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Using the Instructional Beliefs Model to Examine Instructional Feedback in the Classroom

Melissa F. Tindage

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Scott A. Myers, Ph.D., Chair
Alan K. Goodboy, Ph.D.
Matthew M. Martin, Ph.D.
Christine E. Rittenour, Ph.D.
Brandi N. Frisby, Ph.D.

Department of Communication Studies

Morgantown, West Virginia
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ABSTRACT

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Melissa F. Tindage

The purpose of this dissertation was to examine the role that instructional feedback plays in student engagement using Weber, Martin, and Myers's (2001) Instructional Beliefs Model (IBM). The proposed IBM for this dissertation included first-order constructs (i.e., instructional feedback, course workload, course difficulty, and students' feedback orientation), a second-order construct (i.e., feedback self-efficacy), and a third-order construct (i.e., student engagement). As hypothesized, instructional feedback (i.e., developmental, fairness) is positively associated with feedback self-efficacy, while course workload and course difficulty are negatively associated with feedback self-efficacy. However, only two dimensions of students' feedback orientation (i.e., utility, retention) were positively associated with feedback self-efficacy. Overall, in regard to the hypothesized relationships with student engagement, instructional feedback, students' feedback orientation, and feedback self-efficacy were positively associated with student engagement. Course workload and course difficulty were negatively associated with student engagement. Furthermore, students' feedback self-efficacy does not indirectly affect the relationship between instructional feedback, course workload, course difficulty, students' feedback orientation, and student engagement. The results were discussed in light of research on instructional feedback, self-efficacy, and student engagement. These findings should be taken with caution due to three limitations: measurement error, the data collection procedures, and the theoretical framework.

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TABLE OF CONTENTS

LIST OF TABLES

Page

LIST OF FIGURES

Page

CHAPTER I

Introduction

According to the National Center for Education Statistics (2015), approximately 20% of first-time, full-time students who entered a four-year public university in 2012 did not return the following year in 2013. However, the retention rate in four-year public universities with open admissions is 60%, whereas the retention rate in four-year public universities with more selective admissions is 95%, with a similar pattern found in four-year private universities. Higher education scholars have noted that one way in which to increase retention rates is to increase student engagement within the classroom (Kuh, 2001, 2003). Student engagement, which is conceptualized as students' desire to become involved in their learning (Mazer, 2012), is positively linked to student state motivation and student cognitive learning (Mazer, 2013c). But although student engagement increases students' academic achievement and persistence to stay in school (Appleton, Christenson, & Furlong, 2008; Kuh, Cruce, Shoup, Kinzie, & Gonyea, 2008, Fredricks, Blumenfeld, & Paris, 2004), to date, only a handful of studies conducted by instructional communication researchers has centered on the effects of instructor communication behaviors on student engagement (Mazer, 2012, 2013a, 2013b, 2013c; Zhang, 2014; Zhang & Zhang, 2013).

One instructor communication behavior that may affect the rate at which students engage in class is the provision of instructional feedback (i.e., information from an instructor about students' academic performance), which exerts a significant influence on student learning (Hattie & Timperley, 2007) because it provides students with the knowledge needed to improve their academic performance. Over the past decade,

instructional communication researchers have explored the effects of instructional feedback in the classroom by investigating the role that instructional feedback plays on student perceptions of mentoring (Kerssen-Griep & Witt, 2015), instructor credibility (Witt & Kerssen-Griep, 2011), and fairness and usefulness of feedback (Trees, Kerssen-Griep, & Hess, 2009) as well as on the link between instructional feedback and student affective learning (Martin & Mottet, 2011) and state motivation (Kerssen-Griep & Witt, 2012). However, these researchers have yet to examine the role that instructional feedback plays on students' use of engagement behaviors.

Studying the role of instructional feedback on student engagement is warranted for two reasons. First, understanding how students communicatively respond to instructional feedback can shift the focus of instructional communication researchers from the influence of instructional feedback on student performance on a particular assignment (e.g., speech performance) to the broader role that instructional feedback plays in the classroom. As can be inferred from (2012), students' use of engagement behaviors is not tied to one particular assignment; rather, these behaviors are used regularly *in* and *out* of class throughout the semester. Second, because student engagement behaviors are considered indicators of learning (Kuh, 2003; Mazer, 2012), students' use of engagement behaviors offer instructors a newer avenue to assess whether the instructional feedback they provide throughout the semester actually helps their students learn. Therefore, if students' use of engagement behaviors increase as a result of the provided instructional feedback, this increase may indicate that student learning has occurred. Given these two reasons, this dissertation will investigate the role that instructional feedback plays in student engagement using Weber, Martin, and Myers's

(2011) Instructional Beliefs Model (IBM).

To reach this end, this chapter is divided into three sections. In the first section, a brief description of the Instructional Beliefs Model is provided. In the second section, a proposed model of how instructional feedback affects student engagement is discussed. In the third section, the rationale for this dissertation is provided.

The Instructional Beliefs Model

Weber et al. (2011) created the IBM in response to calls by instructional communication researchers for theories indigenous to the field of instructional communication (Mottet, Frymier, & Beebe, 2006; Nussbaum & Friedrich, 2005; Waldeck, Kearney, & Plax, 2001). According to Waldeck et al. (2001), a lack of theory development by instructional communication researchers questions the legitimacy of the field as a serious area research. Creating theory that is indigenous to instructional communication research can provide scholars with a framework to "draw sound, generalizable conclusions about communication and learning" (Waldeck et al., 2001, p. 225). Therefore, creating frameworks such as the IBM, which are grounded in instructional communication research, can become a remedy to legitimize the field of instructional communication (Weber et al., 2011).

The IBM consists of a series of three ordered constructs that explain how and why various classroom factors influence student learning outcomes (LaBelle, Martin, & Weber, 2013). According to Weber et al.'s (2011) conceptualization of the IBM, second-order constructs (i.e., students' instructional beliefs) mediate the relationship between first-order constructs (i.e., instructor behaviors, course-specific structural issues, and student characteristics) and third-order constructs (i.e., student learning outcomes). In

other words, instructor behaviors, course-specific structural issues, and student characteristics combine to influence students' instructional beliefs, which, in turn, influence their learning outcomes. Because the IBM is not restricted to the inclusion of any particular instructional communication variables (e.g., immediacy, humor; Weber et al., 2011), scholars can use the IBM to study the relationship between the instructional variables of their choice as long as these variables can be categorized as an instructor behavior, a course-specific structural issue, a student characteristic, an instructional belief, or a student learning outcome.

The first-order constructs of the IBM include instructor behaviors, course-specific structural issues, and student characteristics, all of which combine to influence students' instructional beliefs and should be significantly related to one another (Weber et al., 2011). *Instructor behaviors* are the behaviors that instructors use to establish both an effective and affective communication relationship with students; these behaviors can be either rhetorical or relational in nature. Rhetorical behaviors (e.g., clarity, power) are designed to persuade or influence students, whereas relational behaviors (e.g., immediacy, confirmation) are designed to aid in the development and maintenance of instructor-student relationships (Mottet & Beebe, 2006). *Course-specific structural issues* refer "to things contained in a course syllabus [that] can be seen as a contract between the teacher and student" (Weber et al., 2011, p. 54). These course-specific structural issues can include statements in the syllabus about course expectations such as grading practices, class assignments, and other course policies (Frisby, Weber, & Beckner, 2014; Weber et al., 2011). *Student characteristics* are the attributes that students possess which differentiate them from each other (Vallade, Martin, & Weber, 2014). These attributes

include students' predispositions and orientations such as their communication and personality traits, learning and grade orientations, academic entitlement, and motives to communicate with their instructors (Vallade et al., 2014; Weber et al., 2011).

The second-order constructs focus on students' *instructional beliefs* (Vallade et al., 2014), which refer to students' expectations of their academic performance (Weber et al., 2011). Second-order variables can include students' expectations of their academic success, their control of learning beliefs, their learner empowerment, and their academic self-efficacy (Weber et al., 2011). The third-order constructs include student learning outcomes (Johnson & LaBelle, 2015), which can be comprised of cognitive (i.e., acquisition and understanding of knowledge), affective (i.e., change in students' attitude and feelings toward content), and behavioral (i.e., activities and student behaviors that indicate learning) learning (Weber et al., 2011).

To date, six studies have been conducted using the IBM as a theoretical framework. In the first examination, Weber and his colleagues (2011) conducted three studies to develop and validate the IBM. The first study empirically tested the IBM through first-order constructs of relevance (i.e., instructor behavior), classroom justice (i.e., course-specific structural issue), and state motivation (i.e., student characteristic); the second-order construct of academic self-efficacy; and the third-order constructs of effort regulation and time on task. They found that relevance, perceived classroom justice, and student state motivation all positively influenced students' academic self-efficacy, which, in turn, increased students' effort regulation and time on task. The second and third study tested the IBM against three other instructional communication models, which were the Affective Learning Model (Rodrìguez, Plax, & Kearney, 1996),

the Motivation Model (Frymier, 1994a), and the Learning Model (Kelley & Gorham, 1988). These additional instructional communication models are often used to explain the relationship between instructors' use of nonverbal immediacy and student learning. Each data set for the two studies included measures of nonverbal immediacy, classroom justice, state motivation, student interest, and student cognitive learning. These variables were included in each data set because they were present in the three models tested against the IBM. The results of study 2 and 3 indicated that the IBM provided the best fit for the data collected. In other words, the IBM offered a more complete picture of the relationship between instructors' use of nonverbal immediacy and student learning than the other three instructional communication models.

In the second study, LaBelle et al. (2013) investigated the influence of instructor behaviors and students' instructional beliefs on students' behavioral learning outcomes. All the first-order constructs in this study were instructor behaviors (i.e., affirming communicator style, nonverbal immediacy, and clarity); the second-order construct was students' academic self-efficacy; and the third-order construct was student dissent (i.e., rhetorical, expressive, and vengeful). Their findings indicated that when instructors were clear, students reported higher levels of academic self-efficacy, which led to an increased use of rhetorical dissent and a decreased use of expressive dissent. Frisby et al. (2014) then explored the effects of course-specific structural issues on the learning process using two different theoretical frameworks: the Affective Learning Model (Rodrìguez et al., 1996) and the IBM (Weber et al., 2011). In their proposed IBM, the first-order construct was required class participation (i.e., course-specific structural issue), the second-order construct was student interest, and the third order construct was student cognitive

learning. The researchers found that required class participation was positively related to student cognitive learning as mediated through student interest.

In the fourth study, Vallade et al. (2014) investigated how student characteristics, when combined with course-specific structural issues, influence learning outcomes through student beliefs. In this study, the first-order constructs were students' grade orientation, academic entitlement, and perceived classroom justice; the second-order constructs were student expectancy beliefs and student affect; and the third-order construct was student cognitive learning. Based on the results, the researchers stated that students' grade orientation and academic entitlement negatively predicted expectancy beliefs and affect, which, in turn, positively influenced their cognitive learning. Furthermore, students' perceptions of classroom justice positively predicted their expectancy beliefs and their affect, which then positively influenced their cognitive learning.

In the fifth study, Johnson and LaBelle (2015) examined the relationship between instructor behaviors and learning outcomes. The first-order construct was instructor self-disclosure (i.e., amount, relevance, and negativity), the second-order construct was student classroom connectedness, and the third-order construct was student dissent (i.e., rhetorical, expressive, and vengeful). The authors reported that although all three dimensions of instructor self-disclosure increased students' perception of classroom connectedness, these dimensions of self-disclosure did not, in turn, influence students' use of any of the three dissent behaviors. In the final study conducted to date, Frisby and Gaffney (2015) explored the effect of instructor behaviors on student learning. Instructor nonverbal immediacy served as first-order constructs; the personal connection dimension

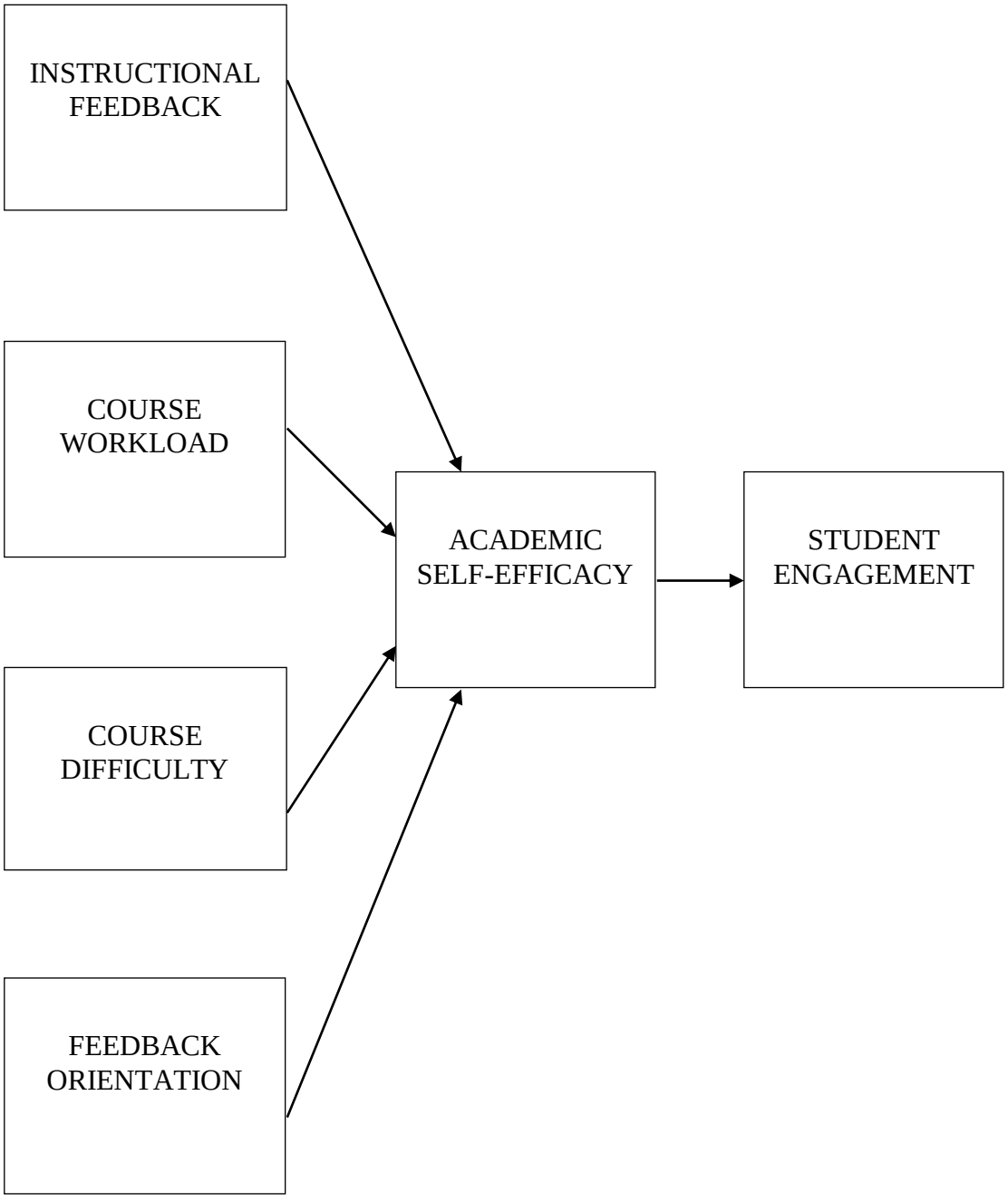
and the enjoyable interactions dimension of instructor rapport served as second-order constructs; and student cognitive learning (i.e., self-reported cognitive learning, anticipated final course grade) served as the third-order construct. The findings of the study were twofold. First, nonverbal immediacy was positively related to student self-reports of cognitive learning as mediated through the enjoyable interactions dimension of instructor rapport. Second, nonverbal immediacy was positively related to both students' self-reports of cognitive learning and anticipated final course grade through the personal connection dimension of instructor rapport.

Feedback and the IBM

Using the IBM as a theoretical framework to explore the effect of instructional feedback in the college classroom, the following model is proposed (see Figure 1). The first-order constructs in this model are instructional feedback, course workload, course difficulty, and feedback orientation. The instructor behavior in this proposed model is instructional feedback, which is information provided by an instructor regarding some aspect of a student's task performance (King, Young, & Behnke, 2000). Course workload and course difficulty are the classroom-specific structural issues in this proposed model. Course workload refers to "pressure placed on students in terms of the demands of the syllabus and assessment tasks" (Kember, 2004, p. 167), whereas course difficulty refers to students' overall perception of the difficulty associated with a given course, rather than the difficulty associated with a specific topic or task in a particular course (Rancer, Durbin, & Lin, 2013). Feedback orientation, or students' response bias toward instructor feedback in the classroom setting (King, Schrodt, & Weisel, 2009), is the student characteristic in this model. Academic self-efficacy represents the second-order construct

Figure 1

Proposed Instructional Beliefs Model



of the IBM, which refers to individuals' judgment of their capabilities to plan and enact courses of action to accomplish various educational performances (Zimmerman, 1995). To date, it has been the most frequently used instructional belief in IBM research (LaBelle et al., 2013; Vallade et al., 2014; Weber et al., 2011). Student engagement represents the third-order construct (i.e., student learning outcomes) of the IBM, which is conceptualized as "the time and energy students devote to educationally sound activities inside and outside of the classroom" (Kuh, 2003, p. 25).

First-Order Constructs

Instructional feedback. The primary purpose of instructional feedback is to help improve students' academic performance (King et al., 2009). For feedback to be helpful, students must consider the feedback content to be developmental, encouraging, and fair (Carless, 2006; Knight & Yorke, 2003; Lizzio & Wilson, 2008; Walker, 2009). Developmental feedback extends students' understanding beyond their current level of performance, encouraging feedback enhances the motivational state of learners, and fair feedback is clear and consistent communication about instructors' expectations and evaluations. Providing feedback does not always imply that student learning will occur, however (Hattie & Gan, 2011). According to Walker (2009), students indicated that 33% of feedback comments provided by instructors are not usable. Unusable feedback includes comments that are (a) general or vague, (b) lack suggestions on improvement, (c) negative, or (d) unrelated to the assignment being evaluated (Weaver, 2006). When feedback is not usable, it becomes useless and does not help students improve academically because it leads to feelings of frustration and dissatisfaction (Price, Handley, Millar, & O'Donovan, 2010). Feedback is considered useful only when it can

be applied outside of a particular assignment (Carless, 2006) or to future work (Knight & Yorke, 2003) and when instructors identify what is incorrect and provide ways to correct it (Walker, 2009). Furthermore, instructor-student dialogue about feedback can help students decipher and comprehend feedback for their future use (Carless, 2006; Price et al., 2010; Weaver, 2006).

Feedback is also considered a social process that students and instructors may interpret differently (Carless, 2006). For example, although some instructors may believe that the feedback they provide to students is detailed, useful, and fair, students may not agree (Carless, 2006). Furthermore, instructors and students may differ in their understanding of the purpose of feedback (Price et al., 2010). Some instructors may perceive the purpose of feedback as justification or "covering their backs" for an assessment grade, whereas some students may view the purpose of feedback as help to improve academically (Price et al., 2010). Though instructors and students may not always agree on the purpose of feedback, it is evident within the educational and instructional communication literature that effective feedback positively influences student outcomes. Researchers have found that effective feedback increases student satisfaction, learning, and interest (Butler, 1987; Eom, Wen, & Ashill, 2006; Price et al., 2010). When instructors provide effective feedback, students attempt to acquire more knowledge about a subject and work harder to achieve their academic goals (Vollmeyer & Rheinberg, 2005).

Positive student outcomes are not only influenced by the content of the feedback, but also by the manner in which feedback is delivered and communicated. For instance, when feedback is delivered immediately, students report higher levels of affect toward

their academic task (King et al., 2009). Smith and King (2004) posited that tactful and non-confrontational feedback helps students perform well on class assignments, particularly for those students who are sensitive to feedback. Trees et al. (2009) reported that when instructors are attentive to students' face needs (i.e., positive and negative facework) during a feedback intervention, students perceive the feedback as useful and fair; instructor attentiveness also lessen students' defensiveness about receiving feedback.

Instructional communication scholars have also demonstrated that instructor use of nonverbal immediacy behaviors can help mitigate the face threatening nature of feedback to increase positive student outcomes. For example, Martin and Mottet (2011) found that regardless of students' feedback sensitivity (i.e., attention to self or task), high school students reported greater affect for the instructor and affective learning for writing when instructors were highly nonverbally immediate when delivering feedback. When instructors use nonverbal immediacy while providing feedback, students perceive greater instructor fairness (Kerssen-Griep & Witt, 2012) and report being mentored by their instructors (Kerssen-Griep & Witt, 2015). The face-threatening nature of feedback is also mitigated when instructors use highly nonverbally immediate behaviors and face-threat mitigation (FTM) tactics (i.e., informal, complimentary, in-group language; tactful hedges and qualifiers; humor and self-disclosure; solidarity messages; and providing advice with any messages that "downplayed" the seriousness of the feedback; Kerssen-Griep & Witt, 2012). Students report positive perceptions of instructors' credibility (Witt & Kerssen-Griep, 2011) and report high levels of student state motivation (Kerssen-Griep & Witt, 2012) when instructors use high levels of FTM tactics and nonverbal immediacy behaviors when delivering feedback.

Course workload. According to Giles (2009), 61% of the students surveyed in her study reported having a heavy course workload. These students expressed some of the reasons why they consider a workload to be heavy; among these are several assignments due at the same time, a significant amount of topics covered in a short amount of time, instructors assuming that students have the appropriate skills and abilities to complete tasks, and too many assignments in a given course. Even though students may report having a heavy course workload, they are still willing to work diligently when they perceive an appropriate teaching and learning environment (i.e., effective teaching, functional instructor-student relationships; Kember & Leung, 2006). Students are also more tolerant of course workload demands--particularly in reading, writing, and speaking courses--when their instructors engage in nonverbally immediate behaviors (Mottet, Parker-Raley, Cunningham, & Beebe, 2005).

Pressures felt from a heavy course workload have consequences for both students and instructors. For students, they tend to expect lower course grades in courses with a heavy workload (Greenwald & Gillmore, 1997). A heavy course workload also drives students to engage in surface learning, which indicates a lower quality of student learning (Giles, 2009; Lizzio, Wilson, & Simons, 2002), and increases their stress levels, particularly among engineering students (Lindsay & Rogers, 2010). In regard to consequences for instructors, a heavy workload affects students' evaluations of their instructors, although the direction and magnitude of the relationship between the two variables has been inconsistent. Trigwell and Prosser (1991) found that a heavy course workload is negatively related to instructor teaching evaluations, whereas Dee (2007) indicated that a heavy course workload is positively related to teaching evaluations.

Conversely, Remedios and Lieberman (2008) failed to obtain a significant relationship between student perceptions of a heavy course workload and instructor evaluations. In addition, students report a greater willingness to comply with their instructors' requests when course workload demand was light, but are less likely to tolerate instructor unavailability when they perceived the course workload to be heavy (Mottet, Parker-Raley, Cunningham, Beebe, & Raffeld, 2006).

Course difficulty. Over the course of a semester, students' academic schedules are filled with both easy and difficult courses that shape different aspects of their educational experience. Perceived course difficulty is one reason why students experience academic stress (Tucker, Jones, Mandy, & Gupta, 2006) and have low academic achievement (Schurr, Ellen, & Ruble, 1987; Wall & Knapp, 2014). Additionally, many students at the collegiate level prefer (Hocevar, Zimmer, & Strom, 1987) and report higher interest in difficult courses (Sartain, 1945). However, students value courses (Heckert, Latier, Ringwald-Burton, & Drazen, 2006) and put more effort into their coursework when courses are perceived to have the appropriate level of difficulty (Sartain, 1945).

Numerous factors influence students' perceptions of course difficulty, including course characteristics (i.e., readability of the syllabus, course subject matter) and instructor communication behaviors (i.e., clarity, experience). Guenther (2012) found that when a syllabus is easy to read, students are likely to perceive the course as easy and they report a high probability of receiving a good grade in the course. According to Murtonen and Lehtinen (2003), students (i.e., education and sociology majors) reported statistics and quantitative methods courses to be difficult because teaching was often superficial,

students had issues linking theory and practice due to abstract examples, links made between concepts were fuzzy, concepts and content were difficult and unfamiliar, and they had no interest in the topic due to its connection with mathematics. However, when students believed that a quantitative research methods course was useful for their future career, students were more likely to perceive the course as less difficult (Murtonen, Olkinuora, Tynälä, & Lehtinen, 2008). Wall and Knapp (2014) discovered that in regards to instructor behaviors, when students perceived their instructor to be clear and organized and they had had prior experience with the course content, they perceived the course to be less difficult.

Researchers have also found that the perceived difficulty of a course affects students' ratings of their instructor. When students perceive a course as difficult, they rate instructors more negatively, even after controlling for students' final course grade (Addison, Best, & Warrington, 2006), whereas students who perceive a course as containing the appropriate level of difficulty evaluate instructors more positively (Heckert et al., 2006). However, Thornton, Adams, and Sepheri (2011) found that perceived course difficulty did not uniquely predict instructor evaluations. Therefore, research has been inconsistent about the direction of the relationship between course difficulty and student ratings of their instructors.

Feedback orientation. Recently, instructional communication scholars have given attention to the student characteristic of feedback orientation (King et al., 2009; Malachowski, Martin, & Vallade, 2013). As a relatively new construct, researchers have not yet identified the full extent of factors that influence students' feedback orientation, but they have examined several individual and class variables that affect students'

feedback orientation (King et al., 2009; Malachowski et al., 2013).

Feedback orientation consists of four dimensions: feedback utility, feedback sensitivity, feedback confidentiality, and feedback retention (King et al., 2009). *Feedback utility* refers to students' perceptions of the usefulness and value of instructor feedback for correcting academic performance. Students' feedback utility is positively associated with their cognitive flexibility, their responsiveness, and their intellectual flexibility anxiety (King et al., 2009; Malachowski et al., 2013) and is negatively associated with their reported levels of communication apprehension, verbal aggressiveness, and Machiavellism (Malachowski et al., 2013). When students perceive instructor feedback to be useful, they report high levels of academic self-efficacy and high levels of affect toward feedback (King et al., 2009).

Feedback sensitivity refers to students' perceptions of the degree to which instructor feedback is viewed as either intimidating or threatening. According to King et al. (2009) and Malachowski et al. (2013), students' feedback sensitivity is positively related to their academic self-efficacy, affect toward feedback, both reading and listening anxiety, and communication apprehension, and negatively related to their perceived communication competence, cognitive flexibility, argumentativeness, and intellectual flexibility apprehension.

Students' preference for the context (i.e., private, public) in which they prefer instructor feedback is labeled as *feedback confidentiality*, whereas students' ability to recollect and remember instructor feedback is labeled as *feedback retention* (King et al., 2009). Students who report high levels of feedback confidentiality, who also tend to be low in academic self-efficacy and report low affect for feedback, prefer to receive

feedback in private, whereas students who report low levels of feedback confidentiality prefer to receive feedback in public (King et al., 2009). Students' reading anxiety, listening anxiety, and communication apprehension are positively related to feedback confidentiality, whereas students' assertiveness, cognitive flexibility, perceived communication competence, argumentativeness, and tolerance for disagreement are negatively related to feedback confidentiality (King et al., 2009; Malachowski et al., 2013). In regard to feedback retention, Malachowski et al. (2013) discovered that students' responsiveness, cognitive flexibility, and perceived communication competence are positively related to feedback retention, whereas students' verbal aggressiveness, reading anxiety, and listening anxiety are negatively related to feedback retention.

Second-Order Construct: Academic Self-Efficacy

Academic self-efficacy is derived from Bandura's (1977) Self-Efficacy Theory and has been predominantly studied by educational researchers as a key-motivating component to students' use of self-regulated learning strategies (Bandura, 1997; Bouffard-Bouchard, Parent, & Larivee, 1991; Pajares, 2008; Zimmerman, 2011). Research conducted on academic self-efficacy has thrived due to its influence on students' choice of activities, efforts, and persistence (Bandura, 1977; Schunk, 1991; Schunk & Pajares, 2009). The influence of academic self-efficacy on academic performance is so great that Bandura (1997) claimed that even when students' cognitive skills are similar, their intellectual performance would differ depending on the strength of their self-efficacy. Bandura's claim is also supported by other research. For example, Pajares and Kranzler (1995) found that academic self-efficacy was a stronger predictor of high schools students' math-problem solving performance than students' mental ability.

According to Zimmerman (1995), there are four distinct characteristics of academic self-efficacy. First, self-efficacy is more about individuals' perceptions of their capabilities rather than their personal qualities (e.g., personality traits). Second, self-efficacy can vary on three dimensions: magnitude (i.e., difficulty of the academic task), generality (i.e., transferability to other academic tasks), and strength (i.e., degree of certainty in accomplishing the academic task; Bandura, 1977; Zimmerman, 1995). Third, self-efficacy is also domain, task, and context specific. In other words, students may feel efficacious in completing one type of academic task in a particular subject area (e.g., chemistry lab assignment), but not feel efficacious in completing another type of task in a different subject area (e.g., delivering an informative speech). Fourth, understanding individuals' abilities to complete academic tasks successfully are dependent upon their mastery criterion rather than other or normative criteria.

Students' interpretation of their academic self-efficacy is acquired from four sources of information: actual performance (e.g., grade on exam or assignment), vicarious experiences (e.g., others' academic performance), forms of social persuasion (e.g., instructor feedback), and physiological indexes (e.g., students' anxiety and stress; Bandura, 1977; Pajares, 1996). It is students' interpretation of their academic self-efficacy that influences their behaviors and environments, and it is the outcomes of their behaviors and the input from their environments that will, in turn, influence their academic self-efficacy (Schunk & Pajares, 2009). Therefore, the relationship between students' academic self-efficacy and behavioral and environmental outcomes are reciprocal.

Research examining variables that influence academic self-efficacy has been

fruitful. For example, researchers have discovered that student characteristics and instructor behaviors influence academic self-efficacy. In regard to student characteristics, Christie and Segrin (1998) discovered that the degree of instrumentality (i.e., masculinity) with which students approached both social (i.e., presenting a speech) and nonsocial (i.e., taking statistics exams) academic tasks positively influenced their academic self-efficacy about those tasks. Hanely, Palejwala, Hanley, Canto, and Garland (2015) found that mindfulness (i.e., paying purposeful and nonjudgmental attention) was positively correlated with academic self-efficacy after a perceived failure. Baus and Welch (2008) posited that students (i.e., communication studies, business, and liberal arts) would report low levels of academic self-efficacy in courses that do not pertain to their academic major. They found that business majors reported higher levels of math self-efficacy than communication studies and liberal arts majors. In regard to instructor behaviors, academic self-efficacy is positively associated with instructor encouragement (i.e., providing positive feedback to students about academic performance; Tuckman & Sexton, 1991), teaching students effective study skills (Wernersbach, Crowley, Bates, & Rosenthal, 2014), and engaging in high quality teacher-student relationships in elementary school (Hughes & Chen, 2011).

The positive influence of academic self-efficacy on students' academic achievement and student behavior has also been documented in the educational and instructional communication literature (Bandura, Barbaranelli, Caprara, & Pastorelli, 1996; Galla et al., 2014; Multon, Brown, & Lent, 1991; Goldman & Martin, 2014; Goodboy & Frisby, 2014; Phan, 2014; Tuckman, 1990; Turner, Chandler, & Heffer, 2009). For example, highly efficacious students are more likely to perform well on exams

than low- or mid-level efficacious students (Galyon, Blondin, Yaw, Nalls, & Williams, 2012), particularly during the first semester of college (Putwain, Sander, & Larkin, 2013), and highly efficacious students who are strong in malleability beliefs (i.e., students' perception of their capability to foster their abilities) also perform well on exams (Vrugt, Langereis, & Hoogstraten, 1997). Galla and his colleagues (2014) found that over time, elementary students' academic self-efficacy positively predicted their academic performance in reading and math. Moreover, when low self-efficacious students engage in goal-setting behaviors, they experience increased academic performance (Tuckman, 1990).

Support has also been found regarding the effect of academic self-efficacy on student behaviors. Academic self-efficacy positively influences college students' engagement in reflective thinking practices (i.e., understanding, reflection, and critical thinking; Phan, 2014), in-class participation (Galyon et al., 2012), and their approach achievement goals (Kandemir, 2014a); but negatively influences students' avoidance achievement goals (Kandemir, 2014a) and their procrastination in completing academic duties (Kandemir, 2014b). Moreover, students who report high academic self-efficacy are more likely to persist in their educational pursuits (Multon et al., 1991). Academic self-efficacy also combines with other student orientations (i.e., academic entitlement and grade orientation) to influence student communication behaviors. For instance, Goodboy and Frisby (2014) found that college students who are grade oriented, academically entitled, and low in academic self-efficacy engage in expressive dissent (i.e., complaining to others to feel better about a class) and vengeful dissent (i.e., damaging the instructor's credibility by communicating negative messages). Moreover, Goldman and Martin

(2014) found that college students who are highly self-efficacious and are learning oriented, but not grade oriented are motivated to communicate with their instructors for participatory and relational reasons.

Third-Order Construct: Student Engagement

Historically, student engagement has been studied by higher education researchers as a way to increase student academic achievement, student persistence to stay in college, and student classroom involvement (Appleton et al., 2008; Kuh et al., 2008; Fredricks et al., 2004; Marks, 2000; Umbach & Wawrzynski, 2005). Researchers consider student engagement to be crucial for learning (Finn & Zimmer, 2012; Fredricks et al., 2004) because student engagement consists of educational practices that are responsible for gains in student learning (Fredricks et al., 2004; Mazer & Graham, 2015; Kuh, 2001). Therefore, national surveys, such as the National Survey of Student Engagement (NSSE), have been created and administered to thousands of colleges and universities to uncover the most effective educational practices that can improve student learning and the undergraduate experience (Kuh, 2001, 2003).

Educational researchers suggest that student engagement is a multifaceted construct consisting of three dimensions: behavioral, emotional, and cognitive (Bryson, 2014; Finn & Zimmer, 2012; Fredricks et al., 2004). Behavioral engagement encompasses student behaviors such as in-class participation, involvement in extracurricular activities, and paying attention in class (Jimerson, Campos, & Grief, 2003); emotional engagement involves students' feelings, attitudes, interests, and perceptions of school, instructors, and peers (Archambault, Janosz, Morizot, & Pagani, 2009); and cognitive engagement centers on students' psychological investment in their

learning (Furlong & Christenson, 2008). Instructional communication scholars have more recently begun to examine student engagement in the college classroom context by exploring its communicative components (Mazer, 2012; Zhang & Zhang, 2013). More specifically, instructional communication researchers have focused their research efforts on investigating the behavioral and cognitive dimensions of engagement (Zhang, 2014; Zhang & Zhang, 2013) such as silent in-class behaviors (i.e., listening, being attentive, and attending class), oral in-class behaviors (i.e., participating in class), thinking about course content (i.e., connecting course content to everyday life and future career), and out-of-class behaviors (i.e., studying, reading additional information about course content, and talking about course content with others; Mazer, 2012, 2013a, 2013b, 2013c).

Student engagement is a malleable construct (Fredricks et al., 2004) that is developed and shaped from primary school to high school to college by various classroom factors (Finn & Zimmer, 2012). Instructional communication researchers have found that engagement can be enhanced by student characteristics and instructor pedagogical strategies (Ahlfeldt, Mehta, & Sellnow, 2005; Denker, 2013; Linvill, 2014; Mazer, 2013c). Mazer (2013c) discovered that student state motivation and student cognitive and emotional interest in course content is positively associated with silent in-class behaviors, oral in-class behaviors, thinking about course content, and out-of-class behaviors. Linvill (2014) found that students who have a high need for cognition are more likely to use engagement behaviors (i.e., silent in-class, oral in-class, thinking about the course, and out of class) in a course. In regards to instructor pedagogical strategies, Denker (2013) discovered that students report higher rates of participation in large-

lecture classes when student response systems (i.e., clickers) were used. Furthermore, when instructors used problem-based learning (i.e., giving students problems to solve that are related to class material), students report higher levels of engagement (Ahlfeldt et al., 2005).

Student engagement is also influenced by several instructor communication behaviors such as nonverbal immediacy, clarity, enthusiasm, and emotions. Mazer (2012, 2013a) explored the effect of instructor nonverbal immediacy and clarity on student engagement. He found that students reported higher levels of engagement (i.e., silent in-class, oral in-class, thinking about course content, and out-of-class behaviors) when instructors were perceived to be both nonverbally immediate and clear (i.e., verbal, written). Mazer (2013b) further clarified the relationships among instructor nonverbal immediacy, instructor clarity, and student engagement by examining the mediating effects of student interest (i.e., emotional, cognitive). He found that although emotional interest mediated the relationship between instructor nonverbal immediacy and student engagement as well as the relationship between instructor clarity and engagement, cognitive interest mediated only the relationship between instructor clarity and student engagement. Zhang (2014) discovered that when students perceived their instructors to be enthusiastic, they were more likely to report being behaviorally and cognitively engaged within the course. In a cross-cultural examination of the relationship between instructors' demonstration of positive emotion and student engagement, Zhang and Zhang (2013) found that instructors' demonstration of positive emotions positively influenced students' positive emotions, which, in turn, positively influenced students' behavioral engagement

in the U.S., but not in China. Instructors' demonstration of positive emotions positively influenced students' positive emotions, which, then, positively influenced students' cognitive engagement in the U.S. and China.

Rationale

The purpose of this dissertation is to investigate the role that instructional feedback plays in student engagement using the IBM as a theoretical framework. Before this purpose can be achieved, the suitability of studying feedback using the IBM and the appropriateness of the use of the IBM in this dissertation must be established. In future directions for the use of the IBM, Weber et al. (2001) discussed the possibility of adding additional variables or constructs to the model such as exploring how instructional feedback fits in to the IBM's conceptual frame. Specifically, they asked if "teacher feedback [is] a separate construct that needs to be added to the model or can it be viewed as a variable representative of the classroom contextual construct?" (p. 69). Given these two questions, Weber et al. (2011) posited that instructional feedback can, indeed, play a role in student behavioral and learning outcomes. Therefore, the study of instructional feedback is arguably suitable for inclusion in the IBM.

Although numerous instructional communication researchers (Dannels, Gaffney, & Martin, 2011; Martin & Mottet, 2011; King et al., 2009; King et al., 2000; Smith & King, 2004; Trees et al., 2009) have predominantly used Kluger and DeNisi's (1996) Feedback Intervention Theory (FIT) to explore the influence of instructional feedback in the college classroom, the IBM was chosen over FIT as the framework for this dissertation for two reasons. First, the IBM allows for a broad examination of how continuous feedback influences student learning, whereas FIT explains when and why

one particular feedback intervention can influence students' task performance (Kluger & DeNisi, 1996). The central assumption of FIT is that the relationship between feedback interventions and students' task performance is dependent upon three classes of variables (i.e., feedback intervention cues, task characteristics, and situational and personality variables) that capture students' attention either to the task and its characteristics or to students' self-concept (Hattie & Gan, 2011). Because instructors usually provide instructional feedback several times throughout a given semester rather than just one time, using the IBM to examine how the culmination of instructional feedback provided by instructors over a period of time can be investigated instead of one specific instance of provided feedback. Therefore, the IBM offers a more realistic overview of the role that feedback plays in the classroom.

Second, the IBM can offer a holistic assessment of the effects of instructional feedback on student engagement. Weber et al. (2011) argued that the IBM "represents a more complete view of the working parts that go into teaching and learning" (p. 68). According to Hattie and Timperley (2007), the powerful effect of feedback on student learning does not occur in a vacuum, but rather within the learning context. This context can consist of a host of variables that include the first-order and second-order constructs of the IBM (i.e., instructor behaviors, course-specific structural, student characteristics, and instructional beliefs). Therefore, the IBM is an appropriate framework through which the purpose of this dissertation can be accomplished. Specific to this dissertation, the IBM can predict and explain how various instructional variables that are related to instructional feedback can combine to influence student engagement.

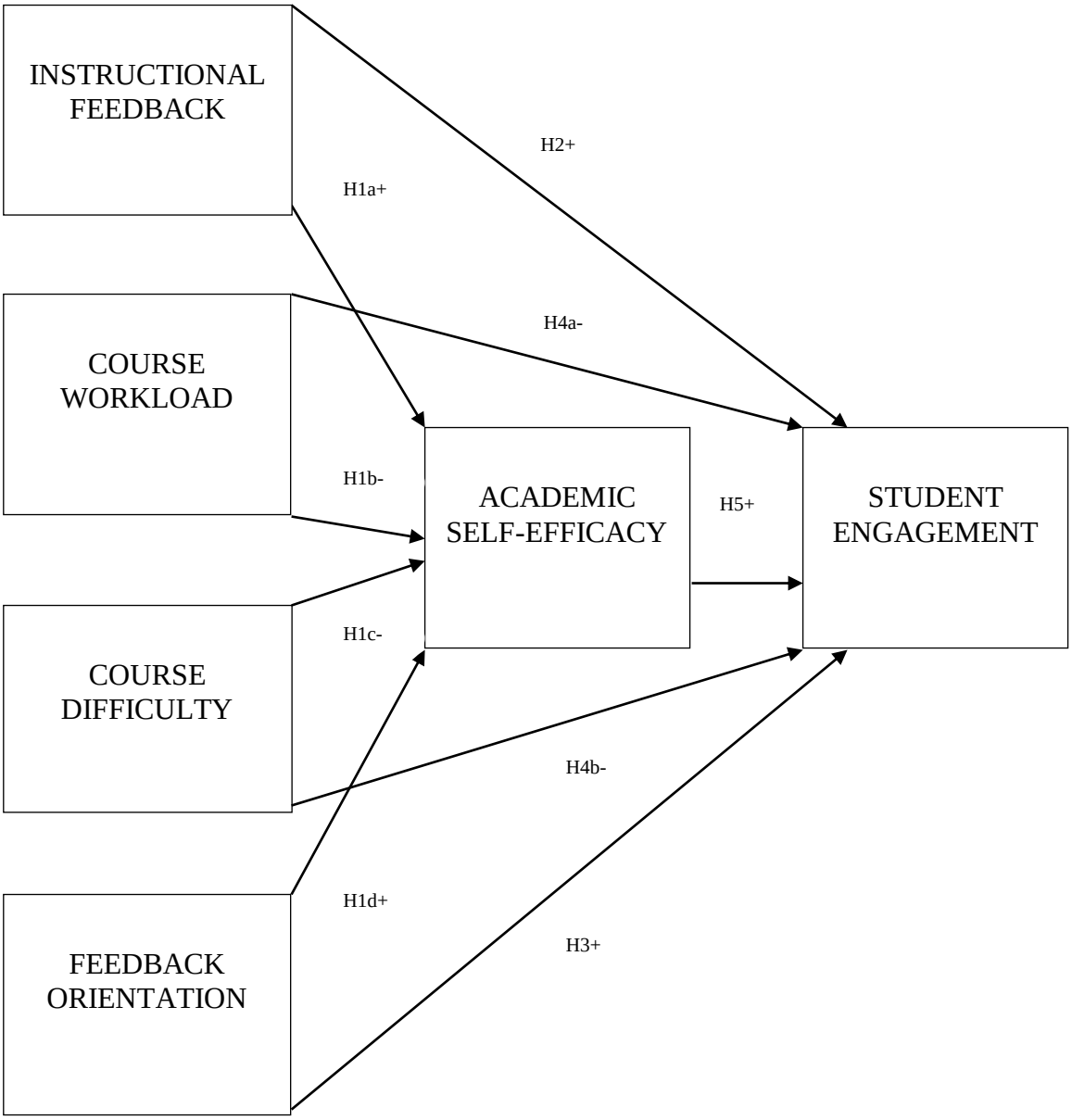
The variables that represent the first-order constructs (i.e., course-specific structural issues, student characteristics), the second-order construct (i.e., instructional beliefs), and the third-order constructs of the proposed IBM (i.e., student learning) were specifically chosen for this dissertation. Course workload and course difficulty were two variables chosen to represent course-structural issues because researchers have indicated that instructor behaviors influence students' perceptions of course workload and difficulty (e.g., Mottet et al., 2006; Murtonen & Lehtinen, 2003). Feedback orientation was chosen to represent the student characteristic of the proposed model because it is reasonable to conclude that students' feedback orientation would influence their responses to the feedback received from their instructors (King et al., 2009). Academic self-efficacy was chosen as the instructional belief because students' academic self-efficacy is known to influence their classroom behaviors (Bandura, 1997). Student engagement was chosen as the learning outcome because it is an indicator of a behavioral learning outcome (Mazer & Graham, 2015).

Considering the research conducted in the areas of academic self-efficacy, student engagement, and the proposed IBM, several hypotheses are posited (see Figure 2). According to Bandura (1997), social forms of persuasion can influence students' judgments of their capabilities. Within the educational setting, instructor feedback can be considered a form of social persuasion because it provides students with information on how they can academically improve (Schunk & Pajares, 2009). As students receive feedback from their instructors, their orientation toward that feedback should influence their judgments of their capabilities of using that feedback to improve their work. As aforementioned, King et al. (2009) found that academic self-efficacy is related to

students' feedback orientation. Specifically, feedback utility was positively related to academic self-efficacy, whereas feedback sensitivity and feedback confidentiality were negatively related to academic self-efficacy. Therefore, it is expected that King et al.'s

Figure 2

Proposed Hypotheses 1-5



Note. + indicates a predicted positive relationship between the variables. – indicates a predicted negative relationship between the variables.

(2009) findings regarding feedback orientation and academic self-efficacy would be replicated within this dissertation.

Schunk and Pajares (2009) explained that in order to "predict achievement outcomes, we must be able to predict which [contextual] factors will affect self-efficacy and how [these factors] will do so" (p. 48). Course workload and course difficulty are two contextual factors that should affect students' levels of academic self-efficacy. In regard to course workload, researchers have argued that pressures of a heavy workload can manifest itself in feelings of stress, anxiety, and the desire to give up among students (Kember, 2004; Kyndt et al., 2011; Lindsay & Rogers, 2010). According to Lazarus and Folkman (1984), individuals' level of self-efficacy determines the evaluation of a demand from the environment. Highly efficacious individuals perceive external demands from the environment as challenges they can accomplish rather than threats (Chemers, Hu, & Garcia, 2001). Therefore, in the educational context, highly efficacious students are less likely to perceive a heavy workload (i.e., demand from the environment) as a threat, but as a challenge they can accomplish because they believe in their capability to complete the workload and complete it well. In regard to course difficulty, Bandura (1977) stated that individuals' level of self-efficacy varies based on task difficulty. Additionally, Schunk (1991) argued that efficacious individuals are willing to work harder and persist longer when confronting difficult tasks. Consequently, it is likely that students' perception of course difficulty would be related to their reported levels of academic self-efficacy. In light of the above discussion, the following four hypotheses are posited:

H1a: Perceived instructional feedback (i.e., developmental feedback, encouraging feedback, and fair feedback) will be positively related to

students' self-reports of their academic self-efficacy.

H1b: Perceived course workload will be negatively related to students' self-reports of their academic self-efficacy.

H1c: Perceived course difficulty will be negatively related to students' self-reports of their academic self-efficacy.

H1d: Students' self-reports of their feedback orientation (i.e., feedback utility, feedback sensitivity, feedback confidentiality, and feedback retention) will be positively related to students' self-reports of their academic self-efficacy.

Pianta, Hamre, and Allen (2012) explained that the quality and nature of instructor-student interactions are important to understanding student engagement. They suggested that any instructor-student interaction that promotes engagement could be considered to be instructional feedback because this interaction promotes a back-and-forth exchange between instructors and students that help students reach a deeper understanding of course content. For instance, Price, Handley, and Millar (2011) found that when students were able to engage in dialogue with their instructors about the provided feedback, they reported being cognitively engaged. According to Dallimore, Hertenstein, and Platt (2004), when instructors provide graduate students with constructive feedback (i.e., helping students understand incorrect answers, making references to students' comments and correcting them), the quality of their in-class participation increased, whereas providing positive feedback (i.e., accepting students view, giving positive comments to students who are participating) increased students' perceptions of discussion effectiveness. Based on these findings, the second and third

hypotheses are posited:

H2: Perceived instructional feedback (i.e., developmental feedback, encouraging feedback, and fair feedback) will be positively related to students' self-reports of classroom engagement (i.e., silent in-class behaviors, oral in-class behaviors, thinking about course content, and out of-class-behaviors).

H3: Students' self-reports of their feedback orientation (i.e., feedback utility, feedback sensitivity, feedback confidentiality, and feedback retention) will be positively related to students' self-reports of classroom engagement (i.e., silent in-class behaviors, oral in-class behaviors, thinking about course content, and out-of-class behaviors).

Although research conducted on the relationships among course workload, course difficulty, and student engagement is nonexistent, there is evidence that suggests that several relationships should exist among these variables. When students perceive a heavy workload, they are more likely to use surface learning strategies (i.e., rote memorization; Giles, 2009). According to Kember, Jamieson, Pomfret, and Wong (1995), students' surface approach to learning was positively related to more hours of independent study time and high attendance. Although students who used a surface approach to learning spent more time studying and attending class, Hockings, Cooke, Yamashita, McGinty, and Bowl (2008) found that these students are disengaged. Furthermore, researchers have discovered that students often expect to receive low grades in courses with a heavy workload (Garmendia, Guisasola, Barragues, & Zuza, 2008; Greenwald & Gillmore, 1997). Expectations of doing poorly in a course often result in students' failing to attend

class lectures and examinations (Kember, 2004). These research findings are further evidence that a heavy workload can lead to students being disengaged. Therefore, the following hypothesis is posited:

H4a: Perceived course workload will be negatively related to students' self-reports of classroom engagement (i.e., silent in-class behaviors, oral in-class behaviors, thinking about course content, and out-of-class behaviors).

Furthermore, when students perceive a course to be difficult, it seems plausible that they will become disengaged in the course. This notion is evident from Schurr et al.'s (1987) finding that students' perceptions of course difficulty are negatively related to their academic achievement. Because student engagement is known to positively influence academic achievement (Kuh, 2003; Kuh et al., 2008) it is possible that when a course is perceived to be too difficult, students disengage from the course, which can lead to low academic achievement. Therefore, the following hypothesis is posited:

H4b: Perceived course difficulty will be negatively related to students' self-reports of classroom engagement (i.e., silent in-class behaviors, oral in-class behaviors, thinking about course content, and out-of-class behaviors).

According to Schunk and Mullen (2012), "self-efficacy comes into play at all points in . . . learning" (p. 225), including student engagement. The role of self-efficacy in student engagement is supported by Zhang's (2014) findings in that highly efficacious students reported being both behaviorally and cognitively engaged in class. Moreover, students who are confident about their ability to complete an academic task are not only

more likely to put in effort, but also persist in accomplishing the task (i.e., behavioral engagement; Vrgut et al., 1997) as well as use cognitive and self-regulated learning strategies (i.e., cognitive engagement; Pintrich & De Groot, 1990). It is anticipated that similar findings will be found in this dissertation; therefore, the following fifth hypothesis is posited:

H5: Students' self-reports of their academic self-efficacy will be positively related to students' self-reports of classroom engagement (i.e., silent in-class behaviors, oral in-class behaviors, thinking about course content, and out-of-class behaviors).

In continuing research focused on academic self-efficacy and academic outcomes, Schunk and Pajares (2009) argued that determining "how self-efficacy intertwines with social influences" (p. 49) is needed. Self-efficacy plays an important mediational role between instructional feedback and student performance (Bandura, 1997). However, as aforementioned, multiple educational variables can combine with instructional feedback to influence academic self-efficacy, which, in turn, should influence student engagement. Therefore, based on the proposed IBM for this dissertation (see Figure 1), the sixth hypothesis is forwarded:

H6: Students' self-reports of their academic self-efficacy will mediate the relationship between perceived instructional feedback, perceived course workload, perceived course difficulty, students' self-reports of their feedback orientation, and students' self-reports of classroom engagement (i.e., silent in-class behaviors, oral in-class behaviors, thinking about course content, and out-of-class behaviors).

Summary

The goal of this dissertation is to examine the role that instructional feedback plays in student engagement using the IBM. This examination is warranted because students' use of engagement behaviors offers instructors a practical tool to assess whether the instructional feedback provided throughout the semester helps students learn, and it can shift communication scholars' examination of the effect of instructional feedback on one particular assignment to its broader effect in the college classroom. The proposed IBM included instructional feedback (i.e., developmental feedback, encouraging feedback, and fair feedback), course workload, course difficulty, and feedback orientation (i.e., feedback utility, feedback sensitivity, feedback confidentiality, and feedback retention) as the first-order constructs; academic self-efficacy as the second-order construct; and student engagement (i.e., silent in-class behaviors, oral in-class behaviors, thinking about course content, and out-of-class behaviors) as the third-order construct.

CHAPTER II

Method

Participants

Participants were 208 undergraduate students (117 women, 91 men) who attended West Virginia University during the Spring 2016 semester. Their mean age was 21 years (M = 21.6, SD = 4.3, range = 18-55 years). Two participants were first year students, 52 participants were sophomores, 55 participants were juniors, 94 participants were seniors, and five participants indicated their class rank as "other." A majority of participants was White/Caucasian (n = 173), followed by Black/African American (n = 20), Hispanic/Latino/as (n = 9), Asian/Asian American (n = 3), and Native American (n = 1). Two participants did not disclose their race.

Participants were asked to provide information about the smallest size course in which they were enrolled during the semester. Participants referenced the smallest size course as a course required for their major (n = 112), their minor (n = 57), or a general elective (n = 39); one participant did not identify the course type she or he referenced. Participants perceived enrollment in these courses to range from 6 to 300 students (M = 47.3, SD = 53.4) that were taught by 136 female instructors and 72 male instructors.

Procedures

Upon receiving Institutional Review Board approval, data were collected during the last week of the Spring 2016 semester. Instructional communication scholars (e.g., Myers, Martin, & Knapp, 2005; Schrodt, Turman, & Soliz, 2006) have collected data during the last weeks of the semester to allow students plenty of time to more accurately develop a sense of their instructors. Instructors from three large-lecture introductory

communication courses were asked if the researcher could solicit participants from their classes. These courses were Nonverbal Communication (2 sections) and Organizational Communication (1 section). Each instructor was asked for 25 minutes of class time to allow the researcher enough time to explain the general premise of the dissertation to the students and to have the students complete a questionnaire in class. Once the instructors granted the researcher permission to solicit participants from their classes, the researcher and each instructor discussed the best date and time to conduct the research session.

At the beginning of each research session, the instructor introduced the researcher to the students. The researcher then greeted the students and gave them a brief synopsis of the purpose of the research project. Participants were asked to voluntarily and anonymously complete a questionnaire containing nine instruments as well as answer demographic questions about themselves (i.e., age, sex, class rank, and race), the course they were attending with the least amount of students enrolled in the course (i.e., the type of course, the number of students in the course, and the reason why they enrolled in the course), and the instructor of the course (i.e., the instructor's sex). Students were asked to reference their smallest size course because the frequency and quality of instructor-student interactions (i.e., students receiving little feedback from instructors) is reduced in large classes (Cuseo, 2007; Karp & Yoels, 1976; Kuh, Schuh, Whitt, & Associates, 1991). Furthermore, providing students with detailed and developmental feedback is more possible and less laborious when the class size is manageable (Cuseo, 2007). The researcher then read the instructions written on the first page of the questionnaire to ensure that the participants understood what to do when completing the survey (see Appendix A). Participants were also told to specifically pay particular attention to each

direction box as some sections of the questionnaire asked them to report alternatively on either their instructor, the course, or themselves; they also were informed that the scales used for each section might differ from the previous section.

Those students who agreed to participate in the study were then told that completing the questionnaire would take between 10-20 minutes, and they were asked to walk to the front of the classroom and retrieve a packet that included a cover letter (see Appendix B), a questionnaire (see Appendix A), and an envelope. Once the participants completed the questionnaire, they were asked to detach the cover letter, put the questionnaire in the provided envelope, and seal the envelope. They were then asked to place the sealed envelope (containing the questionnaire) into a box at the front of the classroom. At the end of the research session, the researcher thanked the participants for completing the questionnaire.

Instrumentation

Participants completed the Assessment Feedback Questionnaire (Lizzio & Wilson, 2008), the Student Course-Workload-Expectancy Violation Scale (Mottet, Parker-Raley, Beebe, & Cunningham., 2007), the Difficulty Appropriateness Scale (Heckert et al., 2006), the Instructional Feedback Orientation Scale (King et al., 2009), a measure of feedback self-efficacy created specifically by the researcher for this dissertation named the Self-Efficacy of Instructional Feedback Scale, and the Student Engagement Scale (Mazer, 2012). [Participants also completed three additional instruments that were not included in the data analysis: a Measure of Academic Self-Efficacy (Pintrich, Smith, Garcia, & McKeachie, 1993), a Measure of Likability (Frymier, 1994b), and the Student Interest Scale (Mazer, 2012).] Each instrument was

modified slightly by (a) changing all verbs to the present tense and (b) adapting the items to reflect student perceptions of a specific course or instructor. Furthermore, with the exception of the Student Course-Workload-Expectancy Violation Scale and the Difficulty Appropriateness Scale, a stem was added to each instrument to ensure that participants would reference the same course while completing the questionnaire. The stems were "In the course I identified . . . ", "In the course I identified, when my instructor provides feedback . . . ", or "In the course I identified, I am confident that I can . . . ".

The *Assessment Feedback Questionnaire* (see Appendix C) is a 21-item instrument that asks participants to indicate their instructors' use of three types of feedback: developmental feedback (nine items), encouraging feedback (four items), and fair feedback (eight items). Responses were solicited using a 5-point Likert scale ranging from 0 (*never*) to 4 (*very often*). Sample subscale items for the developmental feedback type are "His or her comments help me focus on areas I can improve" and "His or her comments show me how to critically assess my own work," sample subscale items for the encouraging feedback type are "She or he acknowledges my good points or ideas" and "She or he recognizes the effort I make," and sample subscale items for the fair feedback type are "She or he gives me feedback that I can't understand" and "His or her feedback is inconsistent or contradictory."

To increase the face validity of the developmental feedback and fair feedback subscales of this questionnaire, six items were added to the original 15 items of the measure. These items were generated based on findings from the qualitative portion of Lizzio and Wilson's (2008) study, which asked students to provide examples of the types and quality of feedback that instructors have provided to them. Additional sample items

added to the developmental feedback subscale are “She or he gives feedback that doesn’t tell me how I can improve my work” and “She or he gives feedback that is detailed”; additional sample items added to the fair feedback subscale are “His or her comments are not based on the criteria she or he uses to grade my work” and “His or her comments are full of jargon that I don’t understand.” Lizzio and Wilson (2008) previously reported Cronbach’s alpha reliability coefficients of .83 for the developmental feedback type, .92 for the encouraging feedback type, and .66 for the fair feedback type.

The *Student Course-Workload-Expectancy Violation* Scale (see Appendix D) is a 5-item instrument that asks participants to indicate whether their instructors violated their expectations of the course workload. Responses were solicited using a 7-point bipolar scale (i.e., Acceptable/Not Acceptable, Appropriate/Inappropriate, Normal/Not Normal, Expected/Not Expected, and Bad/Good). Previous Cronbach’s alpha reliability coefficients of .91 and .92 have been reported for this scale (Mottet et al., 2007; Myers & Thorn, 2013).

The *Difficulty Appropriateness Scale* (see Appendix E) is a 7-item instrument that asks participants to rate the extent to which they agree a particular course is difficult. Responses were solicited using a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Sample items for this scale include “This course is more challenging than I had expected” and “This course is more difficult than it should have been.” A Cronbach’s alpha reliability coefficient of .70 has previously been reported for this scale (Heckert et al., 2006).

The *Instructional Feedback Orientation Scale* (see Appendix F) is a 27-item instrument that asks participants to report on their predispositions toward receiving

instructional feedback across four dimensions: feedback utility (10 items), feedback sensitivity (nine items), feedback confidentiality (five items), and feedback retention (three items). Responses were solicited using a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Because several items on this instrument used the phrase "corrective feedback", a definition of corrective feedback (i.e., the formal or informal feedback you receive from your instructor about your academic performance) was added after the first time the phrase appeared to ensure that the participants understood its meaning.

Sample subscale items for the feedback utility dimension are "I think feedback from my instructor is vitally important in improving my performance" and "Feedback from my instructor motivates me to improve my performance," sample subscale items for the feedback sensitivity dimension are "I feel threatened by receiving corrective feedback" and "The corrective feedback I receive from my instructor increases the stress I feel about future performances," sample subscale items for the feedback confidentiality dimension are "I don't like to receive corrective feedback in front of other people" and "I like others to hear the feedback I am receiving from my instructor," and sample subscale items for the feedback retention dimension are "I can't remember what my instructor wants me to do when she or he provides feedback" and "I tend to miss out on the details of what my instructor wants when she or he provides me with feedback." Researchers (Cranmer & Goodboy, 2015; King et al., 2009; Malachowski et al., 2013) have reported Cronbach's alpha reliability coefficients of .85 and .86 for the feedback sensitivity dimension and Cronbach's alpha reliability coefficients ranging from .82 to .89 for the feedback utility dimension, .73 to .87 for the feedback confidentiality dimension, and .67

to .85 for the feedback retention dimension.

The *Self-Efficacy of Instructional Feedback Scale* (see Appendix G) is a 6-item instrument that asks participants to rate their ability to use the feedback provided by their instructor. This measure was created specifically for this dissertation because according to Bandura (2006), "there is no all-purpose measure of perceived self-efficacy . . . [as] most items in an all purpose test may have little to no relevance to the domain of functioning" (p. 307). Furthermore, it is possible that general items may be limited in their explanatory and predicative capability of an individual's self-efficacy because the items may lack relevance to the type of academic performance that is of interest. Therefore, this new measure was created and used in this dissertation by adhering to the guidelines provided by Bandura (2006) and reviewing the existing literature on instructional feedback. Bandura's guidelines included phrasing the items in terms of *can do* rather than *will do*, having a strong conceptual understanding about the domain of functioning, and using a 100-point scale to increase the sensitivity of the measure. Responses were solicited using a 100-point scale that ranged in 10-unit intervals from 0 (*cannot do at all*) to 100 (*highly certain can do*). Sample items for this measure include "Accurately interpret the feedback that my instructor provides me" and "Apply the feedback that my instructor provides me."

The *Student Engagement Scale* (see Appendix H) is a 13-item instrument that asks participants to rate their use of four classroom engagement behaviors: silent in-class behaviors (four items), oral in-class behaviors (two items), thinking about course content (three items), and out-of-class behaviors (four items). Responses were solicited using a 5-point Likert scale ranging from 0 (*never*) to 4 (*very often*). Sample subscale items for

silent in-class behaviors are “I listen attentively to my instructor during class” and “I give my instructor my full attention during class,” sample subscale items for oral in-class behaviors are “I participate during class discussions by sharing my thoughts and opinions” and “I orally (verbally) participate during class discussion,” sample subscale items for thinking about course content are “I think about how I can utilize the course content” and “I think about how the course material related to my life,” and sample subscale items for out-of-class behaviors are “I review my notes outside of class” and “I talk about the course material with others outside of class.” Researchers (e.g., Linvill, 2014; Mazer, 2012, 2013a) have previously reported Cronbach’s alpha reliability coefficients of .92 and .93 for thinking about course content and Cronbach’s alpha reliability coefficients ranging from .77 to .88 for silent in-class behaviors, .91 to .96 for oral in-class behaviors, and .77 to .82 for out-of-class behaviors.

Data Analysis

Preliminary Analysis. Three preliminary analyses were conducted: reliability analysis, exploratory factor analysis (EFA), and confirmatory factor analysis (CFA). Reliability analysis refers to a measure’s ability to consistently reproduce the same results when it is completed again under similar conditions (Field, 2013). A reliable measure is important to minimize measurement error (Kline, 2011). Cronbach’s alpha reliability coefficient analysis was used to determine the internal consistency reliability of each measure. Two instruments--the Assessment Feedback Questionnaire and the Self-Efficacy of Instructional Feedback Scale--were subjected to EFA. An EFA is a form of factor analysis that is used to expose the underlying structure of a large data set that is measuring some latent construct (Field, 2013). This analysis is used when developing a

new measure as a way to uncover the underlying factor structure of the measure. A CFA is a form of factor analysis used to test "hypotheses about the structures of latent variables and their relationships to each other" (Field, 2013, p. 674) as a way to either confirm or reject the underlying factor structure of a measurement model. The Student Course-Workload-Expectancy Violation Scale, the Difficulty Appropriateness Scale, the Instructional Feedback Orientation Scale, and the Student Engagement Scale were all subjected to CFA. According to Klein (2016), an assumption of CFA is for the data to be normally distributed. In order to transform non-normally distributed data into normally distributed, the Satorra-Bentler robust approach must be conducted; however, this approach is not available in the AMOS statistical program (Byrne, 2010). Because the researcher will use AMOS to conduct these CFAs, the assumption of normality will be violated.

Primary analysis. To address hypotheses 1-5, a series of Pearson Product-Moment Correlations was conducted because these hypotheses sought to uncover the relationships that exist between the variables within the proposed IBM. To address H6, a series of simple mediation models using Ordinary Least Squares (OLS) path analysis was conducted. According to Hayes (2013), a mediation analysis is a statistical method used to explain "how some causal agent *X* transmits its effect on *Y*" (p. 86). In mediation analysis, X (i.e., the independent variable) transmits its effect on Y (i.e., the dependent variable) through M (i.e., the mediating variable). The IBM posits that the effects of first-order constructs on third-order constructs are mediated through the second-order construct (Weber et al., 2011). Because the IBM was used as the framework to explore the effects of instructional feedback on student engagement, a simple mediation analysis

using OLS path analysis was the appropriate statistical analysis to use for testing H6. In the proposed IBM, there were nine independent variables (i.e., developmental feedback, encouraging feedback, fair feedback, course workload, course difficulty, feedback utility, feedback sensitivity, feedback confidentiality, and feedback retention), one mediating variable (i.e., academic self-efficacy), and four dependent variables (i.e., silent in-class behaviors, oral in-class behaviors, thinking about course content, and out-of-class behaviors).

Summary

The methodology of this dissertation was conducted in one phase. Participants were 226 undergraduate students who were solicited from three large-lecture introductory communication courses. During the last week of the Spring 2016 semester, they were asked to complete a questionnaire that contained nine instruments as well as demographic questions about themselves, the course in which there were enrolled, and the instructor of the course. Of the nine instruments that participants completed, only six were used in the analysis and they were the Assessment Feedback Questionnaire (Lizzio & Wilson, 2008), the Student Course-Workload-Expectancy Violation Scale (Mottet et al., 2007), the Difficulty Appropriateness Scale (Heckert et al., 2006), the Instructional Feedback Orientation Scale (King et al., 2009), the Self-Efficacy of Instructional Feedback Scale that was developed by the researcher for this dissertation, and the Student Engagement Scale (Mazer, 2012). When completing the questionnaire, participants were asked to reference (a) the smallest size course in which they were enrolled in that semester and (b) the feedback received from their instructor in that course throughout the entire semester. The internal consistency reliability of each instrument was calculated using Cronbach's

alpha reliability coefficient analysis. The Assessment Feedback Questionnaire and the Self-Efficacy of Instructional Feedback scale were both subjected to an EFA. CFAs were performed on four instruments (i.e., Student Course-Workload-Expectancy Violation Scale, Difficulty Appropriateness Scale, Instructional Feedback Orientation Scale, and Student Engagement Scale). Pearson Product-Moment Correlation and simple mediation models using OLS path analysis were used to test the hypotheses.

CHAPTER III

Results

The purpose of this chapter is to present the findings from the preliminary and primary analyses that were conducted for this dissertation. The four preliminary analyses conducted were exploratory factor analysis (EFA), confirmatory factor analysis (CFA), Cronbach's alpha reliability coefficients analysis, and a two-tailed, Pearson Product-Moment Correlation analysis. The two primary analyses conducted were a series of one-tailed Pearson Product-Moments Correlation analyses and 28 simple mediation models using Ordinary Least Squares (OLS) path analysis.

Preliminary Analyses

Exploratory Factor Analysis

Two instruments--the Assessment Feedback Questionnaire (Lizzio & Wilson, 2008) and the Self-Efficacy of Instructional Feedback Scale that was created specifically for this dissertation--were subjected to an EFA to uncover their underlying factor structure (DeVellis, 2017). To be retained as a factor, each factor was required to (a) have an Eigenvalue that was greater than 1 (DeVellis, 2017), (b) account for at least 5% of the variance of the total factor structure (O'Rourke & Hatcher, 2013), (c) demonstrate face validity (DeVellis, 2017), (d) have a minimum of three scale items per factor (O'Rourke & Hatcher, 2013), and (e) have scale items with a primary loading of at least .60 and secondary loadings of no more than .40 (McCroskey & Young, 1979). Both EFAs were conducted using principle axis factoring with a varimax (orthogonal) rotation.

Assessment Feedback Questionnaire. The Kaiser-Meyer-Olkin test of sampling adequacy was .92 and the Bartlett's Test of Sphericity was significant, χ^2 (210) =

2808.19, $p < .001$, indicating that the sample size was appropriate for an EFA (Cerny & Kaiser, 1977). After three rounds of data reduction (see Appendix C for the initial pool of items), eight items were removed due to low primary loadings, high secondary loadings, and/or cross loadings (i.e., items 6, 8, 9, 10, 11, 15, 16, 18). Of the eight items removed, six items (i.e., items 6, 8, 9, 10, 11, and 15) were part of Lizzio and Wilson's (2008) original scale and two items (i.e., items 16 and 18) were part of the new scale items added by the researcher. The final version of the instrument consisted of 13 of the 21 initial pool of items that produced a two-factor solution that accounted for 59.36% of the total variance (see Table 1 for the factor loadings).

The first factor was comprised of seven items (i.e., items 1, 2, 3, 4, 5, 7, and 20), had an Eigenvalue of 4.50, and accounted for 34.65% of the variance. Of the seven items that comprised the first factor, six items (i.e., items 1, 2, 3, 4, 5, and 7) were part of Lizzio and Wilson's (2008) original scale and one item (i.e., item 20) was part of the new scale items added by the researcher. The items loading on the first factor all represented information instructors provide that extends students' understanding beyond their current level of performance (e.g., "His or her comments make me think further about the topic," "She or he gives feedback that is detailed"). This factor was labeled "Developmental."

The second factor was comprised of six items (i.e., Items 12, 13, 14, 17, 19, and 21), had an Eigenvalue of 3.21, and accounted for 24.71% of the variance. Of the six items that comprised the second factor, three items (i.e., items 12, 13, and 14) were part of Lizzio and Wilson's (2008) original scale and three items (i.e., items 17, 19, and 21) were part of the new scale items added by the researcher. The items loading on the second factor all represented inconsistent or vague information instructors provide

Table 1

EFA Factor Loadings for Assessment Feedback Questionnaire

Items	F1	F2
In the course I identified, when my instructor provides feedback:		
1. His or her comments help me focus on areas I can improve.	**.80**	.20
2. His or her comments show me how to critically assess my own work.	**.82**	.21
3. She or he comments on what I did wrong and what I can do to correct it.	**.85**	.08
4. She or he gives me feedback I can use in future work.	**.86**	.15
5. She or he gives critical feedback on the quality of my work.	**.81**	.08
6. His or her comments make me think further about the topic.	**.66**	.21
7. She or he gives feedback that is detailed.	**.65**	.15
8. She or he gives feedback that makes little sense to me. [a]	.02	**.70**
9. His or her feedback is inconsistent or contradictory to the criteria he or she used to grade my work. [a]	.08	**.87**
10. His or her expectations are hard to know. [a]	.24	**.68**
11. His or her comments are vague. [a]	.31	**.62**
12. His or her comments are not based on the criteria she or he provided for the assignment. [a]	.08	**.67**
13. His or her comments are full of jargon that is difficult for me to understand. [a]	.21	**.70**
Eigenvalue	4.50	3.21
Percentage of Variance	34.65	24.71

Note. Primary loadings are in bold. [a] Items are reverse-coded. F1: Developmental. F2: Fairness.

regarding their students' academic performance (e.g., "His or her comments are not based on the criteria she or he provided for the assignment," "His or her comments are full of jargon that is difficult for me to understand"). This factor was labeled "Fairness."

Based on the EFA, the Assessment Feedback Questionnaire was deemed a two-factor solution (see Appendix I for the final scale items), which contains two of Lizzio and Wilson's original three-factor solution (i.e., developmental, encouraging, and fair).

Self-Efficacy of Instructional Feedback Scale. The Kaiser-Meyer-Olkin test of sampling adequacy was .90 and the Bartlett's Test of Sphericity was significant, χ^2 (15) = 1364.33, $p < .001$, indicating that the sample size was appropriate for an EFA (Cerny & Kaiser, 1977). In the first round of data reduction, all six scale items had primary loadings of .60 and above and secondary loadings of .40 or less (see Table 2 for the factor loadings), resulting in a one-factor solution with an Eigenvalue of 4.71 that accounted for 78.44% of the total variance.

Confirmatory Factor Analysis

Four instruments--the Student Course-Workload-Expectancy Violation Scale (Mottet et al., 2007), the Difficulty Appropriateness Scale (Heckert et al., 2006), the Instructional Feedback Orientation Scale (King et al., 2009), and the Student Engagement Scale (Mazer, 2012)--were subjected to a CFA. Kline (2016) suggested that a minimum set of statistics for a CFA should be reported: (a) the "model chi-square with its degrees of freedom and *p*-value" (p. 269), (b) the comparative fit index (CFI), (c) the root mean square error of approximation (RMSEA), and (d) the standardized root mean square residual (SRMR). For a CFA to be upheld and a model to be deemed as acceptable, (a) the chi-square value should be non-significant, (b) the CFI should be greater than or

Table 2

EFA Factor Loadings for Self-Efficacy of Instructional Feedback Scale

Items	F1
In the course I identified, I am confident that I can:	
1. Apply the feedback that my instructor provides to correct my work.	**.89**
2. Accurately interpret the feedback that my instructor provides me.	**.91**
3. Clearly understand the feedback that my instructor provides me.	**.92**
4. Use the feedback that my instructor provides to critically assess my own work.	**.89**
5. Read the feedback that my instructor provides me.	**.80**
6. Use the feedback that my instructor provides to do well in the course.	**.90**
Eigenvalue	4.71
Percentage of Variance	78.44

Note. Primary loadings are in bold.

equal to .95, (c) the RMSEA should be less than or equal to .08, and (d) the SRMR should be less than or equal to .08 (Kline, 2016). However, according to Kline (2016), the RMSEA is sensitive to the number of parameters (degrees of freedom) of the measurement model and favors more complex models. Therefore, although other global fit indices may indicate a good fit to the data the RMSEA may indicate a poor fit to the data.

Student Course-Workload-Expectancy Violation Scale. The model provided a good fit to the data, χ^2 (5) = 24.28, $p < .001$, CFI = .98, RMSEA = .14, SRMR = .02 (see Figure 3 for CFA factor loadings).

Difficulty Appropriateness Scale. The model provided a poor fit to the data, χ^2 (14) = 107.46, $p < .001$, CFI = .77, RMSEA = .18, SRMR = .11 (see Figure 4 for CFA factor loadings).

Instructional Feedback Orientation Scale. The model provided an adequate fit to the data, χ^2 (318) = 699.28, $p < .001$, CFI = .84, RMSEA = .08, SRMR = .08 (see Figure 5 for CFA factor loadings).

Student Engagement Scale. The model provided a poor fit to the data, χ^2 (59) = 187.73, $p < .001$, CFI = .89, RMSEA = .10, SRMR = .07 (see Figure 6 for CFA factor loadings).

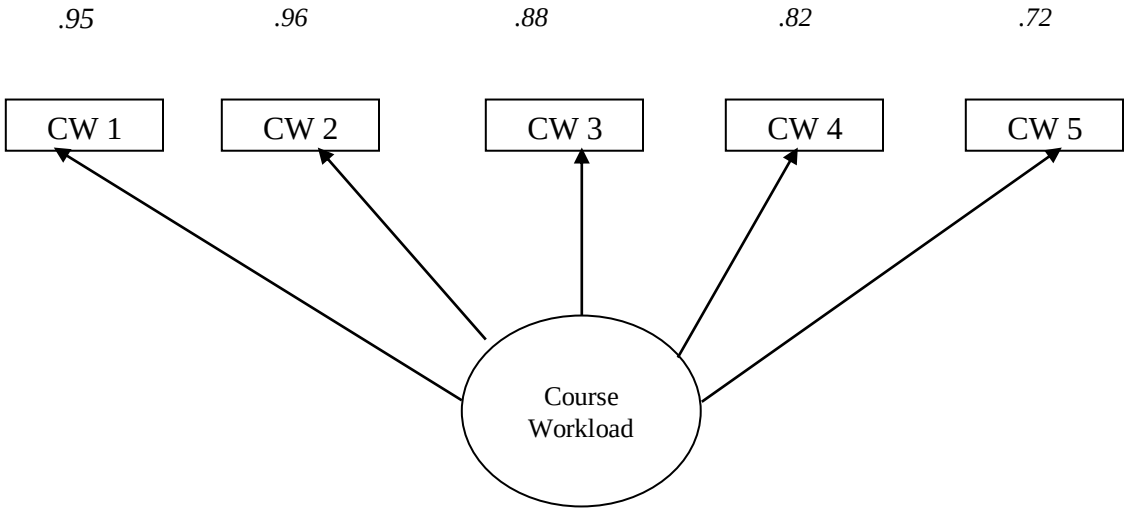
Cronbach's Alpha Reliability Coefficient Analysis

For all six instruments (and the subscales) used in this dissertation, Cronbach's alpha reliability coefficients ranged from .60 to .96. Table 3 contains the descriptive statistics for each instrument.

Two-Tailed Correlation Analysis

Figure 3

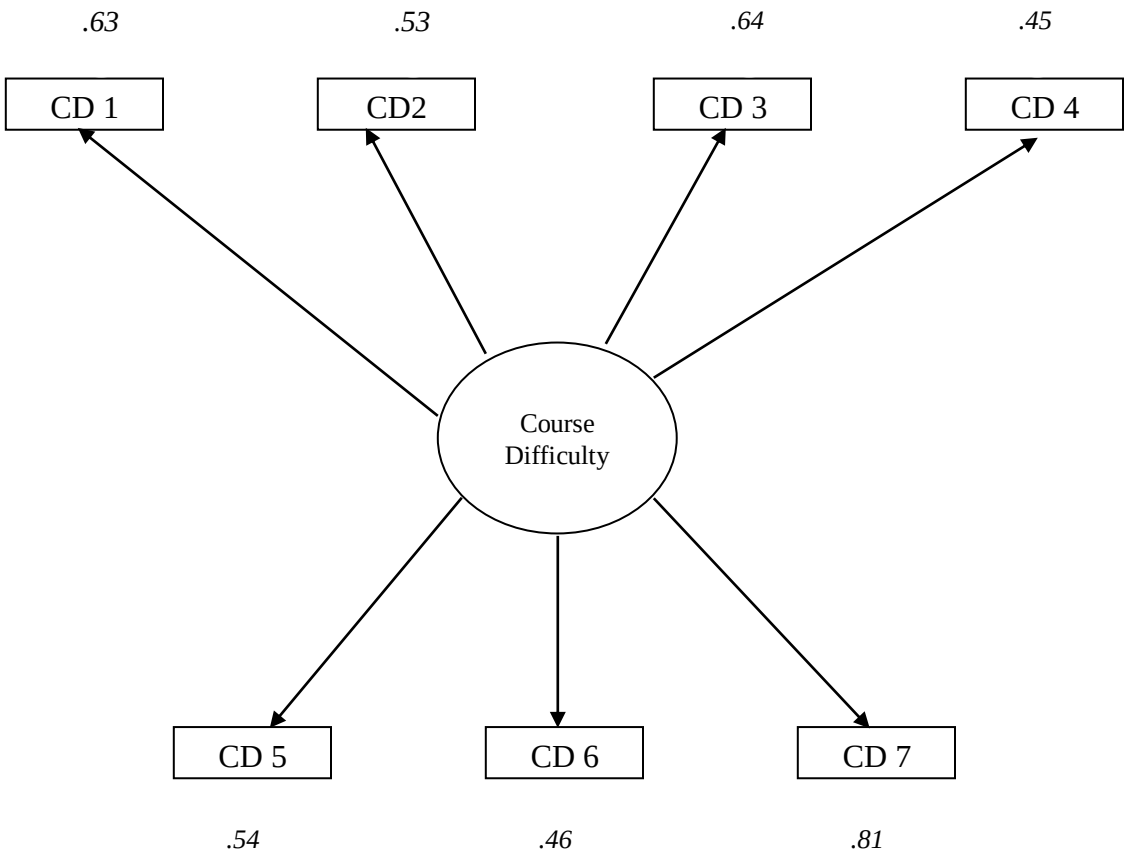
CFA of the Student Course-Workload-Expectancy Violation Scale



Note. χ^2 (5) = 24.28, p < .001, CFI = .98, RMSEA = .14, SRMR = .02. Standardized loadings in italics.

Figure 4

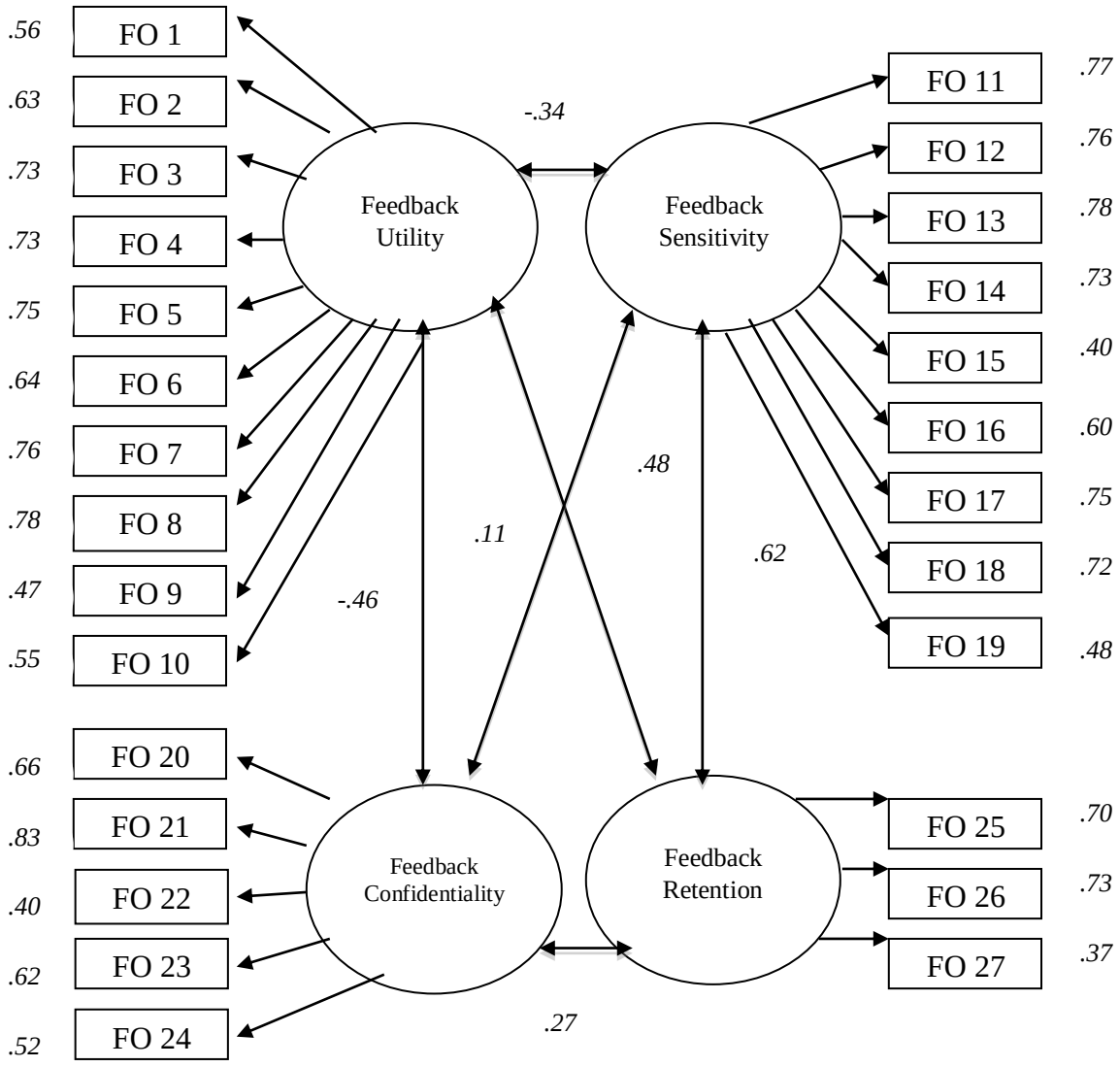
CFA of the Difficulty Appropriateness Scale



Note. χ^2 (14) = .107.46, p < .001, CFI = .77, RMSEA = .18, SRMR = .11. Standardized loadings in italics.

Figure 5

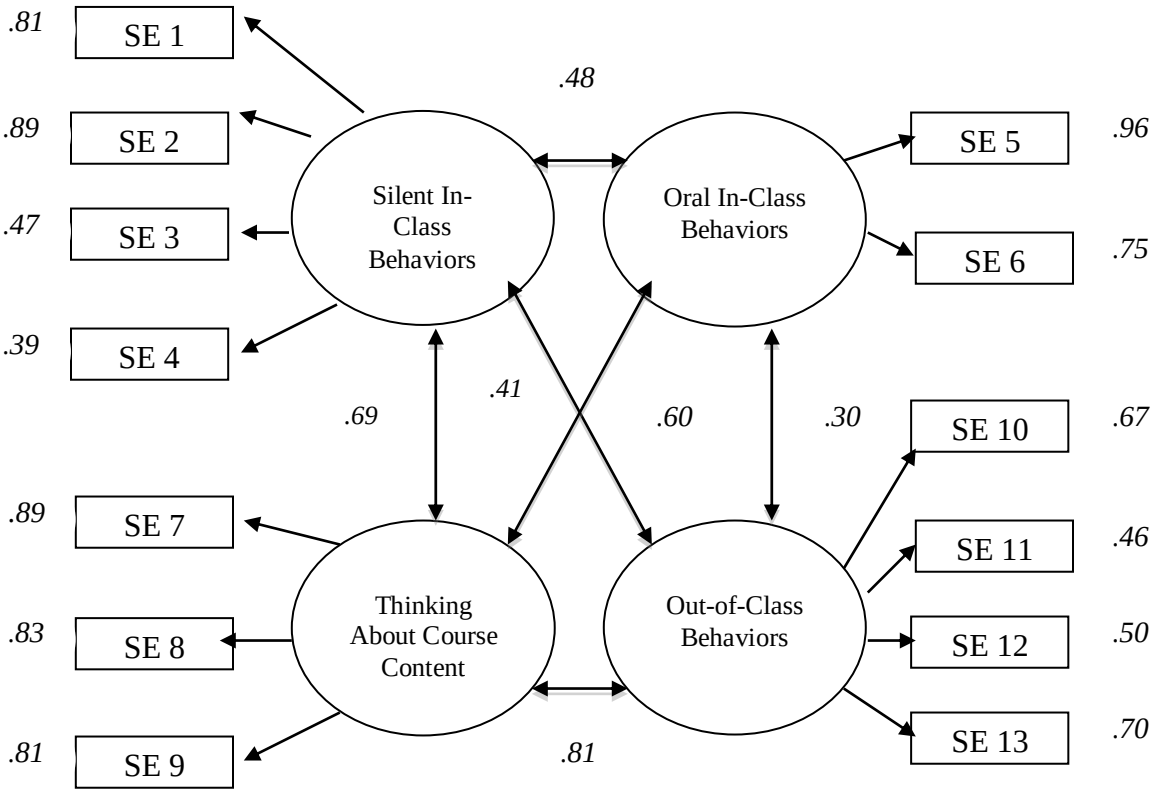
CFA of the Instructional Feedback Orientation Scale



Note. χ^2 (318) = 699.28, p < .001, CFI = .84, RMSEA = .08, SRMR = .08. Standardized loadings in italics.

Figure 6

CFA of the Student Engagement Scale



Note. χ^2 (59) = 187.73, p < .001, CFI = .89, RMSEA = .10, SRMR = .07. Standardized loadings in italics.

Table 3

Descriptive Statistics

				Scale Average		Scale Total	
Instruments	α	Scale Range	Total Range	*M*	*SD*	*M*	*SD*
Instructional Feedback							
Developmental Feedback	.92	0-4	0-28	2.92	.98	20.44	6.85
Fairness Feedback	.87	0-4	0-24	3.01	.95	18.05	5.72
Course Workload	.94	1-7	5-35	2.15	1.40	10.73	6.98
Course Difficulty	.78	1-5	5-35	2.17	.74	15.21	5.15
Feedback Orientation							
Feedback Utility	.88	1-5	5-50	4.05	.74	40.49	7.41
Feedback Sensitivity	.87	1-5	5-45	1.89	.74	17.04	6.70
Feedback Confidentiality	.75	1-5	5-25	2.83	.65	15.09	4.23
Feedback Retention	.60	1-5	5-15	4.14	.75	12.41	2.26
Feedback Self-Efficacy	.96	0-100	0-600	81.44	21.33	488.63	128.00
Student Engagement							
Silent in-Class Behaviors	.72	0-4	0-16	3.32	.59	13.30	2.36
Oral in-Class Behaviors	.84	0-4	0-8	2.57	1.18	5.14	2.36
Thinking About Course Content	.88	0-4	0-12	2.77	1.11	8.31	3.32
Out-of-Class Behaviors	.66	0-4	0-16	2.41	.91	9.65	3.66

All variables were subjected to a series of two-tailed, Pearson Product-Moment Correlations. Table 4 contains the correlation matrix.

Primary Analysis

To test hypotheses 1-5, a series of one-tailed, Pearson Product-Moment correlations was conducted. To test hypothesis 6, a series of simple mediation models using OLS path analysis was conducted.

Hypotheses 1a-1d

Hypothesis 1a predicted that perceived instructional feedback (i.e., developmental feedback, fairness feedback) would be positively related to students' self-reports of their feedback self-efficacy. This hypothesis was supported. Both perceived developmental feedback [$r(206) = .53$, $p < .001$] and perceived fairness feedback [$r(206) = .57$, $p < .001$] were positively correlated with students' self-reports of their feedback self-efficacy.

Hypothesis 1b predicted that perceived course workload would be negatively related to students' self-reports of their feedback self-efficacy. This hypothesis was supported. Perceived course workload [$r(206) = -.51$, $p < .001$] was negatively correlated with students' self-reports of their feedback self-efficacy.

Hypothesis 1c predicted that perceived course difficulty would be negatively related to students' self-reports of their feedback self-efficacy. This hypothesis was supported. Perceived course difficulty [$r(206) = -.58$, $p < .001$] was negatively correlated with students' self-reports of their feedback self-efficacy.

Hypothesis 1d predicted that students' self-reports of their feedback orientation (i.e., feedback utility, feedback sensitivity, feedback confidentiality, and feedback retention) would be positively related to students' self-reports of their feedback self-

Table 4

Correlation Matrix

Variables	1	2	3	4	5	6	7	8	9	10	11	12
Instructional Feedback												
1. Developmental Feedback	--											
2. Fairness Feedback	.36^	--										
3. Course Workload	-.34^	-.51^	--									
4. Course Difficulty	-.40^	-.56^	.73^	--								
Feedback orientation												
5. Utility	.50^	.42^	-.34^	-.42^	--							
6. Sensitivity	-.19^	-.21^	.25^	.27^	-.31^	--						
7. Confidentiality	-.12	.07	.04	.07	.15*	.39^	--					
8. Retention	.17*	.32^	-.29^	-.36^	.40^	-.43^	-.15*	--				
9. Feedback Self-Efficacy	.53^	.57^	-.51^	-.58^	.51^	-.13	.07	.30^	--			
Student Engagement												
10. Silent in-Class Behavior	.32^	.13	-.20**	-.21**	.41^	-.15*	-.02	.20**	.20**	--		
11. Oral in-Class Behavior	.36^	.02	-.11	-.19**	.31^	-.16*	-.15*	.09	.17*	.41^	--	
12. Thinking About Course	.39^	.17*	-.29^	-.29^	.43^	-.06	.08	.15*	.29^	.60^	.38^	--
13. Out-of-Class Behavior	.28^	.01	-.14	-.15*	.31^	.01	-.05	.09	.17*	.49^	.22^	.65^

Note. * $p < .05$. ** $p < .01$. ^ $p < .001$. Two-Tailed.

efficacy. This hypothesis was partially supported. Both feedback utility [$r(206) = .51$, $p < .001$] and feedback retention [$r(206) = .30$, $p < .001$] were positively correlated with students' self-reports of their feedback self-efficacy. Neither feedback sensitivity [$r(206) = -.13$, $p = .06$] nor feedback confidentiality [$r(206) = .07$, $p = .32$] were significantly correlated with students' self-reports of their feedback self-efficacy.

Hypothesis 2

Hypothesis 2 predicted that perceived instructional feedback (i.e., developmental feedback, fairness feedback) would be positively related to students' self-reports of their classroom engagement (i.e., silent in-class behaviors, oral in-class behaviors, thinking about course content, and out-of-class behaviors). This hypothesis was partially supported. Perceived developmental feedback was positively correlated with all four classroom engagement behaviors: silent in-class behaviors [$r(206) = .32$, $p < .001$], oral in-class behaviors [$r(206) = .36$, $p < .001$], thinking about course content [$r(206) = .39$, $p < .001$], and out-of-class behaviors [$r(206) = .28$, $p < .001$]. Perceived fairness feedback was positively correlated with one of the four classroom engagement behaviors: thinking about course content [$r(206) = .17$, $p < .05$]. Perceived fairness feedback was not significantly correlated with silent in-class behaviors [$r(206) = .13$, $p = .06$], oral in-class behaviors [$r(206) = .02$, $p = .74$], or out-of-class behaviors [$r(206) = .01$, $p = .92$].

Hypothesis 3

Hypothesis 3 predicted that students' self-reports of their feedback orientation (i.e., feedback utility, feedback sensitivity, feedback confidentiality, and feedback retention) would be positively related to students' self-reports of their classroom engagement (i.e., silent in-class behaviors, oral in-class behaviors, thinking about course

content, and out-of-class behaviors). This hypothesis was partially supported.

Feedback Utility. Feedback utility was positively correlated with all four classroom engagement behaviors: silent in-class behaviors [$r(206) = .41$, $p < .001$], oral in-class behaviors [$r(206) = .31$, $p < .001$], thinking about course content [$r(206) = .43$, $p < .001$], and out-of-class behaviors [$r(206) = .31$, $p < .001$].

Feedback Sensitivity. Feedback sensitivity was negatively correlated with two of the four classroom engagement behaviors: silent in-class behaviors [$r(206) = -.15$, $p < .05$] and oral in-class behaviors [$r(206) = -.16$, $p < .05$]. Feedback sensitivity was not significantly correlated with either thinking about course content [$r(206) = -.06$, $p = .37$] or out-of-class behaviors [$r(206) = .01$, $p = .86$].

Feedback Confidentiality. Feedback confidentiality was negatively correlated with one of the four engagement behaviors: oral in-class behaviors [$r(206) = -.15$, $p < .05$]. Feedback confidentiality was not significantly correlated with silent in-class behaviors [$r(206) = -.02$, $p = .81$], thinking about course content [$r(206) = .08$, $p = .24$], or out-of-class behaviors [$r(206) = -.05$, $p = .46$].

Feedback Retention. Feedback retention was positively correlated with two of the four classroom engagement behaviors: silent in-class behaviors [$r(206) = .20$, $p < .01$] and thinking about course content [$r(206) = .15$, $p < .05$]. Feedback retention was not significantly correlated with either oral in-class behaviors [$r(206) = .09$, $p = .19$] or out-of-class behaviors [$r(206) = .09$, $p = .21$].

Hypotheses 4a-b

Hypothesis 4a predicted that perceived course workload would be negatively related to students' self-reports of their classroom engagement (i.e., silent in-class

behaviors, oral in-class behaviors, thinking about course content, and out-of-class behaviors). This hypothesis was partially supported. Perceived course workload was negatively correlated with two of the four classroom engagement behaviors: silent in-class behaviors [$r(206) = -.20$, $p < .01$] and thinking about course content [$r(206) = -.29$, $p < .001$]. Perceived course workload was not significantly correlated with either oral in-class behaviors [$r(206) = -.11$, $p = .12$] or out-of-class behaviors [$r(206) = -.14$, $p = .05$].

Hypothesis 4b predicted that perceived course difficulty would be negatively related to students' self-reports of their classroom engagement (i.e., silent in-class behaviors, oral in-class behaviors, thinking about course content, and out-of-class behaviors). This hypothesis was supported. Perceived course difficulty was negatively correlated with all four classroom engagement behaviors: silent in-class behaviors [$r(206) = .21$, $p < .01$], oral in-class behaviors [$r(206) = .19$, $p < .01$], thinking about course content [$r(206) = .29$, $p < .001$], and out-of-class behaviors [$r(206) = .15$, $p < .05$].

Hypothesis 5

Hypothesis 5 predicted that students' self-reports of their feedback self-efficacy would be positively related to their self-reports of their classroom engagement (i.e., silent in-class behaviors, oral in-class behaviors, thinking about course content, and out-of-class behaviors). This hypothesis was supported. Feedback self-efficacy was positively correlated with all four classroom engagement behaviors: silent in-class behaviors [$r(206) = .20$, $p < .01$], oral in-class behaviors [$r(206) = .17$, $p < .01$], thinking about course content [$r(206) = .29$, $p < .001$], and out-of-class behaviors [$r(206) = .17$, $p < .05$].

Hypothesis 6

Hypothesis six predicted that students' self-reports of their feedback self-efficacy

(i.e., second-order construct) would mediate the relationship between perceived instructional feedback, perceived course workload, perceived course difficulty, students' self-reports of their feedback orientation (i.e., first-order constructs), and students' self-reports of their classroom engagement (i.e., third-order construct). Based on the proposed IBM contained in Chapter 1 (see Figure 1), 28 simple mediation models using OLS path analysis with a percentile bootstrap confidence interval based on 5,000 bootstrap samples were conducted. The hypothesis was not supported. This finding will be separated into four sections, with each section focusing on one of the four classroom engagement behaviors: silent in-class behaviors, oral in-class behaviors, thinking about course content, and out-of-class behaviors.

Silent in-Class Behaviors. All indirect effects between the first-order constructs (i.e., instructional feedback, course workload, course difficulty, & feedback orientation) of the proposed IBM and silent in-class behaviors are reported in Table 5. The instructor behavior (i.e., developmental feedback, fairness feedback) did not indirectly influence students' use of silent in-class behaviors through their self-reports of their feedback self-efficacy (see Figure 7). After controlling for several variables (i.e., fairness feedback, course workload, course difficulty, feedback utility, feedback sensitivity, feedback confidentiality, and feedback retention), perceived developmental feedback influenced students' self-reports of their feedback self-efficacy (a = 5.548), but students' self-reports of their feedback self-efficacy did not influence their use of silent in-class behaviors (b = -.001). The indirect effect of perceived developmental feedback and use of silent in-class behaviors (ab = -.013) included zero. However, there was evidence that perceived developmental feedback influenced their use of silent in-class behaviors (c' = .104, p <

Table 5

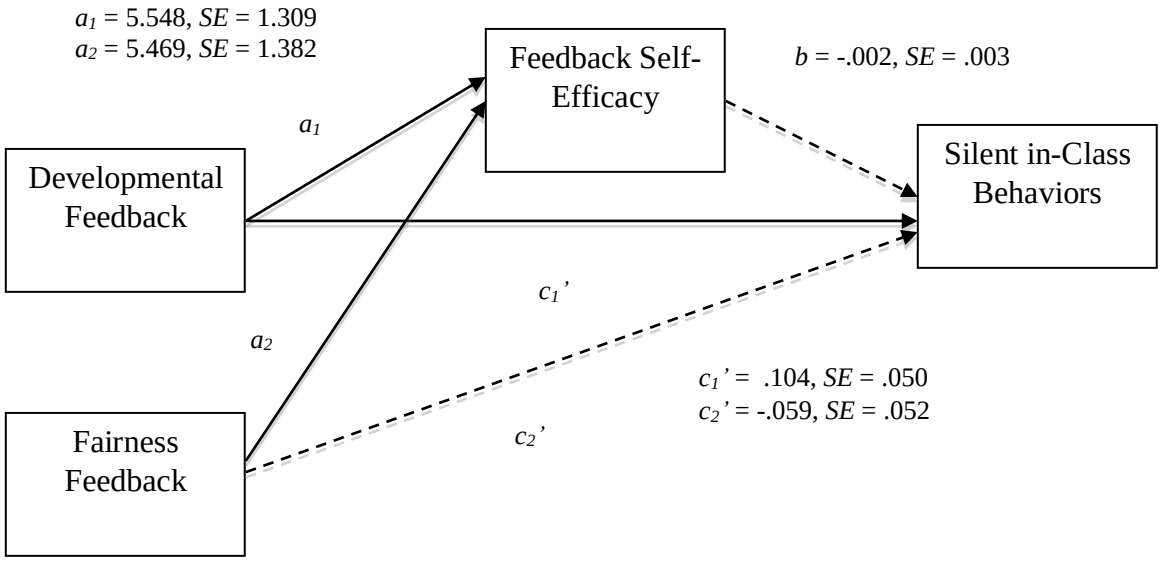
Total Effects, Indirect Effects, Standard Errors, Confidence Intervals, and Effect Sizes of Mediation Analyses for Silent in-Class Behaviors

				95% CI		
First-Order Constructs	*c*	*ab*	*SE*	lower	upper	ab_{cs}
Instructor Behavior						
Developmental Feedback	.091	-.013	.017	-.050	.016	-.020
Fairness Feedback	-.072	-.013	.017	-.051	.015	-.018
Course-Specific Structural Issues						
Course Workload	-.032	.003	.007	-.006	.024	.006
Course Difficulty	-.003	.015	.020	-.022	.059	.014
Student Characteristic						
Feedback Utility	.278	-.011	.017	-.053	.013	-.011
Feedback Sensitivity	.014	-.008	.012	-.038	.007	-.009
Feedback Confidentiality	-.037	-.003	.007	-.018	.011	-.003
Feedback Retention	.036	-.004	.009	-.026	.009	-.005

Note. *c* = total effect coefficient. *ab* = unstandardized indirect effect coefficient. ab_{cs} = completely standardized effect size.

Figure 7

OLS Path Analyses for Instructional Feedback and Silent in-Class Behaviors



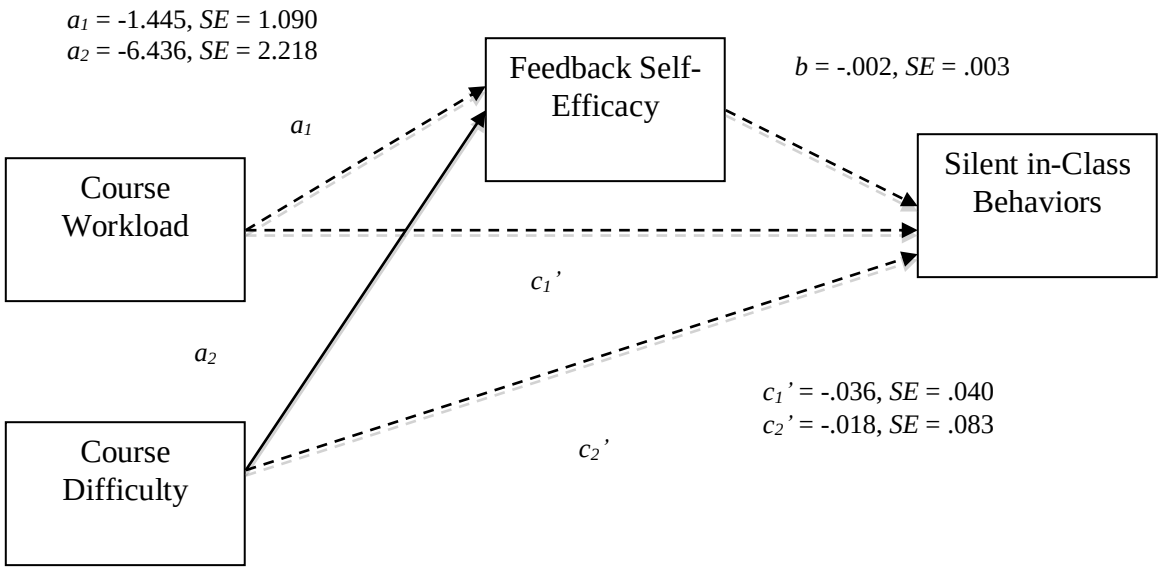
Note. Unstandardized coefficients shown in figure. Solid paths are significant ($p < .05$).

.05). After controlling for several variables (i.e., developmental feedback, course workload, course difficulty, feedback utility, feedback sensitivity, feedback confidentiality, and feedback retention), the indirect effect of perceived fairness feedback and silent in-class behaviors (*ab* = -.013) included zero. Perceived fairness feedback influenced students' self-reports of their feedback self-efficacy (*a* = 5.469), but students' self-reports of their feedback self-efficacy did not influence their use of silent in-class behaviors (*b* = -.002). There was no evidence that perceived fairness feedback directly influenced their use of silent in-class behaviors (*c'* = -.059, *p* = .259).

Both course-specific structural issues--perceived course workload (*ab* = .004) and perceived course difficulty (*ab* = .015)--did not indirectly influence students' use of silent in-class behaviors through their self-reports of their feedback self-efficacy (see Figure 8), as the indirect effect of perceived course workload, perceived course difficulty, and students' use of silent in-class behaviors included zero. After controlling for several variables (i.e., developmental feedback, fairness feedback, course difficulty, feedback utility, feedback sensitivity, feedback confidentiality, and feedback retention), perceived course workload did not influence students' self-reports of their feedback self-efficacy (*a* = -1.445) and students' self-reports of their feedback self-efficacy did not influence students' use of silent in-class behaviors (*b* = -.002). There was no evidence that course workload influenced their use of silent in-class behaviors (*c'* = -.036, *p* = .372). Perceived course difficulty influenced students' self-reports of their feedback self-efficacy (*a* = -6.436), but students' self-reports of their feedback self-efficacy did not influence their use of silent in-class behaviors (*b* = -.002) after controlling for several variables (i.e., developmental feedback, fairness feedback, course workload, feedback utility, feedback

Figure 8

OLS Path Analyses for Course Workload, Course Difficulty and Silent in-Class Behaviors



Note. Unstandardized coefficients shown in figure. Solid paths are significant ($p < .05$).

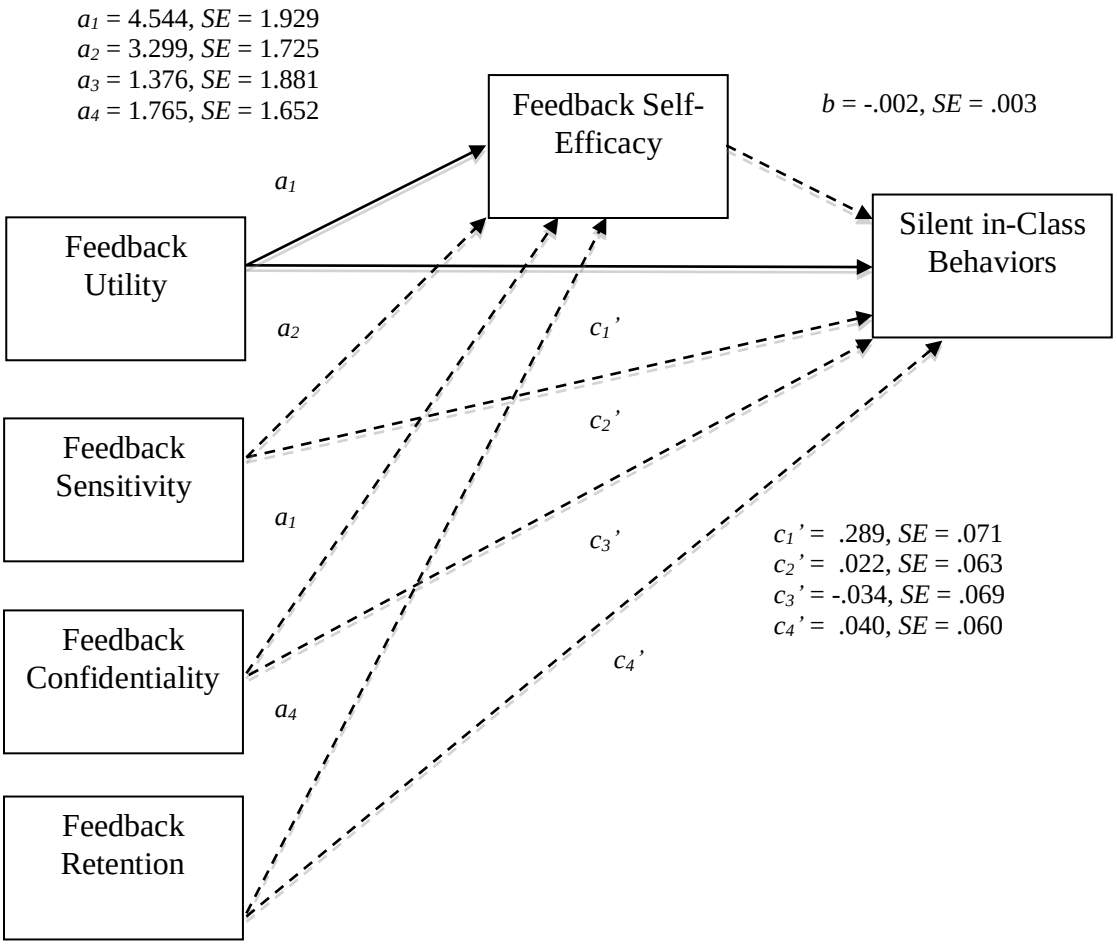
sensitivity, feedback confidentiality, and feedback retention). There was also no evidence that perceived course difficulty influenced students' use of silent in-class behaviors (*c'* = -.018, *p* = .824).

With regard to the student characteristic, students' self-reports of their feedback orientation (i.e., feedback utility, feedback sensitivity, feedback confidentiality, and feedback retention) did not indirectly influence students' use of silent in-class behaviors through their feedback self-efficacy (see Figure 9). The indirect effects of feedback utility (*ab* = -.011), feedback sensitivity (*ab* = -.008), feedback confidentiality (*ab* = -.003), feedback retention (*ab* = -.004), and students' use of silent in-class behaviors all included zero. After controlling for several variables (i.e., developmental feedback, fairness feedback, course workload, course difficulty, feedback sensitivity, feedback confidentiality, and feedback retention), feedback utility influenced students' self-reports of their feedback self-efficacy (*a* = 4.544), but students' self-reports of their feedback self-efficacy did not influence their use of silent in-class behaviors (*b* = -.002). However, there was evidence that feedback utility influenced students' use of silent in-class behaviors (*c'* = .289, *p* < .01). After controlling for several variables (i.e., developmental feedback, fairness feedback, course workload, course difficulty, feedback utility, feedback confidentiality, and feedback retention), feedback sensitivity did not influence students' self-reports of their feedback self-efficacy (*a* = 3.300) and students' self-reports of their feedback self-efficacy did not influence their use of silent in-class behaviors (*b* = -.002). There was no evidence that feedback sensitivity influenced students' use of silent in-class behaviors (*c'* = .022, *p* = .728).

For feedback confidentiality, after controlling for several variables (i.e.,

Figure 9

OLS Path Analyses for Feedback Orientation and Silent in-Class Behaviors



Note. Unstandardized coefficients shown in figure. Solid paths are significant ($p < .05$).

developmental feedback, fairness feedback, course workload, course difficulty, feedback utility, feedback sensitivity, and feedback retention), it did not influence students' self-reports of their feedback self-efficacy (a = 1.376) and students' self-reports of their feedback self-efficacy did not influence their use of silent in-class behaviors (b = -.002). Furthermore, there was no evidence that feedback confidentiality influenced students' use of silent in-class behaviors (c' = -.034, p = .622). After controlling for several variables (i.e., developmental feedback, fairness feedback, course workload, course difficulty, feedback utility, feedback sensitivity, and feedback confidentiality), feedback retention did not influence students' self-reports of their feedback self-efficacy (a = 1.765) and students' self-reports of their feedback self-efficacy did not influence their use of silent in-class behaviors (b = -.002). There was also no evidence that feedback retention influenced students' use of silent in-class behaviors (c' = .040, p = .511).

Oral in-Class Behaviors. All indirect effects between first-order constructs (i.e., instructional feedback, course workload, course difficulty, and feedback orientation) in the proposed IBM and oral in-class behaviors are reported in Table 6. Perceived developmental feedback (ab = -.008) and perceived fairness feedback (ab = -.007) did not indirectly influence students' use of oral in-class behaviors through their self-reports of their feedback self-efficacy (see Figure 10). The indirect effects for perceived developmental feedback, perceived fairness feedback, and students' use of oral in-class behaviors included zero. After controlling for several variables (i.e., fair feedback, course workload, course difficulty, feedback utility, feedback sensitivity, feedback confidentiality, and feedback retention), perceived developmental feedback influenced students' self-report's of their feedback self-efficacy (a = 5.548), but students' self-

Table 6

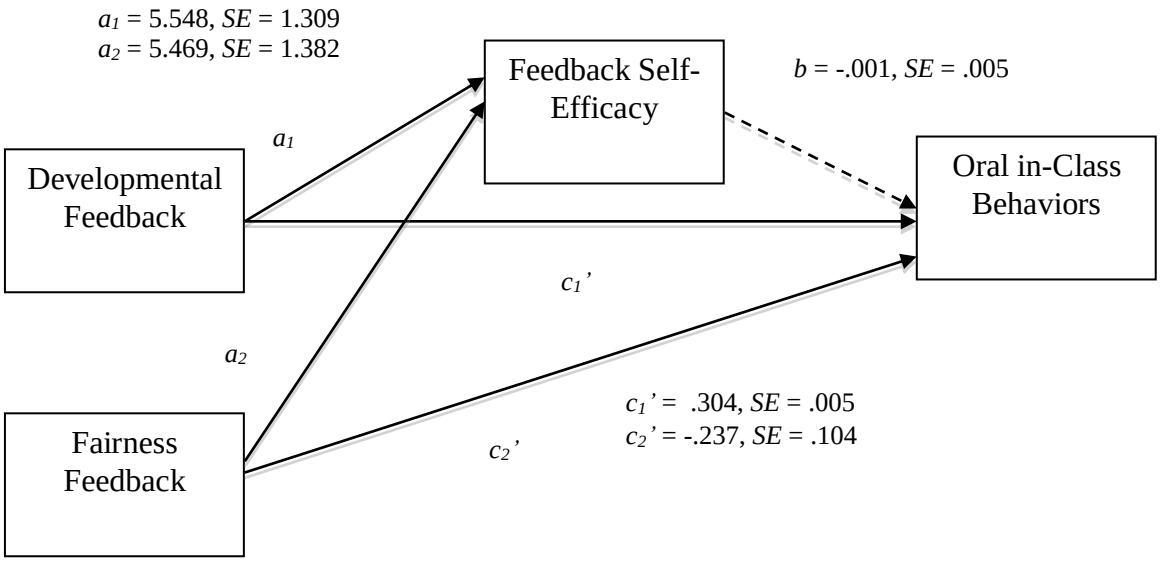
Total Effects, Indirect Effects, Standard Errors, Confidence Intervals, and Effect Sizes of the Mediation Analysis for Oral in-Class Behaviors

				95% CI		
First-Order Constructs	*c*	*ab*	*SE*	lower	upper	ab_{cs}
Instructor Behavior						
Developmental Feedback	.296	-.008	.029	-.061	.055	-.005
Fairness Feedback	-.245	-.007	.029	-.061	.05	-.057
Course-Specific Structural Issues						
Course Workload	.050	.002	.011	-.023	.024	.002
Course Difficulty	-.214	.009	.034	-.073	.067	.004
Student Characteristic						
Feedback Utility	.433	-.006	.026	-.059	.050	-.003
Feedback Sensitivity	-.028	-.004	.018	-.043	.031	-.003
Feedback Confidentiality	-.259	-.002	.012	-.034	.018	-.001
Feedback Retention	-.092	-.002	.013	-.031	.023	-.001

Note. *c* = total effect coefficient. *ab* = unstandardized indirect effect coefficient. ab_{cs} = completely standardized effect size.

Figure 10

OLS Path Analyses for Instructional Feedback and Oral in-Class Behaviors



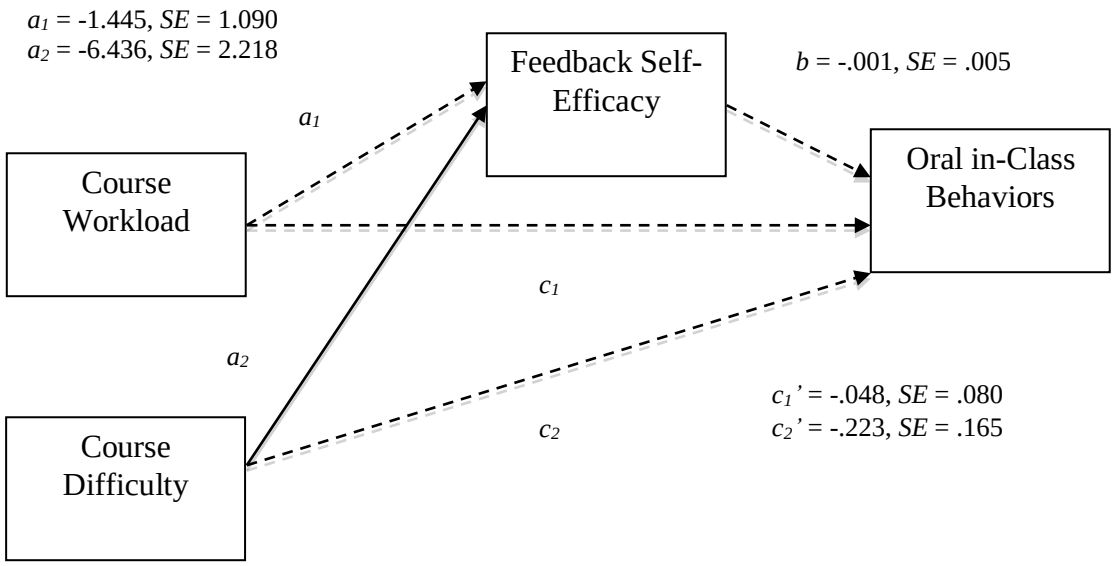
Note. Unstandardized coefficients shown in figure. Solid paths are significant ($p < .05$).

reports of their feedback self-efficacy did not influence their use of oral in-class behaviors (b = -.001). However, there was evidence that perceived developmental feedback influenced students' use of oral in-class behaviors (c' = .304, $p < .05$). After controlling for several variables (i.e., developmental feedback, course workload, course difficulty, feedback utility, feedback sensitivity, feedback confidentiality, and feedback retention), perceived fairness feedback influenced student's self-reports of their feedback self-efficacy (a = 5.469), but students' self-reports of their feedback self-efficacy did not influence their use of oral in-class behaviors (b = -.001). There was also evidence that perceived fairness feedback directly influenced their use of oral in-class behaviors (c' = -.237, $p < .05$).

With regards to course-specific structural issues, both perceived course workload (ab = .002) and perceived course difficulty (ab = .009) did not indirectly influence students' use of oral in-class behaviors through students' self-reports of their feedback self-efficacy (see Figure 11). The indirect effects of perceived course workload, perceived course difficulty, and student's use of oral in-class behaviors included zero. Perceived course workload did not influence students' self-reports of their feedback self-efficacy (a = - 1.445) and students' self-reports of their feedback self-efficacy did not influence their use of oral in-class behaviors (b = -.001) after controlling for several variables (i.e., developmental feedback, fairness feedback, course difficulty, feedback utility, feedback sensitivity, feedback confidentiality, and feedback retention). There was no evidence that perceived course workload directly influenced students' use of oral in-class behaviors (c' = -.048, p = .544). After controlling for several variables (i.e., developmental feedback, fairness feedback, course workload, feedback utility, feedback

Figure 11

OLS Path Analyses for Course Workload, Course Difficulty and Oral in-Class Behaviors



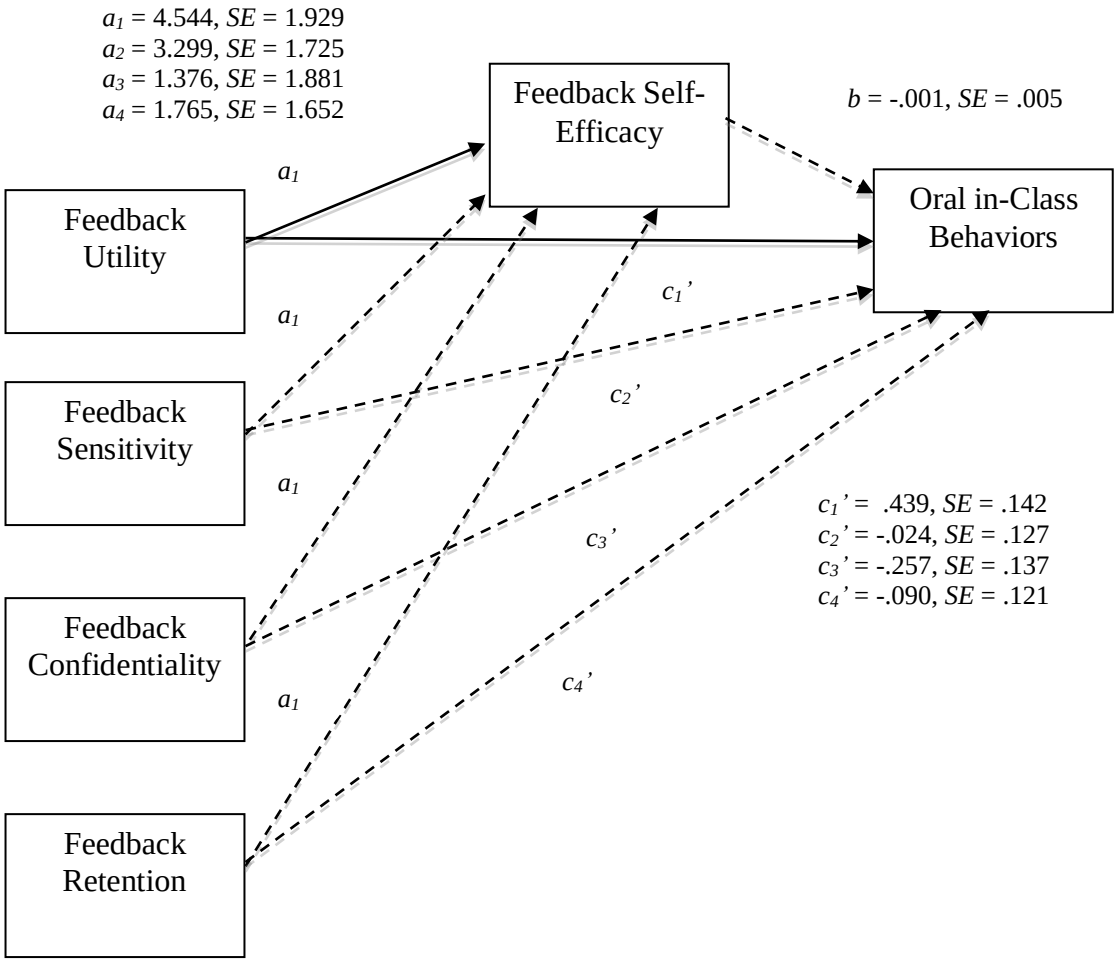
Note. Unstandardized coefficients shown in figure. Solid paths are significant ($p < .05$).

sensitivity, feedback confidentiality, and feedback retention), perceived course difficulty influenced students' self-reports of their feedback self-efficacy (*a* = -6.436), but students' self-reports of their feedback self-efficacy did not influence their use of oral in-class behaviors (*b* = -.001). There was also no evidence that perceived course difficulty directly influenced students' use of oral in-class behaviors (*c'* = -.223, *p* = .178).

Students' self-reports of their feedback orientation (i.e., feedback utility, feedback sensitivity, feedback confidentiality, and feedback retention) did not indirectly influence their use of oral in-class behaviors through their self-reports of their feedback self-efficacy (see Figure 12). The indirect effects of feedback utility (*ab* = -.006), feedback sensitivity (*ab* = -.004), feedback confidentiality (*ab* = -.002), feedback retention (*ab* = -.002), and students' use of oral in-class behaviors all included zero. After controlling for several variables (i.e., developmental feedback, fairness feedback, course workload, course difficulty, feedback sensitivity, feedback confidentiality, and feedback retention), feedback utility influenced students' self-reports of their feedback self-efficacy (*a* = 4.544), but their self-reports of their feedback self-efficacy did not influence their use of oral in-class behaviors (*b* = -.001). However, there was evidence that feedback utility influenced students' use of oral in-class behaviors (*c'* = .439, *p* < .01). Feedback sensitivity did not influence students' self-reports of their feedback self- efficacy (*a* = 3.299) and students' self-reports of their feedback self-efficacy did not influence their use of oral in-class behaviors (*b* = -.001) after controlling for several variables (i.e., developmental feedback, fairness feedback, course workload, course difficulty, feedback utility, feedback confidentiality, and feedback retention). There was no evidence that feedback sensitivity influenced students' use of oral in-class behaviors (*c'* = -.024, *p* =

Figure 12

OLS Path Analyses for Feedback Orientation and Oral in-Class Behaviors



Note. Unstandardized coefficients shown in figure. Solid paths are significant ($p < .05$).

.852).

With regard to feedback confidentiality, it did not influence students' self-reports of their feedback self-efficacy (a = 1.376) and students' self-reports of their feedback self-efficacy did not influence their use of oral in-class behaviors (b = -.001) after controlling for several variables (i.e., developmental feedback, fairness feedback, course workload, course difficulty, feedback utility, feedback sensitivity, and feedback retention). There was no evidence that feedback confidentiality influenced students' use of oral in-class behaviors (c' = -.257, p = .062). After controlling for several variables (i.e., developmental feedback, fairness feedback, course workload, course difficulty, feedback utility, feedback sensitivity, and feedback confidentiality), feedback retention did not influence students' self-reports of their feedback self-efficacy (a = 1.765) and students' self-reports of their feedback self-efficacy did not influence their use of oral in-class behaviors (b = -.001). There was also no evidence that feedback retention influenced students' use of oral in-class behaviors (c' = -.090, p = .459).

Thinking About Course Content. All indirect effects between first-order constructs (i.e., instructional feedback, course workload, course difficulty, and feedback orientation) in the proposed IBM and thinking about course content are reported in Table 7. With regard to the instructor behavior, perceived developmental feedback (ab = -.011) and perceived fairness feedback (ab = -.011) did not indirectly influence their thinking about course content through students' self-reports of their feedback self-efficacy (see Figure 13). The indirect effects for both instructor behaviors and students' thinking about course content included zero. After controlling for several variables (i.e., fair feedback, course workload, course difficulty, feedback utility, feedback sensitivity, feedback

Table 7

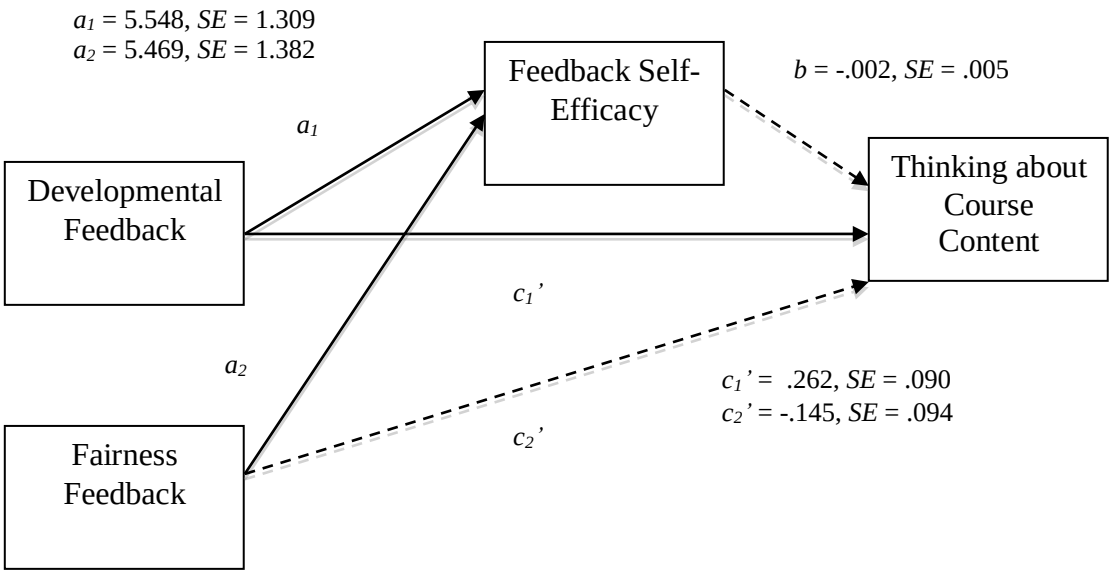
Total Effects, Indirect Effects, Standard Errors, Confidence Intervals, and Effect Sizes of the Mediation Analysis for Thinking about Course Content

				95% CI		
First-Order Constructs	*c*	*ab*	*SE*	lower	upper	ab_{cs}
Instructor Behavior						
Developmental Feedback	.251	-.011	.029	-.072	.046	-.009
Fairness Feedback	-.156	-.011	.029	-.068	.053	-.009
Course Specific Structural Issues						
Course Workload	-.130	.003	.011	-.022	.027	.003
Course Difficulty	-.066	.013	.035	-.060	.080	.013
Student Characteristic						
Feedback Utility	.476	-.009	.026	-.057	.054	-.005
Feedback Sensitivity	.132	-.007	.018	-.047	.029	-.004
Feedback Confidentiality	.075	-.003	.012	-.039	.015	-.002
Feedback Retention	.011	-.004	.014	-.045	.014	-.002

Note. *c* = total effect coefficient. *ab* = unstandardized indirect effect coefficient. ab_{cs} = completely standardized effect size.

Figure 13

OLS Path Analyses for Instructional Feedback and Thinking about Course Content



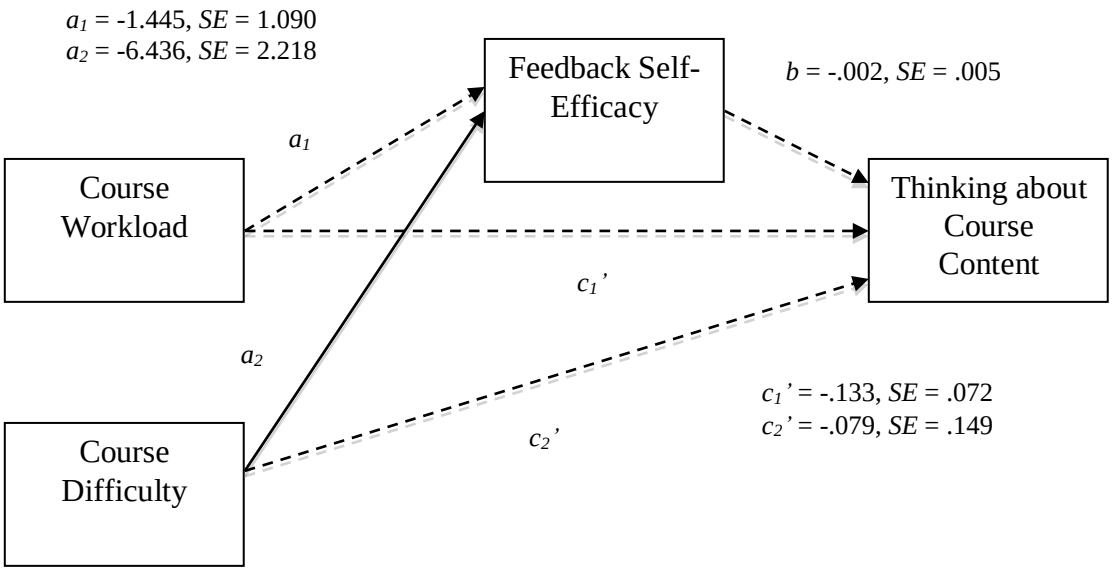
Note. Unstandardized coefficients shown in figure. Solid paths are significant ($p < .05$).

confidentiality, and feedback retention), perceived developmental feedback influenced students' self-reports of their feedback self-efficacy (a = 5.548), but students' self-reports of their feedback self-efficacy did not influence their thinking about course content (b = -.002). There was evidence that perceived developmental feedback influenced students' thinking about course content (c' = .262, p < .05). After controlling for several variables (i.e., developmental feedback, course workload, course difficulty, feedback utility, feedback sensitivity, feedback confidentiality, and feedback retention), perceived fairness feedback influenced students' self-reports of their feedback self-efficacy (a = 5.469), but students' self-reports of their feedback self-efficacy did not influence their thinking about course content (b = -.002). There was no evidence that perceived fairness feedback influenced students' thinking about course content (c' = -.145, p = .127).

Perceived course workload (ab = .003) and perceived course difficulty (ab = .013) did not indirectly influence students' thinking about course content through their self-reports of their feedback self-efficacy (see Figure 14). The indirect effects for perceived course workload, perceived course difficulty, and students' thinking about course content included zero. After controlling for several variables (i.e., developmental feedback, fairness feedback, course difficulty, feedback utility, feedback sensitivity, feedback confidentiality, and feedback retention), perceived course workload did not influence students' self-reports of their feedback self-efficacy (a = -1.445) and their self-reports of their feedback self-efficacy did not influence their thinking about course content (b = -.002). There was no evidence that perceived course difficulty influenced students' thinking about course content (c' = -.133 p = .066). However, perceived course difficulty influenced students' self-reports of their feedback self-efficacy (a = -6.436), but students'

Figure 14

OLS Path Analyses for Course Workload, Course Difficulty and Thinking about Course Content



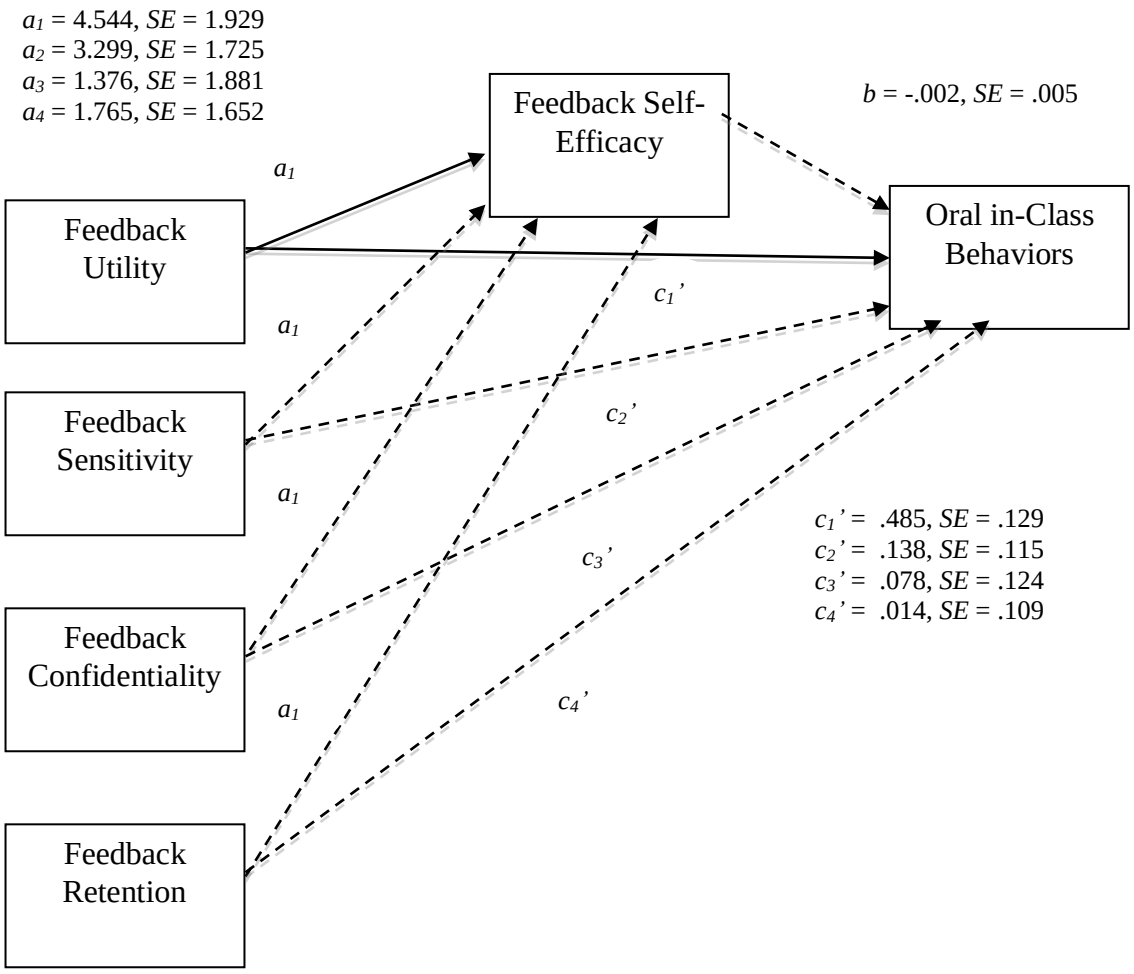
Note. Unstandardized coefficients shown in figure. Solid paths are significant ($p < .05$).

self-reports of their feedback self-efficacy did not influence their thinking about course content (*b* = -.002) after controlling for several variables (i.e., developmental feedback, fairness feedback, course workload, feedback utility, feedback sensitivity, feedback confidentiality, and feedback retention). There was also no evidence that perceived course difficulty influenced students' thinking about course content (*c'* = -.079, *p* = .596).

Students' self-reports of their feedback orientation (i.e., feedback utility, feedback sensitivity, feedback confidentiality, and feedback retention) did not indirectly influence students' thinking about course content through their self-reports of their feedback self-efficacy (see Figure 15). The indirect effects of feedback utility (*ab* = -.009), feedback sensitivity (*ab* = -.007), feedback confidentiality (*ab* = -.003), feedback retention (*ab* = -.004), and students' thinking about course content included zero. After controlling for several variables (i.e., developmental feedback, fairness feedback, course workload, course difficulty, feedback sensitivity, feedback confidentiality, and feedback retention), feedback utility influenced students' self-reports of their feedback self-efficacy (*a* = 4.544), but students' self-reports of their feedback self-efficacy did not influence their thinking about course content (*b* = -.002). However, there was evidence that feedback utility influenced students' thinking about course content (*c'* = .485, *p* < .01). Feedback sensitivity did not influence students' self-reports of their feedback self-efficacy (*a* = 3.299) and students' self-reports of their feedback self-efficacy did not influence their thinking about course content (*b* = -.002) after controlling for several variables (i.e., developmental feedback, fairness feedback, course workload, course difficulty, feedback utility, feedback confidentiality, and feedback retention). There was no evidence that feedback sensitivity influenced students' thinking about course content (*c'* = .138, *p* =

Figure 15

OLS Path Analyses for Feedback Orientation and Thinking about Course Content



Note. Unstandardized coefficients shown in figure. Solid paths are significant ($p < .05$).

.229).

After controlling for several variables (i.e., developmental feedback, fairness feedback, course workload, course difficulty, feedback utility, feedback sensitivity, and feedback retention), feedback confidentiality did not influence students' self-reports of their feedback self-efficacy (a = 1.376) and students' self-reports of their feedback self-efficacy did not influence their thinking about course content (b = -.002). There was no evidence that feedback confidentiality directly influenced students' thinking about course content (c' = .078, p = .531). After controlling for several variables (i.e., developmental feedback, fairness feedback, course workload, course difficulty, feedback utility, feedback sensitivity, and feedback confidentiality), feedback retention did not influence students' self-reports of their feedback self-efficacy (a = 1.765) and students' self-reports of their feedback self-efficacy did not influence their thinking about course content (b = -.002). There was also no evidence that feedback retention influenced students' thinking about course content (c' = .014, p = .897).

Out-of-Class Behaviors. All indirect effects between first-order constructs (i.e., instructional feedback, course workload, course difficulty, and feedback orientation) in the proposed IBM and students' use of out-of-class behaviors are reported in Table 8. Neither instructor behavior--perceived developmental feedback (ab = .000) and perceived fairness feedback (ab = .000)-- indirectly influenced students' use of out-of-class behaviors through their self-reports of their feedback self-efficacy (see Figure 16). Each percentile bootstrap confident interval for the indirect effects of perceived developmental feedback, perceived fairness feedback, and students' use of out-of-class behaviors included zero. After controlling for several variables (i.e., fair feedback,

Table 8

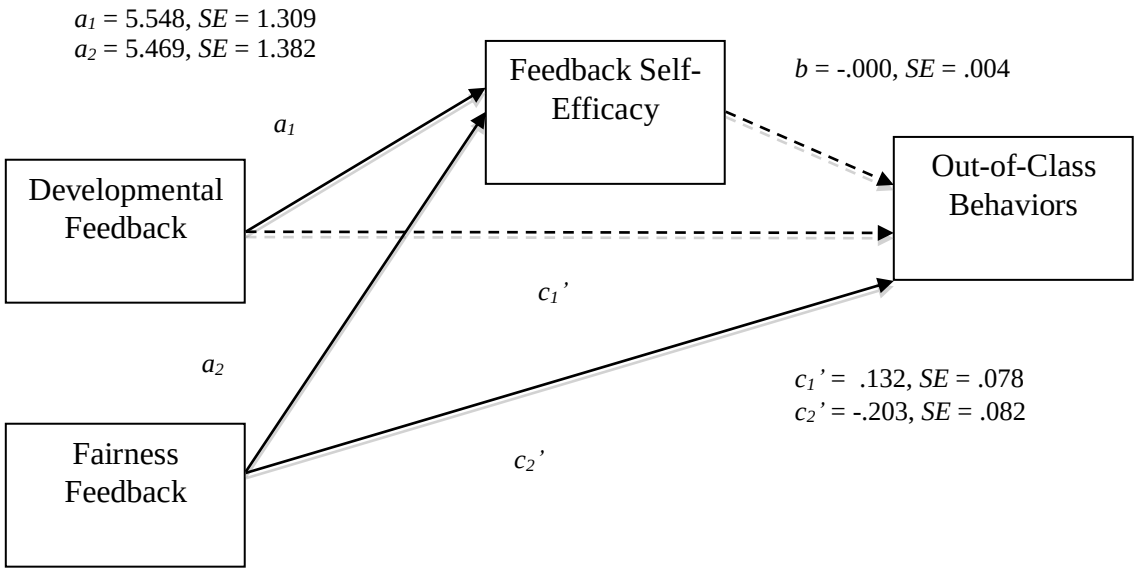
Total Effects, Indirect Effects, Standard Errors, Confidence Intervals, and Effect Sizes of the Mediation Analysis for Out-of-Class Behaviors

First-Order Constructs	*c*	*ab*	*SE*	95% CI lower	95% CI upper	ab_{cs}
Instructor Behavior						
Developmental Feedback	.132	.000	.022	-.046	.046	.000
Fairness Feedback	-.204	.000	.023	-.044	.051	.000
Course-Specific Structural Issues						
Course Workload	-.051	.000	.009	-.018	.019	.000
Course Difficulty	-.058	.001	.027	-.054	.059	.000
Student Characteristic						
Feedback Utility	.453	.000	.021	-.040	.047	.000
Feedback Sensitivity	.248	.000	.014	-.033	.027	.000
Feedback Confidentiality	-.208	.000	.008	-.017	.019	.000
Feedback Retention	.009	.000	.010	-.027	.016	.000

Note. *c* = total effect coefficient. *ab* = unstandardized indirect effect coefficient. ab_{cs} = completely standardized effect size.

Figure 16

OLS Path Analyses for Instructional Feedback and Out-of-Class Behaviors



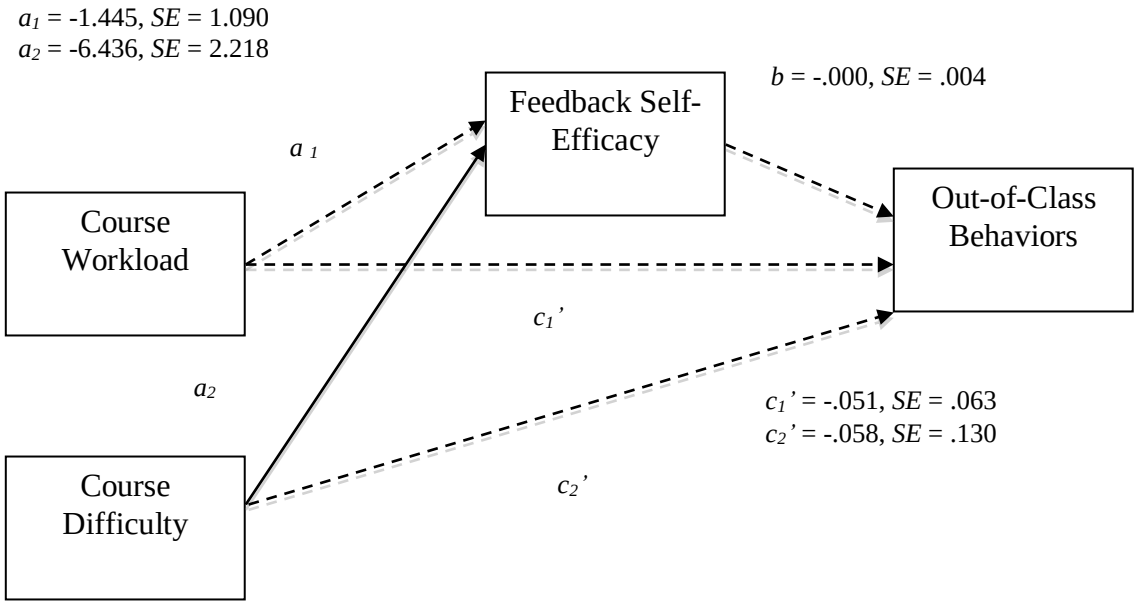
Note. Unstandardized coefficients shown in figure. Solid paths are significant ($p < .05$).

course workload, course difficulty, feedback utility, feedback sensitivity, feedback confidentiality, and feedback retention), perceived developmental feedback influenced students' self-reports of their feedback self-efficacy (a = 5.548), but students' self-reports of their feedback self-efficacy did not influence their use of out-of-class behaviors (b = .000). There was no evidence that perceived developmental feedback influenced their use of out-of-class behaviors (c' = .132, p = .093). Perceived fairness feedback influenced students' self-reports of their feedback self-efficacy (a = 5.479), but students' self-reports of their feedback self-efficacy did not influence their use of out-of-class behaviors (b = .000). However, there was evidence that perceived fairness feedback influenced students' use of out-of-class behaviors (c' = -.203, $p < .05$).

The course-specific structural issues--perceived course workload (ab = .000) and perceived course difficulty (ab = .001)--did not indirectly influence students' use of out-of-class behaviors through their self-reports of their feedback self-efficacy (see Figure 17). The indirect effects of both course-specific structural issues and out-of-class behaviors included zero. Perceived course workload did not influence students' self-reports of their feedback self-efficacy (a = -1.445) and students' self-reports of their feedback self-efficacy did not influence their use of out-of-class behaviors (b = .000) after controlling for several variables (i.e., developmental feedback, fairness feedback, course difficulty, feedback utility, feedback sensitivity, feedback confidentiality, and feedback retention). There was no evidence that perceived course workload influenced students' use of out-of-class behaviors (c' = -.051, p = .413). Perceived course difficulty influenced students' self-reports of their feedback self-efficacy (a = -6.436), but students' self-reports of their feedback self-efficacy did not influence their use of out-of-class

Figure 17

OLS Path Analyses for Course Workload, Course Difficulty and Out-of-Class Behaviors



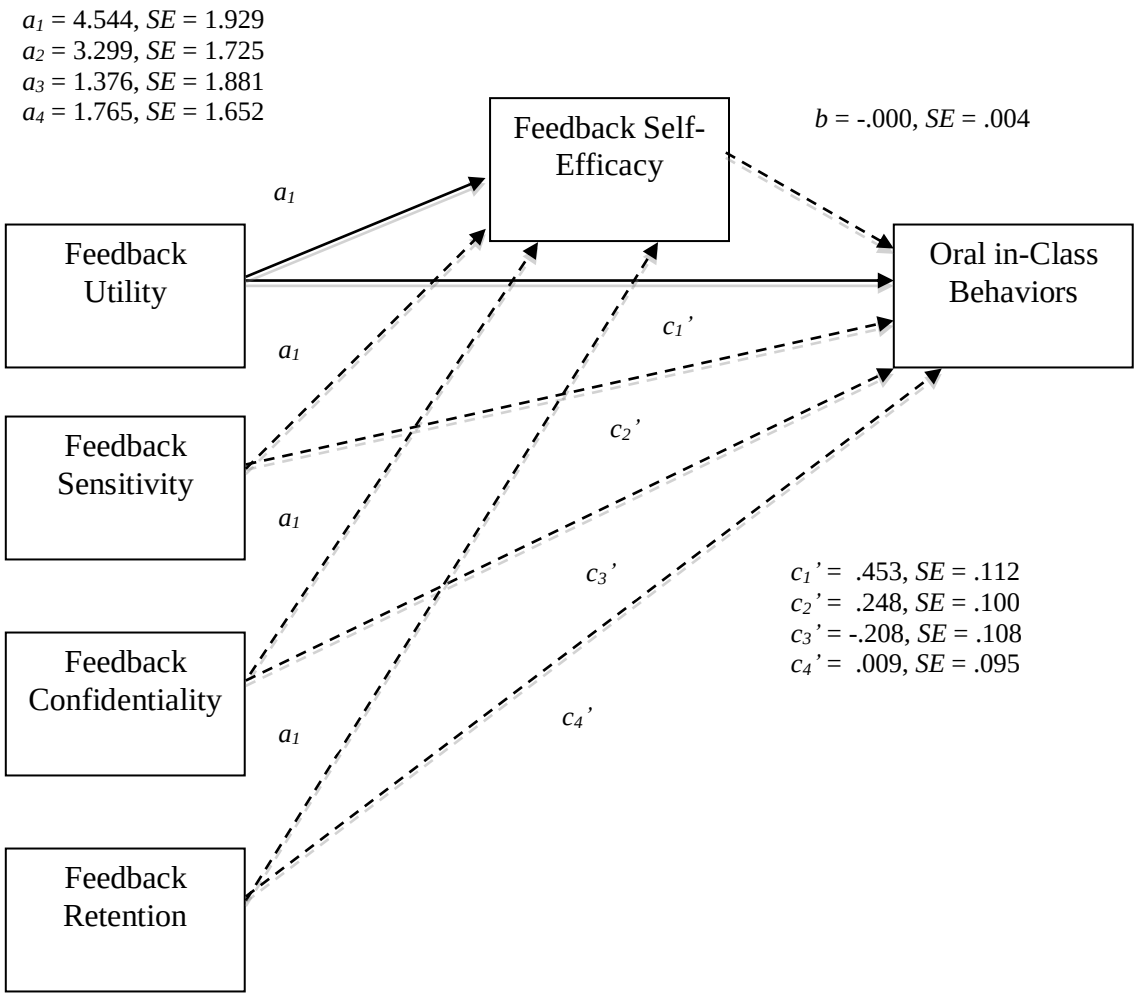
Note. Unstandardized coefficients shown in figure. Solid paths are significant ($p < .05$).

behaviors (*b* = .000) after controlling for several variables (i.e., developmental feedback, fairness feedback, course workload, feedback utility, feedback sensitivity, feedback confidentiality, and feedback retention). There was no evidence that perceived course difficulty directly influenced students' use of out-of-class behaviors (*c'* = -.058, *p* = .654).

Students' self-reports of their feedback orientation (i.e., feedback utility, feedback sensitivity, feedback confidentiality, and feedback retention) did not indirectly influence students' use of out-of-class behaviors through their self-reports of their feedback self-efficacy (see Figure 18). The indirect effects of feedback utility (*ab* = .000), feedback sensitivity (*ab* = .000), feedback confidentiality (*ab* = .000), feedback retention (*ab* = .000), and students' use of out-of-class behaviors included zero. Feedback utility influenced students' self-reports of their feedback self-efficacy (*a* = 4.544), but their self-reports of their feedback self-efficacy did not influence their use of out-of-class behaviors (*b* = .000) after controlling for several variables (i.e., developmental feedback, fairness feedback, course workload, course difficulty, feedback sensitivity, feedback confidentiality, and feedback retention). However, there was evidence that feedback utility influenced students' use of out-of-class behaviors (*c'* = .453, *p* < .01). After controlling for several variables (i.e., developmental feedback, fairness feedback, course workload, course difficulty, feedback utility, feedback confidentiality, and feedback retention), feedback sensitivity did not influence students' self-reports of their feedback self-efficacy (*a* = 3.299) and their self-reports of their feedback self-efficacy did not influence their use of out-of-class behaviors (*b* = .000). There was no evidence that feedback sensitivity influenced students' use of out of class behaviors (*c'* = .248, *p* < .05).

Figure 18

OLS Path Analyses for Feedback Orientation and Out-of-Class Behaviors



Note. Unstandardized coefficients shown in figure. Solid paths are significant ($p < .05$).

After controlling for several variables (i.e., developmental feedback, fairness feedback, course workload, course difficulty, feedback utility, feedback sensitivity, and feedback retention), feedback confidentiality did not influence students' self-reports of their feedback self-efficacy (a = 1.376) and students' self-reports of their feedback self-efficacy did not influence their use of out-of-class behaviors (b = .000). There was no evidence that feedback confidentiality directly influenced students' use of out-of-class behaviors (c' = -.208, p = .056). Feedback retention did not influence students' self-reports of their feedback self-efficacy (a = 1.765) and students' self-reports of their feedback self-efficacy did not influence their use of out-of-class behaviors (b = .000) after controlling for several variables (i.e., developmental feedback, fairness feedback, course workload, course difficulty, feedback utility, feedback sensitivity, and feedback confidentiality). There was no evidence that feedback retention influenced students' use of out-of-class behaviors (c' = .009, p = .924).

Summary

The purpose of this chapter was to present findings of the four preliminary analyses (i.e., EFA, CFA, Cronbach's alpha reliability, two-tailed Pearson Product-Moment Correlations) and the two primary analyses (i.e., one-tailed Pearson Product-Moment Correlation and simple mediation model using OLS path analysis). Findings from the EFA deemed the Assessments Feedback Questionnaire as a two-factor solution (i.e., developmental feedback, fairness feedback) and deemed the Self-Efficacy of Instructional Feedback Scale that was created for this dissertation as a one-factor solution. Findings from the CFA indicated that the models for the Student Course-Workload-Expectancy Violation Scale and the Instructional Feedback Orientation Scale

were acceptable fits to the data, whereas the Difficulty Appropriateness Scale and the Student Engagement Scale were poor fits to the data. Cronbach's alpha reliability coefficients for all six instruments (and the subscales) ranged from .60 to .96. Findings from a series of one-tailed, Pearson Product-Moment Correlations indicated that hypotheses 1a-c, hypothesis 4b, and hypothesis 5 were supported, whereas hypothesis 1d, hypothesis 2, hypothesis 3, and hypothesis 4a were partially supported. Findings from a series of 28 simple mediation models using OLS path analysis indicated that hypothesis six was not supported.

CHAPTER IV

Discussion

The purpose of this chapter is to interpret and explain the findings of this dissertation. This dissertation tested six hypotheses that centered on the role that instructional feedback plays in the college classroom. This chapter will begin with a discussion on the findings of the six hypotheses, followed by the implications of the findings for instructional communication scholarship, the limitations of this dissertation, and the future directions for research.

Hypotheses

Hypotheses 1a-1d. To understand how feedback self-efficacy works, Schunk and Pajares (2009) posited that the effects of the contextual factors of the classroom (in this dissertation, these factors are: instructional feedback, course workload, course difficulty, and students' feedback orientation) on feedback self-efficacy must first be explored. Therefore, it was hypothesized that instructional feedback (i.e., hypothesis 1a) and students' feedback orientation (i.e., hypothesis 1d) would be positively associated with students' feedback self-efficacy, whereas course workload (i.e., hypothesis 1b) and course difficulty (i.e., hypothesis 1c) would be negatively associated with students' feedback self-efficacy. Hypotheses 1a-1c were fully supported, whereas hypothesis 1d was partially supported. The relationships between these collective contextual factors and feedback self-efficacy were weak to moderate, with effect sizes ranging from 9% to 27.04% of the variance.

The results of hypothesis 1a indicated that students reported high levels of feedback self-efficacy when they perceived instructional feedback to be both

developmental and fair. It is possible that these relationships occurred because developmental and fair feedback not only provides students with consistent and clear information on how to improve their academic performance, but also can increase their beliefs in their capabilities of using the provided feedback. This finding is important because it extends current knowledge about the relationship that exists between instructional feedback and self-efficacy. Schunk and his colleagues (e.g., Schunk, 1983, 1984; Schunk & Cox, 1986; Schunk & Rice, 1986) conducted several studies on the effects of effort attributional feedback and ability attributional feedback (i.e., oral or written feedback provided by others that connects performance outcomes with students' effort or ability) on students' academic self-efficacy. They have consistently found that students report higher levels of self-efficacy when feedback content addressed students' ability rather than their expended effort in completing an academic task. Taking into account Schunk and colleagues' findings as well as the results of hypothesis 1a, instructors should be cognizant of the type of feedback they provide to their students. This feedback content should (a) focus on student ability rather than student effort, (b) provide information on how students can improve their academic performance (i.e., developmental feedback), and (c) be clear and consistent (i.e., fairness feedback) in their feedback directives.

In regard to hypotheses 1b and 1c, when students perceive courses to have a heavy workload (i.e., hypothesis 1b) and to be difficult (i.e., hypothesis 1c), their feedback self-efficacy is attenuated. The significant findings associated with hypothesis 1b substantiate an argument made by Chemers et al. (2001) that low efficacious students may perceive a heavy workload as a threat because they do not believe they have the

capabilities to overcome it. Furthermore, the finding linked with hypothesis 1c strengthens Bandura's (1977) notion that self-efficacy varies based on task difficulty. The negative influence of course difficulty on students' feedback self-efficacy could be due to students' perceived lack of capabilities to do well in the course because it is too difficult. Taken together, these results suggest that should instructors desire to positively influence their students' levels of feedback self-efficacy, they should take care in matching the workload and difficulty of their courses to students' expectations because not meeting students' expectations negatively affects their learning and results in their withdrawal and absence from class (Croninger, 1991; Darkenwald & Gavin, 1987; Gigliotti, 1987). Furthermore, instructors should address these two issues at the beginning of the semester as students report that receiving information regarding course difficulty and workload is the most important piece of information they want instructors to provide on the first day of class (Bassett & Nix, 2011).

Linderbaum and Levy (2010) argued that "understanding how the individual differences of feedback recipients . . . influence[s] the feedback process can contribute to the effective use of feedback" (p. 1373). Based on this argument, it was hypothesized that students' feedback orientation (i.e., feedback utility, feedback sensitivity, feedback confidentiality, and feedback retention) would be positively associated with feedback self-efficacy (i.e., hypothesis 1d). This hypothesis was partially supported in that only two of the four dimensions of students' feedback orientation--feedback utility and feedback retention--were positively and significantly associated with students' feedback self-efficacy, whereas the other two dimensions (i.e., feedback sensitivity, feedback confidentiality) were not significantly associated with students' feedback self-efficacy.

This result is partially in line with the findings obtained by King et al. (2009), who discovered that highly efficacious students perceive instructor feedback as useful and do not mind receiving feedback in public. Unlike the King et al. (2009) study, however, the findings obtained in this dissertation indicate that students' belief in their ability to use instructional feedback was not influenced by their preference for either a public or private setting in which feedback is provided (i.e., feedback confidentiality) or their sensitivity toward feedback (i.e., feedback sensitivity). In contrast to feedback utility and feedback retention, both feedback confidentiality and feedback sensitivity do not center on the details of the feedback content, but rather focus on students' preference to receive corrective feedback in public or private and students' general affect toward corrective feedback. Therefore, it is possible that feedback confidentiality and feedback sensitivity were not significantly related to students' belief in their ability to use feedback because neither of these two feedback orientation dimensions provides students with information about the feedback content that they can use to correct their academic performance. Based on the findings of hypothesis 1d, it is recommended that instructors provide useful and clear feedback that students' can use (i.e., feedback utility) and remember (i.e., feedback retention) to increase their belief in their capability to use it.

Hypotheses 2-5. It was hypothesized that students' use of classroom engagement behaviors (i.e., silent in-class behaviors, oral in-class behaviors, thinking about course content, and out-of-class behaviors) would be positively influenced by instructional feedback (i.e., hypothesis 2), their feedback orientation (i.e., hypothesis 3), and their feedback self-efficacy (i.e., hypothesis 5) as well as negatively influenced by course workload (i.e., hypothesis 4a) and course difficulty (i.e., hypothesis 4b). Hypotheses 2-4a

were partially supported, whereas hypotheses 4b and 5 were fully supported. The relationships between instructional feedback, students' feedback orientation, course workload, course difficulty, students' feedback self-efficacy, and students' use of classroom engagement behaviors were weak to moderate, with effect sizes ranging from 2.25% to 18.49% of the variance.

According to Dallimore et al. (2004) and Price et al. (2011), instructional feedback should be positively related to student engagement. The results of hypothesis 2 corroborate Dallimore et al.'s (2004) and Price et al.'s (2011) findings as developmental feedback was positively related to all four classroom engagement behaviors (i.e., silent in-class behaviors, oral in-class behaviors, thinking about course content, and out-of-class behaviors). However, fairness feedback was positively associated only with students' thinking about course content. The lack of significant findings obtained between fairness feedback and three of the four classroom engagement behaviors could be due to the fact that silent in-class behaviors (i.e., listening attentively, attending class), oral in-class behaviors (i.e., participating), and out-of-class behaviors (i.e., studying for an exam, reading over notes) are all behaviors that might be required by instructors and possibly account for some portion of the participants' final course grades.

According to Frymier and Houser (2016), 57% of their student sample reported that active in-class participation accounted for a portion of their final course grade. For many students, active in-class participation comprises behaviors that reflect many of the classroom engagement behaviors that were measured in this dissertation (i.e., silent in-class behaviors, oral in-class behaviors) including engaging in class discussion, attending class, taking notes, and listening actively or attentively (Bippus & Young, 2000; Meyer,

2007). Because some instructors incorporate active in-class participation into students' final grades, these incorporations may prompt students to engage in silent in-class behaviors, oral in-class behaviors, or even out-of-class behaviors, regardless of whether the instructional feedback is consistent or clear. However, students' thinking about the course content is not likely to be incorporated into their course final grade, which could explain why fairness feedback was positively and significantly related to only thinking about course content. Therefore, instructors are encouraged to provide developmental and fairness feedback to increase students' use of classroom engagement behaviors. This provision is particularly important because instructional feedback has no effect on academic achievement when instructors provide either right or wrong comments; instead it has a positive effect on students' academic achievement when feedback guides the learner to the correct answer (Bangert-Drown, Kulik, Kulik, & Morgan, 1991) such as developmental feedback and fairness feedback.

In general, the findings of hypothesis 3 indicate that students' feedback orientation (i.e., feedback utility, feedback sensitivity, feedback confidentiality, and feedback retention) significantly influences their use of classroom engagement behaviors (i.e., silent in-class behaviors, oral in-class behaviors, thinking about course content, and out-of-class behaviors). It was found that students who perceive feedback to be useful (i.e., feedback utility) use all four classroom engagement behaviors. This finding corroborates both Careless's (2006) and Knight and Yorke's (2003) findings that students consider feedback to be useful when they can apply it to future work (e.g., thinking about course content). Furthermore, feedback sensitivity was negatively associated with two classroom engagement behaviors (i.e., silent in-class behaviors, oral in-class behaviors)

and feedback confidentiality was negatively associated with one classroom engagement behavior (i.e., oral in-class behaviors). It is possible that those students who are sensitive to feedback and prefer to receive feedback in private reported being less orally engaged in class to avoid receiving corrective feedback from their instructors in front of their classmates. Feedback retention was positively associated with two classroom engagement behaviors (i.e., silent in-class behaviors, thinking about course content). It is likely that students who reflect on the course content have the ability to recall feedback because they connect feedback to their future work. Of course, it is possible that students may be able to recall instructional feedback simply because they attend class and attentively listen to their instructor.

One way in which instructors can promote the relationship between students' feedback orientation and students' use of classroom engagement behaviors is by using relevance strategies--particularly the outside course relevance strategy, which connects course material to students' career interests or students' current situation (Muddiman & Frymier, 2009)--when providing feedback. When instructors utilize relevance strategies while providing students with feedback, students can connect feedback to their future careers and everyday lives (i.e., thinking about course content), which may affect their retention of the feedback. Another way in which instructors can promote the positive relationship between students' feedback orientation and use of engagement behaviors is to provide useful feedback. Recall that Weaver (2006) discovered four types of instructional feedback that students consider to be useless: (a) comments that are general or vague, (b) comments that lacked suggestions on how to improve, (c) comments that are negative, and (d) comments that are unrelated to the assessment. Therefore,

instructors should steer clear of providing any of these four types of instructional feedback because useless feedback could attenuate students' classroom engagement behaviors.

Students' perceptions of a heavy workload (i.e., hypothesis 4a) and course difficulty (i.e., hypothesis 4b) were negatively associated with students' use of engagement behaviors. In particular, course workload was negatively associated with two student classroom engagement behaviors (i.e., silent in-class behaviors, thinking about course content) and course difficulty was negatively associated with all four student classroom engagement behaviors (i.e., silent in-class behaviors, oral in-class behaviors, thinking about course content, and out-of-class behaviors). The negative association obtained between course workload and silent in-class behaviors is supported by findings from Kember (2004), who reported that when students perceive a heavy workload, they fail to attend class (i.e., silent in-class behavior). However, it was puzzling to discover that course workload was not significantly associated with out-of-class behaviors, which include behaviors such as reading notes and studying for an exam. This finding is puzzling because Kember (2004) reported that students who perceive a heavy workload do poorly on exams, although the lack of a significant finding between course workload and oral in-class behaviors is consistent with findings obtained in Myers and Thorn (2013). They found that course workload was not at all associated with students' motivation to participate in class with their instructor (i.e., demonstrating to instructors that they understand and are interested in the course material; Martin, Myers, & Mottet, 1999). As hypothesized, course difficulty was negatively associated with all four student classroom engagement behaviors. Because students' use of engagement behaviors is

considered a precursor to student academic achievement (Kuh, 2001, 2003; Mazer & Graham, 2015), the negative relationship obtained between course difficulty and student engagement found in this dissertation is consistent with Schurr et al. (1987), who found that students' perceptions of course difficulty are negatively related to academic achievement.

Based on the findings from hypotheses 4a and 4b, it is recommended that instructors use clarity behaviors and relevance strategies to mitigate the negative relationship between course difficulty and students' use of classroom engagement behaviors because when a syllabus is easy to read (i.e., clarity) and students believe that a course is useful for their future careers (i.e., relevance) they are more likely to perceive a course as less difficult (Guenther, 2012; Murtonen et al., 2008) Furthermore, because a heavy workload deters students' use of classroom engagement behaviors, it is recommended that instructors use Kember' s (2004) seven principles to creating a teaching and learning environment where students would perceive the course workload as acceptable. These seven principles are: (a) "[creating] a coherent programme of courses or subjects with a transparent relationship between components, (b) teaching which concentrates on key concepts and promoting understanding, (c) [creating] assessment[s] which test [students'] understanding, (d) having an approach to teaching which requires active engagement of students . . . , (e) accepting responsibility for motivating students and stimulating interest, (f) promot[ing] . . . a climate in which student-student relationships and class coherence can develop . . . , and (g) developing warm, supportive teacher-student relationship" (Kember, 2004, pp. 181-182). Kember and Leung (2006) empirically tested the influence of these seven principles on student perceptions of course

workload demands and found that when a suitable teaching and learning environment (i.e., effective teaching practices, instructor-student relationships) was established, students were willing to work hard without perceiving their course workload as heavy.

As expected, feedback self-efficacy can help students become engaged in learning activities (Schunk & Mullen, 2012). The results associated with hypothesis 5 indicated that feedback self-efficacy positively influences students' use of each of the four classroom engagement behaviors. Students who are highly efficacious think more frequently about course content, use silent in-class behaviors at a higher rate, use oral in-class behaviors at a higher rate, and use out-of-class behaviors at a higher rate. Collectively, these findings support prior research in that academic self-efficacy is positively associated with students' in-class participation (Glyon et al., 2012), students' examination performance (Glyon et al., 2012), students' motives to communication with their instructor for participatory reasons (Goldman & Martin, 2014), and students' use of cognitive and self-regulated learning strategies (Pintrich & De Groot, 1990). Prior research has found that positive instructor-student relationships increase both students' self-efficacy and use of engagement behaviors (Hughes & Chen, 2011; Pianta et al., 2012). Therefore, instructors are encouraged to engage in communication behaviors that promote positive instructor-student relationships, including nonverbal immediacy behaviors, confirmation behaviors, caring behaviors, affinity-seeking strategies, and self-disclosure behaviors (Myers, Goodboy, & Members of COMM 600, 2014; Rubin, 2008).

Hypothesis 6. Using the Instructional Beliefs Model (IBM) as a framework to explore how instructional feedback influences student engagement, it was hypothesized that feedback self-efficacy would mediate the relationship between instructional

feedback, course workload, course difficulty, students' feedback orientation, and students' use of classroom engagement behaviors (i.e., silent in-class behavior, oral in-class behavior, thinking about course content, and out-of-class behavior). This hypothesis was not supported. The second-order construct of the IBM (i.e., feedback self-efficacy) did not mediate the relationship between the first-order constructs (i.e., instructional feedback, course workload, course difficulty, and student's feedback orientation) and the third-order construct of the IBM (i.e., student engagement). In examining the lack of support for hypothesis 6, there are two plausible reasons behind why this hypothesis was not confirmed.

First, Bandura (1997) explained that the disparity between self-efficacy and task performance can occur due to a number of conditions, one of which is a mismatch between self-efficacy and the specific performance domain for which the measure of self-efficacy was intended. If the efficacy belief (i.e., self-efficacy) and the performance domain do not share, in general, the same conceptualization, a relationship between self-efficacy and task performance often times is not significant (Bandura, 1997). Based on Bandura (1997), it is possible that the indirect effect of feedback self-efficacy on the posited relationship between instructional feedback and student engagement was not supported because feedback self-efficacy and student engagement were mismatched. That is, in this dissertation, feedback self-efficacy was measured instead of efficacy toward participating in class (i.e., oral in-class behaviors) or studying for exams (i.e., out-of-class behaviors). As such, it might have been prudent to develop an instrument that measured students' self-efficacy for using classroom engagement behaviors, as opposed to developing a general measure self-efficacy that focused on feedback.

Second, it is possible that the relationship between instructional feedback (i.e., instructor communication behavior) and students' behavioral and cognitive engagement (i.e., student behavioral learning outcome) is best understood through the indirect effect of emotional engagement. This relationship is highly possible because according to Finn and Zimmer (2012), emotional engagement (i.e., students' feelings, attitudes, interests, and perceptions of school, instructors, and peers) can, and often does, lead to both behavioral and cognitive engagement. The mediating effect of emotional engagement between instructor communication behaviors and student engagement has been support by past instructional communication research. For instance, recall from Zhang and Zhang (2013) that instructors' demonstration of emotions positively influences students' positive emotion (i.e., emotional engagement), which, in turn positively influences students' behavioral and cognitive engagement. Mazer (2013b) also found that emotional interest (i.e., emotional engagement) mediates the relationship between instructor immediacy and student engagement (i.e., silent in-class behaviors, oral in-class behaviors, thinking about course content, and out-of-class behaviors) as well as the relationship between instructor clarity and student engagement. Therefore, emotional engagement may offer an alternative explanation of how and why instructional feedback can be related to student engagement.

Implications for Instructional Communication Scholarship

The findings from this dissertation offer several implications for instructional communication scholarship. The first implication is that although no indirect effects were obtained between instructional feedback and student engagement, this lack of a significant finding offers some insight into how future researchers should use the IBM.

Should instructional communication researchers select self-efficacy as the second-order construct in future IBM projects, it is recommended that the specific type of self-efficacy being measured match the conceptualization of the student learning outcome that is representing the third-order construct (Bandura, 1997). For instance, if researchers use the IBM to investigate how instructional feedback influences students' propensity to ask questions (i.e., Cunconan, 2002), then the instructional belief should measure self-efficacy through a scale developed specifically to measure students' self-efficacy of their question-asking behaviors (Bandura, 2006).

Prior research conducted by instructional communication scholars using the IBM have reported that academic self-efficacy, as a second-order construct, mediates the relationship between the first-order constructs and the third-order construct (LaBelle et al., 2013; Vallade et al., 2014; Weber et al., 2011). However, each of these studies only tested their proposed models and not the indirect effects of academic self-efficacy between the first-order constructs and the third-order construct. Therefore, the findings of hypothesis six suggest that self-efficacy does not serve as a good second-order construct in the IBM. Although self-efficacy does not serve as a good second-order construct, it still can be placed within the IBM. Self-efficacy may better serve as the student characteristic of the first-order construct particularly because students' bring their efficacy beliefs about various academic tasks with them into the classroom (Bandura, 1997).

The second implication is that instructional communication scholars should consider integrating the Assessment Feedback Questionnaire (AFQ) into their future projects as a way to measure students' perceptions of developmental and fairness

feedback. Because the face validity and scale reliability of the AFQ has been enhanced in this dissertation by adding six scale items, the use of this instrument can advance instructional feedback research conducted by instructional communication scholars in one of three ways. Although instructional communication researchers (e.g., Kerssen-Griep & Witt, 2012, 2015; King et al. 2000; Smith & King, 2004; Witt & Kerssen-Griep, 2011) have predominantly used scenarios and vignettes that manipulate instructional feedback in their experimental research designs to explore the effects of instructional feedback in the classroom, researchers can now utilize the AFQ to measure instructional feedback. Moreover, prior instructional communication research conducted on instructional feedback (e.g., Kerssen-Griep & Witt, 2012, 2015; King et al. 2000; Smith & King, 2004; Witt & Kerssen-Griep, 2011) has centered on effective delivery strategies (i.e., use of instructor face-threat mitigation strategies or nonverbal immediacy behaviors) when providing feedback instead of centering on instructional content (i.e., the subject matter of the provided feedback). Because the AFQ measures feedback content (i.e., developmental feedback, fairness feedback), its use creates opportunities for instructional communication researchers to explore the influence of feedback content in the classroom.

The AFQ also offers communication researchers the opportunity to examine instructional feedback as a communicative phenomenon that influences the classroom context instead of just a pedagogical strategy intended to improve public speaking performances (e.g., Book, 1985; King et al., 2000; Smith & King, 2004). In future research efforts, instructional communication researchers could explore how instructional feedback affects students' perception of the classroom environment (e.g., classroom connectedness, classroom communication climate), students' use of communication

behavior with their instructors (e.g., dissent, incivility), or students' perceptions of their instructors (e.g., credibility, attraction, and homophily).

The third implication is that the findings obtained in this dissertation offer additional avenues for conducting student engagement research. Mazer's (2012, 2013a, 2013b, 2013c) research, along with a study conducted by Linvill (2014), has consistently demonstrated that student engagement is influenced by both instructor communication behaviors and student characteristics. The findings from this dissertation extend this collective body of research on student engagement to include classroom contextual factors (i.e., course-specific structural issues) as possible antecedents to student engagement. Specifically, these findings indicate that students' perceptions of a heavy workload and a difficult course negatively influence their willingness to engage in the classroom. In addition to course workload and course difficulty, instructional communication scholars could expand their investigation of the antecedents of student engagement to include factors such as required participation, course assignments, and course policies, all of which students typically desire to learn about on the first day of class (Bassett & Nix, 2011).

Limitations and Future Directions

The results of this dissertation should be interpreted with caution given that there are three limitations to the current study. The first limitation involves the measurement of the variables. According to Kline (2016), instruments with "excellent" reliabilities have coefficients of around .90, instruments with "very good" reliabilities have coefficients of around .80, and instruments with "adequate" reliabilities have coefficients of around .70. In this dissertation, the feedback retention subscale ($\alpha = .60$) of the

Instructional Feedback Orientation Scale (IFOS) and the out of class behaviors subscale ($\alpha = .66$) of the Student Engagement Scale (SES) had reliabilities that were less than adequate. Therefore, because low instrument reliabilities reduce both statistical power and effect sizes below their "true" value (Field, 2013; Kline, 2016), it is possible that the lack of significant relationships and low effect sizes between feedback retention, out-of-class behaviors, and several of the other variables measured in this dissertation were a result of the low reliability scores of the two subscales.

Furthermore, the CFAs conducted on both the Difficulty Appropriateness Scale and the SES indicated that the factor structures of both scales were poor fits to the data. The CFA of the IFOS indicated that only one global fit statistic--the RMSEA (.08)--confirmed the scale's factor structure, but the RMSEA was closer to a poor fit to the data than a good fit to the data. The findings of this dissertation may be called into question because the factor structures for these three instruments were not confirmed, which indicates that these instruments may not be measuring what they were intended to measure (Byrne, 2010; Kline, 2016). However, because these instruments were validated in previous studies, no modifications--such as removing poor loading items or correlating error terms--were made.

The second limitation involves the procedures used to collect the data in this dissertation. In reviewing the instructions provided to the participants, they were asked to reference (a) *the course with the least amount of students that* [they were] *enrolled in this semester* and (b) *the feedback* [they] *have received from* [their] *instructor throughout the entire semester.* It was inferred from prior research (e.g., Cuseo, 2007; Kuh et al., 1991) that both the frequency and the quality of instructor-student interaction (i.e., instructors

providing feedback) would be higher in small courses than in large courses. According to Gorham (1988), a small course consists of 1 to 25 students, a mid-size course consists of 26 to 50 students, and a large course consists of 51 or more students. In this dissertation, the average student enrollment (as indicated by the participants) in their referenced course was 47.3 students, which is not at all that small. Therefore, it is plausible that the participants did not receive either frequent or quality feedback from their instructors due to the relatively high enrollment in their referenced courses. Participants also indicated that student enrollment in their referenced course ranged from 6 to 300 students. Because the largest class size that participants indicated included was a course with 300 students, it is possible that participants' perceptions of class size may not be accurate. Future research would benefit by asking students to reference (a) their enrollment in a course with 25 students or less as there is an increased likelihood that they would receive frequent and quality feedback from their instructor, (b) the course in which they received the most feedback as a way to increase the saliency of the influence of instructional feedback in the course, or (c) their enrollment in a performance-based course (e.g., public speaking course, creative writing course, art course) as it is likely that these courses not only have a smaller enrollment, but also because instructional feedback is essential to student mastery of the course content.

In regard to participants being asked to reference the instructional feedback provided by their instructors over the entire semester, it is possible that a 16-week semester is too lengthy of a period of time for participants to accurately recall and assess the type of feedback provided by their instructors. Instructional communication researchers (e.g., Bolkan & Goodboy, 2013; Goodboy, 2011; Holmgren & Bolkan, 2014;

LaBelle et al., 2013) have asked participants to reference a particular communication interaction (e.g., a time when students expressed discontent to their instructor, a time when students had a disagreement or difference of opinion with their instructor) when completing a questionnaire to successfully uncover specific details regarding the communication interaction. Therefore, researchers may receive a more accurate and detailed picture of the relationship between instructional feedback and student in-class engagement if participants were asked to reference either a most recent or most relevant feedback exchange with their instructor.

Furthermore, Duncan (2007) reported that when instructors return graded course work to students, some students only look at the provided grade and do not read the provided instructional feedback. It is possible that some participants did not actually reference provided feedback because they do not read the feedback provided from their instructor. Therefore, to ensure that participants are in fact referencing instructional feedback provided and not the grade received on an assignment, researchers should ask participants to provide an example of instructional feedback they received from their instructor.

The third limitation involves the theoretical framework used to explore the effect of instructional feedback on student engagement. Using the IBM, it was found that feedback self-efficacy did not mediate the relationship between instructional feedback and student engagement; that is, feedback self-efficacy did not offer an explanation for why instructional feedback was related to student engagement. However, this finding does not mean that self-efficacy plays little to no role in this relationship. It is possible that self-efficacy may moderate the relationship between instructional feedback and

student engagement; that is, the size, sign, or strength of the relationship between instructional feedback and student engagement may be dependent on students' reported level of self-efficacy. Kluger and DeNisi's (1996) Feedback Intervention Theory (FIT) supports this notion, as FIT posits that students' personal attributes (i.e., feedback self-efficacy) moderates the relationship between feedback interventions and task performance. Therefore, future research could explore the moderating effects of self-efficacy on the relationship between instructional feedback and student engagement using FIT as a theoretical framework.

The IBM and FIT offer two different frameworks for understanding the role of self-efficacy in the relationship between instructional feedback and student engagement. According to Bandura (1997), self-efficacy has both mediating and moderating capabilities, but it has not been determined if self-efficacy acts as a better mediator or moderator in the relationship between instructional feedback and student engagement. Based on the findings of hypothesis 6, self-efficacy does not mediate the relationship between instructional feedback and student engagement. Yet, based on Bandura's (1997) ideas, it is possible that self-efficacy would mediate this relationship if an instrument measuring students' self-efficacy of using classroom engagement behaviors was developed. Therefore, instructional communication researchers should develop a measure of students' self-efficacy of using classroom engagement behaviors and compare the IBM and FIT to determine which of these two theoretical frameworks best explains the affect of self-efficacy on the relationship between instructional feedback and student engagement.

In addition to exploring the relationship between instructional feedback and

student engagement in more depth, there are several future directions for instructional feedback research. First, after enhancing the face validity and scale reliability of the AFQ by adding six new scale items, the EFA produced a two-factor solution (i.e., developmental feedback, fairness feedback), as opposed to Lizzio and Wilson's (2008) original three-factor solution (i.e., developmental feedback, encouraging feedback, fair feedback). It has yet to be determined which measurement model--the two-factor solution or the three-factor solution--is a better measure of instructional feedback. Therefore, instructional communication researchers can utilize alternative model testing (Kline, 2016) to determine which measurement model best measures instructional feedback.

Second, past research on instructional feedback and self-efficacy has predominantly centered on the influence of effort attributional feedback and ability attributional feedback (e.g., Schunk, 1983, 1984; Schunk & Cox, 1986; Schunk & Rice, 1986). Because this dissertation did not investigate the effects of effort attributional feedback and ability attributional feedback, future research could compare the predictive power of effort attributional feedback, ability attributional feedback, developmental feedback, and fairness feedback to determine which of these four types of instructional feedback is the most essential to improving or enhancing students' feedback self-efficacy. Uncovering this relationship can provide instructors with information regarding which types of instructional feedback is the most important to use to increase students' feedback self-efficacy.

Third, instructional communication researchers have predominantly investigated the relationship between students' feedback orientation and student characteristics (e.g., King et al, 2009; Malachowski et al., 2013). Although the relationship between

instructional feedback and students' feedback orientation was not explicitly investigated in this dissertation, this relationship was significant. Specifically, both developmental feedback and fairness feedback were positively associated with feedback utility and feedback retention and negatively associated with feedback sensitivity. Instructional communication researchers should consider further exploring the relationship between instructor communication behaviors and students' feedback orientation as little is currently known about the relationship. This consideration is particularly important because discovering how instructor communication behaviors influence students' responses to feedback can provide new insight into the feedback process.

Fourth, research regarding the feedback process has focused mainly on the influence of instructors as providers of instructional feedback. However, little research has been conducted about students as recipients of instructional feedback, with the expectation of current research on students' feedback orientation (e.g., King et al., 2009; Malachowski et al., 2013). Instructional communication researchers can begin research on the role that students play in the feedback process, by investigating how students' intellectual development influences their perception of instructional feedback. According to Perry (1970), students' intellectual development occurs across three categories: (a) dualism (i.e., a mode of sense making that occurs through the dichotomous framework of right-wrong, good-bad, and black-white), (b) multiplicity (i.e., a mode of sense making where the individual perceives diverse opinions to be equally valid when the correct answer is unknown, and (c) context relativism (i.e., a mode of sense making where all opinions are no longer equally valid, and ideas must be supported and understood within its context). Knefelkamp and her colleagues examined eight student characteristics that

change as students become more intellectually developed (Knefelkamp & Cornfeld, 1979, as cited in Knefelkamp, 1999) including their view of the evaluation process. Therefore, it is possible that students' perception of instructional feedback evolves as they become more intellectually developed.

Conclusion

The aim of this dissertation was to investigate the role that instructional feedback play in the college classroom using Weber et al.'s (2011) Instructional Beliefs Model as a framework. It was found that, generally, instructional feedback (i.e., the provision of developmental and fairness feedback) positively influenced students' feedback self-efficacy and their use of engagement behaviors (i.e., silent in-class behaviors, oral in-class behaviors, thinking about course content, and out-of-class behaviors). Furthermore, students' feedback orientation (i.e., feedback utility, feedback sensitivity, feedback confidentiality, and feedback retention) was significantly associated with students' feedback self-efficacy and their use of engagement behaviors. Specifically, feedback sensitivity and feedback confidentiality were negatively associated with student engagement, whereas feedback utility and feedback retention were positively associated with feedback self-efficacy and student engagement. In contrast, perceived course workload and course difficulty negatively influenced students' feedback self-efficacy and their use of engagement behaviors. Ultimately, it was found that feedback self-efficacy failed to mediate the relationship between instructional feedback, course workload, course difficulty, student feedback orientation, and student engagement. Therefore, more research is needed to enhance an understanding of the relationship instructional between instructional feedback and student engagement.

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Appendix A

Survey Instrument

READ THE INFORMATION BELOW BEFORE YOU BEGIN

****

Feedback is information provided by your instructor about some aspect of your work. You can receive feedback from your instructor face-to-face either in or out of class, through e-mail, or written on your coursework, such as papers, homework, in-class assignments, and exams. Your instructor can also provide you with feedback when he or she speaks to the entire class.

While completing this questionnaire, please reference:

a. the course with the least amount of students that you are enrolled in this semester; and
b. the feedback you have received from your instructor throughout the entire semester.

****

Identify the instructor by initials: _____

Identify the course by name and number (e.g., Math115, Biology 240):

_____

Approximately how many students are in this course? _____

This course fulfills requirements for my (check one):

____Major/ ____Minor/___General Elective

The sex of your instructor (circle one): Male Female

Instructions: The items below are statements regarding feedback you have received from your instructor. **Keeping in mind the course you attend this semester with the least amount of students**, indicate on a scale from 0 to 4 the degree to which each statement applies to you.

If your instructor **never** engages in the behavior, write a **0** in the blank.
If your instructor **rarely** engages in the behavior, write a **1** in the blank.
If your instructor **sometimes** engages in the behavior, write a **2** in the blank.
If your instructor **often** engages in the behavior, write a **3** in the blank.
If your instructor **very often** engages in the behavior, write a **4** in the blank.

In the course I identified, when my instructor provides feedback:

_____ 1. His or her comments help me focus on areas I can improve.
_____ 2. His or her comments show me how to critically assess my own work.
_____ 3. She or he comments on what I did wrong and what I can do to correct it.
_____ 4. She or he gives me feedback I can use in future work.
_____ 5. She or he gives critical feedback on the quality of my work.
_____ 6. She or he offers opportunities to clarify his or her comments.
_____ 7. His or her comments make me think further about the topic.
_____ 8. She or he acknowledges my good points or ideas.
_____ 9. She or he indicates what I get right.
_____ 10. She or he recognizes the effort I make.
_____ 11. She or he makes positive comments.
_____ 12. She or he gives feedback that makes little sense to me.
_____ 13. His or her feedback is inconsistent or contradictory to the criteria he or she used to grade my work.
_____ 14. His or her expectations are hard to know.
_____ 15. His or her handwriting is difficult to read.
_____ 16. She or he gives feedback that is not helpful for improving my work.
_____ 17. His or her comments are vague.
_____ 18. His or her comments justify why I received a certain grade for my work.
_____ 19. His or her comments are not based on the criteria she or he provided for the assignment.
_____ 20. She or he gives feedback that is detailed.
_____ 21. His or her comments are full of jargon that is difficult for me to understand.

****

GO TO THE NEXT PAGE

Instructions: The items below are statements concerning **how you behave in the course you just identified.** Indicate on a scale from 0 to 4 the degree to which each statement applies to you.

If you **never** engage in the behavior, write a **0** in the blank.
If you **rarely** engage in the behavior, write a **1** in the blank.
If you **sometimes** engage in the behavior, write a **2** in the blank.
If you **often** engage in the behavior, write a **3** in the blank.
If you **very often** engage in the behavior, write a **4** in the blank.

In the course I identified:
_____ 1. I listen attentively to my instructor during class.
_____ 2. I participate during class discussions by sharing my thoughts and opinions.
_____ 3. I think about how I can utilize the course material in my everyday life.
_____ 4. I give my instructor my full attention during class.
_____ 5. I review my notes outside of class.
_____ 6. I listen attentively to my classmates' contributions during class discussions.
_____ 7. I think about how the course material relates to my life.
_____ 8. I orally (verbally) participate during class discussions.
_____ 9. I study for tests or quizzes.
_____ 10. I attend class.
_____ 11. I talk about the course material with others outside of class.
_____ 12. I think about how the course material will benefit me in my future career.
_____ 13. I take it upon myself to read additional material on the course topic area.

****

Instructions: **Keeping the same course in mind**, indicate the extent to which you agree or disagree with each of the following statements.

If you **strongly disagree** with the statement, write a **1** in the blank.
If you **disagree** with the statement, write a **2** in the blank.
If you **neither agree or disagree** with the statement, write a **3** in the blank.
If you **agree** with the statement, write a **4** in the blank.
If you **strongly agree** with the statement, write a **5** in the blank

_____ 1. The pace of this course is appropriate for the subject matter.
_____ 2. This course is more challenging than I expected.
_____ 3. This course is beyond my level of comprehension.
_____ 4. The amount of reading is appropriate, given the course level.
_____ 5. There is an appropriate amount of writing in this course.
_____ 6. There is an appropriate weight given to in-class discussion.
_____ 7. This course is more difficult than it should be.

GO TO THE NEXT PAGE

Instructions: **Keeping the same course in mind**, please circle the number toward each word that best represents your feelings about the workload in the course.

The workload in this course is…

1.	Acceptable	1	2	3	4	5	6	7	Not Acceptable
2.	Appropriate	1	2	3	4	5	6	7	Inappropriate
3.	Normal	1	2	3	4	5	6	7	Not Normal
4.	Expected	1	2	3	4	5	6	7	Not Expected
5.	Bad	1	2	3	4	5	6	7	Good

****

Instructions: The items below are statements regarding your capability to use the feedback provided by your instructor. **Keeping in mind the course you attend this semester with the least amount of students**, rate your degree of confidence by recording a number from 0 to 100 using the scale given below:

0	10	20	30	40	50	60	70	80	90	100
Cannot do at all					Moderately can do				Highly certain can do	

In the course I identified, I am confident that I can:

_____ 1. Apply the feedback that my instructor provides to correct my work.
_____ 2. Accurately interpret the feedback that my instructor provides me.
_____ 3. Clearly understand the feedback that my instructor provides me.
_____ 4. Use the feedback that my instructor provides to critically assess my own work.
_____ 5. Read the feedback that my instructor provides me.
_____ 6. Use the feedback that my instructor provides to do well in the course.

GO TO THE NEXT PAGE

Instructions: **Keeping the same course in mind**, indicate the extent to which you agree or disagree with each statement below regarding corrective feedback provided to you by your instructor.

If you **strongly disagree** with the statement, write a **1** in the blank.
If you **disagree** with the statement, write a **2** in the blank.
If you **neither agree or disagree** with the statement, write a **3** in the blank.
If you **agree** with the statement, write a **4** in the blank.
If you **strongly agree** with the statement, write a **5** in the blank.

In the course I identified:

_____ 1. I think feedback from my instructor is vitally important in improving my performance.
_____ 2. My feelings are easily hurt when receiving corrective feedback, which is the formal or informal feedback you receive from your instructor about your academic performance, from my instructor.
_____ 3. I don't like to receive corrective feedback in front of other people.
_____ 4. I can't remember what my instructor wants me to do when she or he provides feedback.
_____ 5. I will usually reflect on my instructor's feedback.
_____ 6. I feel threatened by corrective feedback.
_____ 7. I don't like for others to hear what feedback I am receiving.
_____ 8. I tend to miss out on the details of what my instructor wants when she or he provides me with feedback.
_____ 9. I listen carefully when my instructor provides feedback.
_____ 10. Corrective feedback hurts my feelings.
_____ 11. I don't mind being singled out by feedback from my instructor.
_____ 12. I typically do not make note of my instructor's corrective comments.
_____ 13. I am extremely encouraged by positive feedback from my instructor.
_____ 14. Corrective feedback is intimidating.
_____ 15. I think that my instructors' feedback provides clear direction on how to improve my performance.
_____ 16. My feelings are not easily hurt by corrective feedback from my instructor.
_____ 17. Feedback from my instructor can be a valuable form of praise.
_____ 18. The corrective feedback I receive from my instructor increases the stress I feel about future performances.
_____ 19. I pay careful attention to instructional feedback.
_____ 20. I prefer to receive feedback from my instructor in private.
_____ 21. It is difficult to "get over" corrective feedback.
_____ 22. Feedback from my instructor motivates me to improve my performance.
_____ 23. Corrective feedback is embarrassing.
_____ 24. Feedback from my instructor is a waste of time.
_____ 25. I tend to dwell on the negative feelings that result from corrective feedback.
_____ 26. I feel relief when I receive positive feedback.
_____ 27. I like others to hear the feedback I am receiving from my instructor.

Instructions: **Keeping the same course in mind**, indicate the extent to which you agree or disagree with each of the following statements.

If you **strongly disagree** with the statement, write a **1** in the blank.
If you **disagree** with the statement, write a **2** in the blank.
If you **neither agree or disagree** with the statement, write a **3** in the blank.
If you **agree** with the statement, write a **4** in the blank.
If you **strongly agree** with the statement, write a **5** in the blank

In the course I identified:

_____ 1. I believe I will receive an excellent grade.
_____ 2. I'm certain I can understand the most difficult material presented in the readings.
_____ 3. I'm confident I can learn the basic concepts taught.
_____ 4. I'm confident I can understand the most complex material presented by my instructor.
_____ 5. I'm confident I can do an excellent job on assignments and tests.
_____ 6. I expect to do well.
_____ 7. I'm certain I can master the skills being taught.
_____ 8. Considering the difficulty of the course, the instructor, and my skills, I think I will do well.

****

Instructions: **Keeping the same course in mind**, please circle the number toward each word that best represents your feelings about your instructor.

In the course I identified, my instructor is:

1.	Likable	1	2	3	4	5	6	7	Dislikable
2.	Boring	1	2	3	4	5	6	7	Interesting
3.	Friendly	1	2	3	4	5	6	7	Unfriendly
4.	Unpleasant	1	2	3	4	5	6	7	Pleasant
5.	Sincere	1	2	3	4	5	6	7	Phony
6.	Thoughtless	1	2	3	4	5	6	7	Thoughtful
7.	Kind	1	2	3	4	5	6	7	Unkind
8.	Courteous	1	2	3	4	5	6	7	Rude
9.	Humorless	1	2	3	4	5	6	7	Humorous
10.	Respectable	1	2	3	4	5	6	7	Unrespectable

Instructions: The items below are statements concerning **your interest in the course you just identified.** Indicate on a scale from 1 to 5 the degree to which each statement applies to you.

If you **strongly disagree** with the statement, write a **1** in the blank.
If you **disagree** with the statement, write a **2** in the blank.
If you **neither agree or disagree** with the statement, write a **3** in the blank.
If you **agree** with the statement, write a **4** in the blank.
If you **strongly agree** with the statement, write a **5** in the blank

I am interested in the course I identified because:
_____ 1. I feel enthused about being in this course.
_____ 2. The course makes me feel excited.
_____ 3. The course causes me to feel energized.
_____ 4. The topics covered in the course fascinate me.
_____ 5. Being in the course is enjoyable.
_____ 6. The class experience makes me feel good.
_____ 7. The material fascinates me.
_____ 8. I like the things we cover in the course.
_____ 9. The class experience feels very positive.
_____ 10. I can remember the course material.
_____ 11. I feel like I am learning topics covered in the course.
_____ 12. I can understand the flow of ideas.
_____ 13. I understand the course material.
_____ 14. The information covered in the course is making me more knowledgeable.
_____ 15. The information in the course is useful.
_____ 16. I realize what is expected of me.
****

Instructions: Please answer the following questions about yourself.

1. Your Age _____

2. Sex (circle one): Male Female

3. Class rank (check one): ___First-year/___ Sophomore/___Junior/___Senior/____Other

4. The ethnicity with which you most closely identify (check one):

_____ Asian/Asian American
_____ Black/African-American
_____ Hispanic/Latino/a
_____ Native American
_____ White/Caucasian
_____ Middle Eastern
_____ Other (please specify): _____

Thank you for your participation in this study!

Appendix B

Cover Letter

April 8, 2016

Dear Participant:

This letter is a request for you to take part in a research project designed to explore the influence of instructional feedback in the college classroom. This research study is being conducted by Scott A. Myers, Ph.D., and Melissa F. Tindage, Ph.D. Candidate, both in the Department of Communication Studies at West Virginia University. Your participation in this project is greatly appreciated and will take approximately 20 minutes to complete the attached questionnaire.

You must be 18 years or older and currently enrolled in at least one college course to participate in this study. Participation in this research study is voluntary. Your class standing will not be affected by refusing to participate. Your involvement in this project will be kept completely anonymous. Do not place any marks of identification anywhere on this questionnaire. There are no known associated risks with participating in this study.

Please complete the questionnaire in reference to the feedback you have received from your instructor throughout the entire semester in the class with the least amount of students in which you are currently enrolled. If you are unable to answer a question, leave the statement blank. There is neither a right nor a wrong answer. When you finish this questionnaire, detach this cover letter and place the completed questionnaire in the provided envelope.

Should you have any questions about this letter or the research project, please contact Dr. Scott A. Myers or Melissa F. Tindage at (304) 293-3905 or by email. The West Virginia University's Institutional Review Board has acknowledged this study and the protocol number is 1601987422.

Thank you for your participation.

Sincerely,

Scott A. Myers, Ph.D.
Professor
Scott.Myers@mix.wvu.edu

Melissa F. Tindage, M.A.
Ph.D. Candidate
mftindage@mix.wvu.edu

Appendix C

Assessment Feedback Questionnaire (Lizzio & Wilson, 2008)

If your instructor **never** engages in the behavior, write a **0** in the blank.
If your instructor **rarely** engages in the behavior, write a **1** in the blank.
If your instructor **sometimes** engages in the behavior, write a **2** in the blank.
If your instructor **often** engages in the behavior, write a **3** in the blank.
If your instructor **very often** engages in the behavior, write a **4** in the blank.

In the course I identified, when my instructor provides feedback:

_____ 1. His or her comments help me focus on areas I can improve.
_____ 2. His or her comments show me how to critically assess my own work.
_____ 3. She or he comments on what I did wrong and what I can do to correct it.
_____ 4. She or he gives me feedback I can use in future work.
_____ 5. She or he gives critical feedback on the quality of my work.
_____ 6. She or he offers opportunities to clarify his or her comments.
_____ 7. His or her comments make me think further about the topic.
_____ 8. She or he gives feedback that is not helpful for improving my work. * [a]
_____ 9. She or he gives feedback that is detailed. *
_____ 10. She or he acknowledges my good points or ideas.
_____ 11. She or he indicates what I get right.
_____ 12. She or he recognizes the effort I make.
_____ 13. She or he makes positive comments.
_____ 14. She or he gives feedback that makes little sense to me. [a]
_____ 15. His or her feedback is inconsistent or contradictory to the criteria he or she used to grade my work. [a]
_____ 16. His or her expectations are hard to know. [a]
_____ 17. His or her writing is difficult to read. [a]
_____ 18. His or her comments are vague. * [a]
_____ 19. His or her comments justify why I received a certain grade for my work. *
_____ 20. His or her comments are not based on the criteria she or he provided for the assignment. * [a]
_____ 21. His or her comments are full of jargon that is difficult for me to understand. * [a]

Note. Items 1-9 are the developmental feedback type, items 10-13 are the encouraging feedback type, and items 14-21 are the fair feedback type. Items marked with * are the newly added items. Items marked with [a] are reverse-coded.

Appendix D

Student Course-Workload-Expectancy Violation Scale (Mottet et al., 2007)

The workload in the course is…

1.	Acceptable	1	2	3	4	5	6	7	Not Acceptable
2.	Appropriate	1	2	3	4	5	6	7	Inappropriate
3.	Normal	1	2	3	4	5	6	7	Not Normal
4.	Expected	1	2	3	4	5	6	7	Not Expected
5.	[a] Bad	1	2	3	4	5	6	7	Good

Note. Items marked with [a] are reverse-coded.

Appendix E

Difficulty Appropriateness Scale (Heckert et al., 2006)

If you **strongly disagree** with the statement, write a **1** in the blank.
If you **disagree** with the statement, write a **2** in the blank.
If you **neither agree or disagree** with the statement, write a **3** in the blank.
If you **agree** with the statement, write a **4** in the blank.
If you **strongly agree** with the statement, write a **5** in the blank.

_____ 1. The pace of this course is appropriate for the subject matter. [a]
_____ 2. This course is more challenging than I expected.
_____ 3. This course is beyond my level of comprehension.
_____ 4. The amount of reading is appropriate, given the course level. [a]
_____ 5. There is an appropriate amount of writing in this course. [a]
_____ 6. There is an appropriate weight given to in-class discussion. [a]
_____ 7. This course is more difficult than it should be.

Note. Items marked with [a] are reverse-coded.

Appendix F

Instructional Feedback Orientation Scale (King et al., 2009)

If you **strongly disagree** with the statement, write a **1** in the blank.
If you **disagree** with the statement, write a **2** in the blank.
If you **neither agree or disagree** with the statement, write a **3** in the blank.
If you **agree** with the statement, write a **4** in the blank.
If you **strongly agree** with the statement, write a **5** in the blank.

In the course I identified:

_____ 1. I think feedback from my instructor is vitally important in improving my performance.
_____ 2. I will usually reflect on my instructor's feedback.
_____ 3. I listen carefully when my instructor provides feedback.
_____ 4. I am extremely encouraged by positive feedback from my instructor. [a]
_____ 5. I think that my instructors' feedback provides clear direction on how to improve my performance.
_____ 6. Feedback from my instructor can be a valuable form of praise.
_____ 7. I pay careful attention to instructional feedback.
_____ 8. Feedback from my instructor motivates me to improve my performance.
_____ 9. Feedback from my instructor is a waste of time. [a]
_____ 10. I feel relief when I receive positive feedback.
_____ 11. My feelings are easily hurt when receiving corrective feedback from my instructor.
_____ 12. I feel threatened by corrective feedback.
_____ 13. Corrective feedback hurts my feelings.
_____ 14. Corrective feedback is intimidating.
_____ 15. My feelings are not easily hurt by corrective feedback from my instructor. [a]
_____ 16. It is difficult to "get over" corrective feedback.
_____ 17. Corrective feedback is embarrassing.
_____ 18. I tend to dwell on the negative feelings that result from corrective feedback.
_____ 19. The corrective feedback I receive from my instructor increases the stress I feel about future performances.
_____ 20. I don't like to receive corrective feedback in front of other people.
_____ 21. I don't like for others to hear what feedback I am receiving.
_____ 22. I don't mind being singled out by feedback from my instructor. [a]
_____ 23. I prefer to receive feedback from my instructor in private.
_____ 24. I like others to hear the feedback I am receiving from my instructor. [a]
_____ 25. I can't remember what my instructor wants me to do when she or he provides feedback. [a]
_____ 26. I tend to miss out on the details of what my instructor wants when she or he provides me with feedback. [a]
_____ 27. I typically do not make note of my instructor's corrective comments. [a]

Note. Items 1-10 are the feedback utility dimension, items 11-19 are the feedback sensitivity

dimension, items 20-24 are the feedback confidentiality dimension, and items 25-27 are the feedback retention dimension. Items marked with [a] are reverse-coded.

Appendix G

Self-Efficacy of Instructional Feedback Scale

0	10	20	30	40	50	60	70	80	90	100
Cannot do at all				Moderately can do					Highly certain can do	

In the course I identified, I am confident that I can:

_____ 1. Apply the feedback that my instructor provides to correct my work.
_____ 2. Accurately interpret the feedback that my instructor provides me.
_____ 3. Clearly understand the feedback that my instructor provides me.
_____ 4. Use the feedback that my instructor provides to critically assess my own work.
_____ 5. Read the feedback that my instructor provides me.
_____ 6. Use the feedback that my instructor provides to do well in the course.

Appendix H

Student Engagement Scale (Mazer, 2012)

If you **never** engage in the behavior, write a **0** in the blank.
If you **rarely** engage in the behavior, write a **1** in the blank.
If you **sometimes** engage in the behavior, write a **2** in the blank.
If you **often** engage in the behavior, write a **3** in the blank.
If you **very often** engage in the behavior, write a **4** in the blank.

In the course I identified:
_____ 1. I listen attentively to my instructor during class.
_____ 2. I give my instructor my full attention during class.
_____ 3. I listen attentively to my classmates' contributions during class discussions.
_____ 4. I attend class.
_____ 5. I participate during class discussions by sharing my thoughts and opinions.
_____ 6. I orally (verbally) participate during class discussions.
_____ 7. I think about how I can utilize the course material in my everyday life.
_____ 8. I think about how the course material relates to my life.
_____ 9. I think about how the course material will benefit me in my future career.
_____ 10. I review my notes outside of class.
_____ 11. I study for tests or quizzes.
_____ 12. I talk about the course material with others outside of class.
_____ 13. I take it upon myself to read additional material on the course topic area.

Note. Items 1-4 are the silent in-class behaviors, items 5 and 6 are the oral in-class behaviors, items 7-9 are thinking about course content, and items 10-13 are out-of-class behaviors.

Appendix I

New Assessment Feedback Questionnaire

If your instructor **never** engages in the behavior, write a **0** in the blank.
If your instructor **rarely** engages in the behavior, write a **1** in the blank.
If your instructor **sometimes** engages in the behavior, write a **2** in the blank.
If your instructor **often** engages in the behavior, write a **3** in the blank.
If your instructor **very often** engages in the behavior, write a **4** in the blank.

In the course I identified, when my instructor provides feedback:

_____ 1. His or her comments help me focus on areas I can improve.
_____ 2. His or her comments show me how to critically assess my own work.
_____ 3. She or he comments on what I did wrong and what I can do to correct it.
_____ 4. She or he gives me feedback I can use in future work.
_____ 5. She or he gives critical feedback on the quality of my work.
_____ 6. His or her comments make me think further about the topic.
_____ 7. She or he gives feedback that is detailed.
_____ 8. She or he gives feedback that makes little sense to me. [a]
_____ 9. His or her feedback is inconsistent or contradictory to the criteria he or she used to grade my work. [a]
_____ 10. His or her expectations are hard to know. [a]
_____ 11. His or her comments are vague. [a]
_____ 12. His or her comments are not based on the criteria she or he provided for the assignment. [a]
_____ 13. His or her comments are full of jargon that is difficult for me to understand. [a]

Note. Items 1-7 are the developmental feedback type and items 8-13 are the fairness feedback type. Items marked with [a] are reverse-coded.