching Standards, the National Council for Accreditation for Teacher Education, and the Council for Exceptional Children.

Online technologies have become part of the landscape of teacher education as well as postdegree professional development. An online teaching venue affords teachers access to learning as never before (Collins, Baird, & Hager, 2009; Spooner & Lo, 2009). Researchers have yet to explore thoroughly the influence of such learning and how teachers' confidence in implementation with specific interventions while changing their psychological state, that is, how burnout can change over time.

One way to influence teachers' sense of isolation and subsequent burnout has been found in the use of collaborative and reflective interactions to tackle and resolve issues in their classrooms (Gersten et al., 2010). Similarly, Bandura (1978) used the term reciprocal determinism when discussing factors that influence one's behavior. The term suggested that one's behavior influences and is influenced by both the social world and one's personal characteristics. Educators and researchers have recognized for many years

the importance of these influences within groups and settings of teachers (Hirsch, 2008; Sindelar, Brownell, & Billingsley, 2010; Viel-Ruma, Houchins, Jolivette, & Benson, 2010).

Teacher self-efficacy is a complex construct as evidenced in the literature. External forces such as professional development and status on the continuum of experience appear to influence how teachers perceive their efficacy in the classroom (Tschannen-Moran & McMaster, 2009). Moreover, in classroom environments with increasing numbers of students with challenging behaviors and unique learning needs, such as those exhibited by children with ASD, teachers are vulnerable to increases in perceived stress and anxiety that may lead to burnout. Supportive environments that provide teachers with feedback, positive social persuasion, and opportunities to be reflective appear to influence teacher self-efficacy and possibly mitigate burnout. Results of the present study indicated that facilitated discussion and self-reflection assignments may make a difference in special education and general education teachers' perceived self-efficacy and burnout as they return to professional development that emphasizes evidence-based pedagogy and strategies to work with students with ASD. Providing contexts within both online and face-to-face professional development such as discussion forums and self-reflection assignments where facilitated discussion and reflection can take place is one way to support special education teachers and others who work with students with ASD.

As special education and general education teachers articulated how the process of facilitated discussion and reflection afforded them support as they attempted to implement new knowledge and strategies, additional questions as fidelity of

implementation arise. An expression of self-confidence may not be an actuality in application with students with ASD in the classroom. Furthermore, as teacher self-efficacy has been found to be context specific, more research is needed for indepth longitudinal study of how special education and general education teachers' perceived confidence to implement strategies with students with unique learning challenges such as ASD translated to implementation in their classrooms. Throughout a teacher's career cycle opportunities for reflection may provide renewal and growth (Steffy & Wolf, 2001).

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## APPENDICES

## Appendix A

Email Letters for Participants Sent the First Week and 15<sup>th</sup> Week of the Course

## Appendix A

### Email Letter for Participants Sent the First Week of the Course

Dear Student,

I am inviting you to participate in a study designed to investigate how discussion and self-reflection and learning influence special educators in an online course. The study is part of my dissertation research at the University of San Francisco. Your answers are extremely important!

I am requesting you complete the a series questions about your experiences as a special educator, experiences working with students with Autism Spectrum Disorder (ASD), as well as your educational and professional background information. A link to Survey Monkey, an online survey company is listed below. The three-part survey, one is on teacher beliefs, one is about teacher work and the other demographic information about you and your background will only take you about 30 minutes of your time. Returning the surveys serve as permission to use the data in the research. You can rest assured that your privacy and confidentiality will be fully respected. This is strictly a voluntary decision on your part to be part of my dissertation research. You will be receiving another email at the 15<sup>th</sup> week of the semester, again containing a link to Survey Monkey to complete a 2<sup>nd</sup> series of questions.

All your responses will be collected, and data will be complied with your unique code by a TA. The course instructor does NOT have access to any of the information from these surveys. Your decision to participate in this study will have no impact on your course grade. Should you choose not to participate in the research, you will not be penalized in any way in terms of course grading. You can also choose to withdraw permission to use your data at any time during the semester. The responses will be kept confidential.

If interested in obtaining a copy of my study or ask any questions, please contact send an email to the course TA.

Thank you very much for your time and consideration!

Sincerely,

Monica Boomgard, M.A., NBCT  
University of San Francisco

## Email Letter for Participants Sent the 15th Week of the Course

Dear Student,

I am again inviting you to participate in a study designed to investigate special educators' beliefs and work. Below is a link to a second set of surveys via SurveyMonkey.com. Approximately 30 minutes of your time is needed to complete the two survey measures. Upon completion of the two surveys, there will be a question regarding your willingness to participate in an hour-long focus group online at a time to be arranged during the final week of the semester. Again, your answers are extremely important and your willingness to participate is greatly appreciated!

You created a unique code for the first set of surveys and you are asked to use the same code for this second set of surveys. You can rest assured that your privacy and confidentiality will be fully respected. The responses will be kept confidential.

If you decide not to participate in the study, even if you completed the first set of survey, feel free to ignore this email and your data will not be used. If you have any questions as we approach the end of the semester, please feel free to contact the course TA who is in touch with me. I would be very happy to share my results with you if you are interested. To obtain a copy of my study results, please feel free to send an email to the course TA.

Thank you very much for your time and consideration!

Sincerely,

Monica Boomgard, M.A., NBCT  
University of San Francisco

## **STUDENT CONSENT FOR RESEARCH PARTICIPATION**

### **Purpose and Background**

Monica Boomgard is conducting a confidential and anonymous study of how discussion and self-reflection furthers learning for special educators in an online course. This study is toward completion of my doctoral studies in the School of Education at the University of San Francisco. Your involvement will help inform teacher educators about discussion and self-reflection in an online course.

### **Procedures**

By agreeing to participate in this study, you are asked to allow me to receive a transcript of the 5 course discussions with names blacked out and replaced by pseudo names by the course TA. If you do not agree to allow me to have access to your discussion, then the TA will black out your postings. You need to reply that you agree to allow me access or not agree to allow me access to your discussion postings to the TA by (date one week after the email is sent). If you do not reply, another email will be sent to you in a week.

### **Risks and/or Discomforts**

Participation in this research will not result in a loss of your confidentiality, and every attempt will be made to keep your individual responses confidential. The course instructor or I will not know your identity. Your agreement to participate or not participate will have no effect on the grade in this course.

### **Benefits**

There is no direct benefit to you for participating in this study. The anticipated benefit of this study is to understand the links between the discussion and self-reflection in an online course for those individuals working with ASD students.

### **Costs**

There will be no cost to you for participating in this study.

### **Payment/Reimbursement**

No monetary reimbursement will be given to you for participating in the study.

### **Questions**

If you have questions or comments about the study, first contact the researcher, Monica Boomgard by calling or emailing [mboomgard@usfca.edu](mailto:mboomgard@usfca.edu). If for some reason you do not wish to do so, you may contact the IRBPHS, which is concerned with the protection of volunteers in research studies. You may reach the IRBPHS office by calling (415) 422-6091 or by writing to the IRBPHS, School of Education Building, University of San Francisco, 2130 Fulton Street, San Francisco, CA 94117-1080.

**Consent**

Participation in this research is voluntary. If you agree to participate, please reply to this email that you agree to have a transcript of the discussions released to me with names blacked out. If you do not agree, please reply to this email that you do not agree to have a transcript of the discussions released to me and your postings will be blacked out.

Thank you,  
Monica Boomgard  
Doctoral Student, University of San Francisco  
mboomgard@usfca.edu  
(\_\_\_\_) \_\_\_\_\_

---

**STUDENT CONSENT FOR RESEARCH PARTICIPATION  
CONSENT FORM**

\_\_\_\_\_ I agree to participate in this study.

\_\_\_\_\_ I have read and understand the attached Research Subjects Bill of Rights

\_\_\_\_\_ I do not agree to participate in this study.

## Appendix B

### Online Student Demographics Information Form

Appendix B  
**Student Demographic Information Form**

ID code: \_\_\_\_\_

(Create a unique 6-digit code: e.g. 3 letters of mother's  
 maiden name and 4 numbers of Student ID#)

\*Make sure to make a notation of it somewhere to use again)

Please read each section carefully and provide the requested information. Please check off the information that applies. In all other situations, provide the information requested.

**Gender:** \_\_\_ Female \_\_\_ Male

**Current Teaching Assignment** (please check):

\_\_\_ Special education teacher - resource room/learning center

\_\_\_ Special education teacher – special day class

\_\_\_ Special education teacher - inclusion

\_\_\_ General education teacher

\_\_\_ Pre-service teacher candidate

\_\_\_ Paraprofessional (teacher's aide)

\_\_\_ Other (please be specific): \_\_\_\_\_

**Grade span currently teaching** (please check):

\_\_\_ Pre-kindergarten

\_\_\_ Kindergarten

\_\_\_ Elementary (K-5)

\_\_\_ Middle school (6 – 8)

\_\_\_ High school (9 – 12)

**Age** (please check):

\_\_\_ 21 -30

\_\_\_ 31-40

\_\_\_ 31- 50

\_\_\_ 51- 60

\_\_\_ 61 +

**Please read and check the appropriate category for current position**

*Special Education Teacher:*

\_\_\_ Preliminary credentialed special education teacher  
 (Professional clear credential in process)

\_\_\_ Fully credentialed special education teacher  
 (holds professional clear or equivalent credential)

Previous position (if, any):

\_\_\_\_\_

Area(s) of certification:

\_\_\_\_\_



**Highest Degree(s) held:** \_\_\_ B.A. \_\_\_ M.A. \_\_\_ higher degree (i.e. Ed.D)

**Years of Experience**

**Please read carefully (check one)**

# of years in current position

\_\_\_ 1 - 3  
 \_\_\_ 4 - 6  
 \_\_\_ 7 - 10  
 \_\_\_ 11 - 20  
 \_\_\_ 21 +

**Please read carefully (check one)**

# of years in special education

\_\_\_ 1 - 3  
 \_\_\_ 4 - 6  
 \_\_\_ 7 - 10  
 \_\_\_ 11 - 20  
 \_\_\_ 21 +

**Please read carefully (check one)**

# of years experience students  
 with autism in the classroom

\_\_\_ 1 - 3  
 \_\_\_ 4 - 6  
 \_\_\_ 7 - 10  
 \_\_\_ 11 - 20  
 \_\_\_ 21 +

# of students with autism in your  
 CURRENT classroom

\_\_\_

\_\_\_ **Check** if you have had no experience with students with autism in the classroom.

## Appendix C

### Schedule of Facilitated Discussions

## Appendix C

### Schedule of Facilitated Discussions and Self-Reflection Assignments

#### **Discussion and Self-Reflection Questions Assignments and Instructions**

This section serves an introduction to and review of the discussion and reflection questions assigned during the course of the 16-week semester. The assignments were placed on the university education management system, Moodle.CSUN.com and accessed by the students, instructor and discussion facilitator via password and username.

Directions posted online were as follows:

Approximately every 3 weeks, we will be conducting a group discussion with an individual reflection posted for the group. Reflection is a very important component of learning, it provides a way of making the material real, and with discussion with peers provides a richer experience online. One of the purposes of these assignments is to learn how to reflect within the context of online discussions and assignments.

Week#	Assignment Posted with Discussion Topic and Questions Posed	Initial Posting Due Date	Second Posting Due Date (comment on a minimum of one other student's post)
Week 3	Sunday	Wednesday	Saturday
Week 6	Sunday	Wednesday	Saturday
Week 9	Sunday	Wednesday	Saturday
Week 12	Sunday	Wednesday	Saturday
Week 15	Sunday	Wednesday	Saturday

Five times during the semester during Weeks 3, 6, 9, 12 and 15, you will be asked to engage in a series of facilitated discussion and reflection assignments. The main purpose of these discussions with others in the class as well as a brief self-reflection is to encourage students to think beyond the surface meanings of the learning materials they are using and make connections to their current or future practice in the classroom. Towards this end, the discussions and self-reflection assignments are formatted to allow students to share what they feel are the most salient parts of the readings and assignments, and post thoughtful questions and comments. Specific instructions for each of the five facilitated discussion and self-reflection sessions are to be given at the course website. Each discussion will revolve around a specific topic or assignment that spans three weeks of course material.

Being a good participant involves three skills: reading and reflecting deeply about the learning materials, posting thoughtful comments and questions, and taking the time to

carefully read the e-discussion as it unfolds prior to the due date. The spirit of this type of assignment is to have a rich e-discussion with the members of the class. Then, based on your own experiences in the classroom, the knowledge from the readings and assignments as well as the content of the facilitated discussion, you will have a richer and more meaningful reflection.

Generally, the format of the five discussions will follow a similar format: You have two distinct deadlines: the first deadline, please post a comment that is at least **200 words long**. Please address what you see as the most outstanding issues that emerged from your readings, other relevant learning materials for a specific session, and how they may have impact for your professional practice. For the second deadline, please post at least one reply to another student's previously posted comment or question about the subject of the discussion.

Each discussion in the course is worth 3 points. Points are assigned based solely on meeting the deadlines stated above (i.e., points are not based on the "sophistication" or "correctness" of your comments). It is critical that for you to reply and participate in a discussion, and to adhere to the deadlines so a full range of initial comments or questions can be seen and responded to over time. PLEASE adhere to the given deadline!

## Appendix D

### Alignment of Course Topics and Facilitated Discussions and Self-Reflection Assignments

## Appendix D

Alignment of Course Topics and Facilitated Discussions  
and Self-Reflection Assignments

Course Topic	Student with ASD Learning Need/Challenge	Discussions	Self-Reflection Assignment
Overview of Autism Spectrum Disorder	Sensory Processing	Explain how the introduction on Autism Spectrum Disorder has changed (or not changed) your perceptions of your current and future teaching practice. Link your ideas explicitly to your classroom and your current (or future) experiences with student with autism.	What are your perceptions of your preparedness as a special education teacher to work with students with autism in your classroom now or in the future? Be <b>specific</b> in your examples and explanations. What do you perceive as the challenges and barriers to your success as an educator with students with autism and why?
Brain Behavior Connections in Autism			
Social Skills Training	Social Skills Interaction	Explain three important concepts, ideas, or strategies from the readings that will help you set up effective practices to teach students with autism to interact socially or overcome common social skill difficulties. Link your ideas with your current (or future) experience with students with autism, if applicable.	What are your perceptions of your preparedness as a special education teacher to implement social skills training for students with autism in your classroom after learning about the link between brain behavior and social skills? Be <b>specific</b> in your examples. What do you perceive as the barriers and challenges in implementation of social skills training for students with autism in your classroom (or future classrooms if you do not currently have students with autism) and why? What additional support in the areas of social
The Essence of Social Interaction			
Common Social Skill Difficulties			

			skills training do you believe that you need to implement these teaching practices in your classroom (if you do not have students with autism in your classroom now, consider future classrooms)?
Structured Teaching	Structure Sensory Processing Behavior Manifestations	Explain three important concepts, ideas, or strategies from the readings that will help you set up effective practices to teach students with autism within learning environments that promote structure with positive behavior support. Link your ideas with your current (or future) experience with students with autism, if applicable.	What are your perceptions of your preparedness as a special education teacher to implement behavioral intervention strategies for students with autism in your classroom after learning about ways to create a structured environment with positive behavioral support? Be <b>specific</b> in your examples. What do you perceive as the barriers and challenges in structure and positive behavioral support for students with autism in your classroom and why? What additional support in the areas of creating structured teaching environments with positive behavior supports do you believe that you need to implement these teaching practices in your classroom? If you do not currently work with students with autism, how might you implement these practices in the future with these students?
Sensory Processing			
Strategies that Promote and Enhance Performance / Positive Behavior Support			
Fostering Peer Play	Peer Interaction and Social Thinking	Explain three specific interventions from the readings that will help you set up effective practices to foster peer	What are your perceptions of your preparedness as a special education teacher to implement intervention

Social Thinking		<p>play and social thinking for your students with autism. Why are these important for your practice (now or in the future)? How will you work collaboratively with your team at school to insure successful implementation? Link your ideas with your current experience with students with autism if applicable. If you do not work with students with autism now, how might you make this work in future classrooms with these students?</p>	<p>strategies for students with autism in your classroom after learning about ways to foster peer play and social thinking? Be <b>specific</b> in your examples.</p> <p>What do you perceive as the barriers and challenges in implementation of peer play and social thinking for students with autism in your classroom and why?</p> <p>What additional support in the areas of peer play and social thinking do you believe that you need to implement these teaching practices in your classroom? If you do not currently work with students with autism, how might you implement these practices in the future with these students?</p>
<p>Supporting the Transition Years</p> <p>Educational Experiences Across the Lifespan</p>	Overall Academic and Social Success	<p>Working with students with autism creates opportunities for special education teachers to learn new skills to support these students to be academically and socially successful. Pick two specific concepts, ideas, or strategies that have been particularly helpful or noteworthy for your professional practice as a teacher. Be <b>detailed</b> in your response as to why these are the specific concepts, ideas, or strategies. How well does the contents of the class help you to implement strategies in the classroom, if you currently have students</p>	<p>What are your perceptions of your preparedness as a special education teacher to implement the intervention strategies presented and discussed in this course for students with autism in your classroom, or in future classrooms? Be <b>specific</b> in your examples.</p> <p>What do you perceive as the barriers and challenges in implementation and why?</p> <p>What additional support do you believe that you need to implement these teaching practices in your classroom? What</p>



		with autism? If you do not, how might you implement these in the future?	areas do you perceive you will need additional training or support in your classroom? If you do not currently work with students with autism, what might you need in the future if you did have these students in your classroom?
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Appendix E  
Focus Group Questions

## Appendix E

### Focus Group Question Guide

The following question guide was used in an asynchronous online focus group made up of volunteers from the course. The focus group took place during the 16<sup>th</sup> week of the course.

The following statements and questions were typed into an online discussion forum in Moodle, an online course management system. Italics indicate researcher's voice and typing online.

The following are the questions and commentary typed into Moodle for the focus group.

*Briefing: (Chat option turned on in Moodle) Thank you for your willingness to be part of a focus group for my dissertation. I will be recording our focus group discussion typed responses. Are you still in agreement with this?*

*I want to reiterate that I am conducting this interview as a doctoral student. Agreeing to participate in this study in no way affects your grade in any class you are now enrolled in, or may be enrolled in at a future time.*

*Do you have any questions before we begin?*

- 1. What did you learn from the **process** of discussing and interacting with your peers and facilitator in the online professional development course?*
- 2. How has the **process** of discussing and interacting with your peers and facilitator changed your perception of your ability as a special educator to work with these students in your current or future classrooms?*
- 3. What aspects of your learning experience online have helped lessen any concerns you have had as you learned about these students with autism?*
- 4. What aspects of your learning experience online have increased any concerns you have had as you learned about these students with autism?*
- 5. I am going to list some areas that researchers have found to be areas of challenge for teachers' confidence in their ability: instructional strategies, classroom management strategies, ability to engage students in learning, emotional exhaustion, sense of personal accomplishment, depersonalization – not feeling*

*connected with your students. Does any one or two of these in particular stand out as more important than the other?*

- 6. Can you list one or two areas where you perceive that the course and its contents have positively affected your sense of confidence?*
- 7. What changes are you aware of in preparedness to teach students with ASD as you participated in the facilitated discussion and self-reflection assignments from the beginning to the end of the course?*
- 8. As a result of participating in the courses' discussions and self-reflection assignments do you believe that you are more or less concerned with your confidence to teach children with ASD? Please articulate the factors that may or may not have influenced your feelings?*

*Is there anything else you would like to bring up before we end the interview?*

*Debriefing: I have no further questions. I am going to stop the focus group at this point. I will not be recording the group online from this point forward. (turned off record function of Chat on Moodle). Do you have any questions for me?*